Rationalising a decision

Analysing the development of a tramway in Lund

Jakob Allansson

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Summary:

This thesis aims to study the planning documents for the tramway in Lund from a perspective of power and rationality. The empirical material used has been studied using critical discourse analysis, departing from the ideas of Fairclough (2010), Winther Jørgensen and Philips (2000) and Watt Bolsen (2007). The discourse analysis resulted in four themes that were predominant in the empirical material. These themes are passenger attraction, economic rationalities, prognosis and attractive urban environment. These are used as the base for the analysis of power and rationality.

The analysis of power and rationality depart from a Foucauldian perspective of power. The main perspective used in this thesis is inspired by Flyvbjerg’s (1998) ten propositions of the relation between power and rationality. Where power influence rationality and rationality is embedded by power. The relation between power and rationality is according to Flyvbjerg asymmetrical, and when rationality and reason are confronted, reason yields to power (Flyvbjerg, 1998, p. 228ff). The findings of the analysis of power and rationality present examples from the empirical material where power seeks to define knowledge and reality, as well as examples of powers strategy to blur the line between rationality and rationalisation. This view on the strategies, operations and rationalities of power are also shared by scholars such as Richardson (2004) and Fox-Rogers and Murphy (2014). The ambition of the analysis of power and rationality is not to find out a ‘what’ but to understand ‘how’ power and rationality is presented in the planning documents related to the development of a tramway in Lund.

Finally, this thesis discusses the findings from both the discourse analysis as well as the analysis of rationality and power from a wider social perspective. Placing the findings of the discourse analysis into a societal and institutional process, as well as arguing for other rationalities than the one found in the analysis of power and rationality to be valued more in the planning process.

Keywords: Power and rationality, Lund, tram, discourse analysis
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Acknowledgement

The supervisor for this thesis, Lina Olsson, does also conduct research on the development of the tramway in Lund, in the project “Land Value Capture as a Model for Financing Public Transit Infrastructure in Sweden: Conditions and Implications”. A research project granted by the research centre K2, the Swedish Knowledge Centre for Public Transport. My supervisor's work has not been directly used in this thesis, however, since my supervisor has been studying the development of the tramway in Lund, we have during our supervisions been able to discuss the background to the project as well as discussing actors involved.

The planning documents that are the subjects to both the discourse analysis and the analysis of power and rationality are all in Swedish. The thesis uses several quotes as examples in order to support the result of the analysis, these quotes are translated by the author with the ambition to reflect the original version as truthfully as possible. Furthermore, this thesis has no ambition to value or critiquing the development of the tramway in Lund as a development. The aim of the study is to understand how power and rationality have unfolded in the planning process and how the empirical material reflects this.

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1. Introduction

1.1 Introduction

Ever since the UN report “Our common future” (Bruntland, 1987), the notion of social sustainability, together with economic and environmental sustainability, have been central perspectives in urban planning. However, Patsy Healy (2007) argues that the economic sustainability perspective has been central to urban planning in general, and states that the economic perspective is hegemonic and that social and environmental sustainability in many ways is dependent on financial sustainability in order to be improved. At the same time, a number of scholars, including Harvey (2009) and Fainstein (2010) have stated the importance of a perspective of equity and social justice in the planning process.

David Harvey (2009, p. 50ff) states that one of the major issues in planning for a spatial form that supports social justice is the implied decision made in the planning process. If a city’s form is planned with regards future to movement patterns, modes of transport and consumption patterns, the implied decision is that these conditions are what is acceptable and what is aimed for. Perspectives not planned for becomes by default “unwanted”. Urban plans will, however, imply the direction of the societal and social changes or status for the future. Harvey (2009, p. 51ff) states that there are questions that urban planners need to ask themselves during the planning process. These questions involve asking who benefits from the plans and who suffers, is this socially and ethnically right?

One aspect that is becoming increasingly more important in society is the mobility of people. The importance of mobility in order to prevent social exclusion has been studied by several researchers. Colin Pooley (2016) states four different aspects of exclusion that are related to mobility. These are poverty or exclusion from adequate income, exclusion from the labour market, exclusion from services and the exclusion from social communities and relations. These types of exclusion can be an effect of the lack of access to transport and mobility. Pooley (2016) argues that a fair public transport system is important in order to combat these situations. Pooley (2016, p. 100) states that most of the reports and debate regarding social exclusion can be traced back to the lack of mobility and access to transport. Both Pooley (2016, p. 100) and Lucas (2012, p 105) refers to the Social Exclusion Unit in the United Kingdom which highlighted the need for planning authorities to highlight the need of mobility and the effects this has on social exclusion. The SEU also highlighted the inter-relationships between mobility or the lack of mobility, and social disadvantages in different areas (Lucas, 2012, p. 105) Although this was done in 2003, Pooley (2016, p. 100) states that a decade later, the situation had not changed in Britain.

Even though that a social perspective on transport and mobility has for a long time been an interest in academia, Levy (2013, p. 2) states that the economic perspective still has a dominating influence on the planning of transport. Because of this, the environmental and social perspective has gained a secondary priority. The question of mobility and a fair transport system is not just a question if people are excluded or included from a social perspective in terms of access or no access to the transport system. There are many other factors that can influence if a person experiences accessibility to the transport system according to Levy (2013, p. 2), who states that questions of equality and gender have been included in the larger social perspective.
The implementation of a new or the development of an existing public transport system can from that perspective help to improve the levels of social justice in a city or a society. This by providing access to mobility to those who otherwise are excluded from certain activities or to improve the level of mobility for those with the lowest levels of mobility. Martens (2012) applies Walzer's 'spheres of justice' to transport, and states that while some goods in society are easier to distribute to the population, others are harder to both define and to distribute, transport being the latter of the two categories. But even if the distribution of transport is harder to distribute, it doesn't mean that there is no reason to strive towards a more even distribution, since the lack of a distribution of transport would indicate that people, who do not have the possibility to gain mobility by the use of a private car, would be excluded from opportunities, both financial and social opportunities.

Fainstein (2010, p. 35ff) claims that urban planning, and the evaluation of it, should be considered from the perspective of equity rather than the perspective of equality. This since the term equity focus on the allocation and distribution of economic founds relative to the need, rather than to spread it equally. The idea of a need-based distribution is also something argued for by Harvey (2009, p. 100) where he argues that he would prioritise need as the most important criteria to focus on. The concept of need can, of course, be questioned, particularly in how to assess it, however as a general principle the term equity can be used. According to Fainstein (2010, p. 35ff), this means that investments should be directed towards where there is the greatest need, not where it would be the most beneficial. This perspective focusses more on social justice and with this perspective, it would be possible to plan for a more just society. In addition to the distributive perspective on social justice, Young (2001) argues for a perspective of institutional justice, meaning that planning must consider other persons than the normative. Institutions, such as a planning department must, therefore, focus more on a better representation of society instead of just representing the norm.

Fox-Rogers and Murphy (2014) state that powerful actors, either political or economic actors, operate in order to further their own interest. This means that actors with power tend to advance projects that would be in favour of these actors, fulfilling their own interest in order to make sure that they stay in powerful positions. Moreover, Fox-Rogers and Murphy (2014) also state that planners risk becoming agents of power, meaning that the outcome project that planners work with are risking to serve the purpose of powerful actors. The operations and strategies used by powerful political and economic actors in influencing urban planning are therefore the opposite of what Fainstein (2010) argues for in order to create a more just society. This is similar to what Flyvbjerg (1998) describes in his study of Aalborg, where powerful actors influence urban planning in order to make sure that the project serves the goal of these actors. Flyvbjerg (1998), as well as Fox-Rogers and Murphy (2014), argues that when powerful actors influence urban planning, there is a risk that the level of democracy is lowered. Fox-Rogers and Murphy (2014, p. 264) call this for planning shadow system.
1.2 Problem statement

During 2017 the development of a new tramway started in Lund (sparvaglund.se, 2019). The route of the tram will go from the central station in the medieval city centre towards the northeast, through the university areas, the hospital and towards the new science centres MAX IV and ESS in Brunnsbørg. The tram will, when finished, replace the four bus routes that occupy the route today, with two city routes and two regional routes. The tram is intended to be the spine of the area and the Science Road as its is called (Lund, 2012b, p. 35), consist of 9 stops and the total distance will be 5.5 km. Together with the development of the tram, the city is planning a large scale urban development in Lund NE/Brunnsbørg, close to the new science centres, with the ambition to be a beacon of sustainable city development (Lund, 2016).

The planning process for the tram has taken several years, with plans for trams in Lund being proposed by the end of the 1980s (Lund, 2011a, p. 1). 2003 marked the start of operations on Lundalänken, a bus solution that operated the route between the central station, through the university, the hospital and towards the Ideon science village. In 2007 a report regarding the possibilities for the implementations of trams in the different cities in Skåne was published by the municipal organisation SSSV, and in 2011 Lund municipality conducted a pre-study for the possibility to transform Lundalänken to a tramway. After the pre-study, there have been several reports and investigations concerning the development of the tramway, leading up to the final political decision regarding the economic investment taken in the municipal council in December 2015. The development of the tramway in Lund has been criticised from different perspectives. One of the most outspoken actors to critique the project has been the political party För Nya Lund (FNL). One of the party’s main political points has been not to develop a tramline in Lund in favour of other mobility solutions. Despite the critique of the development of a tramway, and despite that the newly formed FNL gained enough votes in the election in 2014 to gain seats in the municipal council, the decision to invest in the tramway infrastructure was taken in 2015.

The final cost of the development has not yet been established, however, the first estimation of the cost made in the pre-study resulted in an estimation of a cost between 650 – 907 million SEK for the development of the infrastructure (Lund, 2011a, p. 44). This cost is excluding the cost for the tram depo and the trams since this is a cost that will be covered by Skånetrafiken, the regional administration responsible for public transport in the region. The development of the tramway in Lund is a large scale investment. Given the scale of the investment, combined with the possibility for public transport to address issues such as social exclusion as presented by Lucas (2012), Levy (2013) and Pooley (2016), the development of the tramway could serve as a tool to address inequalities within the city of Lund. However, the established route of the tramway is from Lund central station towards the northeast and the science centres MAX IV and ESS, the area covered by the route include the hospital and Lund University and only a few homes. Instead of serving existing households, the tramway will serve the future homes in large scale plans for urban development in the area called Brunnsbørg in the northeast of Lund. The large scale investment in the tramway in Lund will therefore not be directly directed towards those citizens in Lund that today experience low access to public transport. Instead, property prices are more likely to increase as a result of the development of the tramway, something that the consultant firm Evidens (2012) points out.
Flyvbjerg (1998) argues in his study that power and rationality are crucial elements in the planning process. The idea of the ‘Enlightenment’ that the greatest argument that will prevail and be the deciding factor for these kinds of processes is proven wrong. Decisions tend instead to be dependent on the will and interest of the people in power in order to make sure that these actors will remain in power, something that is also stated by Fox-Rogers and Murphy (2014). The line between reason, or rationality, and rationalisation is therefore blurred according to Flyvbjerg (1998). Because of this Flyvbjerg (1998, p. 27) questions the notion from Francis Bacon that “knowledge is power” and argues that a more correct statement seems to be that “power is knowledge”. Continuing on the tradition of Foucault in understanding that power seek to define reality and to create what Foucault calls ‘the regime of truth’ (Foucault, 2000). Furthermore, Flyvbjerg (1998, p. 86) argues that when powerful actors influence political decision it could lead to that the level of transparency in the urban planning process will be reduced. Special interests can influence the planning process, and, in the end, the democratic level of the planning process weakened. The planning risks to serve one group rather than combating the inequalities that exist in society. If the planning process of public transport consists of rational decision making by people in power, influenced by special interest and preconceptions of what solutions to favour, this could risk not only that the level of democracy in a society is decreased, but also affect the possibility for public transport to serve as a solution to situations of social exclusion. Similar claims are made by Fox-Rogers and Murphy (2014) regarding the strategies and operations of actors of political and economic power. These combined perspectives on the relation between power and rationality, as well as on the strategies and operations of powerful actors in order to maintain powerful positions provide an insight into that large scale investment, such as the tramway in Lund, could risk serving political and economic interests, instead of increasing equity and justice in urban transport planning. This type of planning process has also been criticised by Iris Marion Young (2001) stating that planning processes only serve a normative purpose, which, therefore, risk excluding groups other than the norm from being represented in the planning process. Young (2001) therefore argues for an approach of institutional justice, an approach to involve other perspectives than that of economic growth and normative representation.

1.3 Aim of the study and research questions

The aim of this thesis is to investigate the planning documents for the tramway in Lund from a perspective of rationality and power to understand how these aspects influence the planning process. In order to be able to do this, I intend to investigate the planning and supporting documents and decisions taken during the planning process in order to understand what measures have been taken into consideration, what have been investigated and what have not been considered. In order to understand possible rationalisations and arguments, I have also conducted a discourse analysis of the planning and supporting documents regarding public transport in Lund in general but focused on the documents that have been produced for the development of the tramway.

The following research questions will provide the base of the study:

1. What discourses regarding the tramway in Lund can be detected?
2. What are the rationalities that these discourses are built upon and what do they represent?
3. How could the empirical material of the development of the tramway be understood from a perspective of power and rationality?
1.4 Disposition

This thesis is structured into seven different chapters, which in themselves are divided into sections. The first chapter presents consist of the introduction, the problem statement as well as the aim and research questions.

Chapter two aims to establish a theoretical framework used in the study. By doing this, I hope to create an understanding of the focus point of the analysis and why I consider this important to investigate. Following chapter two, chapter three aims to establish the methodology of the thesis. The ambition is to be as transparent as possible and that the reader can understand the process, work and decisions behind the thesis.

Chapter four will present the studied object, in this case, Lund and the tramway, in order for the reader to be able to generate an understanding of the planning process up to today’s situation. The description of the tram in Lund is limited and cannot cover everything, but the intention is to present a short overview of what the tramway is and a short history behind the development.

Chapter five presents the discourse analysis of the empirical material. The chapter is divided into five sections where four different themes are presented. These themes are based on the findings of the discourse analysis and present the four most prominent themes. The ambition is to present what the planning and supporting documents state, to present any contradictions as well as with a critical perspective discuss the findings.

Based on the themes found in the discourse analysis, chapter six will present the analysis of the planning and decision-making process for the development of the tram in Lund, from a perspective of power and rationality. The intention is that the discourse analysis will guide the analysis of power and rationality in order to understand the decisions (and assumptions) made by officials and politicians.

In chapter seven, I will conclude the findings made in previous chapters in relation to the stated research questions. Finally, in chapter eight, I will discuss the development of the tram in Lund from a perspective of social and transport justice and the development of a tram in relation to ongoing societal processes.
2. Theoretical framework

The idea of a tramway in Lund has been present in the planning documents from the late '80s (Lund, 2011a, p. 7). However, it is not until the later 00’s that the question regarding the development of a tramway gains real momentum and the process of establishing a tramway started. From the report regarding possibilities for tramways in Skåne published in 2007 (SSSV, 2007) to the final decision by the municipal council in December 2015, there is a timeframe of eight years, a period that is described by Swedish Television as a period of debate and of conflicts (SVT, 2015). It is the planning document published during this period that is the focus of this study. The main objective of this study is to analyse the planning and decision-making process for the tramway in Lund from a perspective of power and rationality. The theoretical framework used in this thesis is based on a Foucauldian perspective on power, a tradition that Flyvbjerg, as well as other scholars, continues. In this chapter, I will use Flyvbjerg’s proposition on the relation between power and rationality, as well as present other scholars that address power and rationality within the planning field. This in order to present how power and rationality can unfold in a planning process and to present the theoretical perspective used in this thesis.

2.1 A Foucauldian view on power

Flyvbjerg (1998, p. 2) argues that rationality as a concept has from an Enlightenment tradition been considered as well-defined and context-independent. However, Flyvbjerg argues that rationality is context-dependent and that the context of rationality is power. While the relationship between rationality and power has been understood from an Enlightenment perspective as the more rational the more powerful, hence Bacon’s famous quote “Knowledge is power”. Flyvbjerg argues that this ideal fails to understand how power operates (Flyvbjerg, 1998, p. 3) and that thinkers such as Plato, Kant and Habermas are not helpful in order to understand how modernity works in practice. For us to understand how power works in practice, Flyvbjerg argues that we must seek help by thinkers such as Nietzsche and Foucault.

In order to understand Michel Foucault’s view on power, it is necessary to make a distinction between two kinds of power, repressive power and normalising power (Foucault, 2000). Where repressive power is perhaps the way we are usually thinking of power, such as the military as well as the police having a certain physical power. Foucault does, while acknowledging this kind of power exists, state that the notion of repression is inadequate in order to understand the production of power. Instead, it is important to look at the concept of normalising power. The notion of normalisation does instead produce things, such as pleasure, knowledge and discourses and the notion of normalisation runs through the whole social body. Meaning that we are more affected by the power in terms of normalisation that we are affected by repressive power. Power through normalisation affects the choices we make and how we behave, without having to pressure us physically. Instead, power influence what we are taught in school and therefore influence our understanding of the world.

Since power through the notion of normalisation is affecting us in our everyday life, it is therefore according to Foucault important to analyse the production of power and how power establish truth (Foucault, 2000). Foucault claims that power and truth are closely linked, and that truth is not outside of power or lacking in power. Instead, Foucault claims that each society has its regime of truth or its ‘general politics’ (Foucault, 2000, p. 131), which are types of discourses it accepts and holds a true. Truth is produced and reproduced by institutions such as universities or political
institutions. Since truth can be produced, the truth can also be questioned and Foucault claims that there is a battle for truth, or at least around it (Foucault, 2000, p. 132). According to Foucault, the truth could be understood as a system of ordered procedures for the production, regulation, distribution, circulation and operation of statements. Truth is also linked in relation to systems of power that, according to Foucault, produce and reproduce it, hence creating a ‘regime’ of truth. Dean Mitchell (2016, p. 28) continues this thought of the relation between the production of knowledge and truth and that of governance. Stating that the regime of governance involves practices of the production of knowledge and truth and that these practices compromise multiple forms of practical, technical and calculative rationality.

This notion of the regime of truth has been criticised by scholars such as Keenan (1987, p. 7) who claim that Foucault's idea of the unmasking of the regime of truth can only destabilise power and that we cannot bring to establish a new more stable and freer power.

Additionally, Foucault claims that this ‘regime’ of truth is also influencing architecture (Foucault, 2000, p. 349) and that architecture, and then also urban planning, is influenced by power. In the late 18th century urban planning was used to avoid epidemics, revolts and permit a certain decent and moral family life. The urban form and social life were therefore moulded by those in powerful positions, such as planners and engineers who thought out space (Foucault, 2000, p. 354). Our understanding of space is also changing, Foucault claims that when someone in 1966 argued that space was capitalistic and reactionary, a common discourse at the time, while the same statement would in 1982 be met with laughter (Foucault, 2000, p. 361).

