MASTER THESIS

Policies against urban sprawl in the changing Dutch planning context

Groningen case: from a monocentric compact city policy towards a new urbanisation path between intensification and expansion

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Subtitle:	*Groningen case: from a monocentric compact city policy towards a new urbanisation path between intensification and expansion*
Author:	François PIRART
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Abstract:	This master thesis situates itself in the wider urban sprawl debate that has recently received an increased attention from the European Union, and also in the ongoing debate concerning the changing Dutch planning context. This work builds a bridge between these two debates by examining the impacts that the major Dutch contextual changes have on the local and regional fight against urban sprawl. Moreover, it aims to increase the general understanding of the notion of compactness and to determine which local policies and strategies can be used by the Dutch municipalities to retain their compactness. To achieve these goals, this research focuses on the city of Groningen. Firstly, the research discusses the notion of 'compact city' by measuring the density gradient of Groningen and by evaluating ten 'compactness' criteria. The analysis of this study proves that Groningen should not be called a 'compact city' because of its population/job density figures, but rather for the combination of several other factors characterising the city. Secondly, this research analyses why Groningen has chosen to follow a new urbanisation strategy based on intensification/revitalisation on the one hand, and on diversification/extension on the other hand. This part explains why growth does not necessarily go against the principles of the compact city strategy, and highlights the risks for following a two-sided strategy. The final part of the empirical study concerns the local impacts of the changing planning contexts. It determines in which types of policies against sprawl the new region Groningen-Assen innovates, discusses of the new area-development projects and pins down the risks that they can represent for public authorities and other projects, and finally looks into the effects of land speculations in Groningen.
Keywords :	Urban Sprawl, Compact City, Urban Network, Density Gradient, Development Planning, Speculation, PPP, Urbanisation Strategy, Intensification

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INTRODUCTION

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1.1. GENERAL BACKGROUND

Some consider the study of urban sprawl to be at the core of spatial planning. Urban Planners and scientists from many fields have often designated sprawl as an unwanted phenomenon. They consider it to be unsustainable, unhealthy, and harmful to the environment, the economy and the society as a whole. Over the years, scientists and policy makers have developed many ideas and instruments to fight against sprawl and to contain urbanization to an acceptable level. However, the underlying complexity of urban sprawl combined with the general lack of consensus concerning its definition, causes, consequences and measurement techniques have often prevented any wise comparisons between studies and regions.

The debate has focused for many years on the urban sprawl issue faced by the American cities. In fact, the phenomenon has been the most dramatic on that side of the Atlantic. In response to sprawl, American planners, urban geographers and environmental scientists are now pushing for new ideas such as Smart Growth and New Urbanism to address the Sprawl issue. Growing Smart has now become a key principle for a large number of states across the country. Recently, however, some academic researches and European projects have underlined the heterogeneity of sprawl and proved us that there can't be one answer to the problem. This is especially true in Europe, since the EU comprises many different countries with their own history, population, planning system and culture, etc. Thus the nature, the causes and the consequences of sprawl have great chances to be more heterogeneous in Europe than in the United States.

The publication, in 2006, of the European Environmental Agency - Urban sprawl in Europe : the ignored challenge (EEA, 2006) - puts, nevertheless, the spotlight on this issue that all European countries are facing. In a sense, this EU report officially recognises the issue and asks for an European awareness of urban sprawl. This report comes out some fifty years after concrete actions have been implemented by countries such as Germany, the UK and the Netherlands to control their urbanisation and protect their countryside. Nevertheless, the growing literature and awareness concerning urban sprawl in Europe must be warmly welcomed by the policy makers and the planning community as it enlightens the American centred debate on sprawl of the last 20 years, and helps European countries with a long lasting planning history to assess their urbanisation policies and spatial concepts. The effectiveness of the answer to sprawl must first go through a greater comprehension of the wide array of strategies, tools and policies that are used in the European countries.

The Netherlands, internationally acclaimed and acknowledged for its water management achievements, is also often cited as a good example when it comes to the fight against sprawl. The country seems to have succeeded in keeping a compact urban environment throughout the twentieth century and protecting its farmland and green space from being swallowed by other land uses. These achievements would not have been possible without the a strong dedication to apply strong control on the location and type of development supported by a strong spatial planning and social housing system, nor without a undisputed belief that the Dutch land is a scarce resource. However, some major changes – the gradual disappearance of the welfare state, the speculation on the land market and the combination of different macro-level

forces – have pushed towards a redefinition of the basic spatial concepts and urbanisation policies followed until now.

This thesis positions itself in the boiling urban sprawl debate and refers to the Dutch experience and strategy to control its urbanisation. It will bring an insight on the past and present urbanisation strategies and tools used to control sprawl in this country characterised by a strong planning culture, and it will also put a light on the effect of the changing planning context on the local planning practice and decision making.

1.2. GOAL AND OBJECTIVES

The goal of this research is to provide a better understanding of the urbanisation strategy of the 'compact city' of Groningen and to determine what impacts does the changing planning context has on the city and its surrounding region.

In concrete terms, this goal will be achieved through the realisation of several logical steps/objectives. First of all, it will be necessary to develop a sound theoretical and contextual basis to the case study. Then, at the local level, the empirical study of Groningen will (1) address the explanatory factors of Groningen's compactness (2) highlight both the local policies and strategies used to retain compactness and the extension process taking place in the municipality, and (3) study the implications of the changing planning context on the urbanisation taking place in and around the city.

1.3. RESEARCH QUESTIONS

To attain the goal described above, the following **main research questions** will be answered:

1. How compact is the city of Groningen and how does it compare to other cities?
2. Which local policies are used by the municipality of Groningen to retain the city's compactness and what place do these have in the current urbanisation strategy of the city?
3. What impacts does the changing planning context have on the urbanisation path taken by the city and its surrounding region?

These questions are answered in chapter 5 and 6, and directly concern the city of Groningen. However, prior to the local study, two sets of **preliminary questions** have to be answered to provide a sound theoretical and contextual framework to this work:

- What is urban sprawl? What are its definition, causes, consequences and how do we measure it? Which strategies and spatial concepts have been developed to fight urban sprawl?
- What are the main characteristics of the Dutch spatial planning system? What policies and strategies did the national government use to control its urbanisation? What are the major changes in the Dutch planning context?

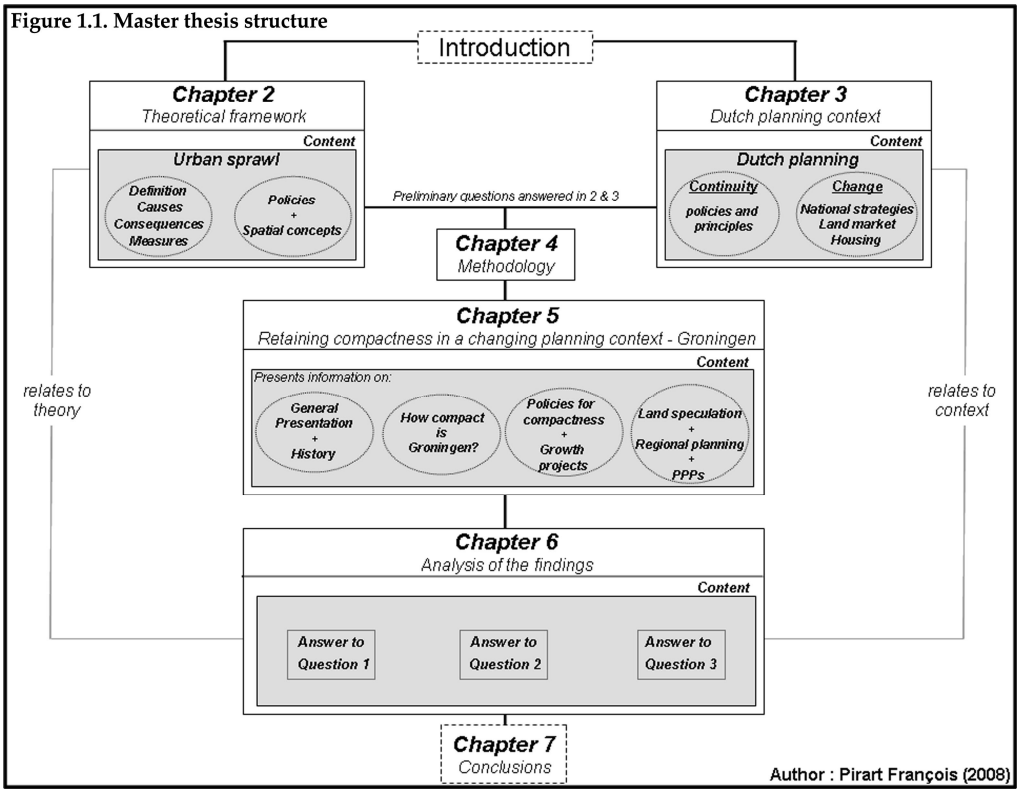
Answers to these questions are to be found through a careful review of the literature on urban sprawl and Dutch spatial planning.

1.4. OUTLINE OF THE MASTER THESIS

The structure of the master thesis is related to the research questions presented above. Chapter 2 answers the first set of preliminary research questions on basis of a review on urban sprawl literature. It introduces the debate surrounding sprawl itself, but also present an overview of the policies and spatial concepts used to control urbanisation. Chapter 3 answers the second set of preliminary questions focussing on the Dutch planning context and experience in relation to the control of growth. These two chapters form a theoretical and contextual framework of the empirical study on the local planning practice in Groningen.

The second part of this thesis begins with Chapter 4, which gives a description of the data used in the case study and explains the methodological path taken to answer the three main research questions. Then, chapter 5 comes to the detailed description of the case study. It already gives an initial answer to some questions about Groningen's local policies, strategies and projects, but its nature mainly remains descriptive. The answers to the three research questions are provided in this chapter 6. This one is the analytical part of this thesis and discusses the information presented in chapter 5 in the light of the theoretical and contextual framework. The final part, chapter 7, includes conclusions summarising the results of this thesis and a reflection on their implications for policy making and the wider debate on sprawl and the Dutch planning context. The relationship between the chapters and the research questions is presented in below (see figure 1.1.).

Figure 1.1. Master thesis structure



CHAPTER 2

THEORETICAL FRAMEWORK

2.1. INTRODUCTION

2.2. AN OVERVIEW OF URBAN SPRAWL

2.3. POLICIES AGAINST URBAN SPRAWL

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2.1. INTRODUCTION

This chapter introduces the issue of urban sprawl: its definition, causes, consequences, how to measure it, and the policies and spatial concepts used to fight/control it. The goal pursued here is to provide a better understanding of the overall issue of sprawl, rather than focusing on a certain planning context. The first part of this theoretical framework (section 2.2.) concentrates on sprawl itself, and develops a more balanced view on the issue. It nuances the biased understanding that most have on this phenomenon and underlines its causes and consequences, and concisely explain why it is so hard to measure. The second part (section 2.3.) treats of the types of policies which are used to fight urban sprawl, either by preventing it from happening, either by promoting intensification/renewal of the existing built-up environment. Finally, a third part (section 2.4.) presents the main spatial concepts which can be used either to describe the urban environments, either to fight urban sprawl.

