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Infrastructure Planning

CARS VS. PEOPLE? TRANSPORT PLANNING FOR LIVEABLE  
CITIES: A COMPARISON BETWEEN TALLINN, ESTONIA  
AND GRONINGEN, THE NETHERLANDS

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## **Chapter 1 Introduction to the thesis**

This paper is a result of my research for the final thesis of the study Environment and Infrastructure Planning of the University of Groningen. The subject was chosen because of my interest in transport and city planning and the research already done in my bachelor thesis that dealt with transport planning in Tallinn. As a result of living and studying in Groningen and seeing the way that Dutch planning is done I came to an idea to compare the two cities Groningen and Tallinn that I know so well and that have so many similarities and differences and could possibly learn from each other.

While doing the research I found a sentence written by Fred Kent that could serve as the motto of my thesis:

*"If you plan cities for cars and traffic, you get cars and traffic. If you plan for people and places, you get people and places."*

It gives a good idea of the issues that will be discussed and that play an important role in every city – namely the transport and liveability in the urban context and the interactions and balance between them.

With this research I was looking for a way how the transportation planning could contribute to a more liveable city instead of decreasing the liveability or being in conflict with it. The current situation in the transport planning of Tallinn and problems with integrating the growing needs for mobility with the liveable environment for the citizens in a well-balanced way were the starting point for the realisation of the seriousness and actuality of the issue. As in many other cities Tallinn city planners try to accommodate the demand of the motorists within the limited space of the city. Other kinds of solutions are rarely or never researched or used. The purely technical solutions however are not able to relieve the pressure put on the city by the increasing traffic. Therefore other type of planning and solutions should be looked for. In this work I will look at the ones that try to integrate land use planning and transport at an earlier stage in the planning process

and take the liveability issues in the city as the quality measure of what a city should be like.

In order to research these issues the theoretical part of the thesis serves to clarify what liveability is and give an idea how it's possible to measure and rank how cities are doing in terms of liveability in connection with the transport planning. The theoretical part will also give an overview of the setting of the thesis – the urban context as well as the transport planning and the most widely used techniques with their pros and cons.

The theories of transport planning and liveability have existed next to each other for a long time but there haven't been many efforts made to combine them in practice. With my work I'm trying to show how important it is to take the interests of a liveable city into account when making the transport plan. I argue that transport thus indirectly also transport planning is one of the main factors affecting the liveability in the city.

After introducing the theoretical setting the next step is the analysis of the transport and land use planning in Tallinn and Groningen to show how the theory is and can be applied in practice and to compare these two cities in order to discover learning moments and possibilities for improvement. The comparison will be done according to some transport related liveability-indicators and the general directions taken in transportation planning by both cities. Based on that analysis suggestions are made and further research ideas given for planning the city centre transportation system of Tallinn in order to provide for a more liveable city. Possible points of improvement in the transport planning practice of Groningen are also looked for.

### ***1.1 The background: transport planning and liveability in the urban context***

*“Ever since the first train lines ripped their way through the heart of American and European cities in the mid-19th Century, transportation development has been viewed as a necessary evil - an economic asset but a threat to safe, quiet, comfortable communities” (Whitelegg, 1997).*

How to explain the increasing dependence on motorised vehicles and therefore also the increase in problems related to them? What is the importance of the urban context in transport planning? Why is it important to do transport planning in close connection to liveability and urban land use planning? These are some of the issues I will answer in this introductory section and which are necessary to understand as a basis for answering the main research questions.

In a single millennium Europe has become urban (Hohenberg and Lees, 1985). It is especially in the last century that cities have changed dramatically. Important changes have taken place in the urban structure of the cities due to strong population growth, increased prosperity and new means of transport (Martens 2006). With the increased prosperity and advanced technological possibilities the society and lifestyles have also changed rapidly. Transport is considered to be linked to society and lifestyles and vice versa (Lyons, 2003). During the 20<sup>th</sup> century cars have become a part of most of the families in the modern urban or suburban society and as such they get treated with respect and affection. The strong car culture, especially in the USA seems to permeate people's everyday life, the structure of their feelings, beliefs, and actions (Nevárez, 2002). The people have got used to the comforts of travelling by car and that makes it more difficult for the politicians to make unpopular choices for limiting the car use in the city (Lyons, 2003). Some of the congested cities have tried to discourage car-use but the evidence shows that modal switching is in the reverse direction and that public transport has lost much of its appeal to the car (Banister, 1999). That is the consequence of the above discussed change in the society where the car is not only a means of transport but in some ways also the statement of status and treated with respect and affection (Banister 1999). The user can always think of a reason why the car is necessary for that particular journey (Banister, 1999). It is not likely that people will suddenly abandon the car and start using public transport unless they have some serious stimuli for doing that. So in order to change the car use pattern it is necessary to start changing the more general views and habits of the people and the society. The impacts of society and lifestyles on liveability will be discussed in more detail below.

Another important change that has taken place and has strongly affected transport planning and liveability relates to the land use planning and a phenomenon called suburbanization or sprawl. According to the Vermont Forum on Sprawl (2003), the phenomenon is defined as “dispersed, auto-dependent development outside of compact urban and village centers, along highways, and in rural countryside.” The sprawl has been most extensive in the big metropolis of the United States. Most of people like to think of America as a land of choices. Yet in just about any community built in the last 50 years, when it comes to transportation there is only one choice: to own a car and use it for every single activity of the day (Smart Growth America). Until recently the transport planning mainly supported sprawl. Nowadays however it has become extremely important to make the connection between land use and transportation in the cases of sprawl and making that connection is at the heart of the strategies that try to combat suburbanization in the United States (Handy, 2005). Land use comes first, then transportation. You build the transportation network to serve the kind of development pattern you want. You don’t just build roads and watch what happens (Smart Growth America). One of the more recent strategies developed to combat sprawl in the United States is for example Smart Growth. Smart Growth strategies aim to channel new development into existing urban areas and away from undeveloped areas and to improve the viability of alternatives to the car (Handy, 2005). It is also important to have a good infrastructure, public facilities and transport connection with the closest city in place before it is allowed to develop a suburban area (Handy, 2005). Although only a few cities, for example Dallas, Denver and Salt Lake City (Smart Growth America), in the United States have accepted the principles of Smart Growth it is a good start and could serve as an example for the growing cities in Europe.

The setting for looking at the transport planning in my work is the modern urban community. What makes the urban context important and worth studying more closely is the fact that cities provide facilities and necessary infrastructure for living and working, social services, cultural activities and much more thus most of the people are in one way or another dependent and affected by the conditions in the city (Lyons, 2003). Most of

the activities, transport flows and also the problems connected to them are concentrated in the cities. Therefore in order to keep a city liveable it is important to plan its transportation very carefully. However, the development in most of the cities has shown that the private car is generally preferred over other means of transport. That makes it possible to spatially separate the urban functions in the current unsustainable city design. Residential districts are developed on the periphery of growing cities and are separated from employment centres, shopping areas, schools, and government services. Highway systems and automobile transportation are the only connection between these urban functions (Harris, 2006). That results in the fundamental flaw of today's modern cities - they are designed for the automobile and not for the people. That kind of design only creates more transport. And that affects the quality of life of the citizens. Martens (2006) lists "some" of the side effects of transport that are most severe in the urban context: air pollution, noise, vibration, smell; and a few more general ones as energy consumption, global warming, land claim for infrastructure and road casualties.

The predictions for the next decades however show only increase in the trend of travelling by a personal car (EEA, 1999). Cars give more freedom for people, among other things to travel greater distances and move out of the polluted cities. And since the land use planning in most of the cities encourages that sort of movement as discussed above, it means that the problems associated with cars and transport in the cities will only increase in the coming years. The demand based planning and providing more infrastructure for increasing number of cars has not helped to reduce the congestion in the cities but on contrary – it has created more traffic (Mogridge, 1990). That has damaged the liveability of cities. A city centre that is not liveable and attractive to people is in turn not favourable for the economy. So there is a practical need for most of the big cities to consider another kind of approach to transport and land use planning. That could be the approach where the two are integrated much earlier and liveability principles or minimum requirements are taken as a basis for transportation planning in the city.

Because the car use has been so easy and relatively cheap the people have adopted lifestyles which are car-dependent (Banister, 1999). That's where careful land use

planning can help to make changes. Planning should ensure that location decisions by individuals and companies and the availability of services will be within closer range of each other (ibid). Banister (1999) argues that in order to really make a difference a much more interventionist and directive planning approach is necessary. For example the price of land can be increased in places considered inaccessible and the development encouraged in the accessible locations. Accessible in this context means in close proximity to all people so that travel distances can be minimized (ibid). That is one way that land use planning can have a positive impact and change the pattern of the transport planning. Some other possibilities will be discussed in more detail in the second part of the thesis.

To conclude - in order to do transport planning better and ensure liveability in the city it is important to understand that society and lifestyles are an important factor affecting the choices of the citizens and the decisions of the policy-makers. It is also important to see that suburbanization has increased car dependence but that careless transport planning has also lead to more sprawl so there is a two way linkage between transportation and land use planning. The importance of the urban context is that the activities and the problems associated with the car use are concentrated there and there seems to be no end to the trend of preferring private car over other means of transport. In contrary, every year the scale and complexity of the problems associated with a mobility-dependent society has grown (Lyons, 2003). That shows the actuality and seriousness of the issue and need for a different kind of approach to transport planning.

This thesis will discuss some of the answers to the above mentioned problems that relate to and connect land use, transport planning and liveability. The answers relate to integrating transport and land use planning in the city at an earlier stage using liveability as a criterion to create a good city. I will give an overview of land use and pricing related methods to guide transport planning and encourage the use of public and alternative means of transport. The important influential elements as society and lifestyles that determine the desire to own and use a car will also be looked into. To achieve these goals I research the existing literature on transport planning and liveability and compare two

different European cities Tallinn and Groningen to show how the problems are dealt with and appear in practice and give advice on what other strategies would be applicable for solving them.

### ***1.2 The framework of the research***

The research is divided into two parts. The first part relies on the existing theory and discussions in geography and planning about the transport planning and liveability. The first part gives an answer to the first research question and serves as a basis for answering the rest of the research questions (see chapter 3).

The second part is a comparison between two cities – Tallinn and Groningen. It is based on the planning documents from both cities as well as the theoretical literature about the issues in urban transport and land use planning and liveability.

### ***1.3 Overview of the chapters***

The research consists of 6 different chapters that lead to an answer to the research questions.

The first chapter is the introduction of the thesis where the main ideas and background for the thesis as well as the importance of the problem will be discussed.

The second chapter summarizes the existing theories and introduces the conceptual framework for the thesis. It shows the connections between transport planning, liveability and urban land use planning, how they affect each other and why it is important to understand their interrelationships. The argument of the chapter states that the way transport planning is done in most places at the moment - that is according to the demands of the motorists, is damaging the liveability of cities. Liveability is important for keeping a city vital and for people when they choose the location to live in. Therefore, in order to keep or make the cities healthy, safe and inhabited there is a need for different kind of approach to transport planning. Chapter two will examine the importance of

integrating transport and land use planning better and at an earlier stage in order to solve the problems that the demand-based approach can not solve. Chapter two will give an answer to the first research question.

The third chapter discusses the research questions and practicalities. The main research question – how to do transport planning in such a way as to ensure liveability in the city? - is discussed. The chosen research methods are introduced. The choice of Tallinn and Groningen as the cases is explained. The comparison between the two cities helps to illustrate the argument made in Chapter two. The transport planning in Tallinn and Groningen is done and has developed in totally different ways so the consequences to liveability are also different. The differences support the statement that the car-oriented transport planning is not favourable in terms of liveability and that the land use planning could play an important role in guiding transport planning. That is the main topic discussed in chapter four. This chapter examines how the two cities are doing their transport planning and what are the effects of different land use and transport planning strategies on liveability. Based on that it can be concluded what, if anything, the two cities with quite a different history and levels of development could learn from each other's transport and land use planning. The main argument that there is a need for different kind of transport planning is supported and connected with the problems of car ownership and use, the importance of the society and lifestyles, suburbanization and the resulting congestion and decreasing levels of liveability in the cities. In chapter four the answers to the second and third research questions are given.

In the fifth chapter the results of the comparative part will be analyzed and linked to the existing theories. According to the comparative part the best transport planning strategy is proposed and lessons learned for both cities presented. It is searched for the importance and possibilities to unite transport and land use planning and what should be considered as a priority in order to plan a more liveable city. The research question number four will be answered in this chapter.

The last, sixth chapter summarizes the work and gives some recommendations and ideas for further research as well as practical suggestions for transport planning in Tallinn and Groningen and possibilities for policy lesson drawing.