Cashmore and Wejs (2014, p, 207) continue the Foucauldian tradition of the understanding of power and state that power is a productive phenomenon, claiming that power is neither good or bad. Hence, power can be exercised in establishing truths, as well as creating legitimacy, however, the result cannot be considered good or bad because of the exercise of power, but rather based on the effect the exercised power resulted in. Additionally, Foucault never states to what status should one strive (Lövbrand and Stripple, 2016, p. 102). Foucault’s focus on specific regimes or experiences does not make it possible to claim a universal perspective, thus must research or analytical work conducted from a Foucauldian perspective never claim universality. Instead, analytical work conducted with a Foucauldian perspective aims to focus on how things happen rather than trying to establish why.

2.2 Power and rationality

Foucault himself did not directly focus his work on the role of the urban planner and the planning process. Instead, Foucault focused his studies on sexuality and security and did mention several professions that have oppressive power, such as police, prison wardens and doctors. The architect, or the urban planner, does have power but it is not oppressive according to Foucault (Foucault, 2000, p. 357), claiming that a house can be modified if the owner wants it and the architect cannot stop it.

Flyvbjerg (1998), using a Foucauldian view on power, studies the planning and decision-making process of a new bus terminal in Aalborg. Flyvbjerg presents ten propositions to be able to understand the relationship and dynamics of power and rationality, ranging from how power seeks to define reality to describing the power of rationality. The relation between power and rationality is thereby important to understand in order to understand the planning and the decision-making process. By understanding how power influence rationality, how power seeks to define reality and
uses rationalisation and how rationality is influencing power relations, it is possible to understand
how power and rationality unfold in the planning and decision-making process. Foucault (Foucault, 2000, p. 332) claims that there is no constant power with a capital P, instead, power is something
that is exercised in relation. Furthermore, Foucault states that the goal of power is circular
(Foucault, 2000, p. 201ff) in that the goal of power is to continue being in control, this by controlling
its subjects in a way that is convenient for the subjects. Using this principle on a democratic system,
this would mean that the goal of power (i.e. the state/government) is to control the citizens in a
manner that would result in re-election. Flyvbjerg’s book *Power and Rationality* (1998) has had a large
influence on planning theory. Below I will present Flyvbjerg’s (1998) ideas of the relation between
power and rationality, as well as other scholars that have reviewed Flyvbjerg’s propositions or
continued to develop our understanding of power within the planning process.

The first proposition presented by Flyvbjerg (1998, p. 227) is that power seeks to define reality.
Flyvbjerg argues that power does not bother to find out what reality really is, instead power uses
strategies and tactics in order to define rationality and knowledge. Power does not do this because
rationality and knowledge are power, rather because power seeks to define what rationality and
knowledge are. The second proposition is that rationality is context-dependent and that the context
of rationality is power. This means that rationality is full of power and that it would not make sense
to study rationality without also study power. This, in turn, results in an understanding that power
blurs the line between rationality and rationalisation. Thirdly, one of the strategies of the exercise
of power is to present rationalisation as rationality, meaning that what could be understood as a
rational proposition, could, in fact, be a rationalisation of a will or decision. From this, it is possible
to understand the relation between power and rationality. Power and rationality are dependent on
each other, however, Flyvbjerg also states that the greater the power, the less the rationality (1998,
p. 229) and that in open conflicts rationality yields to power.

Confrontations between different sources of power are thus where the relationship power and
rationality unfold and where the relationship has been studied the most (Flyvbjerg, 1998, p. 231).
However, Flyvbjerg states that stable power relations are more common than conflicts and that
these power relations are constantly produced and reproduced. Since stable power relations are
more common than confrontations, the relationship between rationality and power tend to stabilise
power relations. This because decisions taken in a stable power relation may be rationally informed,
and because of this the decisions have gained more legitimacy and a higher degree of consensus
(Flyvbjerg, 1998, p. 232ff). According to Flyvbjerg, stable power relations are not to interoperate
as equally balanced power relations. Stability should therefore not be considered to be justice; it
could, however, imply that there is a working consensus.

Stable power relations are therefore embedded by the power of rationality (Flyvbjerg, 1998, p.
233ff). It is in stable power relations that rationality and reason have the largest effect on power,
in open confrontations rationality will yield to power. Flyvbjerg argues that while power produce
rationality and rationality produces power, the relationship between the two is asymmetrical. Power
has a rationality that rationality does not know, while rationality does not have a power that power
does not know. The asymmetrical relationship between power and rationality, therefore, has an
influence on the means of making democracy, since rationality is the main means of democracy.
Furthermore, Flyvbjerg (1998, p. 234) argues that the asymmetrical relationship between power
and rationality makes for a fundamental weakness in terms of democracy for politics,
administration and planning. A reliance on rationality, of which the modern democracy has, leaves
democracy ignorant of how power works and democracy is, therefore, open to be dominated by
power.
Flyvbjerg (2002, p. 1ff) further claims that it is as important to understand the knowledge of the process in determining what constitutes as knowledge as it is to understand knowledge itself. Without understanding the power relation of what constitutes knowledge, it is impossible to use knowledge efficiently. Furthermore, Flyvbjerg claims that power often ignores or design knowledge to its convenience. Moreover, Flyvbjerg (2002, p. 8) states that the interpretation of a survey, which has the stronger power base becomes the truth, and that interpretation affects the actual physical, economic, ecological and social reality. The interpretation of a survey is, therefore, an exercise of power. In relation to the interpretation of surveys, Flyvbjerg (2007, p. 579) concludes in a study of infrastructure projects, that the averages cost overrun for rail projects is 44.7 per cent, bridges and tunnels 33.8 and for roads 20.4. This finding indicated that a lot of focus is directed towards estimations of benefits and cost and that these estimations are rarely correct. Estimations are however powerful, especially when they are provided by powerful actors. In the Aalborg case, Flyvbjerg (1998) presents how the municipal bus company uses these estimations in order to set a certain framework for the project.

Tim Richardson (2004) also uses a similar understanding of the relation between power, rationality and knowledge as Flyvbjerg. The argument by Flyvbjerg that power seeks to define reality is repeated by Richardson (2004, p. 12) where he states that a project with political momentum is likely to subtly treat alternatives differently. Certain forms of knowledge will, therefore, be promoted, others subtly disregarded. Power hence present certain rationality in order to promote the project with political momentum, alternatives were not investigated and the decision rested on an engineering case rather than acknowledge that the decision was already taken. In this case, power has defined knowledge and reality in order to present the decision as rational. Richardson (2004, p. 21) claims that with an understanding of the relation between rationality and power, it is necessary to put these understandings into practice. A similar claim is made by Marsden and Reardon (2017, p. 249) when they state that in order to understand transportation policy process, it is important to understand the power dynamics that are in play. Moreover, Marsden and Reardon (2017, p. 249) state that in order to understand the decision-making system and the structures of power, it is important to understand the who, what and why that have influence over the system. Brownill and Carpenter (2007, p. 403) state that Flyvbjergs case study emphasises exactly that, that the operation of power is to serve the interest of the powerful. A similar conclusion is made by Fox-Rogers and Murphy (2014) in their study of the Irish planning system. Fox-Rogers and Murphy (2014, p. 246) understand power as the ability for one individual or group to affect another in a manner that disproportionately serves their own interest at the expense of the other. This is close to the proposition posed by Flyvbjerg (1998) in that one of the strategies of power is to blur the line between rationality and rationalisation, as well as the idea posed by Foucault that there is no end-goal of power, rather the goal is for power to continue to be in power. Fox-Rogers and Murphy (2014, p. 264) state that the way power operates, both within the formal planning system, as well as a shadow system, is close to the existing economic or political powers in society. Therefore they claim that it is needed to direct attention to the operations of power and how it aims to further its own interests.

Additionally, Dean (2016, p. 40) states that in analysing the decision-making process, i.e. analysing the process of government, it is important to ask the question of ‘how’. This because asking the question of ‘how’ leads to our understanding of the techniques and practices, rationalities and forms of knowledge that agencies that govern operate. The understanding of this operation would then help us to understand the relation between power and rationality.
Flyvbjerg’s book *Power and Rationality* has, while highly influential, not been without critique. One scholar that has commented on Flyvbjerg’s contribution to the understanding of the relation between power and rationality is Peattie (2001). She states that the dense data collection that Flyvbjerg has conducted is suitable for the development of what Flyvbjerg calls *phronesis*, the Greek word for putting knowledge and practise together i.e. knowing what to do and when to do it. Peattie (2001, p. 5) claims that this dense data collection is, therefore, suitable for the context of the case that has been studied, i.e. suitable for developing this kind of phronesis in Aalborg, and not suitable for the generalisation that Flyvbjerg does about the relation between power and rationality. Peattie (2001, p. 7) continues to state that she too has tried to do a similar claim as Flyvbjerg, however, points out that while a generalisation of a case could be made in the field of philosophy, the field of urban planning is somewhat different. Claiming that the urban planner is not a doctor or a social worker, but a planner works in a collective, in a specific political framework and in a world of legitimising public purpose. Urban planning is, therefore, much more context-dependent and generalisations should be avoided. Peattie’s view of the planner as a part of a collective is shared by a number of other scholars, such as Booher and Innes or Allmendinger and to the “collaboratory planning” or “communicative planning”, derived from Habermas communicative rationality, aims to involve as many actors as possible in the planning process in order to form a consensus (Odhage, 2017, p. 40ff and Brownill and Carpenter, 2007, p. 403). This type of planning has however also been criticised since it does not fully acknowledge power relations and structures within society (Odhage, 2017, p. 43)

Bengtsson (1999, p. 205) also acknowledges the problem of generalisation of Flyvbjergs propositions and asks the rhetorical question of how to make generalisations of one single case study. While Flyvbjerg has answered this by stating that the case in Aalborg should be considered a metaphor of a story repeated all too often for those who consider themselves as democrats and that many would probably find or know of similar cases. Bengtsson (1999, p. 206) then poses the question that if we can find these types of cases in other places, what has Flyvbjerg then added to planning theory? Furthermore, Bengtsson (1999, p. 206) states that while there are several aspects that he is missing in Flyvbjergs study, one of these aspects being Flyvbjergs own definition of the central concepts of power, rationality and rationalisation, the study is thought-provoking.

Flyvbjerg (2001, p. 286) does acknowledge several of the claims made by his critics, however, he states that the ambition of his study is to portray the complex dynamics of the planning process with the philosophical ideas of Machiavelli, Nietzsche and Foucault, i.e. how the planning process is shaped by power and rationality. Flyvbjerg states that ambition has not been to claim that other scholars within the field of planning theory are not important but to point out that Machiavelli, Nietzsche and Foucault are just as important as other and at the same time much less explored. Moreover, Flyvbjerg (2001, p. 287) states that he intentionally did not link his study to theories within an academic discipline, but argues for using a philosophical position that cut across social sciences. By doing this, different scholars within different fields can use the case as examples of political theorists to study Foucauldian or Nietzschean power or for sociologists to study discourse analysis or the social construction of reality. Additionally, Flyvbjerg (2001, p. 290) states that there is no particular need to state what rationality is since the meaning of rationality is changing and is changed to best suit those in power, providing an understanding that it is more important to study how power and rationality unfold rather than why.
2.3 Summary of the theoretical framework

This thesis is inspired by Flyvbjerg’s (1998) book regarding power and rationality within the planning process. Flyvbjerg uses a theoretical perspective on power, that follows a tradition from Machiavelli, Nietzsche and Foucault and argues that power and rationality should be considered to stand in relation to each other. Foucault’s claims that there are two types of power, repressive power i.e. the power the police or military have and normalising power, i.e. the power used to control society and what is considered normal and acceptable. This normalising power is everywhere in society, from the education system to the social body. It is this normalising power that shapes what Foucault calls the ‘regime of truth’ (Foucault, 2000).

Following Foucault, as well as Machiavelli and Nietzsche, Flyvbjerg (1998) proposes ten propositions of the relation between power and rationality. Ranging from power seeks to define reality to that stable power relations are embedded by rationality. The aspects of power and rationality have also been addressed by other scholars, such as Richardson (2004) who also states that power seeks to define reality, in that when certain political projects gain momentum this tends to define knowledge and reality in favour of that project. Both Flyvbjerg, as well as Foucault, argue that the rationality of power is to reproduce reality and knowledge that suits power in order to stay in power. Similar claims have been made by Fox-Rogers and Murphy (2014) who states that the way power operates is similar to the ways of the political and economic powers in society. In addition to this, Dean (2016) claims that in analysing and studying government, it is important to study the ‘how’ government operates, in order to understand the rationalities, techniques and strategies of how power operates.

The theoretical framework provides an understanding of power as something that seeks to define reality and one of the strategies power uses in order to define reality is to create what Foucault calls ‘regime of truth’ (Dean, 2016; Fox-Rogers and Murphy, 2014; Foucault, 2000). This is what Foucault would claim to be normalising power. Flyvbjerg (1998 and 2001) also uses a similar view of this regime of truth, something that he closely links to rationality, claiming that there is no one type of rationality, but rationality changes in order to suit power. Following Flyvbjerg (1998 and 2001), the intention of this thesis is to study how power and rationality unfold within the planning field. The theoretical framework presented in this chapter formulates an understanding of power as something that is expressed by actors in relation to other actors. Because of what Foucault calls normalising power, some actors, therefore, tend to hold power that they are able to express. Fox-Rogers and Murphy (2014) claim that this power is held by those in political and economic positions. Flyvbjerg’s (1998) propositions of the relation between power and rationality, together with the understanding of power structures and who influence the political system as posed by Marsden and Reardon (2017) helps to analyse the decision-making process as well the social construction of reality.
3. Methodology

This chapter will present the empirical material that has been analysed in this thesis and the methods of how the analysis was conducted. The chapter will also present the considerations made during the study in order for the reader to be able to understand what methods were being used and why. The intention is to provide the reader with a detailed description of the conducted methods in order to be as transparent as possible.

3.1 A critical discourse analysis

One of the primary methods used in this thesis is discourse analysis, departing from Winther Jørgensen and Philips (2000). Discourse analysis is very much the study of the language from a perspective of social constructivism (Winther Jørgensen and Philips, 2000, p. 10) as well as it is a combination of method and theory. However, in stating that, Winther Jørgensen and Philips also state that there is no universal agreement on how to conduct a discourse analysis. There are, however, a number of schools of how to perform one, these being Discourse theory, Critical discourse analysis and Discourse psychology. What ties the different perspectives of the discourse analysis together is that they are all based on a social constructive perspective of knowledge and they all share four principles. These four principles are according to Burr (1995, p.2ff) a critical attitude towards knowledge that is stated as common knowledge, that we as people are beings that understand knowledge from a historical and cultural perspective, that there is a correlation between knowledge and social processes and finally that there is a correlation between knowledge and social action. Johnstone (2008, p. 3) states that a discourse analysis is not a “language analysis” since the analysis is not focused on language as a system, but rather the discourse analysis focuses on how people draw meaning from language. The discourse analysis, therefore, focuses on the structural relationship between language and social norms and ideas. Furthermore, Johnstone (2008, p. 3) states that scholars influenced by Foucault tend to use discourse as a noun, stating that there can be several discourses, and that these are influenced by each other. One discourse can, therefore, both influence and be influenced. Similarly, Johnstone (2008, p. 128ff) states that a common way to understand the discourse is to understand that there is one producer of text, as well as a recipient, where the recipient serves as a decoder of the message. Both the producer and recipient are involved in forming the understanding of the discourse. Additionally, Johnstone argues that the production of meaning of the discourse can be influenced by power structures in society, arguing that different groups or institutions have different forms of power over the discourse. It is in this way the discourse analysis has been understood and used in this thesis.

In this thesis, I have chosen to use a form of discourse analysis that Winther-Jögensen and Philips (2000, p. 66ff) calls a critical discourse analysis. Just like a discourse analysis itself, the critical discourse analysis point of view does not have one universal definition, but there are several common principles that can find. In total, Winther Jørgensen and Philips list five, and one of them is that social and cultural processes and structures can be understood from a linguistic perspective. Other perspectives are that the use of language can be studied from a social perspective and that discourse can be understood from a perspective of ideology. Winther Jørgensen and Philips (2000, p. 69) claim that in critical discourse analysis, discourses can produce and re-produce inequalities of power between different groups in society. The focus of the critical discourse is directed towards
both the discursive practices that produce power relations, as well as towards the role a discourse plays in generating different groups’ interest.

Norman Fairclough is one of the prominent scholars within the field of critical discourse analysis. He states that in the last two decades the use of ideology in social research has diminished (Fairclough, 2010, p. 25) and perhaps also questioned. Fairclough sees this as a result of the economic development in the world, where the previous factory working class is diminishing, resulting in a shift in the economic production, as well as social and political change. However, the change in the social and political landscape does not mean that previous class issues and ideology have disappeared. Instead, Fairclough sees it rather as the previous structures have changed. This is why the analysis of ideology has been replaced by one of a discourse. Ideology is the social ideas and meaning that people attach to objects, which also can be called a discourse.

One important factor when performing a critical discourse analysis is to investigate and map the connections between the use of language and text with its social practice (Fairclough, 2010, p. 132ff). Fairclough has constructed a three-dimensional model that visualises both the dimensions of a discourse, but also the three stages of the discourse analysis. The model can be seen in the figure below:

![Figure 1: Fairclough's model of a discourse analysis (Fairclough, 2010, p. 133)](image)

The model illustrates the discourse analysis and its different stages. Watt Boolsen (2007, p. 174) explains the different stages of the process. The first stage is to critically read the text, (spoken language becomes written once it is transcribed and therefore the text is the word used for the written and spoken language). The second stage is to code the text according to themes and to interpret how these themes are constructed. The final stage of the three-stage process set out by Fairclough is the explanation stage, in this stage the finding from the previous stages is connected to a sociocultural practice, meaning to analyse how the themes can be explained by societal or institutional processes. It is from this model that this thesis method departs from, where the two first stages will be presented in chapter five.

One way of analysing a text is to look at the choice of words and what type of modality the words express (Winther Jørgensen and Philips, 2000, p. 87-88). One modality that can be considered is the modality truth. By looking at the verbs in the text, it is possible to analyse the level of truth or certainty in the text. Words such as is, will, can, should or must have all different meanings to how the
author presents the text. Use of the words *is* or *can* have different meanings and therefore have different levels of truth.