2.2. AN OVERVIEW OF URBAN SPRAWL

2.2.1. General presentation of urban sprawl

This thesis will study different aspects of an issue that arguably became one of the most discussed topics in the academic and political arenas: urban sprawl. The awareness over sprawl is not new but has nevertheless reached a new dimension recently, as we started to realize that this process exacerbated in American cities was accelerating in Europe.

Urban sprawl has been classically looked upon as an North American phenomenon associated with the rapid low-density outward expansion of US cities, stemming back to the early part of the 20th century. This sprawling process was fuelled by the rapid growth of private car ownership, the preference for detached houses in the suburbs and by massive incentives delivered by the government. Recently, however, it seems that Europe suddenly realized that this issue wasn't strictly American but that European cities were generally following a sprawling process as well.

The dynamics of cities are, nevertheless, closely related to their history, demography, and economic and institutional contexts. Thus sprawl should be connected to places and can not be completely understood if considered only as in its American appearance. Moreover some basic characteristics describing urban sprawl can have different meanings across regions. Indeed, many of the expressions – 'low density development', 'scattered development', 'leapfrogging', etc - are relative and open to interpretation across regions.

Policies for compact cities, have been - and are still for many – designated as the right solution against sprawl. This, however, was already contested since the 19th century and is still today. In the past, the aim of urban planning policies has even been directed to the de-concentration of the city core. This was explained by the fact

that overwhelming, polluted and crowded cities were the perfect ground for epidemics, congestion and so on. Nowadays there are still gaps in the knowledge on the effects of compact urban development (Geurs K, Van Wee B, 2006). In fact, the claimed benefits lack of empirical support, whilst some researches prove the compact city to often undermines the quality of life.

Nowadays, and especially since the Brundtland Commission Report on Sustainable development, the anti-sprawl advocates seem to surf on the same wave as environmentalists. Sprawl is now seen as a common enemy because it threatens the sustainability, living quality and natural environment of cities and their surroundings. But looking backwards, sprawl had been seen first as a normal and enjoyable thing. It allowed middle-class citizens to buy houses far less expensive than in the core of big cities; it offered safe environments to raise kids, etc.

Despite the fact that the extension of cities at their fringes has already been studied for decades, it seems commonly agreed that its definition is fuzzy and used by many to serve their own belief or cause, without a solid rational or empirical base. Lots of its negative effects still need to be measured and its possible causes are so numerous that few comprehensive studies can give an overall explanation.

2.2.2. Issue concerning the sprawl definition

Generally speaking, there seems to be a lack of agreement on how to define and measure sprawl (Wolman H., 2005). Since its apparition, the term ‘sprawl’ has usually been used to suggest an attitude rather than to indicate clearly any actual conditions. Presently, sprawl has become an umbrella term, with little consensus on its characteristics, causes and impacts (Audirac et al., 1990), and generally bearing a negative connotation. However, its meaning shifted over time and sprawl never really had a coherent or precise definition (Bruegmann, 2005). While reviewing the scientific literature, Galster et al. (2001) observed that sprawl could be defined as either a condition or a process. Sprawl is whether a noun ; when used to describe a condition characterizing an urban area at a particular time ; whether a verb ; when used to describe a process of converting land from rural to urban uses (Fulton et al. 2001) or changes in the extent or intensity of urbanization.

If we look back in the past to find the sprawl definition, we also realize that the phenomenon itself is open to interpretation in the literature through time:

> The sprawl of the 1950s is frequently the greatly admired compact urban area of the early 1960s. …the concept of time span is important in the identification and measurement of sprawl. The application of static measures to dynamic areas can easily result in the misidentification of an area as sprawl when it is really a viable, expanding, compacting portion of the city (Harvey and Clark, 1965).

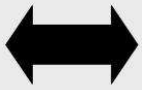
Among the numerous reviewers of the literature on urban sprawl, Chin (2002) has identified four types of definitions based upon (1) urban form, (2) land use, (3) impacts and (4) density. In terms of urban form, urban sprawl is generally measured against an ideal type of «compact city». Thus any deviation from this compact city in the form of suburban growth, «ribbon» development, «leap-frogging» and «scattered» development may all be seen as urban sprawl. Definitions based on land use tend to associate sprawl with the spatial segregation of land uses, and with the

extensive mono-functional use of land for single-family residential development, freestanding shopping malls and industrial or office parks. Ewing (1994) and others have devised alternative methods of defining urban sprawl based upon its impacts as defining characteristics of urban sprawl. Chin (2002) argues that this approach creates a temptation to label any development with negative impacts as sprawl, thus creating a tautology that is unhelpful.

The most voluminous review of urban sprawl literature analyzed 475 studies of various quality and methodology (Burchell et al. 1998). The outcome of this important work pinned out that sprawl had positive and negative effects. However the 'most complete and rigorous North American studies' (Neuman, 2005) concluded that overall, sprawl was more costly than compact development for both operating and capital costs (Burchell and Adelaja 1992; Burchell et al. 2002). The greatest savings gained from growth controls were in land consumed and infrastructure built, especially water, sewer, and road facilities. Burchell defined sprawl as a form of urban development that contains most of ten elements presented in the figure below, in opposition with the recognised characteristics of compact cities (see figure 2.1).

Fig. 2.1. Characteristics of urban sprawl VS compact city

Urban sprawl characteristics
1. Low residential density
2. Unlimited outward extension of new development
3. Spatial segregation of different types of land uses through zoning
4. Leapfrog development
5. No centralized ownership of land or planning land development
6. All transportation dominated by privately owned motor vehicles
7. Fragmentation of governance authority of land uses among many local governments
8. Great variances in the fiscal capacity of local governments
9. Widespread commercial strip development along major roadways
10. Major reliance on a filtering process to provide housing for low-income households
Source : Burchell et al., 1998



Compact city characteristics
1. High residential and employment densities
2. Mixture of land uses
3. Fine grain of land uses (proximity of varied uses and small relative size of land parcels)
4. Increased social and economic interactions
5. contiguous development (some parcels or structures may be vacant/abandoned/surface parking)
6. Contained urban development, demarcated by legible limits
7. Urban infrastructure, especially sewerage and water mains
8. Multimodal transportation
9. High degrees of accessibility: local/regional
10. High degree of streets connectivity (internal/external), - incl. sidewalks and bicycle lanes
11. High degree of impervious surface coverage
12. Low open-space ration
13. Unitary control of planning of land development, or closely coordinated control
14. Sufficient governmental fiscal capacity to finance urban facilities and infrastructure
Source: Neuman, 2005

The second checklist presented in the figure 2.1. was developed by Neuman in 2005, as a summary of what is said in many reasearches and policy documents. These two checklists are offering researchers the possibility to make comparative studies of sprawl and compact development based on the form, density and land-use. However, these tables do not provide a methodology to follow for their evaluation.

If considered as a process, sprawl must be defined differently. Peiser (2001: 78) proposes that the term «sprawl» mean the "gluttonous use of land, uninterrupted monotonous development, leapfrog discontinuous development and inefficient use of land". Galster et al (2001), suggest that the term was variously used to refer to: patterns of urban development, processes of extending the reach of urbanised areas,

causes of particular practices of land use, and to the consequences of those practices. Thus, they suggest that sprawl is:

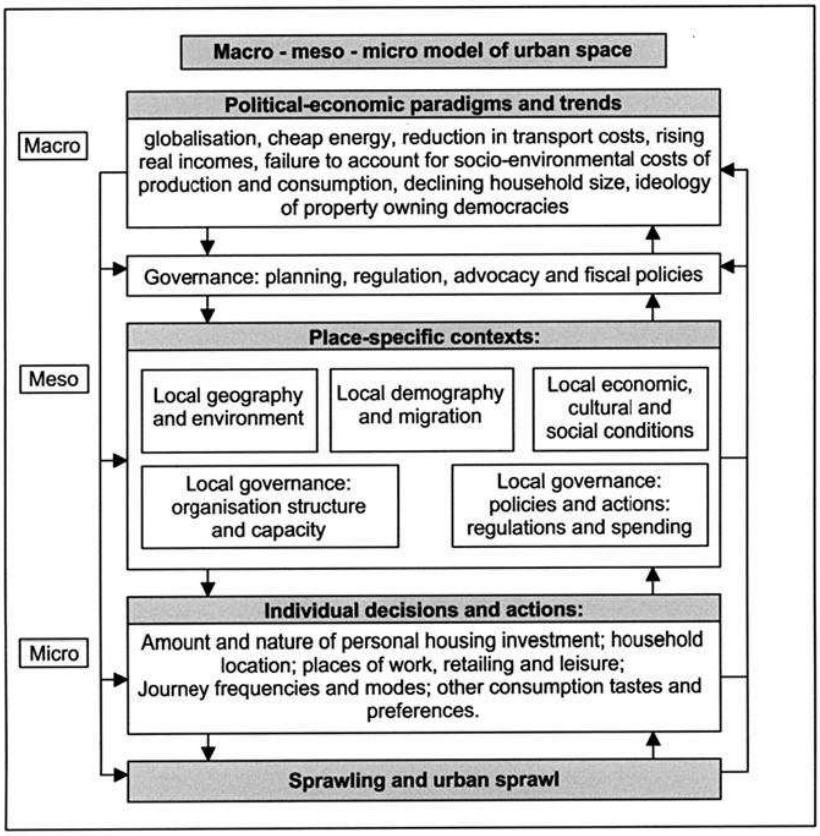
> A pattern of land use in an urbanised area that exhibits low levels of some combination of eight distinct dimensions of density, continuity, concentration, clustering, centrality, nuclearity, mixed uses and proximity (Galster et al., 2001: 685).

This definition accommodates different types of sprawl and allows it to be considered as a process and not merely as a pattern of urbanisation (URBS PANDENS, 2001). Urban sprawl as a pattern or a process is to be distinguished from the causes, and from the consequences that arise from it.

2.2.3. The causes of sprawl

Urban sprawl is caused by a complex set of inter-related forces that can be identified at three levels of analysis: macro, meso and micro. At the **macro-level** are the political-economic paradigms and trends that shape the nature of the urban communities: capitalism, political ideologies, and economic globalisation, so forth. The **meso-level** is home to most of the discussion on causes of sprawl: demographic variations and migration waves, local political structures and policies, local geographical, economic and social circumstances. Finally, the **micro-level** captures the decisions of individuals households, housing and workplaces location, services and amenities usage, choices of transport means and all other personal tastes that affect daily life (Couch et al. 2007).