## Chapter 2 The Theoretical Framework

This chapter gives an overview of the theoretical base and elaborates on some of the ongoing discussions about transport planning and liveability. The theoretical background forms the basis for this thesis. The comparative study part of the thesis will be based on the theoretical background. Figure 1 shows the basic connections between transport and land use planning and liveability that will form the basis of the discussions in this chapter. Figure 2 shows the typical course of actions taken in transport and traffic planning to deal with the traffic-related problems and the course of events that follows. The problems as suburbanization, demand-based transport strategies and so on will be discussed in more detail below.

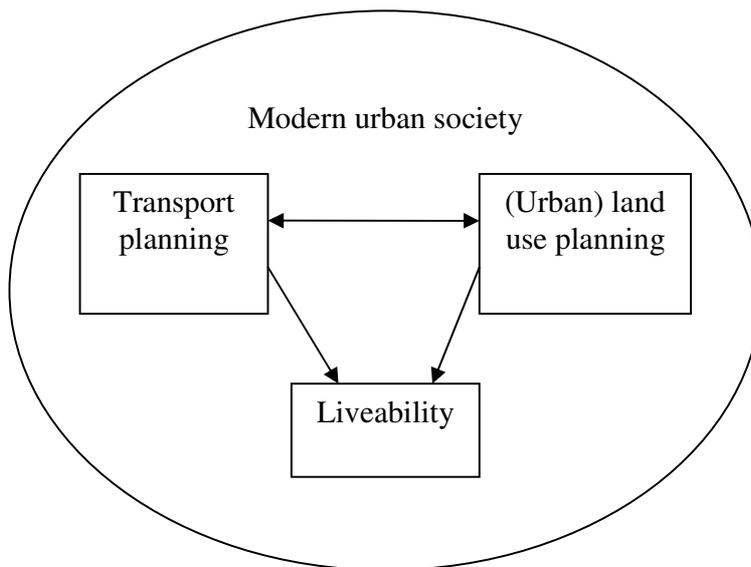
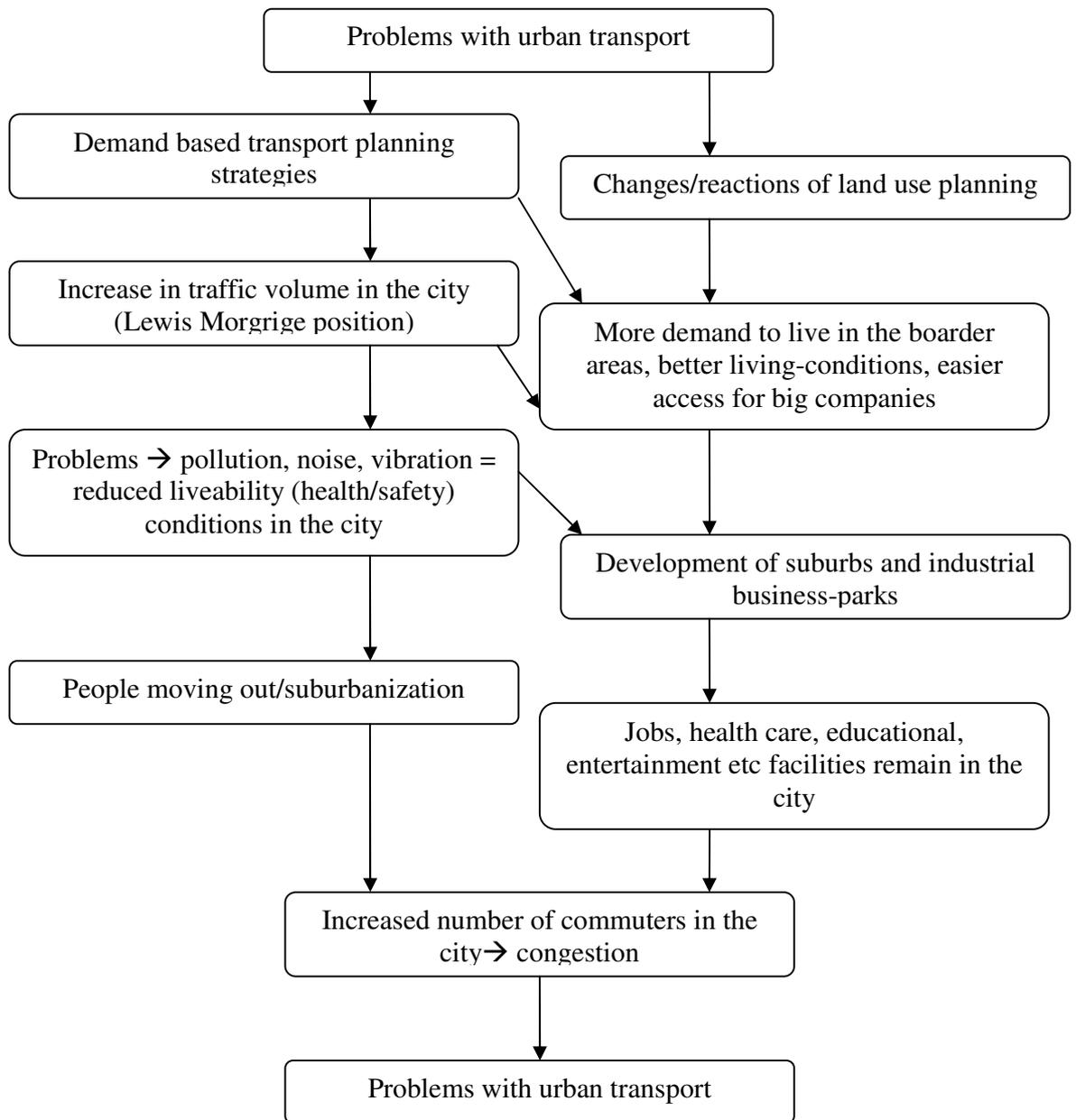


Figure 2.1 Connections of transport and land use planning with liveability



**Figure 2.2 The flow of urban transport problems and resulting developments**

The main topics are:

Liveability – the criteria for a liveable city and the relations between liveability and transport planning

Urban land use planning and the urban context

Transport planning – the way it has, is and could be done and the underlying reasons; its relation to land use planning and liveability.

The main focus will be on connecting the three concepts together in order to create a possibility for a more liveable city.

#### Modern urban society and lifestyles

Transport planning is a factor that according to various authors (Banister, 1999, Appleyard, 1981) has the greatest impact on the liveability of the cities. It also has an important role in urban land use planning, in fact in order to guarantee the liveability in the city transport planning should be better and earlier integrated with urban land use planning (Hine, 2000). According to Lyons (2003) land use plans should be better coordinated and give guidelines and prescriptions to transport plans. Thus land use planning affects transportation in the city and therefore also the liveability. Transport planning can however also affect the land use patterns. For example in the USA where the big highways made it easy to move out of the city since travelling by car was fast enough to stay connected with the city.

These mutual dependencies and connections are taken as a basis in this thesis and the theoretical framework to look for ways in which transport planning could ensure the maintenance of liveability of a city. First the topics are discussed separately and in the end integrated into the conceptual model that is the basis for answering the research questions discussed in chapter three.

The main argument of the chapter is that transport planning, the way it is done now – the demand-based approach - is decreasing the liveability of cities. The importance of maintaining the liveability is discussed in more detail in the following section but it relates to the health, safety and vitality of a city. Therefore there is a need for other kind of approach to transport planning. In the thesis I propose that an approach based on integrating the land use and transport planning better and at an earlier stage and taking liveability criteria in the city as the starting point of the desirable end-situation is the best way to deal with the urban transportation problems.

This chapter will thus show first of all what liveability is; why it is important to consider liveability issues when doing transport planning; how the transport planning is done and what its main problems are; how the urban land use planning affects the transport planning and vice versa and finally resulting from the discussions - what kind of transport and land use planning approach to choose for maintaining the liveability in the city. The different topics of chapter two thus lead to the answer of the first research question.

### ***2.1. Liveability***

To understand why liveability is an important characteristic of a city it should be made clear what liveability actually is, how its quality affects the citizens and how it is related to transport planning. This will help to make clear why it is necessary to consider liveability as the primary issue in making transport plans and it also helps to understand the relevance of the first research question.

The researchers seem to have had some difficulties with coming to an agreement about how to define liveability and as a result various definitions can be found about what liveability means. The problem seems to be that liveability is something very subjective and means many things to different people. It is a concept, like quality of life, that people seem to recognize, but which is difficult to define in a manner that everyone understands. Therefore I have chosen to first give an overview of a few definitions of liveability and pick out the aspects that are most directly affected and should be considered in transport planning for defining Tallinn and Groningen in terms of liveability in chapter four.

Balsas (2004) defined a liveable place as *safe, clean, beautiful, economically vital, affordable* to a diverse population and *efficiently administered, with functional infrastructure, interesting cultural activities* and institutions, *ample parks, effective public transportation* and *broad opportunities for employment*. It is a kind of place that should also promote a *sense of community* (Balsas, 2004).

Other authors (Kenworthy 2006, Southworth 2003) define liveability as something about the human need for *social amenity, health, and well-being* that includes both individual and community well-being. Liveability is about the *human environment*, though it can never be separated from the *natural environment* (ibid).

Southworth (2003) agrees that the concept of liveability is complex and encompasses many aspects of urban life: how well the city works for us, as well as how comfortable and enjoyable our neighbourhood and city are. For many urban residents, liveability includes such diverse qualities as the *healthfulness of the environment, protection from natural disasters, and absence of crime*, as well as *opportunities for employment, affordability of housing*, and the *quality of schools and public services*. But economic and social conditions are not the only factors that contribute to liveability. The *physical form of a neighbourhood* contributes significantly to its liveability and long-term success as a place to live. Convenient access systems are essential, including walkability and bicycle access; connectivity of the streets; convenient access to parks and recreation, schools, libraries, local shops and services; and transportation systems that allow us to move about easily by a variety of means (ibid).

To assess Tallinn and Groningen in terms of liveability some general guidelines how different authors have done it in other places were looked for and good practices from various cities found. Assessing liveability however seems even more complex than defining it. It can be done by comparing a city with another similar one or just assessing the performance of a city based on some general indicators. The reliability and suitability of a particular indicator is a matter of debate. Despite that many quality-of-life indicators and indexes have been developed during the last decade (Mitchell, 1996). According to Kotval (2001), an indicator is a measure or a set of measures that describes a complex social, economic or physical reality, and a measure is one data point that acts as a gauge to tell us how well or poorly we are doing with respect to an indicator. Indicators can offer knowledge and insights about the health and well-being of a community or about the liveability of a city.

Many cities (e.g. Copenhagen, Berlin, London) have developed some custom liveability indicators and annually evaluate the community liveability. That could be a good example for Tallinn and Groningen but also a useful means to assess their performance in terms of liveability. Because of the complexity of the concept of liveability itself and the various aspects that are place-specific it will not be an easy task to identify a city and develop a standard and uniform strategy to assess and improve its liveability. Different cities can and should use indicators that are most appropriate to them considering their culture, natural conditions, society and history. A few basic indicators like the number of the bike roads, preferential conditions for public transportation and the size of public parks and green areas could be a start when assessing the impacts of transport planning on liveability. The European Union shows a good initiative by funding a liveable cities project in which six partner cities look for ways to improve the public space in city centres among other things with innovative urban design and spatial strategies (Liveable City Project) so does the European Commission which has published a guide for the sustainable cities to help the citizens to take action (Guide for the Sustainable Cities).

Numerous examples help to illustrate the ways that liveability and transport planning positively come together. Take Copenhagen for example which has an indicator of the number of seats available for public use in its streets, squares, and parks since this seems to correlate to both enhanced economic vitality and reduced traffic (Gehl and Gemzoe, 2000). In the UK the concepts of vitality and viability have been used to assess city centres' health (DoE, 1994). Used together, these two dimensions refer to whether the city centre feels lively to people and whether it has a capacity for commerce to live in it (DoE, 1994, p. 55). There are countless more good examples of the indicators we can refer to. Namely the quality of the living environment, room for green space in the city as opposed to big parking lots and highways, connectivity and possibilities to reach destinations with the public transport, special roads for bicycles and walkers and the safety.

In order to find answers to the research questions it is necessary to identify transport planning strategies that could improve the liveability. To do that the aspects of liveability

that are most directly affected and connected to transport planning are looked at and used for comparing and assessing Tallinn and Groningen. These aspects are: room for green areas and parks, safety, public transportation possibilities or connectivity, walkability and bicycle access. Because of the lack of time and available data some general indicators will be used and therefore the two research locations – Tallinn and Groningen will be assessed and compared based on the following liveability indicators that also connect to transport planning (based on Southworth, 2003):

- Transport fatalities (per 1000 population) per year (i.e. safety);
- Number of kilometres of pedestrian-friendly streets and bike-roads (walkability, bicycle access);
- Number of parking places in the city centre (vs. room for green spaces and the environmental quality);
- Public transport – separated lanes for it, the frequency and accessibility of different parts of the city (convenient access to facilities and services, connectivity)

These indicators help to get a basic overview of the city's liveability. The results need to be looked at in a particular context as mentioned above. Therefore in chapter four the planning systems of Estonia and the Netherlands as well as the society and lifestyles will be discussed and connected to the findings from the analysis of the liveability indicators.