Another example of modality is to present interpretations as facts, something that is accordingly to Winther Jørgensen and Philips (2000, p. 88) commonly used by mass media to retain a form of authority. One way to do this is to state that “it is dangerous”, rather than to say “our opinion is that it is dangerous”. Watt Bolsen (2007, p. 182) uses the term interactional control to analyse and explain the power dynamic in the text, argues that the analysis of interactional control means analysing what and how actors present arguments and whether it is stated as facts, claims or as different perspectives on a subject.

### 3.1.1 Execution of a critical discourse analysis

One of the key aspects of discourse analysis is to set up limitations to what aspects the study will cover (Winther Jørgensen and Philips, 2000 p. 134). In this study, the discourse analysis focus on the planning and supporting documents regarding the development of a tramway in Lund and how the tramway mode is presented to be different from other modes of public transport, particularly the bus. The main focus of the discourse analysis performed in this study has been the planning and supporting documents that have been produced either by the planning department of the municipality or by consultant firms. Some of the supporting documents have been ordered by SPIS, a municipal interest group that promotes the development of tram systems in Skåne formed by Malmö, Lund and Helsingborg municipality together with Region Skåne, the regional authority that organises public transport in the region. Some planning documents used for the discourse analysis are also produced by the national planning authority, Trafikverket. The use of planning documents produced by actors on a regional or national level is primarily used in order to investigate the *intertextuality* between different planning documents. The empirical material used in the discourse analysis is described in more detail in the following sub-chapter.

Discourse analysis can take a long time to perform, this since one major component of the analysis is to read and re-read the document that is being analysed (Winther Jørgensen and Philips, 2000). In performing the discourse analysis, the focus has been on the major documents that concern the planning and development of a tramway in Lund but also documents that concern public transport in the municipality in general, such as “the transport vision for Lund 2020” and the traffic strategy for the area Lund NE/Brunnshög. These documents have been read and re-read thoroughly, in order to find recurring themes that state and argue how a tram differs from the current bus service operating the route.

Bolsen (2007, p. 184) states that in discourse analysis, just as in other qualitative studies, it is important for the author to think about the validity and legitimacy of the study. Furthermore, Bolsen states that a discourse analysis to a large extent can be understood as a form of coding work. In this thesis, the texts have then been coded into recurring themes, and the four most prominent themes have then been presented.

The formulations have then been analysed by using different conceptual apparatus, such as Fairclough’s (2010) intertextuality, or different modalities such as truth or authority as presented by (Winther Jørgensen and Philips (2000, p. 87–88). The type of modalities that are being used have consequences for the construction of social relationships and the understanding of the text.

Winther Jørgensen and Philips (2000, p. 88) provides the example of a text saying “it is dangerous”
instead of saying “we think it is dangerous” providing an objective modality, often used to express authority. In addition to the coding of the empirical material into themes, the empirical material has been analysed by using the three-dimensional model presented by Fairclough (2010), and also by using the theoretical framework of power and rationality. The results are then discussed in the final chapter in relation to socio-cultural processes as well as a theoretical understanding of social sustainability in relation to transport.

For the analysis to be as legitimate and valid as possible, I have searched for themes that are not just prominent in the documents concerning the tram, but also in policies regarding public transport and urban development in the municipality. Thus, my ambition is that the themes are representative of not just a few documents but supported by a larger number of documents that have been politically approved.

The discourse analysis has been conducted from a critical perspective and the idea has been not to take what is argued in the planning document as something that is certain, rather try to investigate what other sources support the statements and arguments. In the planning documents and policy papers, there are numerous statements regarding the role of a tram and how a tramway differs from other modes in a public transport system. In chapter five, regarding the discourse analysis, I have chosen to present the most prominent themes that are reoccurring in the documents. Some themes are direct and have a clear definition, such as the theme of estimations and predictions, others such as attractiveness have a more abstract meaning, and can influence several areas. I have chosen to use the four themes that I have found most prominent in the documents. The themes presented in chapter five are, though presented separately, connected to each other and in that sense they have a form of connectivity.

In this study, I have chosen to divide the abstract notion of attractiveness into two different themes in order to present it in a way that makes it clear what type of attractiveness is implied. The theme of attractiveness has therefore in this study been divided into the notion of what is in Swedish is called “spårfaktor” which would be directly translated to “rail-factor”. I have chosen to call the theme “passenger attraction” since the idea is that the tram or any rail driven mode is a more attractive mode of public transport compared to a bus service. The second theme that deals with attraction is the notion of attracting economic capital and argues that developing a tram rather than a bus service is better for attracting more capital, this theme is called economic rationalities. The third theme named prognosis presents different estimations and calculations of the need for capacity. The fourth theme that I have found is the notion of an attractive urban environment. All the four themes will be further presented in the chapter regarding the discourse analysis. There are other themes that also have an influence on the overall idea of a tramway and regarding public transport, they have however not been as prominent and will not be addressed in this study. Finally, the chapter is summarised in order to present how the different themes are connected to each other.

These four themes are the most prominent in the planning documents and the themes that are used the most as arguments for developing the tramway. The arguments for the development of the tramway are however not without contradictions and certain arguments may at certain points in the planning documents contradict each other. These contradictions are interesting both in terms of the discourse analysis but also from a perspective of rationality and power. From a discourse analysis perspective, the contradictions are interesting in order to understand how the tramway is presented. If there are contradictions in the empirical material, but the empirical material still chose
to present one perspective, this would indicate that there are aspects of the discourse that are more prominent or more valuable than others.

3.2 Analysis of power and rationality

In Flyvbjerg’s description of the planning and decision-making process of the bus terminal in Aalborg, he uses what he calls narratology (Flyvbjerg, 1998, p. 7-8). This means that he presents his findings in the form of a story. This way of presenting the material gives the reader a good understanding of the processes and decisions that have taken place leading up to the end result. In order to be able to present the material in this way, it requires a wide array of source material covering many different perspectives of the case. Although there is an ambition to present as much as possible for the reader, in order for the reader to be able to themselves interpret the material, Flyvbjerg (1998, p. 7-8) states that it is hard to not summarise or generalise the material, this is also the case in this thesis. However, the intention is that the background chapter will provide the reader with sufficient information of the tramway in Lund and that the background is sufficient for reader gain a basic understanding of what the tramway in Lund is, and the background to it, leading up to the start of the pre-study published in 2011. The process of presenting the background is also a process of power, this since the presentation of the background risk to just present what is important in order to legitimise the claims of the presenter. The author writing a text holds, therefore, power in the sense that the author has the power to present the material in a way that suits the arguments of the author. The intention is that the chapter regarding the background information regarding the tramway in Lund is presented as objectively as possible and that the background chapter does not influence the reader’s opinion regarding the development of the tramway.

The method used by Flyvbjerg resembles that of discourse analysis in that it is a study of language. However, Flyvbjerg (1998, p. 8) argues that we are, generally, poorly equipped to deal with the relationship between reality and ideal, and that this is because we through language tend to understand reality. To purely study language is therefore not enough according to Flyvbjerg, it is also important to study the actions of actors as it is by analysing actions that it is possible to find how power and rationality unfolds. That is why Flyvbjerg argues for studying practice rather than discourse or language. Additionally, Dean (2016), as well as Fox-Roger and Murphy (2014), argues for a study of how power operates, in order to understand the strategies of actors in power and how they influence urban planning. This is something that is also argued by Cashmore and Wejs (2014), stating that a Foucauldian perspective does not aim to present a universal theory or a generalisation, but rather to explain a certain context. A Foucauldian analysis is therefore interested in how these things happen rather than why.

This thesis uses a critical discourse analysis in order to understand how discursive practises and language reflects power and rationality. Winther Jørgensen and Philips (2000, p. 69) with reference to Fairclough, argue that discursive practises contributing to the production and re-production of uneven power relations between different groups in society. Furthermore, Winter Jørgensen and Philips (2000, p. 71) argue that what is central in the analysis of discourse is that a discourse is a form of social practice. A practice that both produces, re-produces and changes knowledge, social relations, including power relations, at the same time as it is influenced by other discourses.
In the previous sub-chapter, I presented how contradictions are handled within the critical discourse analysis. Contradictions within a discourse are also interesting from a perspective of rationality and power as these contradictions reflect a conflict, and it is in a conflict that power and rationality are tested. This since contradictions in the discourse can be understood as something that forces the planners or decision-makers to choose what is valued more than the other. This means that contradictions are also connected to the executions of power and rationality, i.e. where there are contradicting perspectives one perspective will be favoured meaning that power has been exercised in order to favour a certain perspective.

As stated by Flyvbjerg (1998, p. 233ff) stable power relations, i.e. where no conflict is presented, are also embedded by power and rationality. Decisions are taken in stable power relations, therefore, tend to be influenced by rationality, and therefore gain a high level of legitimacy. A discourse analysis of the text can, therefore, be used in order to understand the relation between power and rationality during stable power relations, as well as to understand how power, through text defines reality and knowledge, what Foucault would call the ‘regime of truth’. The analysis of power and rationality is hence closely connected to the discourse analysis since one aspect of power is to establish truth and reality.

Following the arguments made by Dean (2016), Fox-Rogers and Murphy (2014), as well as Cashmore and Wejs (2014) the analysis of power and rationality in this thesis, will focus on how the planning documents are presented in order to establish truth or rationality. Fox-Rogers and Murphy (2014) argue that planners risk serving as agents of power for political and economic actors. The planning documents for the development of the tramway can, therefore, be considered to be an expression of how planners can serve as agents of power. It is therefore important to establish which actors are involved in the production of the planning documents. Since this study focuses on the planning document and not planners or actors specifically, it is possible that there are actors or power relations that have had an influence on the planning document but that are not visible by focusing on the planning documents. In the empirical material used in this study, there are a number of actors involved and these will be presented in the following sub-chapter.

3.3 Empirical material

The empirical material for this study can be structured into two groups. One that has been used as material for the discourse analysis of the tram as well as for the in the analysis of power and rationality. The second group of empirical material have been used either for the analysis of power and rationality or to gain a wider understanding of the development of a tramway in Lund. This group of empirical material consist of protocols from the municipal council as well as news articles. For the discourse analysis and the analysis of power and rationality, a total of 19 documents have been investigated. Additionally, all municipal council protocols between 2011 and 2016 have been searching through in order to find what matters of the development of the tramway have been addressed in the municipal council. In the analysis of power and rationality, only one example is used in this thesis, and the example should only be understood as an example of the dynamics between power and rationality as that certain time. The protocols from the municipal council have not been subject for the discourse analysis.

The empirical material used in this study are primarily reports and investigations related to urban development and public transport in Lund in general or specifically to the development of the
The reports and investigations are conducted primarily by either the urban planning office or the transport planning office of Lund municipality, some are however made by an external actor. These external actors can either be the Swedish transport administration (Trafikverket) or a consulting firm. The documents produced by consulting firms is ordered either by the municipality, SPIS or them in combination. The exact task for the consulting firms is not stated in the empirical material. However, there is an ambition for the municipality to develop a tramway, something that is stated in the masterplan. This means than the consulting firms involved in the process have been asked to investigate how this would be possible, the municipality is, therefore, the commissioning body. The actors that have produced the empirical material are mainly Lund municipality, divided into different forms of organisations such as the planning department, SSVV and SPIS. In several of the planning documents produced by the planning department, there are external actors as part of a reference or consultant group. In just the pre-study there are external consulting groups consisting of Kreera Samhällsbyggnad AB, Trivector, TTK, JCB, Ramböll and FOJAB Arkitekter. Additionally, consulting firms such as Sweco TransportSystem AB, Tyréns AB, Evidens, Skånetrafiken, Trafikverket and PWC have been involved in producing supporting documents. There are likely many more actors involved in the planning of the tramway in Lund, however, these are the actors that have been made visible through the discourse analysis, either as producers of the document or as members of reference groups. I have chosen to present actors in forms of the planning department or the consultant firm and to not use any personal names in order to avoid any suggestion that these individuals hold political or economic power.

Different empirical material can provide different aspects or perspectives on similar issues, they can, therefore, be considered to stand in relation to each other. Hence, there is a power relation between them, but not necessarily a conflict. Similarly, the empirical material produced by actors stands in relation to the perspective of the reader. In this situation, there is a power relation between the producer of the empirical material and the reader of it.

The majority of the documents used for the basis of this study is collected from the official website of the tramway development in Lund, www.sparvaglund.se, however, some documents have also been retrieved from Lund municipality’s website: www.lund.se. The official website for the development of the tram provides information regarding the history behind the development of the tramway, the visions from the city and updated information regarding the progress of the construction. Additional empiric material, such as news articles have been collected via Malmö University’s library service: http://web.retriever-info.com/services/archive/ which makes it possible to read most the articles in full, or via the official website of the development presented above.

Additionally, for the analysis of rationality and power, this study has analysed minutes and protocols from the municipality that concern the decisions made and the planning of the tramway. These minutes and protocols have been retrieved through the website: https://www.lund.se/kommun--politik/politik-och-demokrati/moten-och-protokoll/tidigare-ars-moten-och-protokoll/. This website lets the public search for minutes and protocols from the different councils in the municipality. In order to find and retrieve documents from this website, I have searched in the documents for matters concerning the development of the tram. For the analysis I have decided to analyse the protocols from the municipal council between 2011 and 2015, these are the years between the pre-study and until the decision regarding the investment was taken in the municipal council. The focus of the analysis of municipal protocols has been the protocols from the municipal council since this is the council that is utmost responsible for the municipality.
The main term used in order to find paragraphs that deals with the tramway has been “spårväg”, this has also been expanded with additional search terms such as “kunskapsstråket” and “Brunnhög”. The ambition has been to search for a document that related to the planning of the tram from a wide perspective, and therefore the searches have involved different keywords that apply to both the planning of the tram and the urban development in Lund NE/Brunnhög.

3.4 Delineation of study

This study is a text-based analysis using critical discourse analysis in order to understand power and rationality and how it unfolds in the planning and decision-making process of the tramway in Lund. The empirical material for the analysis is primarily supporting documents connected to the development of the tramway in Lund and general planning and policy documents for the development of Lund NE/Brunnhög. The document in focus for the analysis is published between 2007 and 2016. However, not all planning documents produced between these years have been studied. Some of the documents studied references to earlier plans, however, these have not been studied. I have in this thesis also chosen to not study the six local plans for the development of infrastructure of the tramway, nor have I in this study focused on documents concerning technical details regarding the infrastructure of the tramway. This since the focus of the study is the discourse surrounding the tram and how this discourse can be understood from a perspective of power and rationality.

In order to gain a wider understanding of the planning process, newspaper articles and websites have been read. These have however not been subject for a discourse analysis but have been used in order to gain background information regarding the development with two exceptions. These exceptions are two articles, reporting from the municipal council meeting when the decision regarding the investment of the tramway. These two articles have been used in order to understand the decision and its relation to power and rationality. Additionally, I have used the website of Lund University to find information regarding the science centres MAX IV and ESS, and the website of Region Skåne to gain information regarding the history of SPIS, the organisation working to promote the development of tramways in Skåne.

The discourse analysis is limited to the official discourse from documents found on the official website for the project. An analysis of the political or media discourse has not been conducted.
4 Lund and the tramway

In this chapter, I will present a short background and description of Lund and the tramway, as well as a brief description of the history of the tramway. This in order for the reader to be able to gain an understanding of the circumstances and context of the development.

Lund

The municipality of Lund is the third-largest municipality in term of the population in Skåne (SCB, 2018), with a population of 122,948 people. Lund is located in the south-west of Skåne, with close proximity to both Malmö and Copenhagen. The municipality is undergoing rapid development and estimations point to a population growth of around 14,000 within ten years (Lund, 2016, p. 4). The expected growth in population requires the development of homes in order to meet the expected demand, it also requires an effort in constructing affordable houses to a large number of students, elderly and others that often struggles on the housing market (Lund, 2016, p. 5). Figure 2, provides the principles of the urban development of Lund until 2025.

Lund has had, since the middle of the 17th century, a university, and the university has today a prominent status in the city, with an estimated 40,000 students (some of the students are located in Malmö and Helsingborg) and about 7,200 staff (LUa, 2019). In 2009, Lund University, the Swedish Research Council, Vinnova and Region Skåne, decided to fund the two science centres MAX IV, and the construction began in 2010 (Lund, 2015b, p. 88 and LUb, 2019). Close to the MAX IV facilities is the ESS, the European Spallation Source, under development. Together with the development of the research facilities, the city has urban development plans for the areas surrounding the centres, in Brunnsbög, as well as plans for the urban areas between the central station and Brunnsbög. An estimated 30 per cent of the new development in the municipality will occur within the area called the Science Road (Lund, 2016, p. 5).

Brunnsbög

The area Brunnsbög is located in the northeast of Lund, east of highway E22. In 2016, the science centre MAX IV was established, and currently, the science centre ESS is under construction, with an estimated completed construction in 2023 (LUb, 2019). When both centres are completed the estimated number of employees at the centres will be around 700 people. Additionally, it is
estimated that ESS will attract around 3000 guest researchers per year. This would, according to Lund University, make it the largest research facilities in Sweden.

Parallel with the development of the science centres, the city of Lund has planned for a large urban development in the area. The area, called Brunnsås, is one of the prioritised areas for urban development in Lund (Lund, 2016, p. 10ff). The area is planned to be a showcase of sustainable urban development (Lund, 2012b, p.3) and when completed within 40 to 50 years it is estimated that the area will host around 50 000 people that either is living, working or studying in the area. The vision from Lund municipality is that the area will be a world-class research and innovation environment, and the urban development will be inspired and impregnated by thoughts and visions of sustainability and responsible decision making for future generations.

This massive development will affect the transport system in the area to a great extent and the vision is therefore that the system will be transformed from a system dominated by the use of the private car to a system dominated by public transport, walking and biking (Lund, 2012a, p.3).

The tram in Lund

Figure 3 provides a brief explanation of the background the process of developing a tramway between Lund C – ESS. In the figure, it is possible to see the different aspects behind the development of the tramway in Lund and the origins of it. The idea regarding a high-quality public transport route (Lundalänken) emerges in 1989, and in 1999 the municipality and the regional transport authority (Skånetrafiken) signs a declaration of intent to establish the high-quality public transport route, the route that is called Lundalänken, and the intention is that the bus service will be later transformed into a tramway.

In 2005, the municipal organisation Samverkan Skåne Sydväst (SSSV, 2007, p.2), consisting of representatives from some of the municipalities in the region, decided to investigate the possibilities for the establishment of a tram-system in Skåne. The decision was that Malmö and Lund would be responsible for the report, but other actors were invited to be part of the group working with the project. The following actors were involved: Malmö, Lund, Helsingborg, Burlöv, Svedala, Hässleholm, Lomma and Staffanstorp, as well as representatives from Region Skåne, Skånetrafiken and Banverket (what is now Trafikverket).
In 2007 the final report was released, stating that the best mode of public transport to develop is a tram system and that there are good possibilities for developing systems in both Lund, Malmö and Helsingborg (SSSV, 2007, p. 21). This since a tram system can work in both a local and regional perspective, and as an attractive mode of public transport, the solution it can contribute to positive urban development and to efficiently connect the smaller towns in Skåne to the larger cities. The report also ranks a number of possible routes into different priorities, where two lines in Lund is ranked in the high priority category. One local line and one regional between Lund and Dalby.