Fig. 2.2. Multi-level model of causes of urban sprawl



Source: Couch et al. (2007) adapted from Dangschat et al., (2003)

The Urbs Pandens research based on 7 case studies tried to study the process of Urban Sprawl rather than its feature at a particular moment (URBS PANDENS). This study described four archetypal perspectives on sprawl processes: sprawl and second homes, sprawl in declining areas, sprawl in a region in transition, capital investment induced sprawl. In all of these four archetypes, many push and pull factors are interacting with each other.

Each of these categories is presenting a different origin of sprawl, related to the geographic, economic, social and institutional context of a city. However, this list of sprawl archetypes has been based on the research concerning only 7 case studies across Europe. Thus, it is necessary to examine new cases to widen or support this classification.

A predominant cause of Urban Sprawl seems to come from the human preference. Amongst others, Bruegmann (2005) underlines that the people tend to prefer suburban locations, away from the noise and pollution of cities, when they have the choice and the means to do so. This can, however, be criticised in the light of what happens in the Mediterranean countries (Couch et al., 2007) or in the Asiatic countries, in which the rural emigration towards cities still continues.

In any cases the macro, meso and micro factors are all to be considered together if one wants to understand the real dynamic of one place. This holistic knowledge of the urban dynamic can, however, only be approached by science. Thus it is recommended to be humble and cautious when it is tried to describe the overwhelming complexity of causes behind urban sprawl.

2.2.4. The consequences of sprawl

The identification of the consequences of urban sprawl is on the planning research agenda for a long time, and is of interest of anyone seeking a more sustainable development. However, if some of the consequences are quite straightforward to identify and are indisputable, others remain ambiguous, imprecise or not-easily connected to the process or the form of urban sprawl. As Breheny and Rookwood (1993) argue, “It is clear that a major strategic factor determining sustainability is urban form; that is, the shape of settlement patterns in cities, towns and villages” (1993: 151). But the problem arises when one tries to determine the extent to which a phenomenon – air pollution, obesity, congestion, etc. - can be attributed to sprawl. This is due to the fact that most negative consequences of sprawl are interconnected with many other geographic, social and economic factors specific to an area.

It should also be emphasised that there is an ambivalent debate surrounding the generally negative view of urban sprawl. In fact, as Bruegmann (2005) pointed out in his book, the consequences can be perceived positively by one actor but negatively by another. Thus, it is recommended to keep this two-sidedness in mind and not fall in an over-simplistic, negative, view on sprawl.

The multiplicity of consequences of urban sprawl has pushed authors to group these ones in broader categories. The three categories underlined by Couch (2007) seem

to offer a simple, yet complete, way to class all the consequences. It subdivides them into (couch, 2007: 254):

- **transport related** as urban sprawl leads to greater distances between residences, between residences and workplaces and between urban activities generally, thus generating more travel demand and investments in new infrastructures;
- **density related** as sprawl induces generally a reduction in densities towards the city centre and an increase of densities towards the urban fringe;
- related to the **conversion of rural to urban land** as urban sprawl often, but not necessarily, involves conversion of previously rural land into urban use.

All consequences of sprawl can then be classified in a table that uses these categories and also subdivides the issues in three subgroups of consequences: environmental, economic and social. The table below was presented as the result of the research Urbs Pandens and the book that derived from this research, but most of the identified consequences of urban sprawl were, nevertheless, also cited in other researches (SCATTER, 2001; EEA, 2006; Travisi et al., 2006).

Table 2.1. Consequences of urban sprawl

			Transport	Density	conversion form rural to urban
Environmental Consequences	Energy consumption for transport	+	■	■	
	Air pollution (CO_2, NO_x)	+	■		
	Water Pollution (petrochemical run off)	+	■		
	Noise pollution	+	■		■
	Land consumption and surface sealing	+	■		■
	Ecosystem fragmentation	+	■	■	■
Economic Consequences	Landscape quality on the urban fringe	-			■
	Costs of infrastructure provision and maintenance	+	■		■
	Costs of vehicle production and maintenance	+	■		
	Costs of vehicle ownership and use	+	■		
	Costs of ameliorating adverse socio-environmental effects of transport growth	+	■		
	Viability of local services	-		■	
	Land values due to conversion and speculation	+			■
	Property tax revenues in areas of sprawl	+			■
Social Consequences	accidents	+	■		
	stress	+	■		
	Time spent travelling	+	■		
	Living space per capita	+		■	
	Sense of community	-		■	
	Sense of place	-		■	
	Urbanisation of 'rural society'	+			■
	Spatial social segragation	+			■
	Inner urban social conditions	-			■

+ = increase
- = decrease
■ related to

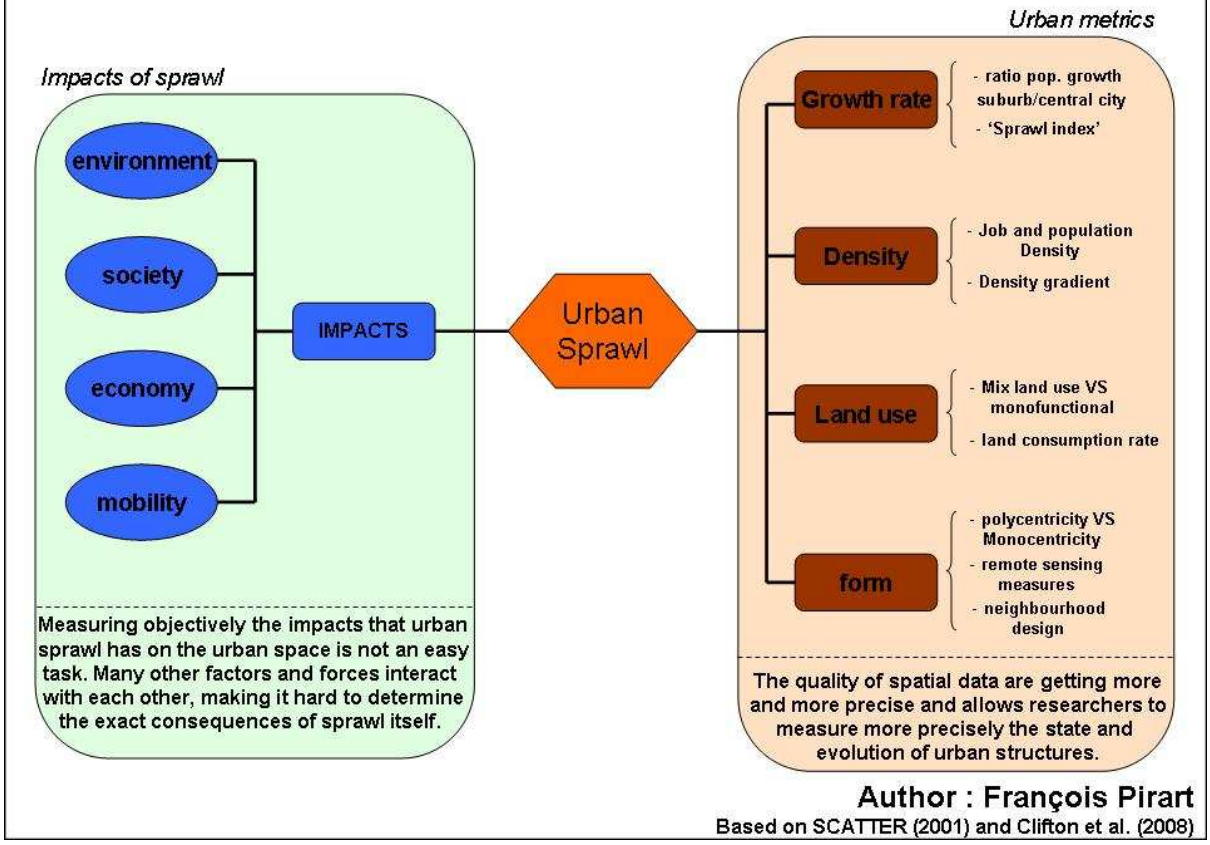
Source : Couch et al. (2007)
Modified by author

2.2.5. Measuring sprawl

As for its definition, there is a lack of agreement on how to measure sprawl. The complexity of the relationships between urban sprawl and the social, economic and physical environments, together with the vagueness surrounding its definition seem to have undermined sound scientific studies to flourish. Indeed, there remains a paucity of rigorous, replicable examinations of the statistical relationships between sprawl and a variety of consequences on congestion, pollution, inequality, housing costs, and segregation (Johnson, 2001). The common origin of difficulty in measuring urban sprawl consists of pinning down what is meant by sprawl, how it should be measured, and what geographical area and type of land should be considered (Wolman, 2005).

The ideological and practical discussion on urban sprawl and the effectiveness of a growth-management policy will remain only in the conceptual and speculative realm until the research arena gets to a consensus on the definition and measurement techniques of urban sprawl (Torrens and Alberti, 2000). The rise of the new information technologies, and especially the development of GIS (Geographic Information Systems) and the improvements of spatial data, will hopefully ease the comparison across countries and bring the study of sprawl towards a greater objectivity. Presently, this allows researchers to measure the different characteristics of cities quite precisely, but the impacts of urban sprawl are still hard to estimate (see fig. 2.3).

Fig. 2.3. Measures and criteria for the assessment of urban sprawl



Typical measure of the urban structure: the density gradient

A popular measure of the urban form is the one of the density gradient. Basically, it consists of measuring the density of population (or of employment) in consecutive rings around the city centre. This measure has been used to compare many different metropolitan areas. The works of Alonso, Muth and Mills outlined the fact that the density gradient tends to follow a negative exponential function curve in different American metropolitan areas, where the market forces have acted more or less alone. According to these, the population density of a city can be hypothesized to follow:

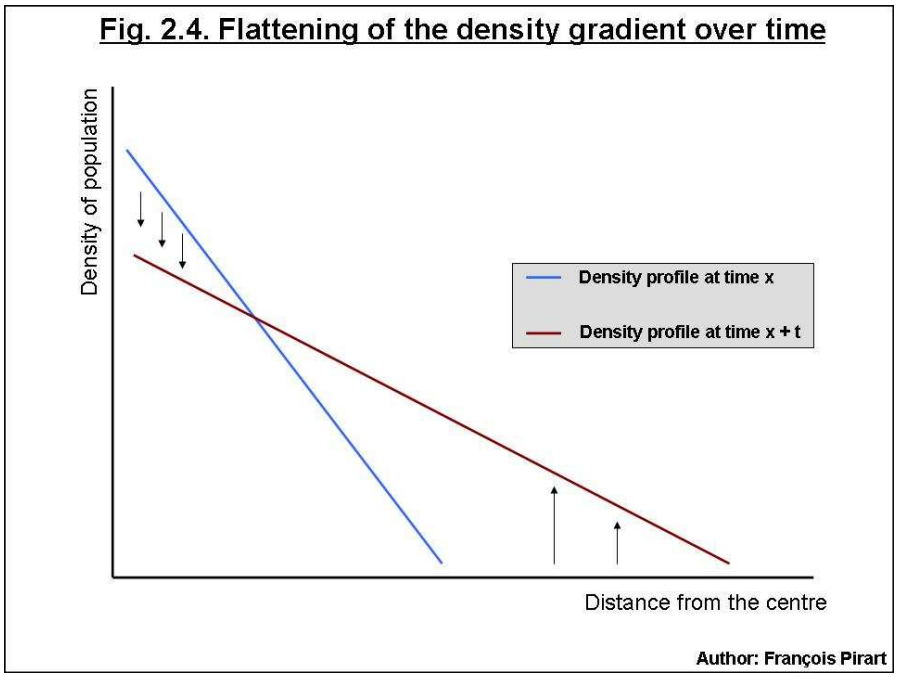
$$D(u) = D_0 e^{-\gamma u \varepsilon}$$

where ***D*** is population density at distance *u* from the centre; D_0 is the density at the centre; ***e*** is the base of natural logarithms; γ is the rate at which density falls from the centre (Bertaud, 2001). However, the world does not only contain mono-centric cities characterised by a population density exponentially falling from their business district.