The sections below will demonstrate the connection between liveability and transport planning in more detail. From above it can be concluded that liveability shows the healthfulness of the city environment and quality of life for the citizens. It is important to maintain or improve the liveability to ensure that the city will be vital and economically attractive and that it would be also an attractive place for people to live in. More traffic in the city equals with more noise, pollution and danger for the citizens which in turn means decreased quality of life. The way transport planning is done today implies building more roads to accommodate the increasing volume of traffic thus bringing with it the problems for liveability. As a result people don't view city as a liveable place and start looking for

alternative places to live. That means expanding suburbanization, extensive commuting and empty city centres at night which also reduces the safety, economic viability and accessibility of the city. Therefore it can be concluded that in order to keep a city alive, attractive and successful it is necessary to plan the transport taking the needs of the citizens and the liveability into account. From above examples it can be concluded that the best way to start giving liveability more attention is for the cities to develop custom liveability indicators, evaluate them every once in a while and use them as criteria when planning transportation.

Since most of the people and vehicles thus also the problems with the liveability are concentrated in the cities the next step in this chapter is to look at the urban context where the complex interactions take place and which affects the way people live and travel every day.

## ***2.2. Urban land use planning and the urban context***

It is widely accepted that the physical form of urban areas has significant implications for travel patterns (Kenworthy, 2006). Relatively compact and mixed use developments have the potential to reduce travel needs, make local facilities more viable and accessible, and encourage the use and provision of public transport, where available. In contrast, when housing, employment and services are widely separated, and facilities can only be accessed by car, lengthy journeys become a necessity rather than a choice, and those without access to a car may suffer a new dimension of deprivation (ibid). Hayashi and Tomita (2003) point out that the ultra-long commutes, traffic congestion and pollution are intimately tied to choices made in land use and city planning. For example developing housing in the suburbs without having a decent public transport connection to them. That demonstrates the impacts and the importance of land use planning in developing transport plans and patterns. It can be concluded that from the point of view of liveability the development of a compact city should be preferred. That means limiting the growth of the city and paying more attention to local facilities and possibilities thus reducing the need to travel by car.

But what is the reason that makes transport in urban context different from transport in any other place? The movement of the vehicles on the streets is no mysterious phenomena. It is explained by the fact that the drivers are engaged in various activities and have to move in connection to these activities. That simple truth was evident already in 1963 to Colin Buchanan who wrote the Buchanan report for the transport planning of Great Britain. He pointed out that traffic is a function of activities and that explains why there is so much traffic in the cities – activities are concentrated there (Buchanan, 1963). The actors whose behaviour shapes the urban environment and who, in turn, are affected by it are many and diverse. The urban system is managed by households, communities, businesses, and non-governmental and voluntary organisations as much as by local and national government. The result is a highly complex interactive socio-physical system, shaped by many players with competing expectations and priorities as well as by physical and technical infrastructure (ibid). This makes the issues of transport and land use planning in urban context different, really complex but also challenging.

There are some other aspects that make traffic in urban context, especially in Europe worth studying. First of all the amounts of money invested in new infrastructure in the urban regions in Europe are several times higher than those between urban areas (Netherlands Economic Institute, 1989). Secondly “*the mutations in urban structure due to traffic development are nowhere so evident as in urban areas nor do environmental problems associated with traffic (occupation of space, noise nuisance, emission of exhaust gases, and accidents) manifest themselves anywhere clearer than in the towns*”(ibid). Last but not least some 85 percent of the European population is living in urban areas (ibid).

Thus it can be concluded that urban land use planning has a significant impact on the transport planning. It could be a powerful measure to influence transport planning. In order to do that the land use and transport plans should be integrated and adjusted with each other at an early level. The solution to the liveability – transport planning conflict

could most likely be solved with the right land use and development measures in and around cities. More of such possibilities will be discussed further on.

Because of the challenges and the effect of the issues mentioned above on a great deal of the population urban context is chosen as a setting for the interactions between transport planning and liveability. The latest research (North Carolina University) shows that more than 50 percent of the world's population lives in the urban areas making urban problems an important area of study.

### ***2.3. Transport planning***

From the theoretical point of view transport is seen as a key factor in influencing land-use and development patterns and it is linked closely with economic growth (Banister, 1994). It means that developing and prioritizing transport is profitable and therefore the demands of the transport, or the motorists, have traditionally been considered above all other interests. Land use however can in turn influence travel patterns. Therefore it is necessary for these two areas to be in good connection with each other and in order to create a liveable city they should both have same priorities and criteria when developing a city. In this section I will first give an overview of the way transport planning has been done, then look at the connections and influences between transport and land use planning and finally look at some factors influencing liveability and different types of strategies developed to reduce car dependence.

#### **2.3.1. The traditional transport planning**

At present the transport planning is still being done taking mainly the interests of the motorists into account. There was no balance between economical, social and environmental interests (Banister, 1994). But in order to be a liveable place a city should be viewed as a resource for the citizens which has to be protected – it is a home and a place for work and social interaction for most of the people (Appleyard, 1981). Transport planning, the way that it is done now, has negative effects on the health, safety and social

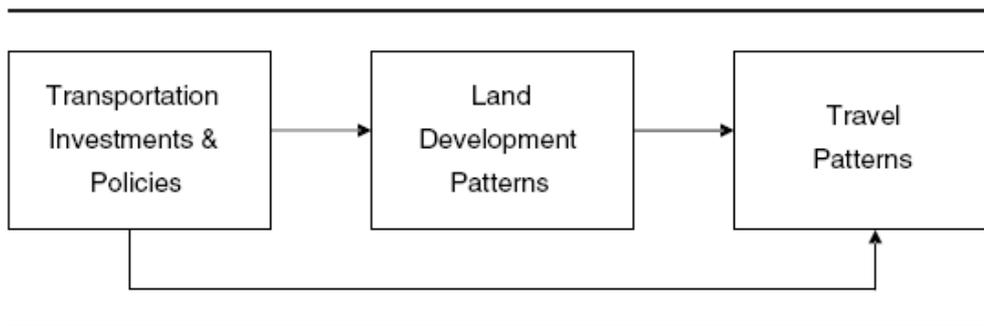
networking of the citizens (ibid). Cities should be seen as attractive places in which to live and work in and transport planning has a crucial role to play in achieving that objective and ensuring that cities maintain their liveability. The possibilities to improve or even consider liveability however are barely used in present transport and land use planning practice (Banister, 2000) that still tend to take the demands of the motorists as a starting point for developing the city, despite of increased attention to liveability/transportation issues in more recent theoretical discussions.

The result of building more roads and adapting to the demand of the motorists can best be explained with a paradox called the Lewis-Mogridge Position (Mogridge, 1990) which states that “*the more roads are built, the more traffic there is to fill these roads. Speed gains from new roads tend to disappear within months if not weeks. Sometimes new roads do help to reduce traffic jams, but in most cases the congestion is only shifted to another junction. Traffic expands to meet the available road space.*” Following the Lewis-Mogridge Position it is not generally concluded that new roads are never justified, but that their development needs to consider the whole traffic system and even better the development should be guided by well considered land use plans. The growing volume of traffic and building more and bigger roads to accommodate it naturally affect the liveability in a negative way – especially the quality of the urban environment, the safety and the accessibility to name a few. Therefore the demand-based transport planning strategies don’t offer a long term solution for traffic related problems.

As Grayling (2004) puts it - the trouble with the traditional transport policies is that they’re all about “*trains, planes and automobiles*” as if transport were an end in itself, not a means to an end. A progressive transport policy should focus not on mobility but accessibility: providing access to education and employment, goods and services, friends and family, participation in social and cultural life (ibid). Finding a location for these facilities is the task of the land use planning so in order to minimize the traffic the planning of these facilities should be done in close cooperation and creating possibilities for sustainable transport planning.

### 2.3.2. Linking transport and land use planning

Figure 3 illustrates the linkage between transportation and land use. Showing that transport investments and policies directly affect the travel pattern of people but that they also affect the land development patterns and by doing that also indirectly have an influence on the travel patterns.



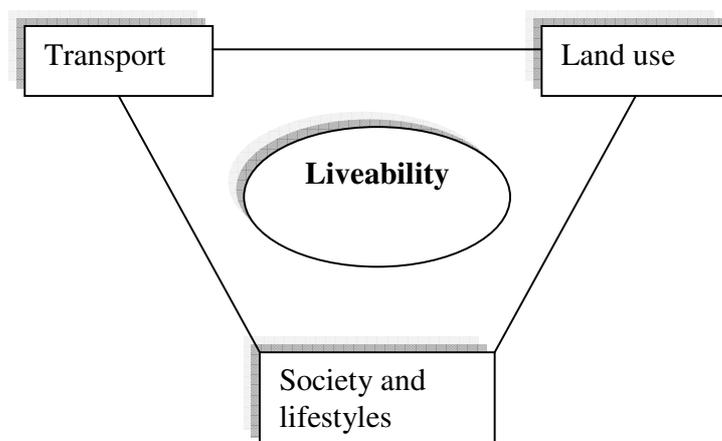
**Figure 2.3 Basic links between transportation and land use (Handy, 2005)**

There are clear links between transportation and land use planning (Handy, 2005) and both can affect each other in positive as well as negative ways. First of all transportation investments and policies influence land development patterns: “*commercial development stretches out along highway corridors, new subdivisions pop up after the new freeway opens, shopping malls and gas stations congregate at interchanges*” (ibid). Freeway construction for example enabled the explosive growth of U.S. suburbs in the latter half of the twentieth century (ibid). In this way, transportation investments contribute to sprawl, however they can also potentially be used as strategies to help fight sprawl by changing the priorities of investment and prioritizing the development of public transport, making the cities cleaner and more attractive to live in i.e. increasing the liveability. Secondly, development patterns shape travel patterns: the design of suburban areas makes transit and walking a challenge; the separation between land uses in low-density developments makes driving a necessity (ibid).

There have been some efforts to integrate or stress the importance of integrating transport and land use planning (Banister, 1994; Lyons, 2003). Banister demonstrated already in

1994 that clear links can be drawn between transport congestion, the environment and the quality of life. So it's important to look at transport planning in connection to the whole package of city planning considering also the liveability issues. The points of attention connected to liveability are: promoting more sustainable transport choices for both people and moving freight; promoting accessibility to jobs, shopping, leisure facilities and services by public transport, walking and cycling; reducing the need to travel, especially by car.

However, effective integration of (land use) planning and transport is complicated. Policy guidance seeks to enable or facilitate (positive) change but does not guarantee achieving it. Achievement will be based on a range of other factors including society and lifestyles (figure 4). Or as Lyons (2003) argues - a holistic approach to interpreting the interaction between land use and transport must also include the additional interactions with society and lifestyles. This will be further discussed in chapter four.



**Figure 2.4 The triangle of interaction affecting liveability in the city (Based on *The triangle of interaction* (Lyons, 2003))**

The triangle of interaction above illustrates the main factors that affect the liveability in the city. In order to analyze and give suggestions to a city on how to become a more liveable place it is important to consider all three factors. Therefore when analysing Tallinn and Groningen I will first of all look at the transport planning in both cities, after

that its integration with the land use planning and seek explanations for the directions taken also from the changing society and the lifestyles. That leads to an answer to the first research question – how to do transport planning in such a way as to ensure liveability in the city? One possible solution in theory is to integrate it at an earlier stage and better in urban land use planning and with that give the society the possibility to adapt their lifestyles and be less dependent on cars. For example by providing necessary public facilities closer to existing residential areas and limiting suburbanization or allowing it only after proper public transport connections have been established (see smart growth strategies for example).

The importance of considering land use planning also appears when looking at the strategies developed to reduce car-use. There are namely two main streams of strategies that can be applied to reduce car-use: pricing strategies and land use strategies (Handy, 2005). Pricing strategies involve such measures as for example congestion charge in the UK, increased parking prices, higher taxes on fuel and so on. Land use strategies imply planning areas with higher density (for example the compact city strategy), the smart growth strategy discussed above and in general limiting the suburbanization and with that also the need to travel greater distances in private cars to reach the city.

Therefore it can be concluded that in order to maintain or create a good quality city with clean and safe environment and satisfied citizens it is necessary to plan the transport giving priority to the liveability issues in the city and to do that transport planning and land use planning should be better coordinated with each other.

#### ***2.4. International comparative studies***

Comparing two places has been quite popular and useful means for explaining similarities and differences in international planning studies (Maartens, 2006). This kind of approach provides an opportunity to contrast places that differ in their social make-up (for example the society and lifestyles) and in their context (for example suburbanization

and available transport) and by doing that it's also possible to learn how the different transport and land use planning strategies lead to different end-results in the city, find the reasons behind these approaches and most importantly find possibilities to learn from others.