With the report published, SSSV’s have completed its ambition, and the organisation is transformed and developed into an organisation that is called SPIS – Spårvagnar I Skåne. According to the timeline provided by Lund municipality that is presented on the previous page, the municipal organisation called SPIS was established in 2009 (Lund, 2015b, p. 88). Today this organisation consists of representatives from Region Skåne, Malmö municipality, Lund municipality and Helsingborg municipality (skane.se, 2019). The objective for the organisation is to promote the implementation of tramway systems in the different municipalities, and the most progress has been made in Lund, where a tramway is currently being developed. The development in Lund consists of a tramway from the central station, towards the northeast of Lund to the areas around Brunnsjö where the science centres MAX IV and ESS are being constructed (Lund, 2011, p. 1ff). The tram route is in total 5,5 km long, with double rails, and will have nine stops along the route. The tramway will connect the new urban development in Brunnsjö with Lund central station, the third busiest train station in Sweden with approximately 40 000 commuters using the station each day. One of the main goals for the development of the tram is to increase the level of accessibility of public transport (Lund, 2011, p. 6). One of the ways the municipality is working to improve this is the design of the coaches and the tram stations which are highlighted in a report from 2013 (SIPS, 2013). The main idea is that the coaches and the stations will contribute to the city environment as well as improve accessibility, primarily focused on physical accessibility in the reports.
5 Discourse analysis of the tram

As stated previously in the methodology chapter, the discourse analysis of empirical material from the municipality of Lund regarding the development of a tramway, resulted in four themes. The documents analysed in the discourse analysis are produced from 2007 to 2016. They consist of both planning and policy documents from the municipality, as well as reports conducted by consultant firms and reports conducted by Trafikverket, with the main focus of the analysis directed towards the planning documents concerning the development of a tramway in Lund. The themes are all connected to each other, and in the empirical material, the themes are to some extent also depended on each other. Specifically, the themes that relate to attraction and attractiveness are closely connected. However, in the following chapter, I have separated the themes so that they are presented separately, focusing on the core of the theme rather than the connections between them.

5.1 Passenger attraction

One of the prominent themes in the empirical material is a theme that is labelled passenger attraction in this thesis. Passenger attraction is the notion of the tram being a more attractive mode of public transport. The argument in the empirical material is that a mode of public transport that operates on rails is more attractive for passengers, compared to bus service, and therefore will generate more users of public transport. The idea that a rail-based public transport, in this case, a tramway, will attract more passengers than a bus service is clearly stated in the pre-study “Förstudie Spårvagn Lund C – ESS”. The study states that experiences have shown that rail driven public transport commonly attracts more passengers than an equivalent bus service (Lund, 2011a, p. 10). The pre-study does however not state how this has been calculated. The document “Förstudie Spårvagn Lund C – ESS” states the rail factor as a reality, and states that this is due to several soft values, among them comfort, but also that people tend to have more trust for a tram because of the fixed priority that the physical rails in the ground provide. Furthermore, the document states that a rail driven mode will attract car users and therefore cause a modal-shift from a car-dependent traffic system to one with a higher share of public transport.

“The reason is an effect that is called “rail-factor” and considers soft factors that make passengers more attracted to a rail-driven mode compared than a bus service”

(Lund, 2011a, p. 10. my translation)

When analysing the statement regarding the rail factor and the attractiveness of the tram, it is possible to argue that the municipality of Lund sees the “rail-factor” as a reality. It is stated in the document “Förstudie Spårvagn Lund C – ESS” that there is such a thing as a rail factor and that this factor is caused by many soft factors that when combined, form a factor that makes a rail driven public transport mode more attractive than a bus service, a notion stated as a fact. The statement of the effect of the rail-factor also occurs in the document “Samhällsekonomi – Spårvagn Lund C – ESS”, a Cost-Benefit Analysis (CBA) of development of a tramway in Lund (Lund, 2015a, p. 7ff). The CBA from the municipality investigates three scenarios regarding future passenger usage of a tramway with the result of the calculations based on a scenario of the traffic in 2030. One base scenario, one scenario that includes a rail factor and a final scenario that would fulfil the transport vision set by the municipality. The calculations for the second scenario include the rail factor and estimates that this factor would increase the number of passengers by ten per
cent in comparison with the base scenario. It is not clear from where the figure ten per cent comes from, however, the report also states that previous calculations regarding the effects of developing rail-driven modes of public transport made by Trivector use the figure 20 per cent. Trivector themselves refers to work conducted by Mats Améen from 1993, in which the figure of twenty per cent is stated (Lund, 2015a, p. 8). The calculations in the municipal CBA of the number of trips in the different scenarios have their base in estimations of population and business growth provided by Statistic Sweden/Trafikverket (Lund, 2015a, p. 20). The scenario of the rail factor uses the same estimations as to the base scenario, with a ten per cent addition to the number of trips, as the rail factor is estimated to generate a higher number of trips for public transport. The scenario that fulfils the public transport vision and strategy uses the same base number of passengers, but with an estimated market share of 1/3 of the trips conducted by public transport. The planning department calculates in their version of the CBA, the rail factor to be ten per cent. The calculations and estimations in scenarios regarding the future number of passengers that includes the rail factor, therefore, results in an increase by ten per cent for the total number of trips conducted with the tram, compared to base scenarios or alternative bus solutions.

The municipal CBA refers to a study in Oslo regarding the differences in passenger numbers between parallel bus and tram services found that there was a higher number of passengers on the tram service and there was a need to find an explanation other than the traditional factors (Lund, 2015a, p. 8). The study from Oslo claimed that there was a factor that contributed to the higher passenger numbers and that this factor could not be explained by the traditional factors. The study conducted in Oslo, with references to previous research, reinforces the idea that a rail driven public transport mode is more attractive than a bus service (Lund, 2015a, p. 8). The use of previous studies and research reinforces the claim in the municipal CBA that there is a rail-factor and indicated that passengers tend to be more likely to use a tramway than a bus service.

However, there are mixed opinions regarding if the increased number of passengers should be regarded as an effect caused by the rails or if there are other aspects to a successful route of public transport. These conflicting opinions are acknowledged in the municipal CBA. The report refers to a study conducted by VTI, the Swedish National Road and Transport Research Institute in 2004. The municipal CBA state that the report from VTI found that no public transport service by a rail driven mode or a bus service can be considered more successful based on its own merits (Lund, 2015a, p. 6). The municipal CBA continues to state that the report from VTI argues there are many factors that are important for a public transport service to be successful, some of them being a comfort, speed and safety (Lund, 2015a, p. 6ff). However, there are other factors, that are external to the transport system, but also have an effect on the number of passengers. These factors are connected to the physical environment surrounding the transport service. These factors also affect the mobility of people and the preferred mode of transport. What this means is that just the development of a bus service to a tram service will not have a significant effect on the numbers of passengers using public transport. Equally important is the urban development surrounding the public transport service. The VTI report concludes that

“...there is a rail-factor however, how big it is and what causes it is to an extent unknown, its cost and actual effects are very much un-investigated and therefore it is hard to estimate it.”

(Lund, 2015a, p. 7. My translation)
The municipal CBA continues to state that what is more important is to improve general attractiveness of public transport in relation to the private car (Lund, 2015a, p. 7), and doing this has proven to be easier, both politically and publicly, by developing a tram system. From these different examples, it is possible to argue that there are many different aspects to the rail-factor. The discourse analysis of the increased attractiveness for public transport caused by physical rails rather than a bus service provides a more complex understanding than the one presented in the document “Förstudie Spårvagn Lund C – ESS” from 2011. That study clearly states that there is a rail factor and that if the city chose to implement a tramway it would increase the share of trips made by public transport (Lund, 2011a, p. 10). How big that factor is, however, not stated. In the municipal CBA, as well as the CBA conducted by Trafikverket, there are calculations that a tramway will increase the number of passengers with ten per cent (Lund, 2015a, p. 8 and Trafikverket, 2014, p. 11). Additionally, the CBA ordered by the municipality and SPIS from 2015 states that research has proved that the rail factor is evident for longer travels, but for short trips, it has not been possible to prove it (Lund, 2015a, p. 11). Still, both the pre-study and the municipal CBA studies use the concept as an argument for the development of a tramway.

The document “Förstudie Spårvagn Lund C – ESS” states that “previous experiences have shown that rail driven public transport attracts more passengers than a bus service” (Lund, 2011a, p. 10). The study presents it as a fact-based on experiences, not saying if it is the municipality’s own experiences or someone else’s that have proven this. By stating this, the municipality present is as a fact, that with an implementation of a tram, the number of passengers will increase. However, later in the planning process, in the municipal CBA, a more multifaceted image of the actual effects of a rail factor is presented. The municipal CBA acknowledges that it is not a certainty, however, they still argue that an effect is likely. One of these previous studies that the municipality refers to is a report called “Lätt spårtrafik I Skåne” conducted by SSSV in 2007. The report concludes that:

“Tram traffic is considered the mode of public transport that is best suited for the conditions in Skåne; a high capacity, attractive mode that can fill the gap between the bus and the train under the motto: Closer than the train – faster than the bus” (SSSV, 2007, p. 21, my translation).

Another aspect of the tram’s attractiveness is that the increased number of passengers will have to be attracted from another mode of transport. Both “Förstudie – Spårvagn Lund C – ESS and the municipal CBA report state that the development of a tramway will be an improvement of equality in the transport system. In the municipal CBA it is stated that the development of a tramway itself is not targeted to a specific gender, however, public transport is used by more women than men and therefore it is possible to consider the development of a tramway an investment for a more equal transport system (Lund, 2015a, p. 57). Additionally, the report “Förstudie Spårvagn Lund C-ESS” states that the increased attractiveness of public transport caused by the tram is likely to attract passengers that today use the private car, causing a modal-shift (Lund, 2011a, p. 10). This modal shift is another aspect of the notion of attracting passengers and increasing the number of passengers using public transport.

The idea of a tram being a more attractive form of public transport, compared to a bus and will be able to attract passengers that previously used the private car relies on the social idea that people value certain things over others. In this case not just comfort, speed and safety, but the idea is that a rail also gives people a sense of reliability. It is even argued in the report “Förstudie Spårvagn Lund C – ESS” that people will be more attracted to a tramway than bus service, even if the
Tramway is slower than the bus, this because the rails have an “in-built” attraction (Lund, 2011a, p. 10). This claim implies is that there is a social norm, that reliability, as well as safety, speed and comfort are important and that these are aspects that are improving with a tram in comparison with a bus service. By arguing that trams have these positive aspects, that people tend to value, over buses, they are motivating the implementation of a tramway as a better option than a bus service.

“There are also clear signs that a rail driven mode attracts private car users to public transport to a higher degree than a bus service”

(Lund, 2011a, p. 10. My translation)

5.2. Economic rationalities

5.2.1 Generating economic growth

In the previous section of the discourse analysis, the notion of attractiveness was presented from the perspective of attracting passengers. Another aspect of the discourse of attractiveness surrounding the idea of a tram system is the attraction of economic capital and investments. As previously mentioned, the municipality has major plans for urban development for Lund NE/Brunnhög, the area between the hospital and the new science centres MAX IV and ESS. Currently, Lund municipality estimates that the daytime population in the area is approximately 21,000 people (Lund, 2011a, p. 17). Half of the people are estimated to be residents in Lund, whereas the rest are commuters. Roughly 8,000, of the 21,000, people are living within the area (i.e. living in the area covered by the local plans for the tramway). In the future, the city estimates that just like now, the number of commuters to the area will be larger than the number of people living in the area. In total, the city estimates that the area will host roughly 50,000 people, residents, students and employees, in the area during the day (Lund, 2011a, p. 24). Most of the added residents will be located in the new housing developments on the eastern side of the highway E22. However, the estimated increase of population within the area of the tram is not only due to the residential development but is also a result of the development of workplaces and businesses. This massive expansion and growth in both residents and workplaces are argued to be a result of a number of things, where the development of a tramway is one of the major components. The report “Förstudie Spårvagn Lund C – ESS” states the importance of the development of the tram from an economic perspective. The major argument is that the tram is a factor for attracting economic investments. The argument is presented similarly to the tram’s possibility to attract passengers. The report states that:

“experiences from other cities shows that tram has many positive effects. New workplaces, housing and activities tend to locate around the tram route”.

(Lund, 2011a, p.37 my translation)

When comparing this statement, with statements regarding the tram’s ability to attract more passengers, it is possible to detect a slight difference in the way it presented. The municipality refers to previous experiences that have proven this, however, the use of the word “tend” indicated that
there is not the same certainty to the argument. However, the planning authority soon after states that “a tramway is a requirement in order for many of the major developments to occur” (Lund, 2011a, p. 37). Just like in the example regarding passengers, the report “Förstudie Spårvagn Lund C – ESS, here presents the idea that the development of a tram system is of importance in order to generate the possibility to fulfil the development plans for the area. Development of another mode of transport is hence considered to not be able to have the ability to generate the desired urban development. The argument can be understood as a fact stated by the planning authority as well as a reproduction of the idea that the development of a tram is better in terms of attracting investments. The notion of the tram’s relation to urban development is also present in the report “Lätt spårrafik holds Skåne” from SSSV from 2007. The report states that:

“The tramway can also be a prerequisite for urban development, both in establishing a new urban area or developing an existing area”

(SSSV, 2007, p. 11, my translation)

The notion of economic development and the importance of it is also addressed in the document “Fördjupning av översiktsplanen för Lund NE/Brunnhög” (FÖP). In the document it is stated that because of the expected future urban development, caused by both the science centres and the accessibility to a high-quality public transport, i.e. the tramway, combined with the plans of developing high-density urban areas, a claim on the agricultural land can be motivated (Lund, 2012b, p. 44). The statement made by the planning department describes that there is a large economic perspective on the development of Brunnshög and that it in many ways is connected to the development of the tram. Accessibility to high-quality public transport is assumed to be a prerequisite for the possibility to develop an urban area with a high density. In the same document, the municipality states that:

“The tramway is a central pre-requisite for it to be possible to create a sustainable, attractive, large and dense urban development in Brunnshög.”

(Lund, 2012b, p. 53, my translation)

This quote underlines the importance of establishing a tramway from an economic perspective. The statement can be understood as a reproduction of the economic discourse surrounding the tram in that a tramway is something that will attract economic capital. The FÖP document refers to a study conducted by Hass-Klau from 2010. The argument of the tram’s positive effect on urban development is used previously in the FÖP document of the urban development in Lund NE/Brunnhög. The document states that the tramway provides the citizens with a high capacity transport system that can contribute to a positive urban development (Lund, 2012b, p. 35). Another aspect that influences the willingness to invest in urban development projects is according to the consultant firm Tyréns proximity to public transport. A report from Tyréns from 2014 named “Satsningar på kollektivtrafik för ökad bostadsbyggande” states that

“The tram route from Lund C – LTH – ESS is a significant investment in order for workplaces and businesses of regional importance to be accessible by public transport”

(Tyréns, 2014, p. 24, my translation)
The report from Tyréns later states that access to public transport is a factor that increases the value of the land and that increasing land value is closely connected to the development of houses (Tyréns, 2014, p. 30). The study conducted by Tyréns is focused on the development of small private homes, however, the argument is that the principle is similar when it comes to denser urban developments. The consultant firm Evidens conducted in 2012 a report of the possible financial outcomes for the development of a tram in Lund called “Stadsplanering och fastighetsvärden – spårväg Lund C – ESS”. The report is based on an analysis of the correlation between distance to a public transport station served with a rail driven mode and the cost of homes as well as the cost of rent on offices in Stockholm. The report from Evidens uses the findings from the analysis in Stockholm and applies it to the planned urban development in Lund NE/Brunnshög. The report’s conclusion is that when the area Lund NE/Brunnshög is fully developed, properties within the area of the tram (500 meters from the stations) are estimated to have a value of 3.6 billion SEK in total (Evidens, 2012, p. 41). The value is estimated to be 10-13 per cent lower if the municipality would invest in bus service. From the examples, it is possible to conclude that there are several reports that claim that with the development of a tramway will result in a higher willingness to invest in urban development projects. The reports also claim that there will be a denser urban development in Brunnsbög with a tram rather than a bus service. By using these reports, the municipality reproduces the idea and produces a social idea that the development of a tramway will attract external capital.

The connection between the development of a tramway and the urban development is also present in the document “Uthyggnads och boendestrategi 2025”, (Lund, 2016). The document states that the focus for the urban development in the municipality will be to:

“..capitalise on the investment in the tramway between Lund C – ESS, and along the route create attractive environments for residents and businesses.”

(Lund, 2016, p. 11, my translation).

The “Uthyggnads och boendestrategi 2025” states that the city must capitalise on the investment in the development of a tram system and make sure that new urban area in Brunshög is being developed. This argument indicated that there is an economic opportunity connected to the development of a tramway, that the municipality cannot waste. It is interesting since it seems that this would contradict the previous statement that a tramway will attract investments. This argument instead states that once the tram is developed, it is important to not “waste” that investment and make sure that the area in Brunshög is developed to its full potential. But previous statements from the municipality gave the impression that the city would not need to invest in urban development in the areas around the tram, the tramway would attract external capital.

Other examples of the idea that the development of a tram system and the correlation with economic growth is given in the report “Nyttan med Spårväg” produced by the consultant firm PWC in 2013. The report states that there are many examples of a positive correlation between the development of a tramway and the investments in real estates and urban development (PWC, 2013, p. 4ff. Examples are given from different locations around Europe, among them Bergen in Norway and Stockholm. The report states that the development of a tramway has had direct implications on the willingness to invest. The numerous examples of the correlations between the development of a tram system and economic growth all help to establish the discourse of that an investment in a tram system will attract capital and increase the economic activity in the city in general, this since numerous sources argue this.
The report from PWC also states that a tramway in Lund also can be considered to serve as a symbol of the project that is the urban development in Lund NE/Brunnshög and the Science Road. The report states that:

“A modern transport system in combination with what the city wants to signalise is a necessity in order to generate revenue on previously decided investments, i.e. the research centres MAX IV and ESS, and in order to be perceived as one of the most attractive places for research, innovation and business enterprise”

(PWC, 2013, p. 26, My translation)

PWC continues to state that the tramway can have significant importance by just being a symbol that the municipality did “something extra” of the urban development and that this can generate in an attractive environment for investors. All the examples above indicate that there are positive connections between the establishment and development of a tramway system and an increased attractiveness in terms of economic development and investments in areas with close proximity to the tramway. There are few arguments in the planning documents and the supporting documents for the development of the tramway that indicates something else. This produces an image that from an economic perspective, the development of the tramway would have a positive outcome.