Despite its shortcomings (Richardson, 1988; Muth, 1985), this measure has the benefit to be widely used amongst researchers and to offer a relatively easy way to compare cities located in different planning contexts. In various studies, the planner Alain Bertaud has studied the density profiles of a large number of cities and tried to understand the role played by the regulations, the history, the market and the culture of places to explain the spatial structure of various cities of Europe, United States, Asia and post-communist countries. Various density gradients realised by Bertaud (2001) can be found in appendix so that the reader can realise how cities differ around the globe (appendix 1&2).

The majority of urbanized areas of the Western countries have exhibited a continuous flattening of their density gradients through the 20th century (Torrens and Alberti, 2000). Many studies have made use of this measure to highlight the process of sprawl. In this perspective, the **flattening** of a density gradient over time traduces the spreading (sprawling) process of a city (Couch et al., 2007).

Fig. 2.4. Flattening of the density gradient over time



2.3. POLICIES AGAINST URBAN SPRAWL

2.3.1. Typology of the policies against Sprawl

Most governments seem now to recognise, rhetorically at least, the necessity to apply policies to control sprawl and to help in the development of more compact cities (Couch et al., 2007). As early as 1990 and until now the Commission of European Communities asks for '…strategies which emphasise mixed land use and denser development…' (CEC, 1990: 60). Moreover, the ideas that compactness makes the best use of the available land, reduces travel distances and provides a greater intensity and diversity of activities are at the very heart of the urban renaissance movement in the UK (Urban Task Force, 1999 & 2005).

Obviously, there are two ways to fight urban sprawl: discourage it from happening and encourage further regeneration and intensification. The former solution has most often relied on regulations of peripheral development through land use zoning and/or urban boundaries, while the latter was encouraged through a variety of financial incentives or institutional arrangements (Couch et al., 2007).

The literature contains many classifications of policy instruments, ranging from two-part classifications to extensive, unstructured lists of specific instruments. This part presents a policy classification taken from the book of Couch et al. (2007), of which the policies listed in the table below (cf. table 2.2.) are then described more in details. The advantage of such a general presentation of the policies is that it covers all the sub measures taken by governments from very different spatial planning and institutional contexts.

Table 2.2. Policy types for the control or for the amelioration of urban sprawl

Policy type	***Example of policy***
Regulation	• Spatial (land use) planning • Restrictions on specific land uses • Phasing and sequential testing • Density control
Economic intervention: direct investments, taxation or subsidies	• Provision of infrastructure: transport, utilities and social facilities • Subsidies (especially for urban regeneration) • Development taxes • Property taxes • Trading in development permits
Institutional change, management and advocacy	• Change of size and function of municipalities • Special agencies (especially for urban regeneration) • Advocacy, partnership and policy dialogues • Information, targets and league tables

Source: Couch et al., 2007

Regulation to fight sprawl

Making use of regulative planning instruments – usually plans – is one of the most common ways to control urban growth. The spatial planning policy field is usually the one that include this regulation approach. In many countries around the world, and notably in European countries, the principal instrument of spatial planning consists of land use and development plans that delimit the boundaries of the various land uses on a certain area.

Obligatory and legally binding formal spatial planning involves the different levels of governance. Local governments are classically asked to draw a comprehensive land use plan covering their entire territory, defining the location and nature of future development. In many countries, the local plans - representing the major spatial planning tool of the lowest tier of government - are framed by regional plans prepared usually by the intermediate tiers of the governance system. The middle level spatial planning plan can also integrate other policies from other fields (horizontal integration) and from other institutional level. When the intermediate tier is missing, it often is harder for national plans to be respected at the municipality level.

Sometimes comprehensive land use plans are completed, in some countries such as Germany (behauunsplan) and the Netherlands (bestemmingsplan), by more detailed plans, specifying the physical form of development allowed. These are especially prepared for locations where new development will take place – although this kind of detailed plans can cover the all municipality. Where such plans are absent, land use regulative plans can be accompanied by supplementary policy to control development (e.g. United Kingdom). In some countries, another spatial planning solution to control sprawl can come from instruments such as ‘green belts’, ‘country parks’ or ‘regional parks’, which are referred as no-go areas in the literature. However, as it is the case for strict land use plans, the use of these instruments in countries such as the USA is often considered to be too rigid, since they imposes absolute control on development.

In principle, formal spatial planning is capable to control urban sprawl quite efficiently and enables authorities to implement various models of organisation of space (e.g. ‘decentralized concentration’, ‘urban growth boundaries’, ‘polycentric development’, ‘corridor development’). Nevertheless, regulative planning through land use plans is considered to be quite passive, only asking planning institutions to draw and update their plan every x years. Some legislative innovations can improve the potential to constraint urbanisation. In Germany, since 2004, municipalities have been given the power to withdraw the right to build if development was not started up within a specified laps of time after the permit had been accorded; EU recently calls for the eco-friendliness test of all spatial plans.

Other examples of regulative policies, besides spatial plans, can be found. The three examples presented above in table 2.2. - ‘restrictions on specific land uses’, ‘phasing and sequential testing’ and ‘Density control’ – are other ways to control sprawl via regulations. The first example refers to the practice of constraining certain types of land uses (rather than their location). A good example is the legislation restricting large out-of-town retails in Norway, Finland, and most German Lander (Crouch et al. 2007). The second example (sequential testing), used in England, is required by the ‘Planning Policy Statement 6: Planning for Town Centres’. This test requires local

authorities to seek suitable brownfield areas first before preparing greenfield land for new retail or leisure development. The sequential testing must be achieved in the following order: (1) locations in appropriate existing centres where suitable sites or buildings are available and could be converted within the development plan period, taking account of an appropriate scale of development in relation to the role and function of the centre; (2) edge-of-centre locations, with preference for the ones that are or will be well-connected to the centre; (3) the out-of-centre sites, with preference given to sites which are or will be well served by a choice of means of transport, are close to the city centre, and have a great likelihood of developing links with the centre (DCLG, 2005).

Economic interventions/incentives

In addition or alternatively to restrictive regulations used in order to control urban development it is possible to influence the behaviour of actors in a number of other ways. Generally governments make use of financial incentives and disincentives to change the attractiveness of particular locations – investing in transport infrastructure, diminishing land taxes, etc.

The improvement of transport infrastructures are, however, quite controversial. It is known for its impacts on the attractiveness of an urban region, but it can also push the population to live further away from the employments centres (faster travel). Improving the transit facilities between the countryside to the inner cities is highly desired by suburbanites and might be the cause of further sprawl. Regional transport planning decisions aiming to change the incentives or disincentives for urban sprawl are still vague. However, at a more local scale, investments into public transport can clearly improve the inner city liveability, and thus push more people to go live in there.

In any cases, it seems that a policy aiming at the strengthening of disincentives for urban sprawl or incentives for compactness can be much more decisive. Supporting intensification or re-development in the existing built-up area has the double objective to grow internally and to recycle the urban fabric. Still the process of intensification is sometimes conducted to the detriment of urban green space.

Institutional change, management and advocacy

A common measure that has been taken in many countries is the modification of institutional boundaries. The extension of cities in the 20th century has often led them to occupy land in many different local jurisdictions. This has lead the states either to merge local entities so that their size reflected more the reality and allowed them to manage more appropriately the urbanisation process, either to create new regional planning agencies which could develop strategic visions for the whole cities. The large number of local authorities - often having their own goals and visions – is an important source of tensions, inconsistencies and competition in many regions.

Sometimes cities take the decision to create special agencies to deal with certain of their specific goals or programmes. One clear example is urban regeneration agencies that have the specific task to re-establish the attractiveness of the inner urban areas. They usually try to bring the public and private attention on the sites that should be redeveloped, and try to steer new innovative development ideas.

Many local governments all around the world have what is called a local tax base. This means that local entities often benefit financially from developments taking place within their boundary. This often leads to a fierce competition between them and it certainly influenced urban growth not in the best way. Changes in land taxation laws and new legislation on public financing can be used so that the local tax base addiction is reduced. Regional grants can also be created so that the benefits of developments are redistributed amongst the local institutions.

Some cities, and sometimes an entire country, took the decision to apply road-pricing schemes. This measure has the benefit to make road users aware of the true socio-environmental costs of commuting (Couch et al., 2007). However, another goal fulfilled by road pricing is often to help the financing of more infrastructures and roads – which can again lead to further urban sprawl. If this economical measure is to be useful in the 'sprawl battle', the money collected from commuters should be used to improve the inner city public transport and non-motorised networks, and also be paralleled by an efficient regional public-transport network offering a decent alternative to commuters.

2.3.2. Actors in the fight against urban sprawl

The core cities

Generally regarded as the 'natural allies' of an anti-sprawl policy, the core cities strive to keep as much developmental activity as possible inside their own boundaries by – (1) increasing the density in existing areas (infill development and re-use of deserted land and (2) releasing new land. The latter is only possible when the administrative area of core cities is large enough to comprise a good deal of undeveloped land (not in France).

A typical strategy of core cities does not necessarily mean that urban sprawl doesn't occur. Firstly, the concentration of development on the core city does limit sprawl if measured on the basis of the administrative boundary, but it does not mean that urban sprawl – measured in terms of declining density gradient and land use change – isn't occurring. In fact, core cities are sometimes tempted to sacrifice green areas for development or to designate zones rather unsuited for development, so that they can increase their local tax revenues. Secondly, the densification and extension of the core city may have a negative effect on the environmental quality and attractiveness of those areas.

Suburban municipalities

They are often prone to promote urban sprawl. They tend to use their competence in spatial planning to attract investors, often neglecting the future social and environmental costs of such development. Many of them are engaged in a fierce competition for investment and inhabitants. The main reason for this is the reliance of these local authorities on their own tax base to fund their spending. Indeed, in many countries, the local government income comes from the taxation of local inhabitants and firms. In UK, where the dependence of the local taxes are less important than in other countries, the suburban municipalities seem less prone to attract developments, and their opposition to further growth was one of the major forces

behind the densification and the new multi-storey redevelopment in the 1950s and 1960s (Ward, 1994, 161-165).