There are numerous studies done about the transport planning of The Netherlands, including international comparisons (Maartens, 2006). Not so much is known about new member states of the European Union, especially the Baltic countries. There are some references to the eastern European planning practice and comparisons but the most of the material comes from Czech Republic, Hungary or Poland (ibid). Researching transport planning and possibilities of policy lesson drawing for Eastern European countries is certainly an area of study that should be developed further. There are also not many references available about comparative transport studies in these areas (ibid). Most of the comparative work has been done between Europe and USA or in case of transport planning also between west European countries (ibid).

When comparing places one of the important characteristics is always the planning culture (De Klerk, 2007). The existing materials on comparative planning cultures give an overview of how important it is to learn from the practices of other countries but also how the local context should always be considered when applying the new knowledge (ibid). For example the policies should not be directly transferred but some useful elements picked out or modified according to the needs and condition in the home country (ibid).

The planning environments were and are different. Spatial planning is happening in a rich context, so culture matters to understand spatial planning practices in different societies (De Klerk, 2007). The study of the cultural traditions of planning within the context regions can explain to a great extent the differences in planning styles, the appreciation of planning and the use of planning as an instrument of policy (ibid). Culture is not an easy thing to define and even more difficult to handle as an explanatory factor in comparative planning science (ibid). Cultures take a long time coming into a shape which can be

recognised as a set or bundle of key elements of the planning environment. Sometimes culture is seen as a background to explain planning practices (ibid).

The importance of international comparisons is obvious from numerous initiatives started by the European Union to help its member states to exchange knowledge and learn from each other. One of the examples of such European Union projects in the field of transport and land use planning is the TRANSPLUS project. *"TRANSPLUS is meant to identify best practice in the organisation of land use and transport measures in order to reduce car dependency in European cities and regions and promote economic, social and environmental improvement"* (Transplus, 2007). Transplus aims to address challenges to urban air quality, noise, traffic congestion, waste, economic competitiveness, employment, security, infrastructure and the built environment. There are numerous other European Union projects to refer to in this context (LUTR, Surban etc). That demonstrates that international comparisons are considered a useful tool for learning and improvement. Therefore it is chosen in this work to compare Tallinn and Groningen to illustrate how two different transport planning approaches affect the development and liveability in the city and learn what possible other solutions are available. This kind of approach also helps to find out to what extent the solutions used in one country are effective and find ways in which these can be applied to and adapted for a specific place.

## **Chapter 3 Key questions and methods**

### ***3.1. Introduction***

Mobility is seen as something that everybody is entitled to. It is a fact that people need to move from place to place to fulfil their needs to communicate with friends, get part of cultural activities, go to school, work or shopping. That generates traffic and transport. It is the task of the city planners to deal with these developments and to find solutions to satisfy their citizens and at the same time keep their economy growing. The question is – how to deal with that demand in a reasonable way, to ensure that people can fulfil their needs for mobility and that the city will remain a nice place for people to live in or to visit. That is where transport planning plays a crucial role.

Until recently the cities preferred to let their transport planning be done by the technical experts and take the demand as a starting point. Various authors (Banister, 1999; Mogridge, 1990) have argued that the more roads you build the more traffic it creates so in order to keep a city accessible and liveable another type of approach is needed.

### ***3.2. Research questions***

The situation in transport planning and liveability of the cities described above lead to formulating the following research questions:

The first research question of the study aims to examine and identify possibilities for an alternative approach to transport planning and is connected to the first, theoretical part of the thesis:

*1) How to do transport planning in such a way as to ensure liveability in the city?*

The assumption is that the current way of doing transport planning is decreasing the liveability in the cities. The liveability criteria should be taken as a minimum requirement and starting point when planning the city transport and that would improve the attractiveness and healthfulness of the city. Land use planning is also something that

should be better integrated with transport planning for ensuring liveability. Especially when developing the city the alternative means of transport and public transport connections should be planned and resources found before the development of housing can take place (see the Smart Growth strategy discussed in chapter one).

The second part of the thesis is more practical. To show the different ways of doing the transport planning and the different implications on liveability two cities are chosen and compared. The possibilities to learn from one another in order to create a more liveable city are looked for. The liveability and transport planning in the chosen cities are examined and for learning purposes also the causes of the differences and similarities in transport and land use planning. That results in the choice of the following research questions for the second part of the thesis:

The second research question examines the impact of transport planning on liveability:

- 2) *Which transport planning strategies and approaches are used in Tallinn and in Groningen? How do they affect the liveability of both cities? And how do we account for their similarities and differences?*

There are a number of sub questions that will be answered by the comparative part of the work and that will be of more practical value:

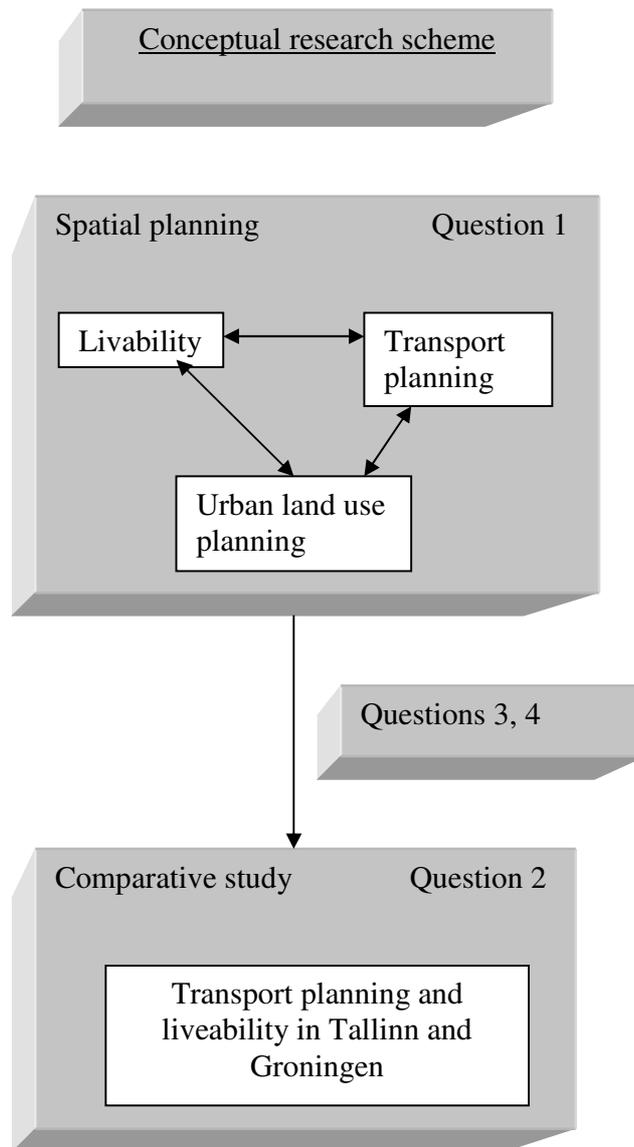
- 3) *How to define Tallinn and Groningen in terms of liveability?*
- 4) *What can two different European countries learn from each other's transport planning and what are the possibilities for policy lesson-drawing?*

The assumption is however that there is less, if anything, for Groningen to learn from Tallinn and the availability of data about Groningen and Tallinn supports that assumption. There is virtually no academic literature available on the transport planning of Tallinn (or Estonia). And the evidence shows that the transport planning is increasingly done according to the demand-based model. That helps to identify the impacts of such an approach on the liveability and show the changes in the city as a result of such strategy. Groningen has chosen a different approach and focused on compact development, biking and closing the city centre for the cars. That has had positive

impacts on the liveability of the city. Finding the underlying reasons for choosing a certain strategy for transport planning helps to facilitate change in the future and find the best practices in terms of liveability.

The sub questions define the second part of the research. With the help of the main theoretical questions and the sub questions I will look for a solution for an appropriate transport planning strategy for a liveable city.

The conceptual research scheme (Figure 5) illustrates the different parts of the research and the questions each part aims to answer:



**Figure 3.1 The conceptual research scheme**

### **3.3. Methods**

For answering the main research question it was necessary to find out what the theorists say about transport planning and if it has been connected to liveability and land use planning earlier since before beginning with writing this thesis the author had only an overview of the practical situation. That was the starting point for coming up with the

research theme and something interesting to observe but the author had no information about the theoretical background to connect or compare it to. By answering the first question a framework to test the practical case studies against was created. The goal was to collect, analyze and summarize existing information and create a background to explain the practical findings with and therefore the literature study was chosen as the most suitable method. Both paper and electronic articles (books, planning journals, internet) were used. The library of the University of Groningen and its electronic databases were the most important sources. Electronic resources were used mainly for getting more recent materials about discussions going on between planners. The theoretical part forms a foundation for the comparative analysis and gives important information about the theories and practices from other countries. Since the first research question aims to give an overview of the relevant discussions between theorists and the desk research was the best method since it provided information on what has been studied before, what information is available and what conclusions have been drawn about applying different strategies. The used sources have been approved by scientific magazines or publishers so that creates a solid base for analyzing the research issues.

The fourth chapter of the thesis consists of two cases – Tallinn and Groningen. Its aim is to see if the theory is also valid in practice. Therefore two different cities were chosen to test the theory in different settings. In order to do that actual information about the cities transport and land use planning was necessary. Since the electronic databases and statistics are the most up to date data-sources studying them was the best method for answering the research questions of the comparison part. Also electronic copies of two biggest newspapers in Estonia that represent the views of people and specialists, among other issues thoughts and ideas on city and transport planning were used. The web sites and documents from Tallinn transport planning department and the Municipality of Groningen were consulted for getting data for liveability comparison and transport plans for coming years. To get information about Groningen and about its planning background and history the internet, the sources from the university library and the available materials from the municipality and the province were used.

Thus the (electronic) document analysis was the main method used for the second part of the thesis. The lack of time and resources for conducting a survey was discarded due to the lack of scientific research sources on comparing the transport planning in Eastern and Western Europe. The document analysis gives a good basic overview about the situation in each city and doing that corresponds to the aim of the second part of this thesis. The goal was to compare the theory against the practical cases and in order to do that only factual up to date information was needed on the planning practices in both cities and the figures on car use, public transport, green areas, parking etc. That kind of information was easily obtainable from the public statistics web-sites and yearly reports and therefore was the most simple and accurate method for answering the second research question.

I use the method of comparing Tallinn and Groningen for the second part of my thesis. The learning moment is the main reason for including a part with the comparative study in this work. Another important point is the possibility to contrast two different places and by doing that find the differences in their planning approaches, the reasons for it and their consequences for liveability. An attempt is made to give an example to Tallinn from the city that has lots of experience with transport planning and that has in the past made transport planning choices in favour of increasing the liveability in the city centre. The main goal is to compare how the planning has been done in these two cities, what is different and what is similar, how to account for these similarities and differences and if it's possible to learn from each other. It is assumed that Tallinn can learn a lot from the urban and transport planning of Groningen since the Netherlands has been dealing with transport related problems for much longer time and therefore has developed some interesting strategies and solutions that could be used also in Tallinn (e.g. the compact city concept, traffic circulation plan or the design of the CiBoGa area in Groningen). The possibility to find some aspects for policy lesson drawing is explored and will be discussed further on.

I have chosen these two cities for a variety of reasons. First of all I have lived most of my life in Tallinn, seen the city change and expand and felt the consequences. I see the necessity for a different planning approach. Secondly Groningen has had a history of

being a pedestrian and bike friendly city and can be used as an example due to its choices in city centre planning that obviously recognize the importance of liveability issues. It has been nominated the bike city of the world (1993) and The Netherlands (2002) and the best city-centre of the Netherlands (2005-2006) (Municipality of Groningen). And the present administration has taken a prominent goal of making Groningen „The sustainable city of The Netherlands.” Tallinn however is still struggling to cope with the consequences of rising prosperity that usually manifest themselves in rapid increase in car ownership and use. Little attention is currently paid to the liveability issues. At the same time both cities have old historical city centres and they are the economic centres providing working places and cultural activities for large amount of people. Therefore they have recognized the need to protect the city centres and make them attractive places for the citizens and tourists. So there are lots of differences but also similarities between these two cities that make the comparative analysis interesting and feasible.

## **Chapter 4 Results from the empirical research**

### Comparing Tallinn and Groningen

This chapter examines the situation of transport planning and liveability in Tallinn and Groningen. First the characteristics of the cities, their special features and the history and traditions of the planning cultures of respective countries will be discussed briefly to create a background for the comparison. The society and lifestyles which play an important role in the development of travel patterns will be discussed and compared as the next point. With the introduction and the lifestyles some similarities and differences in transport planning can be explained. After that the transport and the land use planning practice will be more closely examined and the transport planning strategies identified. The way a particular transport planning strategy affects the liveability of the city is discussed and the second research question answered. The liveability indicators listed above will then be applied and analyzed. According to the findings the two cities will be defined in terms of liveability, analyzed and compared looking for possible ways for improvement and lessons to learn from each other (research question four). The assumption concerning the learning possibilities is that there is more to learn from Groningen since the Dutch have a highly developed planning system and Groningen is known for its environmental friendly transport strategies and planning. The available data proved the assumption as there is virtually no academic research available on transport planning of Estonia and the development and decisions made in present planning practice are still based on the demand of the motorists. The possibilities for policy lesson drawing and learning from each other will be discussed in chapter five.