5.2.2 Economic efficiency

The total cost for the development of the tramway is estimated to 620 million SEK in the report “Förstudie Spårvagn Lund C – ESS” including infrastructure and cost for investigations (Lund, 2011a, p.44). This cost is excluding the cost of the tram depo since this will be owned and operated by the regional transport authority, together with the trams. The cost of the development of the tram is, therefore, the cost of the infrastructure, for example, groundwork, rails, and bridges. However, the same report also states that the estimated cost for both rails and the depo is estimated to cost between 650 – 907 million SEK. Additionally, the study also concluded that the possibility that the cost of the project will not be more than 907 million SEK is 85 per cent and the probability that the project will cost less than 650 million SEK is 15 per cent (Lund, 2011a, p. 44). Additionally, Trafikverket, the Swedish Transport Administration, estimates the cost for the development to approximately 789 million SEK in the CBA of the tramway in Lund (Trafikverket, 2014, p. 4). Neither the CBA by Trafikverket or the “Förstudie Spårvagn Lund C – ESS” report states from where these numbers are generated, however, the “Förstudie Spårvagn Lund C – ESS” report states that the cost is estimated by a principle called “succesivprincipen” and that the cost is calculated in 2010’s price level. In 2013, Trafikverket and Lund municipality signed in 2013 a declaration of intent to build a tram system (Trafikverket and Lund, 2013, p. 1ff). In the declaration, the two parts agreed to work for a solution where they divided the cost 50/50. The cost of the development was then estimated at 720 million SEK.

In both the reports from PWC and Tyréns, as well as the FÖP and the “Förstudie Spårvagn Lund C- ESS”, from the municipality, there is a discourse that the development of a tramway will generate economic growth. The mentioned report all gives the impression that developing a tramway would be sustainable from an economic perspective. However, there is an example that argues that investment in developing a tramway in Lund could have an alternative outcome. This
example can be found in the CBA study of the development of the tram in Lund, conducted by Trafikverket (2014). According to the CBA conducted by Trafikverket, the economic benefit is estimated to have negative result of minus 434 million SEK (Trafikverket, 2014, p. 14). This result of the financial calculations generates a contradicting argument than the previously found in the planning documents and the supporting documents, which stated that it was likely that the investment in a tram system would generate in positive economic development. The result of the CBA conducted by Trafikverket rather presents a possibility that an investment in a tramway in Lund would be an inefficient investment for the municipality.

The CBA conducted by Trafikverket (2014, p. 19) does state that the result of the calculations depends very much on what factors that are incorporated in the process and that the result is also dependent on different variables, such as the estimations of the number of passengers. If the development of a tramway would result in a higher number of passengers, the financial result of the calculations would be different. This means that there are different factors that can influence the economic efficiency of the investment. There is another economic aspect that has not been mentioned in either the reports regarding economic growth nor efficiency from PWC, Tyréns, Trafikverket. This aspect is mentioned in the expert advisory group’s report called “Gransking av projektet Spårväg Lund C – ESS” from 2015. The report states that in Sweden there is an economic mechanism which results in a tax equalization (skatteutjämningssystemet) between municipalities. The report states:

“Studies shows that the municipal tax equalization system in most cases result in a zero-sum game for the larger growth municipalities. The municipal revenue generated by a growing population means increasing payments to the tax equalization system that in principle take away the revenue”

(Lund, 2015b, p. 75, my translation)

This statement by the expert group does not contradict the previous statements that the development of a tramway does generate in a more attractive investment situation. It does, however, generate a more complex understanding of the economic system and the economic efficiency of an investment in a tram system. The report does, however, state that it is hard to calculate the actual effects a tram development has on population growth (Lund, 2015b, p. 75). The difficulty seems to be similar to the calculations of the increasing number of passengers. What the real cause of a generated willingness to invest in urban development in the case of Lund NE/Brunnhög can be hard to pinpoint. However, this difficulty of pinpointing the causes or the efficiency of the investment in a tram system that is addressed by the expert advisory group’s report “Gransking av Projekt Spårväg Lund C – ESS” as well as the CBA by Trafikverket is not expressed in the document “Förstudie Spårvägn Lund C – ESS”. That document rather states that:

“If the public transport is not upgraded to a mode with a higher capacity it will mean that a large number of the planned development in the area will not occur”

(Lund, 2011a, p. 37, my translation)

The statement in the “Förstudie Spårvägn Lund C – ESS” indicates that the mode of public transport that will have the most efficient economic result, at least in terms of urban development is the tramway. This since the report states that if the current mode of public transport along the route
is not upgraded, the urban development will not occur as planned, resulting in a less efficient development from an economic perspective.

Another aspect of economic efficiency is addressed in the estimations and calculations regarding the cost of operating the tramway. In 2013, the consultant firm Vectura investigated the possible cost for the operation of the tram on the behalf of SPIS. The report called “Trafikekonomi Spårväg Lund C till Lund ESS” presents economic estimations that are to a large extent depending on the expected future number of passengers on the route, hence different scenarios are presented (SPIS, 2013, p. 9ff). Similar to other estimations of the demand for capacity, as will be presented in the following section, the report from SPIS has investigated different scenarios, the two different are called base and vision. A rail factor of 20 per cent is included in the base scenario, as well as a five per cent increase of passengers caused by the shorter time of travel (SPIS, 2013, p.11). Why the rail factor and an increase of passengers related to short travel time are included in the base scenario is not explained. However, it seems that there is an assumption that a tramway will cause these improvements in the number of passengers, as explained in the previous sub-chapter regarding attractiveness. The calculations for the base scenario resulted in an estimation of 15 300 trips per day along the route, and a number of 1030 of passengers in the peak hour per direction. Similar calculations are made for the vision scenario, the estimations are that a scenario that fulfils the vision will result in approximately 20 300 trips per day by public transport along the route in 2030 (SPIS, 2013, p. 13). This would mean that 52 per cent of the trips by public transport in the area is conducted by the tram.

Calculating the future need of capacity can never be done to certainty and together with the differences in numbers presented in a different document, it is hard to establish the actual need. However, it is possible to conclude that the calculations and reality do not really provide similar results. An aspect that the report “Trafikekonomi Spårväg Lund C till Lund ESS” acknowledges and states that the way calculations are estimated in the report would result in a total of 5300 trips per day were conducted by Lundalänken in 2013, the actual number was 4500 (SPIS, 2013, p. 12). According to the report, the actual number of passengers on Lundalänken in 2013 is a sign of the development of the passengers by public transport is not enough for the vision to be fulfilled. The development of a tramway is needed in order for it to be possible to achieve the vision and goals for public transport. The assumption is made that only the development of a tramway can contribute to the achievement of the vision and goals. Development of a tramway is hence considered to be efficient in order to reach goals.

Based on the previously presented calculations from the report “Trafikekonomi Spårväg Lund C till ESS” made by SPIS (2013) there are different estimated financial results depending on the scenarios. The calculations include many different factors, such as the cost to drive a tram per kilometre, the number of staff needed and the frequency of which the trams will operate (SPIS, 2013, p. 15ff). With several factors included in the calculations, the report presents the following estimations presented in tables 1and2.

<table>
<thead>
<tr>
<th>Year</th>
<th>BAS Revenue</th>
<th>BAS Expenses</th>
<th>BAS Result</th>
<th>Profitability</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>16</td>
<td>38</td>
<td>-22</td>
<td>42%</td>
</tr>
<tr>
<td>2020</td>
<td>20</td>
<td>38</td>
<td>-18</td>
<td>53%</td>
</tr>
<tr>
<td>2025</td>
<td>25</td>
<td>38</td>
<td>-13</td>
<td>65%</td>
</tr>
<tr>
<td>2030</td>
<td>32</td>
<td>38</td>
<td>-6</td>
<td>85%</td>
</tr>
</tbody>
</table>

Table 1: Financial result of operations in the base scenario *(SPIS, 2013, p.20)*

<table>
<thead>
<tr>
<th>Year</th>
<th>VISION Revenue</th>
<th>VISION Expenses</th>
<th>VISION Result</th>
<th>Profitability</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>18</td>
<td>38</td>
<td>-20</td>
<td>47%</td>
</tr>
<tr>
<td>2020</td>
<td>24</td>
<td>38</td>
<td>-14</td>
<td>63%</td>
</tr>
<tr>
<td>2025</td>
<td>32</td>
<td>42</td>
<td>-19</td>
<td>76%</td>
</tr>
<tr>
<td>2030</td>
<td>43</td>
<td>42</td>
<td>-1</td>
<td>102%</td>
</tr>
</tbody>
</table>

Table 2: Financial result of operations based on the vision scenario *(SPIS, 2013, p.20)*
Table 1 presents the base scenario and calculates a financial result of – 6 million SEK in 2030, a sum that will need to be covered by tax (SPIS, 2013, p. 20). The vision scenario does, however, present a positive financial result of 1 million SEK in 2030, meaning that in this scenario there will be no need to cover any loss with subsidies. The estimations present a degree of coverage of 85 per cent and 102 per cent of the total costs depending on the scenarios. This should be compared to the average coverage of cost for Swedish urban public transport of 50 per cent (SPIS, 2013, p. 20). The assumption from the SPIS report is that if the municipality was to develop a tramway, the cost of the operations would be lower, resulting in a more economically sustainable situation in the long term. The report “Trafikekonomi Spårväg Lund C till Lund ESS” therefore estimated that the development of the tramway is highly efficient from an economic perspective when it comes to the cost of operations. The estimation of economic efficiency in the report can be compared to the estimations conducted by the regional transport administration, Skånetrafiken. Skånetrafiken has also calculated the cost of operations, comparing a tram system and a bus service (Skånetrafiken, 2013). In the report “Trafikekonomi superbuss Lund C – Lund ESS” Skånetrafiken estimates that more passengers would use the tramway compared to a superbus (Skånetrafiken, 2013, p. 4). The number of passengers has an influence on the financial result. The calculations in Skånetrafiken’s PM “Trafikekonomi superbuss Lund C – Lund ESS” present a different financial result than the report “Trafikekonomi Spårväg Lund C till Lund ESS” from SPIS as seen in table 3 below:

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spårvagn</td>
<td>-23,5</td>
<td>-21,0</td>
<td>-18,5</td>
<td>-14,5</td>
</tr>
<tr>
<td>Buss</td>
<td>-23,5</td>
<td>-21,5</td>
<td>-19,5</td>
<td>-16,0</td>
</tr>
</tbody>
</table>

*Table 3: Financial results of operations (Skånetrafiken, 2013, p. 5)*

It is difficult to make a direct comparison between the estimated cost of operation from the two different reports since it is not clear if they use the same method for calculations. However, the calculations of the cost of operations from Skånetrafiken are contradicting the calculations presented in the report from SPIS (2013). Skånetrafiken’s (2013) calculations present a higher need to cover the cost with tax and that the differences between a tram system and a bus service are financially not as large as the calculations made by SPIS. Which of the calculations are the most correct cannot be determined, however it is possible to state that the report from SPIS (2013) assumes that the development of a tramway is beneficial from an economic perspective and that SPIS tend to assume that in 2030 there will be many more trips conducted by public transport than what is estimated in the report from Skånetrafiken. The two different reports, therefore, present two different results concerning the tramway’s economic efficiency.

5.3 Prognosis

In the empirical material regarding the development of a tramway in Lund, there are repeated claims that the need for a high capacity public transport system is crucial. It seems that this increasing demand for capacity of public transport has its roots in two different aspects. One of these aspects can be traced back to the policy documents and the vision stated by the municipality
to increase the share of trips taken by public transport within and to and from the area. In the policy document “Kollektivtrafiksvision Lund 2020” it is stated that a goal is to double the number of trips taken by public transport until 2020 compared to 2006 (Lund, 2011b, p.5). The goal set up in the vision of increasing the number of trips made by public transport in fourteen years also indicated an increase of public transports share of the total number of trips, this since the population is not likely to increase to a similar extent. An increase in the number of trips made by public transport demands an increase in public transport capacity. The second aspect that influences the estimations of future need for capacity can be found in the document “Trafikstrategi för Lund NE/Brunnshög”. The strategy states that:

“Trips to and from the area should be made by maximum 1/3 private car, minimum 1/3 public transport and minimum 1/3 walking/bike.”

(Lund, 2012a, p. 7, my translation)

This statement in the strategy indicates that the goal from the municipality to cause a modal shift from the private car to the modes of public transport, walking and cycling. This since the current situation (in 2012) is that approximately 60 per cent of the trips in Lund NE/Brunnshög is conducted with the private car (Lund, 2012a, p. 8). In order for the goal of a third of the trips in the area to be made with the car, there has to be a decrease in trips by 25-40 per cent.

These goals, combined with the goal that the number of trips using public transport should increase, both in terms of the actual number and in terms of share, all indicates that there will be a larger demand for public transport in the future. Because of this, there is a need to develop the public transport system so that the system will be able to handle the increased number of passengers to a fulfilling standard. From this, it is possible to conclude that the municipality assumes that it is important to develop the public transport system in order to meet the future demand for capacity, as well as in order to achieve the goals set out by the municipality. The need to change the public transport system, and particularly the capacity of the public transport system is something that in a way is caused by the municipality themselves since they actively seek to promote a lower usage of the private car. Goals and visions are set both for the general public transport in either Lund or for a larger area such as Lund NE/Brunnshög. The goals set up in the vision and the transport strategy do not specify any numbers for how many passengers the public transport mode need to handle along the route between Lund C – ESS. These numbers are however stated in the pre-study for the tramway. The estimations are done by the regional transport authority, Skånetrafiken, and report “Förstudie Spårvagn Lund C – ESS states that:

“Skånetrafiken concluded that in total there where 6000 trips a day made along the route in 2008 and that in 2020 the number of trips is estimated to be between 12 000 – 15 000 trips a day - more than a twofold increase.”

(Lund, 2011a, p. 8, My translation)

From the examples above it is possible to conclude that the municipality assumes that there is a need for an increased capacity along the route between Lund C -ESS. This in order to aim for a more sustainable traffic situation. The increasing demand for higher capacity along the route has partly its origin in the municipal policy documents, stating the vision of increasing the number of trips made by public transport in the area.
Another aspect of the idea of the increasing need and demand for mobility comes from the increasing population in the municipality. In the “Utbyggnads och boendestrategi 2025”, the municipality states that the population of the municipality is expected to increase by 15,000 people until 2023 (Lund, 2016, p. 4). The figure is stated as a general figure for the whole municipality and is based on the previous ten year’s population growth. The document also states that a large part of the development in the municipality will be focused towards major infrastructure projects and that of the urban development of Lund NE/Brunnhög will be prioritised. The idea that the area surrounding the future tramway will see the most increase in population can be understood from a number of perspectives. The previous sub-chapter addressed the idea of the tram as a factor for attracting economic capital. However, the expected increase in population in Lund NE/Brunnhög can also be understood as a result of the policy from the municipality, since the municipality states that the area surrounding the future tramway will be prioritised, and therefore that is the area that will have the largest increase in population. How large the increase in population will be is another aspect that will be of importance in order to handle and plan for the demand for capacity.

“With the ongoing development in travel, combined with the urban plans for Ideon and Lund NE/Brunnhög, it is estimated that the number of trips along Lundlänken has seen a twofold increase before 2020”

(Lund, 2011a, p.8, My translation)

In the document “Förstudie Spårvagn Lund C – ESS”, the planning department states that the area Lund NE/Brunnhög will in the future (2050) hold a day-time population of around 50,000 people (Lund, 2011a, p. 85). This should be compared to the day-time population of 21,000 that the area around Lundalänken had in 2011 when the report was written. How the municipality calculated the future population of the area is not stated in the document. The day-time population is today a mixture of people living in the area, students and people that commute to the area for work. Additionally, the municipality estimates that of the estimated 50,000 in daytime population in the area, either living, working or studying in 2050, 70 per cent of the population (35,000) will either study or work in the area (Lund, 2011a, p. 26). Of those 35,000, the city estimates that 30 – 40 per cent will go to their workplaces in peak-hour, and with the goal of one third using public transport, this will result in a need for the public transport system to handle approximately 3000 trips during peak-hour. In a report regarding different public transport alternatives as a solution to future mobility capacity, similar numbers are reported. A report from Trivector called “Alternativa utformningar av kollektivtrafiken mellan Lund C och ESS” states that:

“In order to achieve the set goals, there is a need for an attractive public transport system, with high capacity. With the quantified numbers, the conclusion is that a tramway is necessary”

(Trivector, 2012, p.6, my translation)

This quote confirms one of the assumptions that the municipality has regarding the future traffic situation in Lund NE/Brunnhög. The municipality assumes that the only mode of transport that will fulfil the goals and visions for the area is a tramway and if the future goals and visions are fulfilled, it is only the tramway that will meet the need for capacity. According to the planning and policy documents from the municipality, there is a clear need for increasing the capacity of the public transport along the route between Lund C and ESS. However, the numbers stated in the pre-study for the tramway are estimated numbers. The actual need for capacity in terms of numbers
cannot be established to a certainty. Other empirical material presents other estimations of the number of people that will either live, work or study in the area along the tramway. The previously mentioned report from PWC “Nyttan med spårväg” claims that there is along the route Lund C – ESS closer to 45 000 workspaces and that in the future another 50 000 may be added (PWC, 2013 p. 25). An addition of 50 000 workspaces as PWC estimates is possible would mean that approximately 95 000 people would work within the area of the tram. PWC does not state how they estimated the figure of 50 000 more workspaces, however, they do reference the FÖP report regarding the development of Lund NE/Brunnshög, and reproduce the estimations in that document. This number differs a lot to the figure that has been stated in the pre-study for the development of the tram. In that document, it is estimated that the daytime population, i.e. people working, studying or living in the area is expected to be around 50 000. These different numbers are estimations and not a given certainty, however, the large differences in expected population will have a large influence over the calculations of the need for capacity. The report from the expert advisory group “Granskning av projekt Spårväg Lund C – ESS states:

“One of the uncertainties in the conducted investigations regards the number of people living and working within the area at different given times in a day. There are surprisingly large differences between the different scenarios presented in different documents, something that causes difficulties to conduct comparisons, but also to use the conclusions in the documents.”