Regional authorities

The planning law providing the local municipalities with the means to counter urban sprawl can also be used to promote growth. If a municipality applying strict growth regulations within its boundary is bordered by another welcoming everyone and anything, the efforts against sprawl are useless. Since many municipalities aim to attract further growth for their benefits, regional or sub-regional level of spatial planning have to enter in the game and play the key role in controlling sprawl. If this level of governance exists and have the power to set aims and provide a spatial framework for the operation of planning in lower tiers of government, it can lead to a better coherence and coordination for the development.

But there are two potential obstacles to a positive response to urban sprawl. Firstly, the reluctance to implement anti-sprawl policies, which can be observed at the local level, may also be present at the regional level. This is especially true for federal states in which the regional levels are made of agglomerated municipalities (e.g. Germany). Secondly, competition may also arise between regions. In fact, regional planning is a rather contested field and its efficiency in controlling sprawl has often been challenged. Razin (1998) questioned the efficiency of 'macro-regional plans' and planning regulations, and argues in favour of changes to both local tax regimes and local government structures as a more effective approach.

2.4. SPATIAL CONCEPTS

2.4.1. The compact city

An influential spatial concept

The compact city has been embraced as a counter strategy against the rapid decentralisation that occurred in most western countries after the Second World War. In this view, compact urban development can consist of urban infill, moderately higher densities in existing centres, or of major restructuring of cities. These city development policies, started towards the end of the 1970s, were motivated by the desire to spare the open countryside (preservation) and also to make the cities self-contained (Elkin et al., 1991).

A large part of the planning literature that has been written from 1990 onwards focuses on the compact city: the most well known urban structure. Many studies have tried to provide a response to how compact this city should be exactly and which indicators should be used to measure it. However, in general, a compact city is 'taken to mean a relatively high-density, mixed-use city, based on an efficient public transport system and dimensions that encourage walking and cycling' (Burton, 2000: 1970), but the list of characteristics can be even more extensive (see fig. 2.1.). In fact, many cities of many different forms have pronounced themselves or have been designated as being compact. Moreover, as for the definition of sprawl, the compact city can also be defined as a process rather than a form. In this perspective, a

compact city means ‘that we make the fullest use of land that is already urbanised, before taking green fields’ (Lock, 1995).

A wonderful truth or a myth?

Advocates of the compact city, especially in Europe, play on its positive effects, while negative ones are often overlooked (Williams et al, 2000). Indeed, they claim not only environmental benefits can be gained from intensifying urban areas, but higher densities are also considered by some to be more socially sustainable because local facilities and services can be maintained, and is seen as a prerequisite for vitality, cultural activities and social interaction (Williams, 1999, p168). Thomas and Cousins (1996) summarized some of the most cited benefits of a compact city form as: “…less car dependency, low emissions, reduced energy consumption, better public transport services, increased accessibility,…, a high quality of life, the preservation of green space and a milieu for enhanced business and trading activities” (Thomas and Cousins, 1996: 56). However, these also note that these assumptions are ‘romantic and dangerous’ because usually founded on basic belief or on studies neglecting the complex reality.

In fact, there are concerns that the compact city strategy creates more problems than it solves: houses are more expensive and smaller (Gordon and Richardson, 1997), the living environment does not fit with market demand (Musterd, 1999), the access to open and green areas is poor (Masnavi, 2000) and local transport nuisances is larger due to the concentration of traffic in a high density area (Martens, 2006). As Gert de Roo (2000) presents it, the dilemmas of the compact city arise because environmentally intrusive and environmentally sensitive functions are closer to each other. A denser urban environment always entails that more stakeholders are affected by any development or urban problems.

A bundle of policies to achieve compactness

The compact city strategy is often understood as the path to a monocentric urban area, which contains most employment and services in its inner city, and residential functions in surrounding high-density neighbourhoods (Wegener and Fürst, 1999). A strong effort should be made to keep the employment and residential growth inside the inner city, or else directly bordering the existing built-up area. Such a view of the compact city is shared by many and notably by the Dutch government (Dieleman et al, 1999). This ‘monocentric compact city strategy’, as defined by Merijn Martens (2006) and many other authors (Williams et al, 2000; Newman and Kenworthy, 2000; Dieleman, 1999) asks for several actions for keeping or steering compactness:

- Strengthen the inner city by concentrating employment inside the inner city.
- Redevelop run-down brownfield locations.
- Concentrate residential development as much as possible inside the existing built up area.
- If residential development is still needed outside the built-up area, then realise it in high-density neighbourhoods as close as possible to the existing built-up area and with a good access to existing public transports.
- Preserve a clear distinction between urban and rural areas by means of a growth borders and/or land use regulation.

- Give priority to public transport, walking and bicycling. This asks for a decrease of the space taken by motorised transport in the inner city, for the benefit of public transport, walking and bicycling.

A second view on the compact city strategy is the one of a city of mixed use, high-density neighbourhoods with a distinct identity (Newman and Kenworthy, 1999). On the contrary to the 'monocentric compact city strategy', employments and services should be more or less dispersed across the entire city, instead of being kept in the inner city alone. We can clearly recognise this idea of mixed land uses in the Smart Growth strategy, which acquires more and more momentum in the United States. As Ewing (1997) points out, however, most principles behind the first compact city strategy do also apply in this case, but there is much less attention for intensification of the inner city and for the exact location of new neighbourhoods within the urban areas. Instead, priority is given to the development of mixed use neighbourhoods of medium density, preferable concentrated around public transport hubs. The international city management association, an influential smart growth proponent, has listed the following guidelines (ICMA, 2003):

- Strengthen and direct development towards existing communities, foster distinctive, attractive communities with a strong sense of place;
- Mixed land uses, take advantage of compact building design, and create a range of housing opportunities and choices;
- Create walkable neighbourhoods; provide a variety of transportation choices;
- Preserve open space, farmland and critical environmental areas;
- Encourage community and stakeholder collaboration; make development decisions predictable, fair and cost effective.

2.4.2. The Polycentric city strategy

The ideal of a monocentric compact city does not take into account the fact that in recent decades many cities across the globe have been growing towards polycentrism. The emergence of new urban nodes at the periphery of metropolitan areas, called *edge cities* when they exceed a certain dimension and fulfil a large number of functions (Garreau, 1991), forced scholars to develop alternative models that could better describe and explain the development patterns found around the world. The spatial concept of the polycentric city rapidly emerged and came to complete the traditional monocentric model, which has lost a part of its descriptive value. Polycentrism arises either 'naturally', as a result of the internal agglomeration forces acting in metropolitan areas, either it can be promoted by certain governmental policies – e.g. concentrated decentralization strategy in the Netherlands.

A 'new geography' has emerged during these last years: people and businesses are not bound to each other only by their physical interactions. They are all part of a wider 'network society', in which the new communication technologies have redefined the notion of geographical distance. Inner cities are still the place where many activities want to be, but most businesses have a much wider range of location options (Martens, 2006). The hierarchy of place is profoundly disturbed, and many assume that the *outdated* Christallerian and core-periphery hierarchical relations must give room for the idea of a new network development, rejecting the idea that the

organisation of space is based exclusively on relations of spatial proximity (Dematteis, 2000).

If the old debate on the ideal urban form has for a long time favoured the monocentric compact city, the picture is presently not as categorical. In general, the monocentrical structure is still considered ideal for smaller cities, but larger cities should take a more polycentric form. When and how the transition from one form to another should occur is, however, still vague. In fact, a large part of the literature addressing the difference between the two city structures is only related to transportation issues.

2.5. CONCLUDING REMARKS

Presently, the issue of urban sprawl attracts a large part of attention from researchers around the globe, but also from the larger public and political arenas. Many designate it as unwanted, unsustainable, unhealthy, against social equity, economically inefficient, etc. This chapter highlights, however, that urban sprawl has become an umbrella term, used to describe a large array of different urban forms and processes. This fuzzy and biased view of this phenomenon prevents the debate from going up. Given that there is no clear consensus on the definition of urban sprawl, it is no surprise that its causes, impacts and characteristics remain hard to measure adequately. Urban sprawl, as all urban phenomenon, is connected to the macro-, meso- and micro-forces acting in this world and cannot be understood, nor fought against, if pulled out of this context.

While a considerable amount of efforts from the research arena aims towards a constant (re)definition of this elusive concept, more and more research is also done on the study of policies used to fight urban sprawl. Couch et. al (2007) have distinguished three broad types of policies against urban sprawl: (1) regulation, (2) economic intervention and (3) institutional change, management and advocacy. This chapter has provided some explanations over these various types of policies, as well as on the various spatial concepts in which urban planners and politicians have had faith and used to describe the urban structure of their cities. The compact city, especially, has been subject to the most vigorous debate in the last years. At first considered by a large part of the planning community as the only path towards urban sustainability *per se*, many planners soon pointed out the various fallacies and dilemmas that it faced (de Roo, 2000; Williams et al, 2000; Gordon and Richardson, 1997; Musterd, 1999; Masnavi, 2000; Martens, 2006). The major problems result from the closeness existing between environmentally intrusive and environmentally sensitive functions and from what the strong governmental restrictions on the land and housing implies for the market prices.

This theoretical chapter has answered the first preliminary research question asked in this master thesis. It represents one of the two prerequisite frameworks - the other one consisting of the Dutch planning context presented in chapter 3 - needed to answer the three main research questions concerning the local planning context of Groningen (Netherlands). The models, concepts and main ideas developed here will help in the construction of a sound analysis of the results in chapter 6.

CHAPTER 3

CONTINUITY AND CHANGE IN THE DUTCH PLANNING CONTEXT

3.1. INTRODUCTION

The main goal of this chapter is to provide a contextual framework for the following parts of this master thesis focusing on the city of Groningen and on its local urbanisation strategy. This chapter is divided in three part, each one of them introducing several aspects of the Dutch planning context in which the following empirical study positions itself. The first part (section 3.2.) succinctly presents the Dutch planning culture and the three-tiers system characterising spatial planning. The following part (section 3.3.) first summarises the main national policies concerning cities, housing, urban renewal and workplaces, and then presents the history of the successive national spatial planning strategies since the 1960s. The third part (section 3.4.) focuses on the main changes existing between the new spatial strategy (*nota ruimte*) and the previous one (*VINEX*), as well as two other significant changes that occurred in the last few years – concerning the land market and social housing.

3.2. GENERAL PRESENTATION

3.2.1. A country with a strong planning culture

By European standards, the Netherlands is a small and densely populated country. The majority of the Dutch population lives in the Randstad: an area often depicted as a horseshoe-shaped ring composed of smaller and larger cities grouped around a central open area known as the “Green Heart” (van Duinen, 2004). The Randstad has a polycentric urban structure – i.e. there are several Major Cities (Amsterdam, Rotterdam, The Hague, and Utrecht) that dominate the region. Each of these has developed their own primary functions, so that – in principles – there is a certain synergy between these four cities.