#### ***4.1. Introduction, general characteristics of the cities***

Groningen is the major city of the Northern Netherlands and, with a population of 180,000, the seventh largest city in the Netherlands. Groningen is the most important city of the three northern provinces of the Netherlands because of its core economical function. Groningen has a level of amenities which can only be found in major cities. Institutions such as the University and the Academisch Ziekenhuis (academic hospital)

make Groningen the regional centre for more than half a million people (Municipality of Groningen). That is comparable with the capital city of Estonia, Tallinn, which is the only large city in Estonia and together with its suburbs and satellite cities comprises of almost half a million inhabitants. That is 1/3 of the whole population of Estonia (Statistics Estonia, 2006) who mostly work in Tallinn and live in the suburban areas or surrounding villages. Both city centres are areas in which people live, work, shop and engage themselves in various cultural activities. They are also rich in history and offer plenty for the visitor to see (Municipality of Groningen, Tallinn city). That means that most of the activities are concentrated in the centre and the people need to get there to fulfil their various needs. The means of transport people choose to get to the city will have an effect on the quality of life in the city and its attractiveness. They are however also influenced by possibilities the city has created for accessing it and the decisions made while planning the land use of the city (see below: Groningen traffic circulation plan as a positive example).

In the next sections the transport and land use planning strategies as well as the lifestyles of the two countries will be discussed in more detail. But first an overview needs to be created about the planning systems of Estonia and The Netherlands.

#### ***4.2. Estonian and Dutch planning cultures***

Faludi (2005) defines planning culture as “*the collective ethos and dominant attitudes of planners regarding the appropriate role of the state, market forces, and civil society in influencing social outcomes.*” This is the starting point in this section for comparing Dutch and Estonian planning - namely examining the role of the state, market forces and civil society. The differences in these three areas in turn also explain a great deal of differences in transport and land use planning practices which influence the liveability of the cities and are relevant for answering the research questions.

- Planning systems of Estonia and The Netherlands

Dutch planning is an example of the “comprehensive integrated approach” (Faludi, 2005). Thus, planning is "conducted through a very systematic and formal hierarchy of plans, from national to local level, which coordinate public sector activity across different sectors but focus more specifically on spatial coordination than economic development” (ibid). This tradition is necessarily associated with mature systems which in general require responsive and sophisticated planning institutions and mechanisms and considerable political commitment (ibid). Public sector investments in bringing about the realization of the planning framework is also the norm (CEC, 1997) so the state has an important role to play also in the planning practice. An important characteristic of Dutch planning system is corporatism (Faludi, 2005). Wiarad (1997) points out three distinguishing characteristics of corporatism that also apply to the Netherlands: a strong, directing state; structured (neither totally controlled nor fully free) interest groups that are usually limited in number and functions; incorporation of interest groups into and as part of the state system, responsible for representing their member’s interest in and to the state and for helping the state to administer and carry out public policies. The only other planning system in the same league of top runners is that of Denmark (Faludi, 2005).

Estonian planning system in contrast is a young and developing one (Maandi, 2007). During the last years Estonia has gone through the same processes in planning as the majority of the European countries in the “west” did a while ago. That is - increasing public participation, paying more attention to social aspects, environment and sustainable development (ibid). However Estonia has simultaneously gone through another process – moving from one system to another that is, from a socialist country with its command economy to a democratic and capitalist republic with the market as a leading force of the economy (ibid). Therefore the state still has a strong role to play, public doesn’t have much experience in participating in the decision making processes (ibid) and there are not so many planning professionals or theorists as for example in The Netherlands. The difficulty to find any academic works about Estonian planning system clearly demonstrates that fact. The importance of the law in planning discussions in Estonia is prevailing (ibid). That relates to Estonian history and society where the (planning) traditions have not been developed so strongly so the people tend to rely on the rule of

law (ibid). The planning culture of Estonia has gone through a fast development in order to make it look similar to the planning culture of the west Europe. The institutions, the way of thinking and the society however have been slower in this transformation (ibid). Therefore there have been some problems with implementing the planning ideas. Sometimes making a plan is still seen as fulfilling a norm or a requirement by the government as during the Soviet time so it's not done considering local circumstances and looking for ways to solve for example local land use problems and issues but is compiled as a copy paste document only to have something to present because it is required (ibid).

- Public-private partnerships

The importance of the public-private partnerships (PPP) when building nationally important infrastructure in The Netherlands has constantly increased. The Ministry of Finance has created a special web-site and information centre for the public private partnership projects and is currently trying to improve the quality and knowledge in these types of projects. The most important asset of these projects is considered to be the inclusion of the innovative ideas of the market in government-led projects and decreasing the financial burden of the state. So it should create a win-win situation for all the parties (Ministerie van Financien). In Estonia the main finances for the infrastructure projects come from the European Union structure funds and the national funds. For example by May 2007 the European Union was the financier of 66,8% of all the infrastructure projects being carried out, the rest was financed by state and no private sector investors were involved (Strukturifondid, 2007). By 2006 only two major PPP projects were being undertaken in Estonia (European Bank, 2006).

- The role of the civil society

Regarding the civil society it should be taken into account as discussed above that Estonia has a developing planning system thus the process of involving the public is also quite new. The public is not eager to take part in and not fully aware of its rights thus is only formally participating in the discussion meetings. The most influential force in representing the public in Estonia is the non governmental organisations. For example the

Estonian Council of Environmental NGOs (EKO) which main tasks among others are “*formulating and promoting of common positions in diverse range of environmental issues, watchdoging and lobbying of the government*” (EKO). Their representatives participate in discussions and meetings about nationally important infrastructure and voice the concerns of the general and inexperienced public. Public participation procedure is regulated by law and applied mainly in case of activities with great environmental impacts (Ministry of Economy and Communications). However the practical value of public participation is almost non-existent since most of the affected people are not reached or informed of the possibilities to participate and the process is looked at as a formality that has to be carried out in order to proceed with the already chosen course of action. The Estonian Council of Environmental NGO’s has recently taken informing public of their rights concerning environment and giving them legal advice as one of their most important tasks (EKO).

The Dutch public in contrast is more aware of its rights and using every opportunity to get involved and voice their concerns. The process of public participation is strictly regulated giving the public various opportunities to join in, express their views and protect their interests at different stages during the plan making (The EU Compendium, 1999). In Dutch society, “planning” is one of the central cultural institutions (Shetter 1987). Open planning process which means involving all interested parties from the first phases of plan making is often used, for example when planning the new car-free neighbourhood CiBoGa in Groningen (CROW, 1998).

Some similarities between the two countries can be found in the structure of the plan-making and the levels involved. Both have three different levels of plan and policy-making: the national, the regional and the local levels (Maandi, 2007; The EU Compendium, 1999). The strategic long term plans are made by the state. More general plans compiled by the province or the county and the detailed plans that are binding to the citizens are the responsibility of the local municipalities (ibid).

### *4.3. Society and lifestyles*

A lot of different planning measures have been developed for controlling the growth of traffic. Some examples are: road pricing, stimulation or heavy subsidising of public transport, restriction of certain types of traffic during certain days of the week or hours of the day and so on (Netherlands Economic Institute, 1989). Obviously, however, the tendencies in the society which have caused car traffic to increase defy all intervention or cannot be influenced for political reasons such as widespread car-ownership, income rises, separation of residential and employment areas (ibid). Therefore it is important when analysing transport planning to look at the different characteristics of the society and the dominant lifestyles also in the case of Estonia and The Netherlands.

The history of Estonia and The Netherlands explains a great deal of the differences in the society, the culture, the lifestyles and consequently the priorities and trends in present transport and land use planning.

After the destructions of the Second World War the Dutch society has had time to develop itself and to prosper (Wikipedia). Therefore the present Dutch society can be called a mature one, the highly developed social system and planning culture are only a few indicators of that fact (Faludi, 2005). In Estonia however the Soviet occupation lasted until the beginning of the 90s (Wikipedia). Estonia's economy and industry were forced into the U.S.S.R.'s centrally planned structure (ibid). The people were used to the socialist regime and planned economy where everything was done collectively. After the liberation in 1991 (ibid) and recently joining the European Union, Estonia is steadily moving toward a modern market economy with increasing ties to the West. There is a great degree of economic mobility and technological advancement (ibid).

In The Netherlands the good of society as a whole is nowadays understood to imply some sacrifices of absolute individual rights (Weil, 1970) and that is also true about the planning system where the well-being of the society is the basis for the planning decisions. The same can't be said about Estonia where the people are still mostly

interested in individual prosperity and one's high social status is the most celebrated aspect in the community (EPL, 2005). That in turn relates to the importance of car ownership and use. In Estonia a car is seen as a symbol of one's status and something that one should be proud to own (ibid). Big cars with powerful engines dominate the streets and not many people think it would be justified to make the motorists leave their car home and use public transport so that the society and the environment would be better off. The politicians and the officials in the city transport department tend to share this view and prefer developing infrastructure and facilities for cars in the Tallinn city (Autovaba, 2006).

The importance of the society and lifestyles in transport planning is most obvious in the individual's choice to own and to use a car. The best negative examples are the big cities in the USA where nearly nine in ten people claim to own a car, and 89% of the population would prefer car as a means of transport (Putter, J. 1999). There are however more aspects influencing transport planning and these will be discussed in the following section.

#### ***4.4. Transport planning***

The choices to use a certain means of transport depend on the choices that the people are presented with. It is strange to see that a profound motorist from Tallinn turns into a biker in Copenhagen and a public transport user in Sweden (Äripäev, 2004). And the first thing that an average European public transport user does in the USA is to rent a car (ibid). From these observations one can find the key to understand how to control motorization – the means of transport that is supported and promoted is also the means of transport that is extensively used. The transport planning practices of Tallinn and Groningen below support that statement. Tallinn is a city strongly orientated towards meeting the needs of the motorists and Groningen in contrary can be called “the bike capital” of The Netherlands. Next a short overview is given about the responsible institutions, transport policies and planning strategies to show how transport planning is done plus the condition of public and alternative transport in both cities are discussed.

- The responsible institutions

In Estonia there is no separate ministry for transport planning. Transport planning is the responsibility of the Ministry of Economy and Communications (Ministry of Economy and Communications). Transport planning in The Netherlands is the responsibility of the Ministry of Transport, Public Works and Water Management (Ministerie van Verkeer en Waterstaat).

Tallinn city transport department is responsible for transport planning in Tallinn. The city planning department is responsible for planning the green and built up areas in Tallinn (Tallinn city). The transport development is financed from the structure funds of the European Union and partly by the government from the taxation money (Ministry of Economy and Communications). On a regional scale the province of Groningen is responsible for such issues as mobility management and the regionally important transportation connections. Every year the province of Groningen gets a certain amount of money from the Ministry of Transport, public works and water management to prepare and execute the traffic and transport plan (Municipality of Groningen). That means building or maintenance of roads, exploitation of public transportation, measures for traffic safety and measures to influence the choice for the different means of transport (Province of Groningen).

- The transport policy

The traffic policy in Groningen has always been a little bit special (CROW, 1998). In 1977 the traffic circulation plan was adopted and the inner city was divided into four sectors by the overall one-way traffic restriction, and cars had to go out to the ring road to move from one sector to another (Tsubohara, 2004)(for more information see appendix 1). The traffic circulation plan has received much international attention as it helped the city of Groningen to keep almost entirely the through traffic out of the inner city, and succeed in reducing the traffic volume of cars there by a half (ibid). The year 1977 also marked the start of pursuing a policy of integrated town and traffic planning. The city's integrated travel management policy aims to reduce car traffic while maintaining a good

level of accessibility related to concepts of compact and mixed urban developments. Due to the strong Dutch tradition of bicycle use, the municipality has received support for favouring green modes of transportation. With a 43% share of bicycle use, Groningen has become the world's third leading city for bicycle use, while maintaining the right conditions for economic activities (The European Academy of the Urban Environment).



**Figure 4.1 Grote Markt in Groningen before and after the Traffic Circulation Plan**

At the end of 1994, a new master plan for Groningen was released. It created a lively debate on the different ways to meet the new demands for space for economic activities and residential facilities (SURBAN). Much attention was given to the relationships within the city: relations between building sites, ecology, environment, traffic, and urban space (ibid). The city and the network of relationships were given substance and shape in the plan, and the field of vision was regional, which was important from a traffic and transport point of view (ibid). New links strengthened the cohesion within the city. A great effort was made to improve the public transport system: initially through the use of buses, but later through a tram system in the city and between the city and the suburbs (ibid). The orientation of the policy and plan is reviewed every 4-5 years under consultation from the local population and key regional stakeholders: including economic, environmental, and social representatives (ibid).