(Lund, 2015b, p. 42, My translation)

The statement from the expert advisory group acknowledges that estimations regarding the future need for capacity are hard to conduct. This difficulty can be one of the reasons why there are many different estimations within the planning documents. Additionally, the long timeframe for the urban development in Lund NE/Brunnshög, a period stretching to 2050 in the documents, also provides a large timeframe for changes. The goal set up in the policy documents that one-third of the trips should be made by public transport is fixed, however, depending on the differences in the estimated population, the need for capacity in terms of numbers can differ. As the expert advisory group concludes:

“The estimations of the need for capacity in the document, Alternative designs of the public transport system between Lund C – ESS, is, therefore, higher than the estimations in the in-depth plan for Lund NE/Brunnshög”.

(Lund, 2015b, p. 42, My translation)

5.4 Attractive urban environment

The last theme to be addressed in the discourse analysis is that the attractive urban environment. The theme is quite abstract and in this thesis, the theme is divided into two perspectives. The first perspective includes the abstract idea of the urban landscape and how a tram system enhances the
image of the city in terms of appreciation and attractiveness. This idea of the tram’s ability to generate a positive image of the urban landscape is not just important for the current population living in Lund, but the idea of signalling an attractive city landscape could also be understood from a regional perspective, particularly when it comes to the development in Lund NE/Brunnhög.

The second perspective on the urban environment is an ecological and environmental perspective that includes disturbances, vibrations and the emission of toxic gases into the air.

Starting with the idea of the tramway and how it affects the image of the urban landscape. It is possible to conclude that there is an assumption that a tramway rather than a bus service, will improve a person’s appreciation of the urban landscape to find it more attractive. The document “Förstudie Spårvagn Lund C – ESS” states that:

“… a tramway from Lund C towards Lund NE/Brunnhög, will serve as an important mental connection between the areas and create an impression of the close proximity of the different areas and its destinations.”

(Lund, 2011a, p. 37, my translation)

This statement reflects an assumption that a high-quality public transport service will improve a person’s mental picture of the urban environment. It is also clear that the statement is aware that it is not proximity in terms of physical distance but rather the mental picture people have that is important. The statement also reflects the assumption that this will only be possible with the development of a tramway, giving the impression that this would not be possible to create with a bus service. In general, the municipality estimates that the tram alternative has good prerequisites to achieve the goal regarding an attractive city landscape (Lund, 2011a, p. 45). The development of the tram is important for several reasons, predominately it is important in order to connect different areas in the city, but according to the pre-study also to connect the city areas in Lund to the surrounding regional areas and cities. The tramway is therefore also argued to be a regional investment, benefitting public transport and urban development from a regional perspective (Lund, 2011a, p. 14).

Furthermore, it is argued that the tramway, just like its function to connect the areas in Lund to the region, also serves a function to connect the region to the different activities that are planned in Lund NE/Brunnhög. One of these attractions is a recreational area in Brunnhög and a public science centre. The document “Fördjupning av översiktsplanen för Lund NE/Brunnhög” states that:

“The recreational area in the eastern part of the area will due to its design become a regional destination. The area will be easily accessible, only 15 minutes from Lund central station with the tram.”

(Lund, 2012b, p. 20, my translation)

From this statement, it is clear that the tramway is assumed to play an important role in the establishment of Lund NE/Brunnhög as an attractive area. This in terms of generating a mental idea of connecting areas, within the city but also within the region. The way the argument is presented it describes a situation where the development of a tramway will make the recreational area much more accessible in relation to another public transport mode. However, there are other arguments for the tram’s ability to generate an attractive city landscape. One of these arguments comes from the tram’s higher capacity in relation to a bus service. It is argued in “Förstudie
Spårvagn Lund C – ESS” that because the tram has a higher capacity, a tram service does not need to have as many departures per hour in order to meet the capacity demand (Lund, 2011a, p. 39). The assumption is that since the tram attracts more passengers, fewer commuters will use the private car, and development of a tram system will, therefore, reduce the number of cars in the city. Additionally, since the tramway has a higher capacity than bus service, the tram does not need to have a similar frequency of departure as a bus service. Something that is stated as an important factor at numerous instances in the pre-study (Lund, 2011a, p.8 and 10). This notion is also present in the environmental impact study (MKB) (Lund, 2014, p.1), where it is stated that a higher frequency of buses on the route will have an impact on the cultural environment of the city centre.

A mode of public transport that has a lower capacity is argued to lead to more departures causing more traffic, and to be less attractive, which also leads to more traffic since more will choose the car instead of public transport. Developing a tramway is therefore considered to be a way of reducing traffic and generate a more attractive city environment. However, as also mentioned in “Fördjupning av översiktsplanen för Lund NE/Brunnshög”, it is not possible to expect that the tramway will be able to serve all the need of the passengers.

“The tramway can alone not meet the need for mobility by public transport and there will be a need for complementing bus services both locally and regionally”

(Lund, 2012b, p. 17, my translation)

In addition to the tram’s assumed ability to reduce the numbers of cars in the city, the municipality does acknowledge in “Förstudie Spårvagn Lund C-ESS” that the development of a tramway will have an impact on the physical environment, predominately in Lund’s medieval city centre (Lund, 2011a, p. 37). The changes in the physical environment are estimated to have an influence on the character of the street where the tram is developed, primarily in terms of an increased focus on pedestrian and cycle lanes. In the investigation on environmental impacts (MKB), the study states that the largest impact on the cultural environment will be caused by the poles for the electric aerial lines (Lund, 2014, p. 1). In the study regarding the environmental consequences, only two alternatives that have been studied. The first one is the development of a tram system and the second alternative is to continue with the current public transport solution, a BRT (Bus Rapid Transit) alternative is mentioned but not investigated.

From the report regarding the environmental consequences, it is possible to conclude that there is an argument that the development of a tramway will influence the environmental and cultural aspects of the city. The changes are argued to be predominately positive. The assumption that the development of a tram will attract car users and reduce the number of cars in the city can also be understood from an environmental perspective. The planning department states in “Förstudie Spårvagn Lund C – ESS” that the development of a tramway would be the best alternative in order to achieve environmental goals, including a goal of lowering the negative effects on the environment (Lund, 2011a, p. 54). This is primarily due to the tramway’s power source.

“With the introduction of an electrical tram, the total amount of air-polluting emissions will reduce if it replaces the bus traffic.”

(Lund, 2011a, p. 43, my translation)

The pre-study does, however, acknowledge that there is a risk of the levels of emissions from cars will increase at the streets surrounding the tramway since the route of the tram will be closed for cars (Lund, 2011a, p. 43). However, the emissions are predicted to maintain under acceptable levels.
Despite the claim that the tram will reduce emissions in general, this has not been studied in the report concerning the environmental consequences (MKB). The factors that have been studied are noise, vibrations, electromagnetic fields and the cultural environment.

In terms of noise pollution, the development of a tramway is estimated to increase the noise from the traffic, not just in terms of its own operation, but also since the separated right of way that it is planned will result in a need to redirect other traffic to surrounding streets (Lund, 2014, p. 20). The highest risk related to noise is located to the properties in the city centre from the central station to the hospital. With the development of a tramway comes a new element of noise pollution, and the planning department states that:

“A number of properties within the studied area are predicted to be subject of maximal noise levels at the facades, above 75 dBA, caused by the tram, something that can indicate on very high sound levels indoors.”

(Lund, 2014, p. 22, my translation)

Because of the increased noise levels, the report suggests that further studies take place in order to determine what measures are needed in order for the noise levels to stay under an acceptable level. Another pollution problem caused by a tramway is vibrations. The municipality states that there are several activities in properties with close proximity to the tramway that are sensitive to the vibrations caused by the tram (Lund, 2014, p. 23). Similarly to the case of vibrations, there are many activities along the route that are sensitive to electromagnetic fields, these can have an effect on the activities at the hospital, some institutions at Lund University, primarily the technical faculty but also the new science centres MAX IV and ESS are sensitive of these electromagnetic fields (Lund, 2014, p. 25). Since these issues with regards to health and safety are addressed in the environmental consequence study (MKB), it is concluded that there is a need to further study the effects of noise pollution and to follow up the result when the tram is developed (Lund, 2014, p. 48). In the report, the discourse of the trams possibility to create an attractive urban environment is repeated and reproduced. Despite the causes of the issue by a tramway, specifical pollution in terms of vibrations and noise, the tramway is estimated to be the best alternative for a public transport solution between Lund C and ESS and in the study of environmental impacts it is stated that:

“The experience from modern trams is that a high capacity public transport system can successfully be combined with attractive urban environments.”

(Lund, 2014, p. 43. My translation)

From these examples, it is possible to conclude that there are aspects of pollution connected to the operations of a tram system. The emission of air polluting gases from the tram is lower than the current alternatives, however, there are other aspects of pollution that need to be studied further. The assumption from the municipality is that despite the risks of noise pollution and vibrations, a tramway still has an ability to generate an attractive city environment.
5.5 Summary of the discourse analysis

The results of the discourse analysis have been presented in the previous sections. The chapter presents four different themes that have been prominent in the empirical material. The themes are different aspects of attractiveness or the estimated effects of attractiveness, ranging from attracting passengers to public transport to generating an attractive urban environment and attractive situation for investments in urban development. Even if the different themes are presented separately, they are to an extent dependent on each other.

What they more have in common is that these are all presented as aspects of the development of a tramway that supports the development of a tram system in Lund. These themes are presented as positive outcomes of the development, particularly in comparison to the development of a bus service. While there are contradicting arguments and opinions to the reality of some of the aspects, they are predominately presented and established as facts and realities. The assumptions presented in the empirical material are that development of a tramway will cause a modal shift from private car to public transport, that development of a tramway is essential in order to fulfil the urban planning of the area Lund NE/Brunshög and in order to create a more attractive urban environment.

In the following chapter, the findings in the discourse analysis will be analysed from a perspective of power and rationality. This in order to understand how the empirical material is influenced by power and rationality, as well as to understand how the empirical material influence power and rationality.
6 Power and rationality in the empirical material

Flyvbjerg (1998) uses the method of narratology in his study of the planning and decision-making process of a bus terminal in downtown Aalborg. He describes the study as a story, following the process from a chronological perspective, starting with “an autumn day in the late 70’s” (Flyvbjerg, 1998, p. 9), and describes the process from a wide range of perspectives. Flyvbjerg’s analysis of power and rationality focuses on decisions and actions rather than how language creates realities (1998, p. 8), since Flyvbjerg claims that the very language we use is characterised by rationality and power. A view that is shared by Foucault and can be connected to Foucault’s call for ‘the regime of truth’ as well as normalising power (Foucault, 2000). Additionally, Dean (2016) and Fox-Rogers and Murphy (2014) argue for studying ‘how’ power operates and the strategies in place, claiming that powerful actors seek to define reality in order to be able to stay in powerful positions. Since language itself consists of power and rationality, and numerous scholars argue to analyse how power and rationality unfold rather than why analysing how arguments are stated can help to understand power and rationality within planning documents.

This thesis analysis of power and rationality is both a text-based analysis of the empirical material used for the development of the tramway in Lund, as well as, an analysis of ‘how’ power and rationality is presented in the empirical material, i.e. decision taken by the planning department of what to investigate and what to present. The analysis will, therefore, not have a similar chronological perspective as the study presented by Flyvbjerg (1998). Instead, the analysis will be structured into three different themes that have become visible throughout the study, based on the themes presented in the discourse analysis. The analysis of power and rationality is a text-based analysis since, just like Flyvbjerg (1998, p. 8) states, in language, there are power and rationalisation. Language is therefore important in order to understand the relation between power and rationality. The analysis of power and rationality is therefore focused on how language is used in order to establish a reality that supports the development of a tramway.

This chapter will also present findings from the empirical material and connect these findings to examples found in Flyvbjerg’s study in Aalborg, as well as, relate the findings to arguments and theories presented in the theoretical framework. Since Dean (2016) and Fox-Rogers and Murphy (2014) argue for investigating ‘how’ power unfolds, the analysis of power and rationality will also be connected to the theoretical part of the discourse analysis, where it is argued that the use of language can be used in order to express authority as well as truth (Winther Jørgensen and Philips, 2000). The research question guiding the analysis of power and rationality is: How could the empirical material of development of the tramway be understood from a perspective of power and rationality?
6.1 Truth and authority – establishing a reality

6.1.1 The rail factor

One of Flyvbjerg’s key arguments in this study of power and rationality in the case of the bus terminal in Aalborg is that power is knowledge (1998, p. 27), and that power seeks to define what knowledge is. Instead of using knowledge as a foundation for decisions, he claims that power seeks to define what knowledge is and in doing so seeks to define knowledge that will support the will of power. This is something that also Foucault argues for, claiming that power seeks to establish a ‘regime of truth’ as well as normalising those views on reality that support existing power structures (Foucault, 2000). Watt Bolsen (2007) and Winther Jørgensen and Philips (2000) claims that a text can be analysed by using different modalities, some of these being truth and authority. With the help of the discourse analysis, it is possible to understand how text can be used to construct knowledge and reality. This means that arguments from the planning department can be considered as expressions of authority and that arguments can be expressed as facts.

An example of this has been presented previously in the discourse analysis and is the example of the idea of the rail-factor. As presented in the previous chapter there are contradicting arguments whether there is an actual rail factor, which supports the idea and how much the factor is estimated to be. Despite this, the planning department states that there is a rail factor in order to argue for the development of a tram. By doing this, the planning department expresses its authority in establishing the rail factor as a reality, using its authority to establish the knowledge of the rail-factor as the truth. What Foucault would claim to be an example of ‘the regime of truth’ or as an example of the normalising power (Foucault, 2000). The best example of this in the planning documents comes from the document “Förstudie Spårvagn Lund C – ESS” and have been presented previously in the discourse analysis. The document states that:

“The reason is an effect that is called “rail-factor” and considers soft factors that make passengers more attracted to a rail-driven mode rather than a bus service”

(Lund, 2011a, p. 10. my translation)

According to Winther Jørgensen and Philips (2000, p. 88), one way for a text to express something as a fact is to use the modality of truth. The statement uses the modality verb *is*, and this gives the reader the impression that this as a fact, despite that there are contradicting arguments. By doing this, the planning department presents the rail factor as a reality. This example can be compared to the example from Flyvbjerg’s study regarding the result of a shopping survey (Flyvbjerg, 1998, p. 112 ff). Flyvbjerg’s claim is that myths die hard and argues for this by presenting an example from Aalborg. A shopping survey present results that are in favour of limiting the accessibility by car in Aalborg city centre and promoting pedestrians and public transport, the Chamber of Industry and Commerce argues for their opinion and manages to turn their interpretations of the surveys result into municipal policy. Flyvbjerg claims that when powerful organisations, or authorities, state that motorists are a more important groups than pedestrians and public transport, even though the survey’s result showed otherwise, other actors tend to agree, thus forming reality despite the empirical evidence that question the truth of it (Flyvbjerg, 1998, p. 113). Interpretations of the empirical material then become the truth.
The establishment of the rail factor as a reality in the empirical material for the development in Lund reflects similar traits. The empirical material refers to previous studies conducted that argues that there is a need to find an explanation for the increase in passengers (Lund, 2015a, p. 8). The interpretation in the study from Oslo was that there is a rail factor, hence the planning department argues that a similar expectation can be made in Lund. Despite that the same document highlights that there are contradicting opinions whether the rail factor exists (Lund, 2015a, p. 8), a rail factor is used in the estimations regarding a future number of passengers. The findings and results of previous studies are hence interoperated as truth in order to strengthen the argument for the rail factor and the establishment of the rail factor as a reality. This can also be considered an example of ‘how’ power operates in order to establish a reality that suits its purpose (Dean, 2016).

The notion of interactional control (Watt Boolsen, 2007, p. 182) can be used to analyse the statements regarding the tram’s attractiveness. The reports from the municipality have control over the statements regarding the tram’s attractiveness. By having control over what, in the planning documents, the planning department can present the rail factor as a fact, and the implementation of a tram system as something that is positive for the public transport situation in the city in general. The idea of developing a tramway is presented in a positive way by the planning department. The authority of the planning department helps to reproduce the idea that a tramway is a more attractive mode of transport than a bus. It is possible to argue that this process takes place in the case of the tramway in Lund and the rail factor. There are contradicting arguments for both the reality of the existence of a rail factor, as well as the magnitude of the effects. Despite this, the planning department argues that there is such an effect. The language used by the planning department express authority and power, in doing that tries to establish reality.

This example of how the rail-factor is established as a reality can be considered an example of the relation between power and rationality. Flyvbjerg (1998, p 227) argues that power seeks to define reality and knowledge. In that doing so, the rationality of power is to establish the rail-factor as a reality since this would support the idea of developing a tramway. This example is similar to the notion of the ‘regime of truth’ as argued by Foucault (Foucault, 2000). It is important to stress that, as Lövbrand and Stripple (2016) argues regarding generalisation, this example should be considered as examples to prove Flyvbjerg or Foucault right, instead, this example of interpreting the results of studies in order to establish the rail-factor as reality could be explained by the concepts and arguments made by Flyvbjerg and Foucault.

6.1.2 Attractive mode makes investments attractive

Another example of the relation between power and rationality can be found in the idea that a tramway is better in terms of generating a more attractive urban environment and to attract capital and investments. In the previous chapter, the two different aspects were presented in separate sub-chapters, however, as stated, the themes are overlapping and are influenced by each other. They will, therefore, be presented together in this sub-chapter. Starting with the idea of the tramway’s ability to generate a better urban environment. Arguments for this can be found in several planning-and supporting documents. The document “Förstudie Spårvagn Lund C – ESS” states that:
“The estimation is that a tramway between Lund C – ESS to a large extent contribute to the fulfilment of the high set project goals of an attractive city environment and attractive public transport”

(Lund, 2011a, p. 3, My translation)

Similarly, the other modes of public transport discussed in the document “Förstudie Spårvagn Lund C – ESS” are estimated not to have similar ability to generate an attractive city environment. One of the major reasons why other alternatives are not considered to contribute as much to the urban environment can be traced back to the rail factor. Other modes of public transport are implicitly argued to not have the same ability as the tram to attract passengers that previously used the car as a means of transport (Lund, 2011a, p. 3). An establishment of a tramway would, therefore, reduce the number of cars in Lund, and thus generate a more attractive city environment. The idea of the tram’s ability to generate a more attractive urban environment is also repeated in the environmental consequence study (MKB) and is primarily linked to the idea of a decreasing number of cars (Lund, 2014, p. 39). There are however other aspects than fewer cars in traffic that have an influence on the urban environment. Factors such as increased noise pollution, as well as vibrations and the introduction of electromagnetic fields, are presented in the pre-study and further investigated in the MKB. Despite the conclusion that noise is likely to increase, as well as that activity at the hospital and in the science centres MAV IV and ESS are sensitive to vibrations and electromagnetic fields, the development of the tramway is still considered to be preferred (Lund, 2014, p. 2).