More than any other country, the Netherlands has been modelled by man. The Dutch have taken land on the sea for centuries, and presently most of its major cities are situated below the sea level. Therefore, the country has been admired and acclaimed internationally for its planning achievements, primarily in the field of water management. The international fame in this field is mostly due to the Delta Projects, a vast construction scheme designed to end the flooding risk from the sea once and for all. It had been planned in response to the disastrous flooding of 1953.

But the Netherlands is also seen as a country that succeeded to protect green areas and agriculture from being swallowed by urbanisation. Much of this is believed to be due to a national strategy imposing development regulations on all cities that required compact growth plans and developments. Over the years, the national government aimed to reduce suburbanization and pollution by reducing automobile dependence and increasing the accessibility by alternative modes of transportation (Geurs, 2006).

This strong planning history has strengthened the role of spatial planning and the belief in it. The planning culture is characterised by a planning doctrine (Faludi and

Van der Valk, 1994; Faludi, 2005) and a depoliticized planning culture (de Vries, 2002): the planning doctrine being the willingness and ability to give shape to the country and to control urban development. The decentralized planning culture refers to the fact that planners have the opportunity to work independently as professionals and that these experts are respected by the Dutch society at large.

It would be wrong, however, to depict the story too shiny. The success stories of an era can become errors in the eyes of future generations and major changes occurring at the macro-, meso-, and micro-scales always ask for planning readjustments. The traditional planning system is increasingly under pressure. If sprawl surely didn't take place the same way and to the same extent than in other countries, it mustn't be overlooked. At the contrary, understanding the process and pattern of urbanization in the Netherlands, and the underlying similarities or differences with sprawl in other countries must be looked upon with great attention.

It would be wrong, also, to underestimate history and its importance in the today's city pattern and compactness. The modern urban planning mustn't be held sole responsible of the present achievements. In fact, until the mid-19th century, Dutch cities were required by law to have defensive walls and it was not allowed to build anything outside of these defences within shooting range. This historical fact, not the compact city policy alone, caused the compactness of the inner cities.

The Dutch Ministry of Housing, Spatial Planning and the Environment (VROM) recognises that, despite all the planning efforts made over the years, the landscape is, now more than ever, under considerable pressure. The landscape became increasingly fragmented, principally in the Randstad. In outlying areas one can notice an increasingly 'cluttered' landscape in which the horizon is increasingly obstructed by development. Though the term of 'cluttered development' is difficult to define, everyone knows more or less what it leads to (VROM, 2008). Despite its acknowledged baneful consequences on the landscape, this space cluttering seems to be tolerated along motorways and on outskirts of cities, often as the result of local 'laissez faire' from municipalities.

The Netherlands is a small country and the relatively low increase of number of dwelling – around one percent each year- doesn't mean that the impact the country can be neglected. Between 1990 and 2000, 31,000 hectares of quite open area were given to development expansion, amounting to a decrease of 3.5% of these sites (*Ruimtelijk Planbureau).* In appendix, one can find a table presenting the estimated space used by each land-use and a projection of what it will be in 2030 (see appendix 3).

3.2.2. Dutch Spatial Planning System

The legal and institutional foundation of the Dutch system is laid down in the Spatial Planning Act of 1965 (*Wet ruimtelijke ordening*). The instruments contained in this Act were predominantly of a communicative nature: concepts, plans and vision documents – to ease the coordination between the different level of government (vertical coordination) and between the different bodies of the same level (horizontal coordination). According to this act, each planning agent at every level of government

has the authority to draw its own strategic plan. These plans are indicative in nature, except for some parts of the municipal structure plans that have judicial/binding power (Zonneveld, 2005).

At the national level, the central government planning instrument is the spatial planning key decision (*planologische kernbeslissing*), containing strategic planning issues of national importance. If such a plan concerns a particular project of national importance – such as an infrastructure project - local authorities are often forced to cooperate.

At the provincial level, the main instrument is called the regional plan (*streekplan*). These plans are of a strategic nature and usually cover the whole area of a province. The plans do not only concern land use but provinces are asked to integrate the policies of the different sectors of government, such as water management, environment, nature conservation, housing, physical planning and transport. The approval of plans at the municipality level is often decided on the basis of this regional plan, especially when developments concerns rural areas. Streekplans are not obligatory but all the Provinces have prepared one.

In this three tiers spatial planning system, it is by far the municipality that holds the biggest powers on the use of the land. Two major instruments give municipalities their strength: the land use plan (*bestemmingsplan*) – only binding plan in the Netherlands - and the building permit. But despite the importance of the former one, the real reason of their holy power lies within the building permit. This one is the corner stone of Dutch spatial planning and nothing can be built without it (Needham, 2007). The other types of plan and planning, at any level of governance still have their importance, but their effects are indirect.

Besides the land-use plan, local authorities can also formulate a project plan for individual projects. Both the local land-use plan and the project plan have to be approved by the province (see above), and the central government can also intervene if it does not agree with a development. Finally, the local governments dispose of a strategic plan through the voluntary and indicative structure plan.

Although the system includes opportunities for a higher tier of government to influence development decision taken below, these mechanisms are not used very often. The link between spatial plans with strategic plans and between the different levels of government lies in intra-governmental negotiations and consultations, characteristic of spatial planning culture of the Netherlands (Hajer and Zonneveld, 2000).

3.3. MAIN DUTCH POLICIES AND EVOLUTION OF SPATIAL PLANNING STRATEGIES

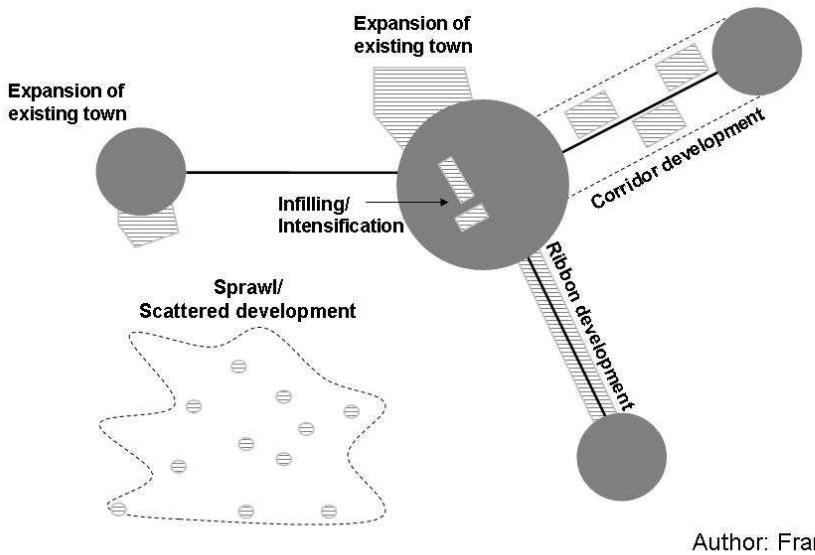
3.3.1. Principles continuity and change

Since the first Document on spatial planning in 1960, the Dutch land use system and its content have followed a certain continuity line. The Scientific Council for Government Policy has identified five 'basic principles' followed since the 1960s (WRR, 1998): *Concentration of urbanization, spatial cohesion, spatial differentiation, spatial hierarchy and spatial justice.* Those principles reflect the high ambitions for the way the Dutch central government wishes to use its land (Needham, 2007). These are the wishes of the *national level*, thus they must then be followed by the lower tiers: the *provincial* and the *municipal governments.* However, given the large number and the heterogeneity of local governments, some conflicts of interests with the national government ideas are inevitable, especially when it comes to the location of development.

Policy for the location of new housing

There are several options possible when it comes to the choice of the new development: concentration in or around existing towns and cities, concentrated in or around all settlements, in new towns, sprawl, ribbon development (along transportation axes), in corridors (see fig. 3.1.).

Fig. 3.1. Possible choices of development



Author: François Pirart
Based on Needham (2007)

Throughout the years, the national government has been following the path of urban concentration, in different ways and to different degrees (see section 3.3.2.). However, the achievement of concentration depends on the Provinces and Municipalities.

It would be ideal, for the national government, if the local governments shared their point of view and accepted whether they can or cannot expand their housing areas. Not surprisingly, the reality is different. Most of the Dutch municipalities wish to grow, and thus rural municipalities falling outside of the National plans are not supporting the national concentration policy.

One of the main roles of the province is to play the role of arbitrator between the two tiers of government, but also between municipalities themselves. One way to achieve housing control for Provinces is to set the threshold of house production in the municipalities for the next ten years. Intense discussions with municipalities to fix these limits always precede any decision.

Despite these conflicts of interests, the numbers show that the national government targets were relatively well achieved in the past. Between 1995 and 2004, over 60 percent of houses were built in designated areas for concentration (Korthals Altes, 2006).

Policy for towns and cities

The main cities of the Netherlands enjoy a special policy treatment in the name of urban renewal. In the Netherlands urban renewal focuses on the (re)development in inner cities (CBD), brown fields (former industrial sites or harbours) and post-war neighbourhoods. The Netherlands has already more than 20 years of experience in a grant system supporting urban regeneration. The creation, in 1985, of the Urban Renewal Fund (Stadsvernieuwingsfonds) was the first and most important step pushing towards the decentralisation and bundling of resources for urban renewal (Korthals Altes, 2002). However, subsidies still came from different ministries that often worked independently from each other. In 1999, the Netherlands have entered into a new phase of Urban Renewal by regrouping many subsidies in the ISV (Investeringsbudget stedelijke vernieuwing). Even if these financial helps are important, the national government has now left the local governments totally responsible of the urban regeneration policies. Recently an innovation budget (IPSV) for urban renewal has been set up to induce innovative solutions for urban development.

In 2002, the government decided to put extra money for the areas that needed rapid improvements. Thus the Ministry of Housing started an action programme (*'56-wijkenaanpak'*) aiming at speeding things up. To accomplish this, 56 priority neighbourhoods have been selected in the big cities of the country. Cooperation contracts have to be made between the municipalities and other local parties. Also a couple of instruments and facilities are being developed for these neighbourhoods. One of the requirements is that some of the rich housing corporations' money flow to the poor ones. More recently, 40 other neighbourhoods were put on a list for extra investments.

Brownfields are land previously used for industrial purposes or certain commercial uses that may be contaminated by concentrations of hazardous waste or pollution and has the potential to be reused once it is cleaned up. Their redevelopment take usually longer and asks for more money than ordinary location. However, considering the importance of these sites and usually their prime locations, the national government offers extra help- to municipalities.

The post-war neighbourhoods have probably been the central focus of urban renewal these last years. Two main aims for these areas can be highlighted. First, the living conditions need to be improved by means of better housing quality, green environment and accessibility. Secondly, urban renewal aims now at increasing the heterogeneity of these districts by bringing commercial functions and housing for a richer population, so that these neighbourhoods don't stay homogenously poor and monofunctional. Moreover, a golden rule of Dutch renewal is to make sure that local residents are given an opportunity to stay in their areas.