The transport planning in Tallinn is dominantly demand-based (Autovaba, 2005). Tallinn has a strong car-favouring planning- and investment-policy (ERL, 2007). The demands of

the motorists are taken as a starting point for creating new infrastructure and transport possibilities despite of the fact that the motorists self don't cover even 1/3 of the investments spent on them (ibid). The way the roads of Tallinn are being built demonstrates just how important the cars are – there are no separate bike or bus lanes even at the newest road sections. It is believed that the transit flows guarantee a viable economy for the city and that if people are able to buy a car they should be also provided the possibility to use it. A few years ago most of the citizens didn't even know what a traffic jam is and today they spend hours standing still in the traffic trying to get into or out of the polluted city (ibid). Researchers have found that the average worker in the developed society spends 139 hours per year commuting (Centre for Transport and Society, 2006). That is certainly true about the people living around Tallinn. As a result the car-related problems including pollution, accidents and the claim on public space increase and the liveability suffers. Before any actions can be taken more people move out of the city to bigger houses and less polluted neighbourhoods. Ironically, the effects of the increasing sprawl force the same people who were seeking cleaner neighbourhoods sit for hours in the pollution of the traffic jams trying to get to work. Considering the above-mentioned problems and developments it is not surprising that urban transport was one of the most problematic transport sector areas for Estonia in the transition period during joining the European Union (Ministry of Economy and Communications).

An important part of the official Estonian transport policy is to promote a sustainable transport system, and to make sure that all transport users pay their associated social costs (Ministry of Economy and Communications). The taxes are to be adjusted in order to make the price of transport reflect the costs of transport, which is not the case in Estonia today. Three types of transport taxes are at work presently in Estonia: registration tax; fuel taxes; and annual vehicle tax (only locally) (ibid). 55% of the revenues from fuel taxes are earmarked for road costs and the share is planned to increase (ibid). All other road transport taxes are also earmarked for road costs, whereas none are earmarked for public transport (ibid). Direct subsidies for Estonian local passenger transport (bus, tram and trolley) are 52-56% however no indirect subsidies are provided for public transport in

Estonia (ibid). At present car transport in Estonia is not covering infrastructure costs, environmental costs and accidents costs (ibid).

Another important aim of the national transport policy is to improve the performance of the public transport in Estonia and namely in Tallinn and increase its share of transport volumes. Estonia faces several problems in this respect, because the costs of public transport are expected to rise in the coming years due to necessary quality improvements and modernisation. Therefore, it is considered as a major challenge in the years to come to provide the necessary subsidies for securing a modern and flexible public transport system (Ministry of Economy and Communications).

- Public transport

Urban public transport is generally seen as a public service of great importance (Nijkamp et al, 2003). At the individual level, it is a service that meets the needs of mobile citizens, while at the societal level it contributes to quality of life and sustainability (ibid). Thus the quality and attractiveness of public transport are important characteristics of the liveability in a city.

The demand for public transport in Tallinn has decreased markedly in recent years (Ministry of Economy and Communications). There is presently a need to improve the competitiveness of public transport as compared to private car transport, if public transport should gain market shares and thereby reduce the environmental damages and congestion and accident problems induced by fast increases in private car transport (ibid). This is an official statement compiled by the Estonian Ministry of Economy and Communication. In addition the Tallinn transport strategy states that promoting sustainable and light transport is the priority of the city (Tallinn city).

The list of the goals and strategies of the official transport policy is long and complex. The practice however doesn't support the promises of the policy-makers. For example as indicated above – one of the aims of the national transport policy is to improve the competitiveness and performance of the public transport. But when actually building new

roads no separate lanes for busses are created to make them the best alternative in the rush hour. The ticket prices rise but no extra quality is gained and so on (Postimees, 2007). So the policy objectives and the practice are contradictory. That results in unattractive and uncomfortable public transport services that most people avoid if possible. So in conclusion – the public transport in Tallinn is expensive and uncomfortable thus in no way able to compete with the car.

In Groningen there are separate lanes and traffic light systems for busses. The busses are clean, comfortable and fast. A big advantage is the speed of the busses compared to the cars during the rush hour. The busses are allowed to drive through the city centre and that makes the journey by bus shorter and the destinations in the city better accessible. Using the bus is also made easier by introducing a special one-hour-one-euro ticket. During that hour people are allowed to use many different busses and travel on all the routes within the municipality of Groningen. There are special Park + Ride parking-lots and city-busses just outside the centre of the city. People can park their car and use the parking ticket as a ticket for the city-bus to get to the centre (see appendix 2 for the P+R folder of Groningen). A feasibility study on P+R system in Tallinn was completed in 2006 and in the summer of 2007 the first P+R parking lot was opened (EPL, 2007). It is to be seen how successful it will be.

- Walking and cycling

One healthy solution to the problems of standing in the traffic jams (either in a car or a bus) would be to cycle to the city.

The city of Groningen has one of the highest levels of bicycle use in Europe, with up to half of all journeys by residents made by bicycle. The bicycle is traditionally the most important transport mode for commuting, education and shopping (Transplus, 2001). The city centre is not open for car traffic and the only way to get straight and fast through the city is by bike or public transport. Getting from any place in Groningen to the centre will take maximum 20 minutes by bike (Wikipedia). The competitive position of the bike in comparison to the car in Groningen is rated as excellent (Municipality of Groningen). On

the bike you can reach your destination on average 30% faster than with the car. 47% of all the short trips (less than 7km) are made by bike (ibid). The bike lanes have a specific red colour and are clearly distinguishable from the pavement or the road. There are clear markings and signs for regulating the bicycle traffic, for stopping, giving way or having the right of way. The bikers also have special traffic lights. The companies encourage biking and have special facilities to store the bikes of their workers safely. Therefore most of the short trips within the city are made by bike.

The biking situation in Tallinn is quite the opposite. The bike roads are only developed for recreational purposes along the beach or in the remote areas of the city where the bikers won't interfere with the cars. Different parts of the city are not connected so it's impossible to get through the city faster and more comfortable than by car (see appendix 3 for the Tallinn bike-roads). On top of it there are no special bike lanes, traffic lights or parking facilities in the city centre. There have been some pathetic attempts in creating a bike lane by drawing narrow lines on the road between the pavement and the car road (Autovaba, 2004). In addition to being extremely dangerous for the bikers this solution is also ineffective and not sustainable considering the fact that the lanes usually wear off and become invisible in a few months (ibid). In that respect Tallinn has a lot to learn from Groningen. The light transportation possibilities and pedestrian friendly roads is an area that is totally undeveloped in Tallinn and where Groningen can be used as an excellent example. Some possibilities will be discussed in the next chapter.

#### ***4.5. Land use planning***

The land use of Tallinn can nowadays mainly be characterized by the rapid development of the business quarters, intensive building activities, suburbanization and the resulting loss of the citizens, internationalisation, increase of tourism, integrating with Helsinki (Finland) and the fast development of the information sector (Silm, 2005).

Looking at the typical functions and the land use in the city - the centre of Tallinn can be divided into two parts: the old town which is mainly a place for tourists with its medieval

buildings, city wall and narrow cobble stone streets which are not very popular or accessible for cars (Silm, 2005). And the New City surrounding the old centre with the big glass and steel office buildings and shopping centres, wide roads and lots of traffic (ibid) (figure 6, the old and the new town). The morphological structure of the old town and the New City area is totally different due to the different period they were built (ibid). The orientation of the two areas in terms of motorization vs. liveability can among other things be seen from the amount of green space they both contain. There are 42 green areas in the centre of Tallinn in total with the area of 423 521 m<sup>2</sup>. 80% of these areas are located in the old town and only 20% in the New City. The rest of the available space in the New City is covered with parking lots and roads (ibid).



**Figure 4.2 Tallinn Old Town filled with tourists and the New City with high rise glass buildings and shopping-centres.**

Due to the suburbanization the people and the functions are moving out of the city centre and that means that the city becomes less densely populated and the traffic in/through the city increases (Silm, 2005). The population of Tallinn has decreased by 15% during the last years (Leetmaa, 2004). Especially the young families with children are moving out of the city but keep their connection with the city by working there or enjoying the services,

free time and cultural activities of the city. Also industry and service facilities (shopping centres) are moving out of the city to the suburbs where the price of land is cheaper (Köller, 2004).

Because of the suburbanisation the amount of commuters has increased rapidly. A research made in 2001 found that more than 20 000 people - that is more than 10% of all the people working in Tallinn - were commuters from the suburbs or the neighbouring little towns (Silm, 2005). There were around 10 000 people coming to work in Tallinn from other parts of Estonia (ibid). Around 8000 people go out of Tallinn to work in the neighbouring counties (ibid). After 2001 the numbers have increased as the suburbanisation continues. Since there is no proper public transportation connection with the suburbs the car is the most widely used means of transport for commuting. That results in a huge traffic flow which has a negative effect on the quality of life in the city.

In the land use planning of Groningen the town planning policy is based on the concept of the compact city, with short distances between residential areas, working, and shopping locations (SURBAN). Therefore also the new residential areas are built close to, or in the existing city. Similar criteria apply to the location of new plants and offices (ibid). Offices have to be situated in places which are readily accessible by public transport and bicycle - particularly if the companies concerned employ a lot of people. Only companies that are reliant on good access by truck, or work mainly with machines are allowed to locate elsewhere. This location approach has to pay attention to the fact that the new sites should be easily accessible by bike or public transport, and that the space for the car-park is limited. This creates an additional motive to use other means of transport than the car. The location of shops and shopping centres should follow the principle of a spread of retail outlets throughout the city. The residents should have the opportunities to shop for their everyday needs in their own neighbourhoods, while the inner city serves as the main shopping centre. So-called "greenfield," or "out-of-town" shopping centres are not permitted. The technique of integrated town planning is becoming more and more natural in the current land-use planning policy in the Netherlands, and it is termed "The right business in the right place" (ibid).

As Groningen's city centre comprises a great many functions in an area of less than one square kilometre, it offers accessibility and liveability in a concentrated form (SURBAN). This applies for heavily used facilities like shops and department stores, housing, local and provincial council offices, university buildings, courts of law, cafés and restaurants, markets, theatres and museums, as well as for valuable historic buildings which are the tourist attraction of the Groningen city centre. In order to maintain an active access to these facilities and secure the space they need, an integrated approach is crucial. In its plan called, "A Better City Centre", Groningen council put forward such an approach (ibid).

The general planning principles of Groningen since 1980's were: first of all, the city must be easily accessible (SURBAN). An efficient traffic system is a necessity for the economy of the city. Second, for the quality of urban life it is vital to restrict car traffic and to stimulate public transport and bicycles as environmentally friendly means of transportation. The priority has been given to the building of special facilities for environmentally friendly transport alternatives like bicycles and public transport (ibid). The traffic circulation plan of 1977 discussed above demonstrates the land use and transportation priorities of Groningen (ibid).

Another interesting approach worth mentioning in The Netherlands is the ABC location policy, also used in Groningen. The ABC location policy classifies urban development areas according to the possibilities for different means of transport. It is known as a policy called „The Right Business in the Right Place” (SURBAN). A system of land-use planning measures aims to enable town planners to influence the volume of traffic by adjusting policy issues in the areas of housing, work, services and leisure (ibid). Land-use planning measures are designed to help to shape the pattern of urban development, to guide the location of major travel-generating uses, and to ensure a wide range of opportunities at the local level (ibid). This could be a very useful approach also for such an expanding city as Tallinn.

The different kinds of land uses and land use planning strategies have a big impact on the travel patterns of people and their location choices for living. Therefore they also affect liveability. Creating such strategies as the ABC policy and the compact city to cope with motorization show that land use is considered an important determining factor in transport and that there are possibilities to integrate them better. It could significantly improve liveability in the city. In the next section some more factors of liveability will be discussed.