The notion of an attractive urban environment is abstract, and there is no discussion in the empirical material what an attractive urban environment is. Despite this, it is argued that the development of a tramway is considered to generate an attractive urban environment (Lund, 2011a, p. 3). This perspective on attractiveness can similar to the argument of the rail-factor be understood from a perspective of power and rationality. The aspect of the tram’s ability to generate an attractive urban environment can arguably be understood as an interpretation of the assumption of what the public values as an attractive urban environment. One way of analysing the statement from the planning department is to analyse the text from its use of modalities, one of these being truth (Winter-Jörgensen and Philips, 2000, p. 88). In the statement, it is claimed that the tram to a large extent will contribute to the fulfilment of the goals of an attractive city environment. The “Förstudie Spårvagn Lund C – ESS” states that through careful design, it will be possible to create attractive urban environments surrounding the tram stations (Lund, 2011a, p. 45). However, it does not say why this would not be possible with another mode of public transport. The planning department, therefore, uses its authority in stating that the mode that generates the most attractive urban environment is the tram, and by doing so attempt to establish it as a reality.

In addition to the claim that a tramway generates a more attractive urban environment, it is also stated in the document “Fördjupning av översiktsplanen för Lund NE/Brunnshög” that the development of a tramway is a pre-requisite in order to generate a comprehensive and dense urban development in Lund NE/Brunnshög (Lund, 2012b, p. 53). Similar claims can be found in other empirical material. One of the documents supporting this statement is an analysis conducted by the consulting firm Tyréns in 2014 called “Satsningar på kollektivtrafik för ökat bostadsbyggande”. The analysis showed that private houses, within a distance of 500 meters from a train station were on average 5,3 per cent more expensive than houses with a longer distance to train stations (Tyréns, 2014, p. 31). Additionally, a study from the same firm stated that 85 per cent of the population in Skåne values close proximity to bus or rails, and that 75 per cent of the population value close
proximity to nodes for longer travels, such as airports or train stations. This study has not been conducted specifically in relation to the development of a tramway in Lund, and its focus was to investigate the relationship between property prices and proximity to public transport. Despite this, the study is used by the planning department in order to present the link between property prices and the development of a tram.

The document “Stadsplanering och fastighetsvärden – spårväg Lund C till ESS” studies the economic effects on property values and states that the development of a tramway would increase the property value of existing properties, as well as on the planned development. In total, the study estimated the value of the properties to a total of approximately 3 600 million SEK (Evidens, 2012, p. 41). However, the study also states that the estimated increase in value caused by the tramway is estimated to be 10 -13 per cent in relation to a bus service. This would mean that the total increase in property values would be 360 – 468 million SEK more than if the municipality decided to develop a bus service. Additionally, the report also states that the calculations are conducted with the condition that the planned development is fulfilled. That the property prices would increase with the development of the tramway is likely, however, to what extent the fulfilment of the urban plans is dependent on the of a tramway is not certain. Something that the CBA by Trafikverket also stated where the estimation was that the socio-economic benefit for the development of a tramway would be a negative 434 million SEK (Trafikverket, 2014, p. 2). The use of the report from Evidens (2012) gives the impression that the total value gained by developing a tramway is 3600 billion SEK. The report does state that the value is estimated to be 10-13 per cent higher than the development of bus service, however, it is possible to get the impression that the development of the tramway is likely to have a larger influence on value than it has. The use of the report from Evidens in order to support the development of the tramway points to the economic perspective of the development. It argues for the development of a tramway in order to generate higher property prices. This could be connected to what Fox-Rogers and Murphy (2014) argue as actors with economic power to generate a situation that supports these actors’ goal to be able to continue to stay in powerful economic positions. It could also be considered a way for the municipality to generate a reality that will make sure that powerful economic actors, such as large scale construction companies, will support the idea of the development, similar to what Marsden and Reardon (2017) argue.

In the case of the CBA that was conducted by Trafikverket (2014), it seems that the planning department in Lund was not pleased with the result of the report, this since they publish a similar report the following year. Here it is possible to find two public actors that are promoting slightly different views on the development of the tramway. The new report published by the municipality contains added explanations of how to understand the results and how different predictions of the number of passengers, including scenarios with a rail factor and one where the transport vision and goals are fulfilled, is presented (Lund, 2015a). Flyvbjerg (1998, p. 20ff) states in his study of Aalborg, that decisions are made first, and followed by a process of rationalisation, legitimising the decision. It seems that a similar process has occurred in the case of the tram in Lund, where decisions and estimations made (granted not a finalised one in terms of a financial decision for the investment) with the goal that the tram will be developed. However, when the CBA conducted by Trafikverket is published it claims that the investment in a tramway would not be financially efficient. The planning department then decides to present its own report concerning the same matter. In the case of the tram in Lund, it’s possible to argue that there are several decisions and plans made addressing the urban development for Lund NE/Brunnhög and the science centres, that have included the tram as a factor. Because of this, there is a need to rationalise the planning in order to develop the tram.
The case of the tram’s ability to attract economic development is similar to the argument of the importance of accessibility of the private car for the commerce in downtown Aalborg, where actors reproduce the claims of those with influence (Flyvbjerg, 1998, p. 113). There is truth to the argument of the tram’s ability to attract economic development, however, the planning department argues in the planning documents that the development of a tramway is a prerequisite for the urban development in Lund NE/Brunnhög. The planning department thereby makes the interpretation that a tramway is necessary. This can be considered what Watt Bolsen (2007, p. 182) calls interactional control, where the planning department expresses authority and presents their conclusion to the public. By interpreting the result of the economic calculations, the planning department presents their conclusions that the tramway is a prerequisite for urban development as a fact. This example of interoperating the conclusion from the studies regarding economic growth as an argument for the development of a tramway could be understood by Flyvbjerg’s (1998, p. 227) argument that power blurs the dividing line between rationality and rationalisation. This since the goal of developing a tramway in Lund can be supported by the conclusion regarding economic growth. The interoperation that a tramway will generate economic growth results in understanding the development as a rational solution. However, since the empirical material presents the development of a tramway as a rational development, it would also be possible to state that the empirical material helps to rationalise the goal of developing a tramway. Hence the line between rationality and rationalisation has been blurred by power.

6.2 Demands, calculations and alternatives

In the case of the development of the bus terminal in Aalborg, Flyvbjerg (1998, p. 12) explains how a chosen model for the public transport system generates demands for the size of the new bus terminal. The Aalborg bus company uses a model called “the correspondence model”. This means also that buses arrive at the bus terminal at the same time and allow passengers to change buses before leaving. This means that the bus terminal needs to be a certain size in order for all the buses to arrive at the same time. The traffic model, therefore, generates a need for a large bus terminal and therefore the number of options in terms of location within downtown Aalborg are limited.

In the case of the tramway in Lund, there is a similar aspect of power defining the criteria that influence the choice of the public transport mode. The criteria in question are the demand for capacity and are linked to the expectations of the future daytime population within the area and policies concerning public transport. These expectations of the need for capacity is one of the major arguments for why a tramway is needed rather than a bus service. The “Förstudie Spårvagn Lund C – ESS” states that in the future, when the area Lund NE/Brunnhög is developed, the daytime population is going to be approximately 50,000 people (Lund, 2011a, p. 85). The calculations of the need for capacity is therefore based on this number and the result shows that the mode of transport that has the capacity to handle the expected number of passengers is the tram. One of the key aspects of the development of public transport in Lund is the number of people estimated to travel during the peak hour of traffic. Skånetrafiken, the regional public transport authority estimates that within 40 years, the number of passengers on Lundalänken in peak-hour to be approximately 3000 (Lund, 2011a, p. 26) A calculation that is similar to the calculations by Trivector (2012, p. 6) in the document “Alternativa utformningar av kollektivtrafiksystemet mellan Lund C och ESS”. The result of the number of passengers is influenced by the goal that one-third of the trips will be made by public transport and that around
30-40 per cent of the population will use public transport during the peak hour. By these calculations has Skånetrafiken, the authority for public transport sets a certain criterion for the future public transport system, and since a bus service does not meet these criteria, there is no other option than to argue for the development of a tramway.

However, as stated previously in the discourse analysis chapter, there are contradicting numbers being used for the estimation of the future population within the area. Something that the expert advisory group’s report also addresses (Lund, 2015b, p. 39). The same report also states that it is uncertain if it is possible to include all regional traffic on the present Lundalänken to the future of the tram expected demand for capacity (2015b, p. 110). It is also not possible to state the current capacity and what the future capacity will be according to the same report. This because calculations of capacity are dependent on several factors, among them how many passengers the driver allows into the mode of transport as well as the passenger’s personal decisions regarding comfort. The calculations regarding capacity are based on a comfort experiment conducted in Malmö and presented in the report “Systemanalys för Lokal kollektivtrafik” (2012). The report addresses an important issue, and questions if it is possible to motivate a demand for capacity where everyone is comfortable during all departures during the day. This would mean a high number of buses or trams during the peak hour and less during other times of the day, leaving buses and trams standing still for a major part of the day. The expert advisory group argues that the calculations, that consider the “practical capacity” i.e. capacity with the desired comfort, is extremely low (Lund, 2015b, p. 111) and that it is possible to argue that the question concerning capacity is leading astray the result in terms of different modes capacity. This argument can also be connected to a study conducted by Flyvbjerg (2007, p. 580) that claims that estimations of demand for capacity have an average inaccuracy of – 51.4 per cent for calculations of rail traffic, this means that the actual number of passengers is much lower than the expected. This study was conducted on rail projects, and it is possible to argue that train and tram should not be directly compared, however, the same principle should then also apply for the calculation for the future demand of capacity where the rail factor has been used.

From this, it is possible to argue that the estimations of the future daytime population within Lund NE/Brunnhög, have become the basis for the calculations of the needed capacity. These calculations have later been leading in the choice of the preferred mode of public transport. This situation has many similarities to the example provided by Flyvbjerg (1998, p. 12) and the demands stated by the bus company. The need for capacity is not stated as a demand in the planning documents for the tramway in Lund. However, it seems unlikely that the planning department would suggest investigating a mode of public transport that would not meet the estimated need for capacity. By claiming this future need for capacity, alternative modes of public transport estimated to not meet the need for capacity are discarded for further studies. The “Förstudie Spårvagnn Lund C – ESS” therefore only deals with two scenarios in full (Lund, 2011a, p. 10), the zero alternative and the tram alternative, even if there are some mentions of a BRT system. The report, therefore, presents two alternative solutions for the future of the public transport between Lund C and ESS, to invest in a high capacity mode i.e. a tramway, or do no changes other than making the route longer in order to connect to ESS (Lund, 2011a, p. 10).

This is also interesting from a perspective of power and rationality and can be connected to a similar process from the case of the bus terminal in Aalborg. In Flyvbjerg’s study, he presents an example of how the task force in Aalborg states that it will investigate other alternatives for the location of the bus terminal, however these reports are never completed in full, and a short memoranda conclude that there are only two alternatives that meet the demands of the bus
company (1998, p. 21-22). The situation with discarded public transport alternatives in Lund has similar traits. The planning department discards alternatives that do not meet the criteria but does present an alternative that would imply minimum changes. Flyvbjerg (1998, p. 20) claims that the situation in Aalborg is a case of decisions first, rationalisation later. A similar claim could be used for the planning process in Lund, the goal is to develop a tramway and therefore the planning and investigations are rationalised in order to present the tramway as the single best alternative. This situation would be an example related to the statements by Fox-Rogers and Murphy (2014), as well as, Foucault (2000) and Richardson (2004). Powerful actors, in this case, the municipality, have interpreted the calculations and estimations as there is only one valid alternative to reach the set goals for the municipality. Other alternatives have therefore been discarded.

In the case of the tramway in Lund, the pre-study makes an estimation of how the different alternatives fulfil the goals, both national transport and regional goals (Lund, 2011a, p. 45ff). The two alternatives that are estimated are the zero alternative and the alternative of developing a tramway. One of the reasons for the planning department to be in favour of the development of a tramway is that the zero alternative does not meet the demands on capacity in order to have a positive urban development. Whereas the tram alternative is estimated to fulfil the need for capacity for positive urban development. To formulate the estimated need for capacity as a demand in the zero alternatives signalises that the aspect of capacity is of high priority. It is also an expression of power that influences the conditions to which the investigations are made since alternatives that do not meet the required capacity is not investigated in full.

In “Förstudie Spårvagn Lund C – ESS”, it is acknowledged that development of the current Lundalänken to a BRT solution would increase the capacity on the route (Lund, 2011a, p. 11). The estimations are that the need for capacity will be covered by a BRT alternative for a period of time, however, the capacity will not be sufficient once the urban development project in Lund NE/Brunnhögd is completed. However, the capacity aspect is not the primary factor to not investigate a BRT-system further. The main reasons not to investigate a BRT solution are that a BRT solution is estimated to need major developments around the stations which would mean changes to the urban environment. The BRT system is also considered to not be compatible with future development of Lundalänken through the city centre toward Staffanstorp (Lund, 2011a, p. 11). The reasons for why the latter argument would not be possible is not stated, however, it is possible to find the argument supporting the idea of the large bus stations in the report “Alternativa utformningar av kollektivtrafiksistem mellan Lund C och ESS” from Trivector (2012).

The argument is that since there is limited space in the urban environment, the alternative to develop a BRT (Bus Rapid Transit) system would not be suitable. This since the double-joint buses need a large radius to turn at the end stations, whereas a tram does not need to turn, a tram can simply be driven in both directions and there is no need for a large clearance circle (Trivector, 2012, p. 3-4). Flyvbjerg (1998, p. 31) states that the arguments for the placement of the bus terminal in Aalborg can be considered as an interaction between technical rationality and power, in where the technical aspects are important factors that have the power to influence decisions. In the case of Aalborg, it is possible to understand this as power influencing the conditions for a rational decision to be taken. Similarly, in the case of the planning for the tramway in Lund, it is possible to argue that the technical aspects regarding the BRT and tram solutions have influence over the decision taken. Since the BRT solution would require a large space to turn and the space at Lund central station is very limited, Trivector (2012, p. 3-4) estimates that the complete Clemens square would be needed as a clearance circle. This is one of the arguments used in the pre-study to argue against
the implementation of a BRT-solution (2011a, p. 11). This example presents two interesting aspects of power and rationality.

First, the argument that the bus stations would require too much space is used in the pre-study in order to discard the BRT-solution. However, in the pre-study, the argument is not supported by any calculations. The report by Trivector with the technical arguments is published the following year (2012). From a perspective of power and rationality, this can be considered an example of what Flybjerg (1998, p. 20) calls decisions first, rationalisation later. This because the decision to discard a BRT solution is presented in 2011, but the supporting document is published a year after. This gives an insight into what Dean (2016) calls the strategies and operations of power.

A second aspect that can be understood from a perspective of power and rationality is presented in the pre-study. This is the estimation that a BRT-solution would not be compatible with the idea of future stages of Lundalänken, through the city centre towards Staffanstorp (Lund, 2011a, p. 11). Why a BRT solution is not considered to be compatible with future developments is not stated, and no supporting documents for this statement have been found during this thesis. Since no supporting argument to why a BRT solution would not be possible to establish southwards through the city centre have been found, it is possible to consider the argument as a way for power to establish knowledge and reality. This could be understood as an example of Flyvbjerg’s (1998, p. 229) argument that greater the power the less reason. This since if a BRT solution were able to run southwards through the city centre, there would be no need for a large bus station at the limited space at the central station. If there would be no need for a large bus station at the central station, one of the key arguments for discarding a BRT solution would no longer be valid. The question to why it would not be possible for a BRT solution is therefore very interesting. This since the municipality states in the masterplan that:

“The city’s areas should be connected with fast city bus routes and regional bus, train and tram routes”.

(Lund, 2010, p. 17, My translation)

Additionally, the masterplan provides an idea of a future route for the tramway, continuing southwards from the central station (Lund, 2010, p. 28). The masterplan also states that there are three expected stages for the development of the tramway, the final third stage is the stage from Lund C towards Staffanstorp (Lund, 2010, p. 38). From this, it is possible to conclude that there are future plans to develop the tramway through the city centre. In the masterplan, the planning department does acknowledge that such a development will have implications on the natural landscape, but it does not seem to be to the extent of not developing the route. The decision to discard a BRT solution on the grounds that it would not be compatible with the plans for Lundalänken southwards through the city then seems to be used in order to establish that a tramway is the only possible solution. This interpretation of the process could be understood as what Flyvbjerg (1998, p. 228) describes as rationalisation presented as rationality, a strategy exercised by power. By presenting the findings in the empirical material as examples of rationality, the empirical material rationalises the decision taken in the masterplan, to develop a tramway.
6.3 Financial estimations and political rationalisation

As presented in the discourse analysis, the estimations of the cost for the development of infrastructure for the tramway in Lund is uncertain and there are large differences between the lowest and the highest estimations of cost. One important factor for the development of the infrastructure is regulated in the declaration of intent between Trafikverket and the municipality, stating that the different actors will divide the cost between them 50/50 (Trafikverket and Lund, 2013, p. 2). In the agreement, it is estimated that the cost of the development will be 720 million SEK, which would mean that the cost for the different actors will be 360 million SEK each. The planning documents do acknowledge that calculating the cost of the development is influenced by estimations and a number of uncertainties. The “Förstudie Spårvagn Lund C – ESS” stated that the cost could be anywhere between 650 – 907 million SEK (Lund, 2011a, p. 44), and that cost usually ends up somewhere in the middle, approximately 779 million SEK.

Flyvbjerg (2007, p. 579) concludes in this study of infrastructure projects, that the averages cost overrun for rail projects is 44.7 per cent, bridges and tunnels 33.8 and for roads 20.4. Light rail in the form of tramway systems and the rail is not the same hence the estimations by Flyvbjerg (2007) should not be taken as evidence for that the cost of the tramway in Lund will show similar figures. However, the result of Flyvbjerg’s study could serve as an indicator of that larger projects tend to run over budget. The final cost for the development in Lund is not yet known since the development is ongoing, however, the latest estimations present an estimation of 850 million SEK (sparvagnlund.se, 2019).

From a perspective of rationality and power, the agreement between Trafikverket and Lund municipality is interesting. The agreement states that the parts will divide the investment cost 50/50 between the two actors (Trafikverket and Lund, 2013, p. 2). This is one way from the municipality to say that in order for the development to occur, Trafikverket needs to finance the development. It also would mean that the cost of the development will be lower for the municipality, an important factor in order to keep the financial commitment as low as possible. However, the external funding from Trafikverket did not reach the expected amount of 360 million SEK. Instead, the municipality received approximately 300 million from the state (Trafikverket), 90 million less than the municipality had applied for (Sydsvenskan, 2015). The municipality did, therefore, invest more than previously expected in order to develop the tramway, resulting in the municipality having to pay more than the previously stated 50 per cent of the cost. On the website for the development of the tram, the municipality has stated that the state will also contribute with approximately 75 million SEK to the municipality, as part of the “Sverigeförhandlingen”, a national high-speed train project (Sparvarglund.se, 2019). This contribution was however not included in the budget when the municipal council voted for the investment.