City centres have also beneficiated from strong planning efforts to keep their dynamism and attractiveness. The Dutch want these to be real centres – places to live, work, shop and enjoy entertainments and cultural activities. To achieve this, the Dutch governments have used a combination of transport and land use policies. They tried to avoid cars within the centre by building park and ride facilities, while increasing the pedestrian areas within the inner cities. On the other hand, out of town commercial developments have been strictly restricted. Indeed, if a development had to take place outside the centre, the economical activity had to figure in a small range of shops. The restrictions stayed quite strong in the 1990s, even though the pressure of developers pushed towards changes in the rules of the game. Since 1993, developments are allowed if located in designated urban nodes, if their activity needs more than 1500 square metres, and if the province gives its agreement (Evers, 2005). The new National Spatial Strategy (VROM, 2004) is less strict but is accompanied by the same will to retain the strength.

Policy for Housing and housing areas

After the second World War and until the 1990s, a large amount of houses built were subsidised by the national state. This national involvement in housing development gave strong powers to Ministries of Housing and spatial planning in regard to the location and the quality of the houses being created. During that period municipalities, housing associations/corporations and the national government were working together to achieve the same goal: build enough houses of good quality. It is not surprising that there was a great conformity between the national policy and the results on the ground (Faludi and Van der Valk, 1990).

However, a major change came in 1989, when the national government asked for housing association to become more private. The national government had still a financial obligation to give money to the associations for the deficit on managing the existing social housing stock; but the association had now the obligation to repay the loans provided for building those estates (Needham, 2007). Almost parallel to this change comes the fact that property developers now prefer to use their land for housing in the market sector. Thus they became less keen to sell their property cheaply to housing association. There has been a dramatic drop of rented houses completed in the recent years, 40% drop between 1996 and 2002 (CBS, 2008). Finally, the independence given to housing association give them the right to refuse to spend money in urban renewal if it doesn't consider it to meet its interests. The relation between municipalities, provinces, national governments and these once has thus dramatically changed.

A mix of housing is still desirable but municipalities have lost their main strength as land suppliers, and market developers are keen to mix the housing types only if it is profitable economically. Moreover, there is no national subsidy for mixed land uses and no Mix criteria are assessed when the building permit is issued.

Policy for the location of new workplaces

The Dutch government has tried, for many years, to help development in regions that were lagging behind. Peripheral regions such as the North and most notably Limburg – which lost its old coal activity – have thus benefited from a wide range of measures: infrastructure improvements, financial incentives for firms wishing to set in these regions and displacement of institutions outside of the Randstad. These helps were, however, abandoned with the arrival of the Fourth National Policy Document on Spatial Planning in 1988 and the following VINEX in the early 1990s. Lately the National government has made it clear that economic growth has to be enhanced by removing the institutional and public intervention obstacles. This demonstrates most clearly the shift from a welfare state, concerned by regional differences, to a liberal state, believing in a free market. The only financial supports for the poorer Dutch regions are now only assured by the structural funds of the European Union, but these are currently disappearing as the Eastern Europe regions need them the most.

On the local level, three types of employment locations are distinguished: industrial estate, offices sites, and informal locations (hospitals, schools, shops,…). Nearly all municipalities wish for their industrial and office sites to increase, so that the employment can be assured for the local population. Attracting jobs in the municipality boundaries is so important that it can lead to tensions and competitions between the local government. Coordination is needed and usually assured by the provinces, but once again these once are often predicting the growth of business and industrial activities more successful than their neighbours. This might cause a big issue in the future as the area planned for industrial land is planned to increase by 54 percent until 2030, while employment is only going to grow by 32 percent (Needham and Louw, 2006). This over estimation of the needed industrial estate will certainly lead to more competition and discords in the future.

3.3.2. History of the national spatial planning policy

Since its introduction in 1965, the national law on spatial planning *(Wet Ruimtelijke Ordening WRO)* regulates the responsibilities and relevant principles for the state, the provinces and the municipalities. This law represents the legal basis for spatial development. Based on this law, policy reports about the national and regional development *(Nota Ruimte)* are come out on a regular basis. These reports set guidelines and principles for the regional development. The rest of this section provides a good overview of the evolution of these spatial concepts and ideas to channel urbanisation since the 1960s.

In the early post-war period, and for more than thirty years, the national planning policies in the Netherlands were aimed at guiding implementing compact urbanization. The first of these anti-sprawl efforts arose through the **Second Report on Physical Planning** (Ministry of Housing and Physical Planning, 1966). This policy

had for objective to channel suburbanisation into designated overspill growth centres outside the existing urban areas.

In 1977, through the **Third Report on Physical Planning** (Ministry of Housing, Physical Planning and the Environment, 1977)**,** the regulation of the policy of 'concentrated deconcentration' was strengthened and the designation of new towns would be done directly by the National Government. The new Dutch policy enclosed the reduction of car travel, while promoting non-motorised and public transport as a new rationale for compact urban development (Geurs K. and Van Wee B., 2006). At that period, the international preoccupation was to reduce the energy use and environmental pollution, along with the demand for road infrastructure. The major cause of this movement came with Meadow's publication *'The Limits to Growth'* (Meadows et al., 1972). Indeed, this report predicted that the depletion of global resources would threaten the economic growth experienced by the developed countries since the 1950s.

In the 1990s, spatial planning in the Netherlands became dominated by the concept of the compact city. In fact, it was at the heart of the **Fourth National Policy Document on Spatial Planning** (MVROM, 1990). This policy was called VINEX (Vierde nota over de ruimtelijke ordening Extra) and was last updated in 1999. According to the VINEX, all new urbanization processes would have to take place in a highly concentrated form, preferably on brownfield sites within city perimeters and then, if necessary, on adjacent greenfield sites just outside the city perimeters (Zonneveld, 2005).

In the 1990s also, the land market faced a process of metamorphosis. The traditionally strong position of the Municipalities was challenged by private developers. These latter ones managed to acquire land in strategic locations, especially on areas designated by the VINEX. This reinforced their position in the negotiations of new urbanisation projects (Bontje M, 2003). In addition, the physical planning and housing policy lost their long-lasting connection as the National Government started to encourage the owner-occupied sector at the expense of the social housing sector. Two new rules came to help this process. In 1995 the National Government stipulated that at least 70 per cent of additional housing stock should follow the Market price. Finally, in 1998, the national government asked that 30 per cent of additional housing should be built by or on behalf of individual owner-occupier (Van der Burg & Dieleman, 2004).

After the relative success of compact policies in the 1990s, the early years of the new century saw the rise of the **Fifth Report on physical planning** (Ministerie VROM, 2001). The first publication of this National Policy document prolonged and even intensified the compact city policy (Pellenbarg & van Steen, 2001). Red contours were drawn around the built-up area of the city, where new building was allowed. Green ones, in which building was not allowed, were drawn around ecologically areas and specific landscapes. The additional "balance areas", accounting for nearly 60% of the Dutch territory, was completing the picture. If it would not be possible to build in red contours, these transitional areas could be home to the new development.

However the first version of the new policy failed to get through parliament. Many debated around the badly defined 'balance areas' concept and the country was facing a political uncertainty and the economic recession in the beginning of this century. In 2004 the Balkenende II Administration published its **Spatial Memorandum** (Nota Ruimte), this time focusing mainly on spatial development planning (VROM, 2004). The red and green contours vanished and building programmes would now be encourage. The new strategy kept, nevertheless, the spatial concept of ***urban networks,*** introduced in the Fifth Memorandum. This concept is defined by the Dutch government as a number of cities that collaborate in spatial planning, economy and the planning of transport infrastructures (Ministry of Housing, Spatial Planning and the Environment, 2004, p. 61).

What also arose recently in the Dutch spatial planning was a strong decentralization from national and international spatial policy to regional spatial policies (Priemus P, 2007, p. 669). This was basically the reason to develop the Layers Approach, introduced in the Fifth Memorandum and continued in the Nota Ruimte (VROM, 2004, pp. 26–27). A second reason to develop the Layers Approach is to integrate spatial policy, environmental policy and transport policy.

From now on, national planners seem to limit themselves to giving a broad outline of desired future spatial development and to leave the concrete actions for meeting their planning goals to the lower tiers of government.

The Dutch context has often been considered abroad as a planning example. Of course, the nation's good reputation is not to be questioned entirely. But if some past strategies - such as the growth centres - have had the awaited results, others should be evaluated more closely. The **national urbanization policy** attempts to influence the dynamics in the distribution of population and activities in the Netherlands on a national and regional level. From the early 1970s onwards, the population growth trends of municipality types targeted in national urbanization policy tended to diverge more and more from the 'planned' population growth trends. Thus, the effectiveness of Dutch physical planning policy in general and national urbanization policy in particular has been overestimated in the past.

The impact of the new spatial planning context in the Netherlands seems to be the focus of many Dutch researchers. What will be the future of the countryside greenfields in the Randstad is one of the major questions asked by Dutch planners.

3.4. A CHANGING PLANNING CONTEXT

3.4.1. Main changes brought by the new spatial planning strategy

The chronological presentation of the spatial planning policy documents above gives us a good view on the different spatial concepts and strategies followed by the Dutch government since the 1960s. However, as the effect of the changing policy context on the local planning practice is central to this master thesis, it is thus necessary to dig a bit deeper into the differences existing between the new spatial strategy and the VINEX (compact city strategy).

Decentralisation and regional area development

The new spatial planning strategy pushes towards further decentralization, favouring provincial government, municipalities and the market. The central government seems to abandon most of its controlling power in profit of the lower levels. Municipalities have more freedom to decide alone how much development should take place within their boundaries. Also if the interests are beyond municipal control, it is now the provinces that control the operations. The central government keeps, however, the management of arenas of national significance: national network of infrastructure, national and international interests.

With the arrival of the new planning Act, the provinces have received the power to make binding land-use regulations themselves, using a provincial land-use plan. Moreover the provincial governments have now a stronger say in the approval of local land-use plans (Spaans and de Wolff, 2007). Finally, the province get the ability to establish land use regulations that must be adopted in local land-use plans at the municipal level. This controlling power will surely help the integration of other policy fields such as the protection of areas that have outstanding ecological value (*Natura 2000 or EHS*).

The province becomes also an actor in strategic development for projects of provincial importance. *Regional area development,* sometimes referred to as *comprehensive area development* is a new trend that has attracted much of the attention lately in the Netherlands, and also a great example to show the new role played by the provinces. This development type concerns individual projects covering large areas (sometimes bigger than 10 km²) located on several municipalities, in which housing and office development is combined with developments in leisure, nature and agriculture conservation. Because of their scale, they are of course crossing municipality boundaries and, therefore, usually of provincial importance. This usually brings the provincial governments in the negotiation and development. Examples of regional area development projects are the Blue City (*Blauwe Stad*), Lake City (*Meerstad*) and Wieringen Lake Area (*Wieringerrandmeer*). It is argued that a large financial advantage of these kind of projects is that lucrative land uses, such as housing and offices, can help financing conservation, leisure and agriculture (Priemus, 2002); this principle has also been called '*red for green'* in the Netherlands.