#### ***4.6. Liveability indicators***

The indicators used to get a basic overview of the situation in terms of liveability in Tallinn and Groningen are presented in table 1 and were chosen as follows (see section 2.1. Liveability):

- Transport fatalities per 1000 population per year (i.e. safety);
- Number of kilometres of pedestrian-friendly streets and/or bike-roads (walkability, bicycle access);
- Number of parking places in the city centre (land-use, availability of green space);
- Public transport – separated lanes for it, the frequency and accessibility (convenient access to facilities and services, connectivity)

	Unit*	Tallinn	Groningen	per 1000 people		Groningen
Inhabitants	nr. of people	396 193	180 908			
Parking capacity	nr. of places	9947	4225	Parking capacity	25,1	23,4
Bike roads	km	146	183	Bike roads	0,4	1,0
Bike parkinglots	nr of places used per year	300	1 960 200	Bike parkinglots	0,8	10835,3
Accidents				Accidents		
*injured	nr. of people	618	438	*injured	1,6	2,4
*killed	nr. of people	18	2	*killed	0,045	0,000011
Motorized vehicles	nr. of vehicles	190 712	77 264	Motorized vehicles	481,4	427,1
Public transport	nr of passangers/day	63 790	34 530	Public transport	161,0	190,9
Busses				Busses		
*separate lanes	+/-	.-	.+	*separate lanes	.-	.+
*separate traffic lights	+/-	.-	.+	*separate traffic lights	.-	.+
		<b>Estonia</b>	<b>The Netherlands</b>		<b>Estonia</b>	<b>The Netherlands</b>
Population		1 342 409	16 357 992			
Registered vehicles		595 409	8 627 207	Registered vehicles	443,5	527,4

\* all data about the year 2006

#### Table 4.1 Liveability indicators

The data in table 1 helps to define the two cities in terms of liveability. First of all to look at the data in proportion it is necessary to know the population size of Groningen and Tallinn. It appears that Tallinn has roughly two times more people than Groningen. The parking capacity seems to be in proportion since the number of parking places per 1000 people is similar. Building more parking spaces and roads implies sacrifices of other functions that could have been placed on these areas, for example the green spaces. The remaining green areas in densely populated cities are often sacrificed to the development of housing and infrastructure. And the development of new public urban green space (together with new housing projects) is often obstructed because of lack of finance and the favouring of other interests. The green areas are proclaimed to be of the utmost importance for the liveability of densely populated areas (Kruit, 2005). So the more parking spaces there are the less space for green and the less liveable a city is considered.

There are much more kilometres of bike-roads per 1000 people in Groningen since the city and the country have a long biking-tradition and the climate is also more suitable for biking the whole year round. In case of Tallinn it should be noted however that the kilometres of bike-roads in Tallinn are mainly made up of the recreational roads at the

seaside or outside the centre (see appendix 3). While in Groningen the city centre is only accessible on bike or by public transport thus the city centre is covered with possibilities for bikers. Restricting the car use in the centre makes the streets more attractive for walkers and shoppers thus on one hand raises the living conditions in the city but on the other hand also the incomes of the shop and restaurant owners. Concerning the accidents, the number of injuries per 1000 people is higher in Groningen but the death rate is much higher in Tallinn. The former can be a matter of careless bikers and the fact that there are many students living in the city who bike at night and while drinking. It could be also the different of the system of reporting the accidents since in Estonia not all small accidents are reported. And that relates to the different insurance systems since in Estonia not everybody has a health or accident insurance and wants to report the incident. The higher death rate in Tallinn can be associated with the larger number of people moving through that city but also with dangerous road-crossings and the motorists who exceed the speed-limits. Recently Tallinn city council proposed to lower the speed limit in the city to 40 km/h instead of the usual 50 km/h (EPL, 2007). The experts however criticized the decision since the rules alone don't change the behaviour of the drivers whereas the city doesn't have enough resources to enforce the rules (ibid). It means that the city should first hire and pay for more traffic control to make sure that the present rules are followed and then the lowered speed-limit won't probably even be needed (ibid). However concerning liveability – the speeding drivers make the city a dangerous place, so especially families with children are moving out into the suburbs.

The number of bikers using the parking-spaces provided by the city illustrates the priorities and the overall situation in Tallinn. The parking spaces provided by the city are annually used for 300 times in Tallinn (Tallinn city). In Groningen around two million bikes are parked around the city in the designated parking areas each year (Municipality of Groningen). That shows the priority of the city to develop biking as the main means of transport by providing more parking spaces. It is important since as stated before – the means of transport developed and preferred by the city is the means of transport that is most commonly used by the citizens. In that respect Groningen is doing an excellent job developing biking and walking possibilities in the centre and in the new residential areas.

As an example of the new walking areas the project of car-free living quarters CiBoGa in the centre of the city can be brought out. The residents park their cars in the underground parking are near their home, the neighbourhood remains car-free, there is more space for green and playgrounds for children for example.

The conditions concerning public transport and namely the busses are also better in Groningen (Table 1). Nijkamp et al (2003) quote European Commission's 1996 report which stated that: "Ideally, public transport should be accessible, affordable and available to all citizens." Groningen, especially the central areas, is more accessible by public transport than Tallinn. In terms of affordability it is also better-regulated in Groningen with the zone-card system (Municipality of Groningen), since you pay according to the distance you travel not according to the number of trips or different modes of transport as in Tallinn (Tallinn city). Both transport systems are meant to be accessible for all citizens. Concerning the quality of the service, in Groningen there are separate lanes for busses and they have right of way and can trigger traffic lights when they approach an intersection. The speed and comfort of the busses is related to how many people use public transport and will leave the cars home. In Groningen the busses can reach the city centre and drive through the city in the rush hour much faster than the cars (Municipality of Groningen). Therefore a person gains in time and comfort by choosing to use a bus. In Tallinn the busses have no separate lanes or traffic lights and stand in the traffic jams with the cars (EPL, 2007). So there is no extra value in using a bus except the cheaper price which is not a strong argument for people who can afford a car in the first place. That means that most of the people choose the car if possible. With that choice they contribute to the congestion and the pollution in the city. It can be concluded that preferring public transport helps to improve liveability in the city by decreasing the advantages and desirability of the car-use. The more people use public transport the less congested and polluted a city is. The average number of cars per 1000 inhabitants in Groningen supports that fact since in that bike-city the figure is significantly lower than the average of The Netherlands being 350 per 1000 instead of 420 per 1000 people (Municipality of Groningen).

Looking at the average number of cars in Estonia and The Netherlands it has to be considered that the growth of the motorization in Estonia is one of the fastest in the world. According to Estonian Motor Vehicle Registration Centre (ARK) there were 595 409 motorized vehicles in the register in 2006. In 2005 70 000 vehicles were added, most of them private cars. The growth rate in 2005 is the biggest in the history of ARK. According to the Statistical Office of Estonia there are 1,344 million people living in Estonia. That means there are 367 cars or 435 motorized vehicles per 1000 inhabitants. By 2006 the traffic has doubled compared to 1996. But as a result of the parking problems and congestion in the centre of Tallinn the growth in that area has been 25% (ARK). The car ownership and use in Estonia is rising faster than in The Netherlands (ibid). Thus in coming years Estonia could exceed The Netherlands in car-ownership per 1000 people. And the more cars the less liveable a city is. If the traffic and car-use in Tallinn continues to increase the liveability will decrease radically resulting in more people moving out of the city.

From the data presented in this chapter it can be concluded that Tallinn and Groningen have different ways of dealing with the transport issues, the biking and use of public transport is much more popular and supported in Groningen and that adds to the liveability of the city centre. The number of parking places per 1000 people is almost equal but the number of fatal accidents is also bigger in Tallinn. How to account for these similarities and differences will be discussed in the next chapter.

## **Chapter 5 Analysis**

### ***5.1. Comparison of similarities and differences in transport planning of Tallinn and Groningen, and how do we account for them?***

From the observations in chapter four it can be concluded that the way transport planning is actually carried out in Tallinn and Groningen has more differences than similarities. Some similarities can be observed in the formal planning process and the participants - both countries have a hierarchical arrangement of plans and planning levels - local, regional and national. And both cities have set the official goals towards promoting more sustainable transportation and restricting car-use (Municipality of Groningen; Ministry of Economic Affairs and Communications). In practice however different transport planning is pursued. In Tallinn the public doesn't actively participate in the decision-making nor is it invited to. In Groningen on the other hand public participation is considered a prerequisite for a successful planning process and the practice of public participation has a long history. Therefore the plans are also easier accepted and there are more new and innovative ideas gathered. The inability to involve public is a strong flaw in the whole Estonian planning practice. That partly explains giving priority to cars in the city and listening to the voices of a few powerful players. Another difference is the involvement of private investors in big infrastructure projects. It is much more commonly used in The Netherlands than in Estonia and its plus is the innovative ideas that involving market parties means and also bigger competition and better quality of for example public transport services. The way that the congestion issues are solved is also different. In Tallinn the demand-based approach is used i.e. building more roads to accommodate the growing volume of traffic. Groningen is aiming more at compact and integrated development. In Groningen much more attention is paid to cycling and building bike-roads and separate lanes for busses. In Tallinn the first separate bus lanes were being built in the summer of 2007 and that can be considered a positive development. However it also shows that the problems with the congestion have got big enough to get the attention of the traffic planners and the city officials to take some new measures into use. The bikes are not considered a competitive alternative to the cars and therefore the bike roads

in Tallinn are developed only for recreational purposes and outside the city centre. The role of the state is also different – more strong and with undisputable power in Estonia.

The explanations for these differences can be found in such determinants as planning cultures, history, economy and society and lifestyles discussed above. For example in a country with a long and strong planning traditions like The Netherlands (Faludi, 2005) the public participation is more actively promoted and used than in Estonia thus the different planning culture and history explains why the public participation is different in Tallinn and Groningen. The extent to which the public, market and the state are involved in transport planning makes a big difference in planning practice. Why there is a difference in the level of involvement can be explained by the history of the two countries and the length of the planning tradition. Estonia has been an independent country for such a short time. It used to have planned economy and there were no possibilities for personal wealth, everything was owned collectively. Therefore now with the free market economy the people are overwhelmed with the possibility to buy things, and that includes cars. In fact, a owning a good car is even more important then owning a place to live (EPL, 2007). The introduction of the free market economy also changed a lot in Estonian planning and urban development. The process of suburbanization became faster and the property became an important part of defining a person. In the Netherlands the well-being of the society is in general considered superior to individual interests and in a welfare society like the Dutch with its excellent social system it is not necessary for people to worry about their future and compete with each other so fiercely as in Estonia. The history of the Netherlands explains why it is important in that country to make the decisions involving all the stakeholders and interested parties. It dates back to the time when people used to fight against the floods all together and discussions and involvement was crucial. Therefore also nowadays the Dutch planning is done paying a lot of attention to public participation and putting the interests of the society first. The society in turn is another factor influencing the planning practice. Namely the culture and the dominant life-styles. As mentioned already in Estonia personal welfare and owning property are considered important. The cars are treated as members of family and since the majority demands to use a car the city is planned so that it would be easier to access it by car.

Since The Netherlands has a strong bike-culture which means also good possibilities for biking that means of transport is dominantly used within cities. The society is more aware of the consequences of using a car. These consequences relate to reduced liveability and traffic jams in the city. From the theoretical background and the cases clear conclusions can be drawn – the demand based transport planning strategy is decreasing liveability in the city. Integrating land use and transport and keeping cities compact is an improvement but the lifestyles have to change in order for all the plans to control car use to really have effect. From the cases it can be seen that Groningen has made some radical and unpopular decisions over the years but due to that it has become one of the most people-friendly cities. It has used the compact city principles - that means keeping short distances between residential areas, working, and shopping locations and restricting growth by keeping it inside the existing city boundaries. That means also integrating land-use and transport planning. Attention is being given to the relationships within the city: relations between building sites, ecology, environment, traffic, and urban space. The integrated approach which means various urban functions adequately directed towards a stimulation of the use of bicycles and public transport is much used. The common well-being is considered above absolute individual rights (Faludi, 2005). So according to the theoretical background the liveability principles are considered and given a chance.

It is interesting to note however that both Groningen and Tallinn remain congested during rush-hours even though the transport and land use planning approach used in Groningen is in theory considered the right approach for a liveable city. The alternative transport measures and public transport are of good quality and competitive with the car. That phenomena could have something to do with the society and life-styles and looking for more comfort so being in a traffic-jam is not considered bad enough as to give up car-use for that or the public transport is not considered very comfortable. Or the society is still more individualistic then implied in the literature and the people need some time alone. Driving alone may be the only time in the day one can concentrate on their own thoughts. Another factor is the fuel prices. Most people with an average salary can afford driving a car to work. The changes in the fuel prices should be radical in order to really affect people's decisions on choice of transportation. But since mobility is one of the basic

needs of people drastically raising the prices of is not considered a realistic option yet. The acceptance of high fuel prices and the difference that would really make people choose is an interesting area of study for the future. The extensive car use in Groningen could also have something to do with the ageing population that can't easily move around without a car. At this point it was not possible to determine the reasons explicitly. A specific study on these issues would be necessary to answer that question. However it shows that the transport planning approach in Groningen is not perfect since it can't prevent traffic-jams which keep decreasing the liveability in the city.

In conclusion it can be said that Tallinn at present is a car oriented city not providing many options or developments for the public or alternative means of transport. Land use planning is not strictly regulated and allows suburbanization even with no proper facilities or transport connections to the suburbs. The people are not interested or informed enough to participate in the decision-making. The city is becoming polluted, noisy and dangerous area full of parking-lots and motorways (EPL, 2007). The liveability is thus decreasing. Since Tallinn uses the demand-oriented approach it can be concluded from the present situation in that city that this approach is not good in terms of liveability. Or as the Lewis-Morgrige principle states: building more roads will create more traffic. The compact city approach seems to be a good solution, but it can not significantly increase the liveability without the change in society and life-styles, strong pricing measures and location specific planning approaches and policies. Some possible solutions and suggestions how to plan a more liveable city will be given in the next chapters.