The factor that the municipality did not receive as much external funding as expected was a point of debate during the municipal council meeting where the decision of the budget for the development was taken (Lund, 2015d, p. 32). Even though the external funding did not meet the previous estimations, the municipal council decided to go ahead with the development of the tramway. This reflects a certain form of rationality in that even though the expected external funding did not become as large as predicted, the majority of the political power decided to go ahead with the development. One politician that was in favour of the development stated to the newspaper:
“It is now that we have the chance. It is now that we have been granted 300 million. Are we just going to say no to them?”

(Sydsvenskan, 2015, my translation)

Flyvbjerg (1998, p. 132) argues that the less power an actor has in a project, the more that actor needs to use reason in order to support its claims. However, when reason is confronted, or tested by power, reason yields. The local politician’s statement also reflects an interesting aspect of the analysis of power and rationality in the decision-making process. The decision to develop the tramway is taken despite that the municipality was not given as much external funding as expected. The political decision reflects in that sense a form of rationalisation, the municipality had a chance to receive external funding and took it. Despite the fact that that external funding was not to the extent that was predicted. The argument used is that they have a chance to gain external funding if they do not take that chance they do not know if they will get the chance again. Here the decision to approve the budget, without the expected and previously agreed upon external funding could be understood as power is in conflict with reason. Reason in the example of the development of the tram to be understood as the agreement between the municipality and Trafikverket. However, when the decision was taken, reason yields to power. Instead, the decision was taken to approve the investment, with the argument that if the investment is not approved now, the external funding could be lost.

6.4. Summary of power and rationality

This chapter has presented an analysis of the empirical material from a perspective of power and rationality. The base for the analysis of power and rationality is the themes found in the discourse analysis. The results show how the relation between power and rationality unfolds in the empirical material, the result also presents an understanding of the planning process from a perspective of power and rationality.

In the empirical material, it is possible to conclude that, just like Flyvbjerg (1998, p. 227) argues there are examples of power defining reality. This is an example of what Foucault would call normalising power, in order to generate a ‘regime of truth’ (Foucault, 2000). This strategy is also argued for by Fox-Rogers and Murphy (2014) and Richardson (2004). In the empirical material, this strategy of power is predominately focused around the idea of the rail-factor but can also be found in the idea that the development of a tramway generates a more attractive urban environment. The empirical material also presents a blurry line between what could be understood as rationality and what could be understood as rationalisation. Something that Flyvbjerg (1998, p. 227) argues is a strategy of power. This since the idea of a tramway has been present in both the current and previous masterplan. The empirical material could hence be understood as documents rationalising a decision, even if the final political decision in the municipal council is taken after the empirical material have been produced.

Since the analysis of the empirical material has no obvious signs of open confrontations between power and rationality, it is possible to assume that the majority of the planning process has been conducted under stable power relations. Something that Flyvbjerg (1998, p. 230ff) argues is typical for politics, administration and planning. However, the analysis of power and rationality also provides an example of an open confrontation between rationality and power. This is the political decision to approve the financial investment despite an unfulfilled declaration of intent between
the municipality and the state. This is another example of the relation between power and rationality, and reason, when confronted by power yields (Flyvbjerg, 1998, p. 229).

7. Conclusion

The aim of the study has been to investigate how power and rationality unfold in the planning and decision-making process of the development of a tramway in Lund. In order to be able to analyse this process the following research questions were stated:

1. What discourses regarding the tramway in Lund can be detected?
2. What are the rationalities that these discourses are built upon and what do they represent?
3. How could the empirical material of the development of the tramway be understood from a perspective of power and rationality?

The thesis uses a Foucauldian perspective on power, using Flyvbjerg (1998) as the base for the understanding of the relation between power and rationality. Additionally, scholars such as Richardson (2004) and Fox-Rogers and Murphy (2014) have been used in order to understand how the propositions made by Flyvbjerg have been developed. The perspective of power and rationality has been used in order to understand the planning and decision-making process leading up to the development of the tramway. Additionally, a critical discourse analysis, departing from the ideas of Fairclough (2010) have been used in order to understand the arguments presented in the planning documents. The discourse analysis, as presented in chapter 5, shows that four different themes have been prominent in the planning and supporting documents analysed in this study. These themes have later become the base for the analysis of power and rationality. In this chapter, I will present the findings to the research questions. The first two research questions will be addressed in chapter 7.1 and the third research question will be addressed in chapter 7.2, these findings will then be discussed in the following chapter.

7.1 The discourses regarding the tramway in Lund and the rationalities they are built upon

The first research question focused on the discourse surrounding the tramway in relation to other forms of public transport. The analysis shows that there are a number of aspects that are connected to the tram, and the four most prominent themes were presented in chapter five. The major theme in the planning and supporting documents was that of attractiveness. In the empirical material, there are two aspects of attractiveness and therefore this theme was divided into two different perspectives. The first one was attractiveness in terms of attracting passengers to public transport, where the development of a tramway is considered to attract more passengers to public transport than a bus service. One prominent argument for this is the notion of the rail factor, a combination of several soft factors attributed to a rail driven mode which is argued to be connected to the rails. The reality of the rail factor is however debated, as well as the effects of it. Despite this, the empirical material argues that the development of a tramway will attract more passengers than bus service.
Similar to attractiveness for passengers, the planning and supporting documents argue that the development of a tramway will generate a more attractive situation for economic investments in the urban areas surrounding the route. Several documents state that the establishment of a tramway is a prerequisite in order for the development in Lund NE/Brunnshög to fulfil the urban plans for the area. Another public transport solution is estimated to generate a less attractive investment situation generating a less dense and attractive urban environment. Different studies are used to argue for this statement, and though they show a correlation between willingness to invest and proximity to public transport, an in-depth study of the socio-economic consequences claims that the investment in a tramway is likely to result in a negative economic efficiency of – 434 million SEK.

The third prominent theme in the planning and supporting documents is calculations and estimations. This theme concerns several different calculations and estimations, in the discourse analysis, I chose to present calculations and estimations concerning the need for capacity, as well as estimations and calculations concerning the cost of operations. The future demand for capacity is calculated in the empirical material and is based on several factors. The commerce of the future demand for capacity is based on both the expected daytime population of the area as well as the goals set up in the transport strategy for the area. The daytime population is estimated to be 50 000 people, either working, living or studying in the area. With a goal that one-third of the trips should be made with public transport, and an estimation that around 30-40 per cent of the trips will be made during peak hour, the need for capacity is estimated to approximately 3000 trips during the peak hour. The estimation is therefore that only a tram service would be able to meet this need for capacity. The calculations have been criticised by the expert advisory group, that stated there are many different numbers being used for the expectations of the future daytime population, which makes the estimation of the need for capacity uncertain. The number of the estimated daytime populations affect the estimated number of passengers, which in turn also affects the estimations and calculations of the cost of operations. In the empirical material, it is calculated that if the vision and goals in transport strategy is fulfilled, the revenue from the operations would be one million SEK per year. However, the base scenario estimates a loss of six million. No matter what scenario, the report of cost for operations from SPIS (2013) states that with the development of a tramway, the operation is not in need of as much subsidies as a bus service. The average level of subsidies for public transport in Sweden is approximately 50 per cent, whereas the calculations of the cost of operation for the tram in Lund is expected to have coverage between 85 – 102 per cent, meaning that the highest level of subsidies needed by 2030 is expected to be 15 per cent. There are opposing calculations, and Skånetrafiken, the regional authority for public transport calculates the cost of operations to result in a negative result of 14 million.

The final theme found in the discourse analysis is the idea that of the development of a tramway will be more likely to generate an attractive urban environment. This idea is based both on the idea that a tram will attract more investments, resulting in a denser and more comprehensive urban development in Lund NE/Brunnshög, as well as the idea of fewer emissions and air pollution as a result of the fewer cars in traffic. The “Förstudie Spårvagn Lund C – ESS” acknowledges that there are risks of higher noise pollution, as well as increased vibrations and electro-magnetic fields, something that some activities at the hospital and the science centres MAX IV and ESS are vulnerable to. Despite this, the estimation is that the development of a tramway is more preferable than any other public transport solutions.

As found in the discourse analysis, the development of the tramway in Lund is argued to be important from several perspectives. One of these perspectives is to create a more attractive
situation for investments, and the municipality has stated that the area of Lund NE/Brunnhög is the area where the future development of the city will be focused (Lund, 2016). Simultaneously, the municipality states that it is important for the municipality to capitalise on the effects of the development of the tram (Lund, 2016, p. 11). Additionally, the municipality states that the development of the research facilities, in a combination of the development of the tramway and a dense urban environment can justify the development of the agricultural land (Lund, 2012b, p. 44). From these examples, it is possible to state that there is a large economic perspective that is an important part for the development of the tramway and the area Lund NE/Brunnhög, so big that it is worth from an economic perspective to make claim on the agricultural land. This is also a factor that can be seen in the calculations of the cost of operations, where the external report ordered by SPIS present the possibility that if the vision and goals for transport is reached in 2030, the operation of the tramway would not need subsidises, instead it would generate a profit (SPIS, 2013, p. 20).

These arguments indicate that there is one type of rationality that is prioritised over others. The prioritised rationality is economic rationality, other forms of rationalities are not valued to the same extent. It is, therefore, more important for the municipality that the development of the tramway can generate economic growth, and this is the type rationality that is promoted in order to support the development of the tramway. Rationalities that would promote environmental and social perspectives are not prioritised to the same extent and, therefore, these perspectives are not as prominent in the empirical material. The priority of the economic perspective also points to that the empirical material is based on positivistic rationality, a rationality that can be expressed in numbers. These findings confirm the argument made by Pooley (2016) that even though the social aspects of transport planning have for a long time been addressed in academia, they are still not prioritised as much as economic perspectives in transport planning.

7.2 Power and rationality in the planning and decision-making process

This thesis has also studied empirical material from a perspective of rationality and power, based on the results of the discourse analysis. The analysis of power and rationality found that there are several examples of the relation between power and rationality. These examples involve defining reality and truth, as in the example of the rail-factor and the idea of the tram’s ability to generate economic growth. Flyvbjerg (1998, p. 225ff) argues that power and rationality are co-existing and are influencing each other. That power can produce rationality and that rationality can produce power. Similar to the concept that Foucault calls the ‘regime of truth’ (Foucault, 2000).

The empirical material presents examples where power seeks to define reality and knowledge. A reality and knowledge that is used in order to promote the development of the tramway. Examples of this are the idea of the rail-factor, the idea of economic growth generated by the development of a tramway, the estimations of future need for capacity and calculations based on the expected future population. These are examples that are used in order to present that alternatives to a tramway do not meet the requirements, goals and visions set up by the municipality. Since other alternatives are assumed to not meet these goals and visions, these alternatives are not further investigated. The findings point to what Fox-Rogers and Murphy (2014) argue to be the operations and strategies of power and the argument that powerful actors aim to reproduce a situation where these actors can stay in powerful positions.
Other examples where power defines the conditions for the development of the tramway can be found in both the route of the development, which leads to technical issues that favour the tramway. The choice of the route of the tram, with one of the end stations at Lund central station, is one of the choices that lead to arguments against establishing a BRT system. This since the BRT solution would require a larger area to change direction, whereas the tramway can be driven in both directions. Since there is limited space at Lund central station, the BRT solution is claimed to influence the urban landscape in a negative way (Lund, 2011a, p. 11 and Trivector, 2012, p. 3ff). The combination of this and the argument that a BRT solution would not meet the expected need for capacity, the BRT solution is never considered or investigated further. Leaving the planning department to present two different options, either to develop a tramway to meet the future demand of capacity, as well as to promote the urban development of the Lund NE/Brunnshög area or continue with the current public transport solution. A solution that would not meet the required need for capacity as well as would not generate an incentive for urban development. Power is here exercised in order to determine the conditions to which development of the public transport need to follow.

These examples can be used in order to understand the relation between power and rationality. Power has in that sense been successful to define the reality of which regulates the conditions for the development. Flyvbjerg (1998, p. 225ff) states that power has a rationality that rationality does not know. It seems that this is also relevant in the case of the development of the tramway in Lund. It is the rationality of power to seek to define reality and knowledge, by defining reality and knowledge, decisions are presented as rational. Similar to what Foucault argues to be the normalising aspect of power (Foucault, 2000). This is also an example of what Fox-Rogers and Murphy (2014) argue to be the strategy of powerful actors to be able to continue in powerful positions.

The “Förstudie Spårvagn Lund C – ESS” states that the idea to develop a tramway in Lund was first presented in the late ’80s (Lund, 2011a, p. 7). The route of the tramway is also present in the previous masterplan for the municipality from 1998 (Lund, 2010, p. 43). It is, therefore, possible to argue that the development of a tramway has been a goal set out by the municipality. The empirical material has presented several aspects that support the idea of developing a tramway. It is, therefore, possible to argue that the empirical material presents the decision to develop a tramway as something rational. However, it would also be possible to argue that the empirical material functions as a rationalisation of the goal in the masterplan to develop a tramway. The empirical material and the planning process can, therefore, be understood as a relation between power and rationality. Power has influenced rationality, and the power of rationality is embedded in the empirical material. For the most part power and rationality have been in a stable power relation, however, there are instances of confrontation, the political decision being one of them. In this confrontation, reason has yielded to power.
8. Discussion

8.1 The development of a tramway to generate growth

One aspect of the critical discourse analysis is to connect the findings of the discourse analysis to ongoing societal processes (Fairclough, 2010 p.132 ff). The findings in the empirical material show that the predominant aspect of the development is that of economic sustainability, as this is what most of the themes presented in this thesis circle around. That the perspective of economic sustainability has a hegemony within urban planning is something that Healy (2007) argues and it seems that the development of a tramway in Lund presents similar attributes. The economic sustainability of the development is however not just reflected in the arguments of economic efficiency or the tram as a generator of economic growth. It is also reflected in the ambition of the urban development of the area Lund NE/Brunnshög and generating a population growth.

According to Florida (2014, p. 11), cities do no longer need to rely purely on its location to natural resources, geography is still important, although other factors are emerging as key economic drivers. These factors are technology, talent and tolerance, or the 3T’s as Florida calls them, and the more prosperous cities excel in all three areas. That is also why Florida (2014, p. 183 ff) claims that place matters, but not in the traditional sense. He claims that the creative class most of all are attracted to cities or places where they can validate their identity as creative people. For cities that want to attract this type of people, this means that the cities need to invest in open and tolerating environments, creative centres and so forth that attract the creative class in order to move to that particular city. Florida states that cities are not just contenders for creative people, cities are the enabling infrastructure where connections take place and networks are being formed (2014, p.189). In this new form of economy, cities compete in attracting people, and development plans of the cities show this.

The empirical material of the development of the tramway in Lund does to a large extent show signs of being a way for Lund to attract people and investments. Primarily, it seems like the municipality is trying to attract those whom Florida claims to be in the creative class. This because the development of the science centres, as well as the focus on the urban development in Lund NE/Brunnshög as an example of leading sustainability and an as the municipality, puts it:

“\textit{The worlds most prominent research and innovation environment, the innovation city.}”

(Lund, 2012b, p. 15, My translation)

The municipality continues to argue that Lund NE/Brunnshög is a place where people from all over the world, with different background and cultures meet (Lund, 2012b, p. 15 ff) and that it is supposed to be a place of diversity, participation and flexibility of reflects the 3T’s as argued to be important by Florida. Although Florida’s notion regarding the creative class seem very true, there are many issues that can be raised, predominantly concerning what this means from a planning perspective. If cities compete for the creative class in order to fuel economic growth, and it is the creative consist of approximately 40 per cent of the workforce, what happens to the other 60 per cent? Comparing the notion of planning for the creative class with the notion of equity in urban
planning, argued for by for example Fainstein (2010), it is possible to critique the idea of the creative class by arguing that it caters for one type of people with economic growth as an end goal and that the idea of planning for the creative class is only a new form of a liberal planning scheme. Something that would not support the goals of social justice and equity in society. Similar questions can be purposed towards the planning of Lund NE/Brunnhög, as well as the development of the tramway. What happens to the population in Lund that is not considered within the empirical material?

8.2 The development of the tram from a perspective of social and transport justice

The discourse analysis of the empirical material presented the economic development as a hegemony of the development. The rationalities found in the empirical material reflect economic rationalities, whereas ecological comes second, and few outspoken social sustainability rationalities can be found. This is a typical example of what Healy (2007) states that the economic perspective is a hegemony in urban planning and the financial aspect is valued more than ecological or social aspects. As presented previously, the development of the tramway in Lund can be considered as an example of a neo-liberal planning paradigm in order to attract people from the creative class to Lund. The focus of the development is to increase accessibility to the university and the workspaces along the Science Road, stating that this development is a regional project as many of the commuters today comes via the central station. Development of a tramway would in that sense improve the access to one of the major areas of workspaces in the municipality.

Harvey (2009) and Fainstein (2010), argues that investments should be directed towards those with the highest need. Similarly, investments in public transport are needed for those whom cannot afford a private car from a perspective of transport justice, this in order to combat social exclusion (Pooley, 2007 and Maartens, 2012). The empirical material studied in this thesis does, however, show few aspects other than economic rationality. Rationalities concerning environmental and social sustainability have not been as prominent in the empirical material. It could be possible to argue that the investment of the tramway is directed towards where the highest need for capacity is, however, the development of the tramway has not been studied from a distributive perspective. Other forms of rationalities are needed in order to generate more just development.

Additionally, understanding social justice from Young’s (2001) perspective of institutional justice, the analysis of the empirical material provides an understanding that there is a norm of planning for economic development and to plan for a public transport that serves of stimulating economic growth. Other perspectives that do not confine with the normative working hours or the desired economic development are therefore not represented in the empirical material.

From a social perspective, the development of the tramway needs investigations that study the development from a social perspective. The reports available on the official website is focused primarily on the economic perspective, with additional investigations regarding the environmental effects as well as technical issues. However, the reports have not investigated how the development of the tramway is reflecting the social goals of the municipality or how to improve social sustainability within the municipality.

This leads to further questions regarding the direction of both urban and transport planning concerning what perspectives are prioritised. It seems that although social and environmental sustainability have been addressed since the UN report “Our common future” (Bruntland, 1987), the economic perspective is still a hegemony. Levy’s (2013) argument that even though social
perspectives are an interest of academics for a long period of time, the economic perspective is still a priority in transport and urban planning seems very true. Environmental and social perspectives have also in the planning of the tramway in Lund gained a secondary priority.

9 References


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Collected: 2019-04-23


Collected: 2019-04-26


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