## ***5.2. Points for learning and improvement***

What can two different European countries/cities learn from each other and what are the possibilities for policy lesson-drawing?

From chapter two it was concluded that transport and land use planning affect most of the people's everyday lives and decisions and that it is important to keep the city accessible and compact or most importantly liveable. There are many different approaches for doing

that and the most effective one was found to be integrating transport and land use planning at an early stage and guiding transport planning and development with the smart land use decisions and restrictions. It was also found that most cities try to accommodate motorization by reacting to the growing demand with building more and bigger roads. According to the Lewis-Morgridge position traffic volume expands to meet the capacity of the new roads so that can not be a realistic long-term solution for the congestion problem. Liveability was found one of the most important criteria for a city to remain economically vital and attractive for people. Thus transport planning in the city should be done considering the conditions of liveability. In Chapter four Tallinn and Groningen were compared in order to get an overview of the differences in their transport and land use planning. The goal was also to find out how different approaches to these issues result in different conditions of liveability in the city and if anything could be learned from each other.

From the document research and comparisons in chapter four it was found that Tallinn uses mainly the demand-based approach to transport planning and that the land use and transport planning are not well coordinated with each other. That among other factors results in increasing suburbanization, motorization and congestion in the city. Groningen uses the integrated approach and principles of compact city but the most important principle is keeping the city accessible. The city is perfectly accessible on bike, bus or by train. That explains in big part the better results Groningen got when comparing the liveability indicators in chapter four. The findings from the empirical research support the theory that demand-based approach to transport planning is not good in terms of liveability and in terms of the development of a healthy and competitive city. Therefore looking for different kind of approaches is justified and necessary. Groningen is only one example that can be used to plan the transport of Tallinn in a better way. As already assumed in chapter three it appeared that there is not much for Groningen to learn from Tallinn in terms of transport and land use planning. The reason could be that Estonia is just developing its planning system, hasn't invented any new or interesting approaches to transport planning yet and Tallinn is still in the phase of rapid motorization and suburbanization (Maandi, 2007). For Tallinn however Groningen can be an excellent

example for developing the biking-system, public transport and keeping the city compact. The traffic circulation plan of Groningen was an interesting approach that supports the liveability of the city. Some elements from that could be considered in case of Tallinn. The integrated planning approach and the ABC location policy of The Netherlands that are also mentioned above are other points worth considering and adapting for Estonia. That however doesn't mean that the situation in Groningen is ideal or that there is nothing to learn and improve. For example both Groningen and Tallinn should pay some attention to the available databases and projects developed by the European Union or the Smart Growth approach developing in the USA. Smart Growth is an approach that supports mixed land uses, compact building design, walkable neighborhoods, preserving open space, and natural beauty, strengthening existing communities, providing a variety of transportation choices and encouraging community and stakeholder collaboration in development decisions (USA EPA). Following these principles is proven to increase the quality of life in the city.

As for learning from each other or other European countries - for both of the cities the projects and programmes started by the European Union could be good sources for inspiration, new ideas and good practices. For example a database called SURBAN where good practices from various countries are listed, also concerning transport and urban planning issues (SURBAN). Not to mention such projects as LUTR or TRANSPLUS also started by the European Union and also dealing with urban transportation and land use issues.

When learning from other countries and taking over policy measures it should be kept in mind that nothing is supposed to be taken over one hundred percent with no changes. It is always important to consider local context and society since as seen from chapter four they play a crucial role in transport and land use planning. As Rose (2004) writes – *“lesson-drawing can be a rational and progressive learning activity but only if the programme that is transferred is compatible with the value system of the recipient organisation, culturally assimilated through comprehensive evaluation and, in addition, builds on existing organizational strengths”* (ibid). That supports the fact that the culture

and the life-styles, the history and the planning traditions of any recipient country should be considered and the new approaches possibly adapted to local conditions. In that case the policy lesson-drawing would be feasible.

Another point of attention is that the radical decisions about transport planning and innovative ideas that are not directly economically beneficial or popular require open-mindedness and willingness from the politicians. Or as Hans Vissers from Groningen Department of Town Planning, Traffic, and Economic Affairs states that such actions *"require a significant degree of determination - a willingness to stick to a planned course, even if it sometimes means going against the tide. The results of this policy often only become visible in the longer term and there are many dangers lurking along the way. If you give in to resistance too easily, the ultimate result is no more than a pale shadow of the original goals. Secondly, it is crucial to maintain the dialogue with all those involved in order to maintain and broaden the basis of support. And lastly, there is the need to arrive at an integrated approach. The quality of life in a city is not determined just by a well-planned traffic structure, by excellent shopping facilities, or just by attractively laid out public spaces; it is precisely the combination of factors that governs the result"* (The European Academy of Urban Environment). The willingness and innovation from the political leaders that should set the direction for the rest of the people to follow and public participation are something that certainly need to be worked on in Tallinn and probably in more cities in East-Europe.

It can be concluded that both cities have room for development and there are good practices in Europe to learn from. Tallinn still has lots to learn from Groningen but Groningen could get some new ideas from other European cities. In terms of liveability the compact city principles and integrated land use and transport planning principles are found the most favourable for liveability at this point. The demand-based planning should be reconsidered and replaced with an approach more suitable for a liveable city. Policy lesson drawing is feasible with considerations for local conditions and context and willingness from the political leaders.

## **Chapter 6 Conclusions and recommendations**

This chapter will come back to the main research question. There will be a short discussion about the general conclusions. Recommendations for policy makers and planners are listed and as the last point recommendations for further research are given.

### ***6.1. Conclusions***

In chapter three the main research question was formulated as follows: *How to do transport planning in such a way as to ensure liveability in the city?*

The theoretical background used for this thesis suggests that the best strategy to improve or maintain the liveability in the city is to integrate land use and transport planning at an earlier stage and take the principles of liveability as a starting point when making the transport plans. Many approaches that help to achieve these kinds of changes were discussed for example the compact city approach, integrated approach or the smart growth approach in the USA. The demand-based approach and prioritizing the motorists was considered to have negative impacts on liveability and generate more traffic. It was also concluded that it is useful and necessary to develop some basic liveability indicators that would help to annually assess how the city is doing and developing. Every city should find the indicators most suitable for their culture and environment. In the cases of Tallinn and Groningen different of doing transport planning and the underlying reasons were looked for. The results support the theoretical standpoints that find the integrated and compact approach and the accessibility principles to be the best for a city in terms of liveability.

While writing the thesis a few more general points were noted – first of all not enough research has been done about the eastern European countries and their (transport and land use) planning. There was not enough material to rely on for the comparison part. Secondly since the European Union is the main financier of the infrastructure projects (especially in Eastern Europe) it should use its power to guide the new countries towards

sustainable means of transport and development by giving more strict guidelines and allocating their funds accordingly. As a third point there are many countries that have developed successful strategies to get motorization under control and European Union has started various projects to support sharing good practices. The good ideas should be developed further and used more actively by other countries (see SURBAN database, PROPOLIS or Transplus project).

## ***6.2. Recommendations for policy-makers and planners***

As stated above by the year of 2007 more than half of the inhabitants of the world are living in the cities. Their quality of life, health as well as safety are to a considerable extent affected by the environmental quality, provision of and access to services, and safety of their home cities. Part of the economic efficiency of urban regions is lost due to urban congestion and pollution. Methodologies are needed for predicting and mitigating negative changes and for bringing about positive ones (PROPOLIS). This is in the hands of local policy-makers and planners and therefore some general suggestions are listed below:

- The cities should develop and assess liveability indicators each year. Some good examples what to assess and how can be found from urban planning practices of for example Denmark and England.
- The cities should look for good practices and ideas from other countries. Especially the databases and projects of European Union.
- The planners should use the participatory planning approach more actively in Tallinn. For example in Groningen in every planning process external stakeholders are being actively involved. That guarantees the acceptance of policies and new plans and can eventually lead to a change in the life-styles and habits of people.
- The cities should create better quality of housing and living in inner-suburbs so people would stay in the city. Research has shown that not many people want to live in these areas (Kaufmann, Jemelin, 2003). The current situation of people

moving out of the cities is the result of the restrictions and opportunities imposed on households. Some solutions in terms of housing could be first, to propose spacious housing at affordable prices within the city (to meet the criteria of families who are forced to live on the outskirts because there is no such housing in the centre), and second, to develop outer suburban models that do not force their residents to depend on the automobile (in this way, those without cars will be able to access activities easily) (ibid).

- The politicians and the planners should promote and emphasize sustainable lifestyles and support the activities that help to increase liveability like biking or walking in/to the city or living in the inner suburbs. It is common to read of the suburban city as being the product of its suitability to the predominant life-styles and values of the time, whether these are the wish to own property, the desire to live in an independent structure, or to travel by car for reasons of privacy or control over one's time and personal space (Kaufmann, Jemelin, 2003). That results in contradiction between urban transportation plans which aim to restrict the use of the car and urban expansion that is rapidly growing.
- Give people an opportunity to make (good quality) choices in terms of what kind of transport they use. The residential mobility of households and their modal practices are also the result of constrained choices. The people's behaviour can't therefore wholly be attributed to their aspirations as discussed above when it is in fact also the product of opportunities and restrictions formed by the available options in general. Consumers need viable transportation and location choices, and information about those choices. People often have few viable alternatives to owning and driving an automobile, and living in automobile-dependent communities.
- Create competitive conditions for the public transportation compared to the automobile. Most roads and public transit services are provided as public monopolies. There is often little competition or incentive for innovation. Therefore producers must face competition to encourage innovation and efficient pricing.

- Use the cost-based pricing policy. Stop over-subsidizing cars and subsidize the public transport instead. Prices should reflect costs as much as possible, unless a subsidy is specifically justified.
- Be economically neutral. Public policies (laws, taxes, subsidies, and investment policies) should apply equally to comparable goods and users. Tax policies, regulations and planning practices tend to favour automobile traffic over demand management alternatives.
- Adapt the land use planning. Land use policies should not favour automobile oriented development. Zoning laws, development practices and utility pricing tend to encourage lower-density, automobile-dependent land use patterns (Victoria Transport Policy Institute). Integrate the land use plans with transport plans earlier to find better solutions and compromises in terms of liveability. For example not allowing development of suburbs before public transport connections and public facilities are available.
- Invest in researching of the current situation and finding the tailor-made solutions.

### ***6.3. Implications for theory and recommendations for further research***

Most of the findings from the empirical research support the information from the theoretical background. However it is interesting to note that there is not enough attention paid to such aspects as society and life-styles when explaining the changes in transport and land use planning and what are the necessary conditions to change them. Lots of good strategies can be applied as is the case in Groningen but the congestion and liveability problem are still not solved due to the choice of people to live in a village and drive a car or due to the primary focus of the planners on the connections within the city. Despite the excellent biking opportunities, public transport (bus and train) system and different planning measures to combat motorization Groningen still has problems with trafficjams and therefore also noise and pollution during the rush hour. About the answer to that question one can at this point only speculate that many people still prefer living on the countryside in open green and quiet places and are willing to stand in the traffic to get

to work on the cost of making that choice. Or the fact that Groningen is the economic centre and the main employer for the people of the Northern provinces. The public transport connection with the neighbouring villages of Groningen is less developed and prioritized than the one inside the city so people commuting to the city and back choose the car since it remains more comfortable and fast. That shows how important the living environment and the green space are for people since many people who work in Groningen are not willing to move into the city. Keeping the city green and accessible from other parts of the province mean more families staying there and less cars blocking the roads. These reasons are all nothing more but speculative, it was not in the scope of this work to do a survey about these issues but it is interesting to take it into consideration and research further.

Another thing worth mentioning is the pricing-related measures to control the car use. Research has shown that the current changes in for example the fuel price are not big enough to make people leave the cars home. No information can be found about what should be the difference of prices in using the car and the public transport that would make the majority of people choose for the latter. Acceptability and legitimacy of such changes could also be an interesting issue to study.

While making this thesis some more areas where further research is necessary were found. Looking for material about Estonian planning and transport there was almost nothing available in the academic literature databases. So the whole planning system and process in Estonia should be further researched and documented. Another issue worth investigating that was not in the scope of this thesis is the European Union structure funds and the use of the money for transport projects in the new member states. How much does the European Union influence the planning of transport in these new countries and is the way transport planning money is spent in line with their priorities? There were no documents available about comparative analysis between new and old member states of the European Union or between west and east Europe. These kinds of studies are necessary and can be valuable for lesson drawing and learning from the experiences of others.

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## **Appendices**

1. Traffic circulation plan
2. P+R Groningen
3. Map of bike roads of Tallinn