The new Spatial Planning Act of 2008 will allow the regional tier (i.e. the province) to include visions for a regional area development project in its structure plan. But if the provinces want to, the Act provides the competence to draw up an imposed land-use plan. Thus the complex and long procedure to develop a joint land-use plan by the municipalities touched by an integrated projects will not be the only way to make things happen (Spaans, 2007b).

Paradigm shift: from passive planning (toelatingsplanologie) to pro-active planning

At the end of the 1990s, it became clear in the eyes of the Dutch government that the provinces and municipalities now had to play a more proactive role in development. Until then, spatial planning at the regional and municipal levels had focused on strategic plans, and on the supervision and control of local plans. Regional area development projects can often be characterized by the fact that they are located in

an environment where there is a supply-led market, and private sector operators are not going to come up with investment plans of their own accord. In situations of this kind, if the province takes on an active, risk-bearing role, it can help other actors to overcome their inhibitions and take part. The municipalities involved are small and not in a position to make a substantial contribution because of their limited financial resources, capacity, experience and knowledge. They do play a vital role in decision-making. However, the project will not go ahead without their cooperation: binding land use plans can only be issued at the local level. The pilot projects are planned and implemented using existing planning and land policy tools and powers, which are not properly equipped to handle regional projects of this kind. Many regional projects apply ad hoc solutions, and there is a need for effective implementation-based planning tools at regional level. The new Spatial Planning Act and related legislation will change this (Spaans & De Wolff, 2005; Spaans, 2006).

From the compact city to the urban network spatial concept

Concentration has been the leading principle in urban planning in the Netherlands since the 1980s. Although the term ‘compact city’ was not directly mentioned before 1987 in the Netherlands, some key urban planning objectives were already accepted before that date: create strong and vibrant inner-cities, stimulate biking and the public transports, preserve the agricultural and natural land, and provide houses for every class of the Dutch population. These objectives were the leitmotivs of the compact city strategy. But besides its effect on urbanisation, the new compact city concept was also expected to affect positively the environment and therefore push towards sustainability.

In fact, the compact city policy was a response to the large-scale developments in the pre-war and post-war periods. After the war, the central focus of the government was on quantity of housing rather than on quality, even if the some urban models suggested by Le Corbusier or the Garden City were supposed to provide the best living environment. However the growing scarcity of land and the need for better quality housing signed the revival of the compact urban development (De Roo, 2000). Moreover a mix of functions was favoured over the idea to separate the different urban land uses – which by the way enhanced the distances travelled. Overall, the compact city concept can be characterised in the Netherlands as an “intensive use of existing urban areas; concentration of functions instead of dispersion; mixing functions instead of separating them and building in high densities” (Bartelds and De Roo, 1995, p33).

Nowadays, this compact city policy, initiated in the 1980s and reconducted through the VINEX and the ABC policies, has been supplanted by the concept of urban network. The new concept is presumed to be more in line with the evolution of our world. The urban networks, central element of this new urbanisation vision have been defined, by Dutch Ministry of Spatial Planning, as highly urbanized zones that take on the form of a network of larger and smaller compact cities, each with its own character and profile within that network. Expressed like this, it may seem an improved compact city policy. Other authors describe a urban network in other words. Another basic definition of urban networks is: groups of independent cities functioning jointly to improve spatial and economic development (Bontje, 2003; van der Burg and Dieleman, 2004).

In the Fifth Policy Document (National Spatial Planning Agency, 2001), the central government has explained the switch from the compact city to the urban network concept by various factors (Van der Burg and Dieleman, 2004):

- The evolution of the transport modes and of the population housing preferences induced that the Dutch 'metropolitan regions' are now too small as planning units;
- The ABC and the VINEX policies have not stopped the rise of the private car use, and thus public transport seem insufficient as an organising principle;
- The traditional growth of the Dutch metropolitan regions consumes too much open land and expand in areas with water management difficulties;
- Society is developing in the direction of 'network-based' rather than 'area-based' relations (Hajer & Zonneveld 2000);
- The global economy favours larger urban areas, or cluster of urban areas, rather then smaller ones.

The urban network is arguably more than a spatial concept, and seems to be based more on the relationships within and between governments, i.e. principle of governmental cooperation. Thus, it is also a principle of governmental cooperation. The fifth Policy document (2001) was more ambitious in the view of large scale governmental co-operation than the new Spatial Strategy (2004). This shows the will to retain the three-tier institutional system.

3.4.2. A changing land market

The government influence the spatial market through land use planning, which is carried out by at the three government levels. As mentioned before, the national government develops the framework for land use planning in memoranda on spatial planning, lays down major decisions and draws sector plans; Provinces develop regional plans formulated in consultation with municipalities and other stakeholders; Finally, municipalities have the important task to develop local land use plans (*bestemmingsplannen*), laying down the permitted activities for on their area. In addition to these plans, the country is also characterised by a strong land policy – i.e. the interference of the government in the land market aiming to reach a socially optimal land use and a better spatial quality, and to redistribute the costs and revenues of government intervention among the actors. Thereby the price of the land is determined by the regulation rather than by the market.

Almost all the plans cited above as well as other sectoral plans have an effect on the land market, whether directly or indirectly. However, land use planning agencies, and especially municipalities, could not have achieved their goals over the years without playing any role in the land market. In fact, the building land has been supplied (and serviced) by the local governments for centuries. Therefore they have to be considered has land developers and managers that used their privileged position to achieve their goals. The central role played by municipalities in the land market in combination with the use of their binding instruments assured that growth was taking place according to the municipal aims.

Thus local authorities are not only active in this field (Priemus and Louw, 2003), but they have also been the central actors in the land market. In fact, this can be called

an institutionalised land-market system, in which development has occurred via a public monopoly in the land market. Before the 1990s, hardly any private parties were acting in the market; all building land was purchased strategically and serviced by municipalities before any construction took place. But there has been a radical change in the last 15 years: private companies have started to purchase land strategically so that they could force themselves in the land development process. Thus, the property developers, speculators, as well as other market parties became more active in buying rural land to develop housing or business sites, while the dominant role played by municipalities decreased (Buurman, 2003). The financial consequence of this for different actors can be understood quite easily (table 3.1.)

Table 3.1. Who gains from land development and how the profits are composed?

Actors of the land market	***Profit***
Original landowners	Value of unserviced land – value of raw land
Municipality	Value of serviced land – servicing costs – acquiring costs
Building companies buying raw land	Value of final object – servicing costs – costs of acquiring land – building costs
Building companies buying serviced land	Value of final object – value of serviced land – building costs
Building landowners	Value of final object – value of serviced parcel – building costs

Source: Adapted from Van Dijk et al. (2007)

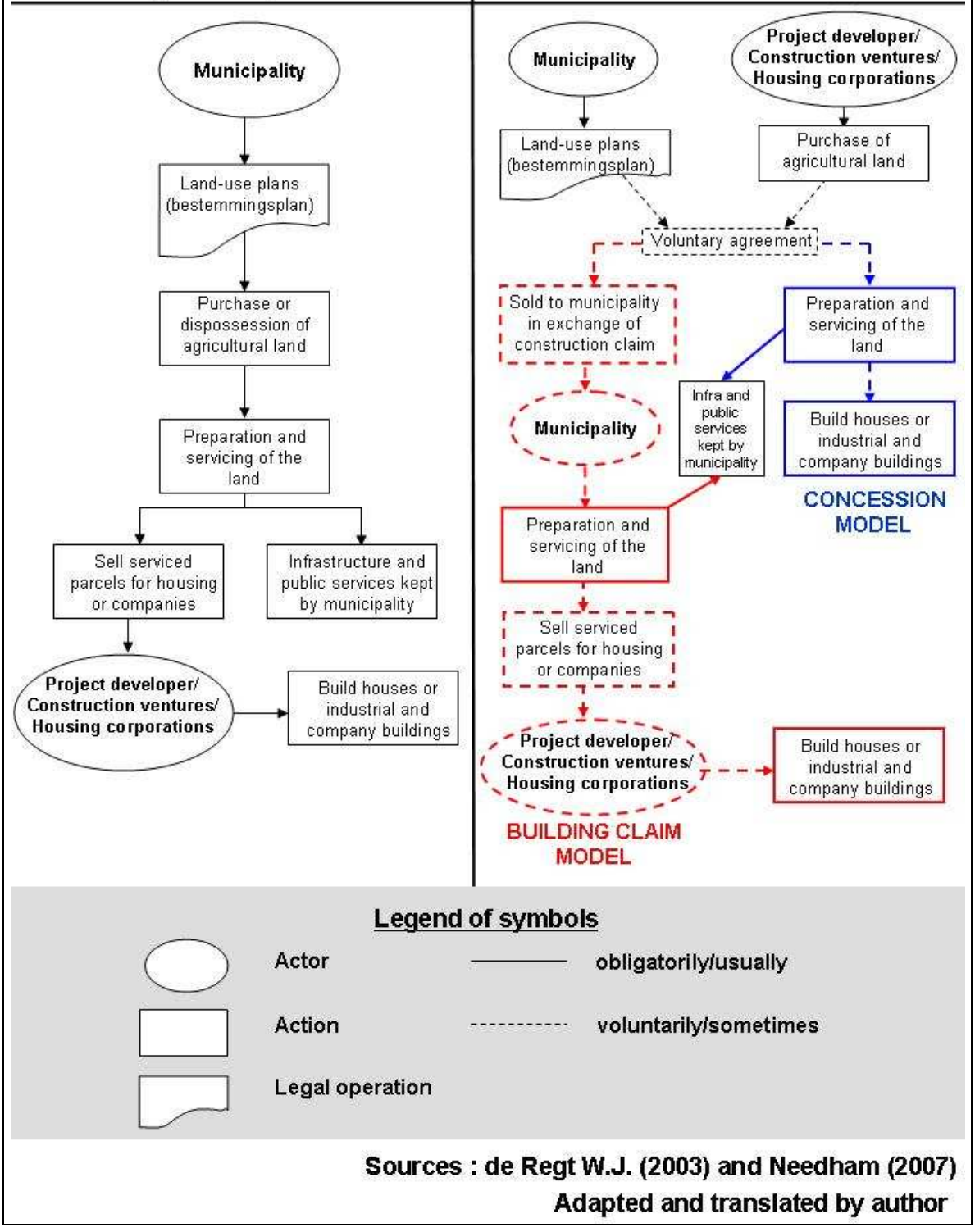
The local authorities are now running greater financial risks than before. The only way for local authorities to continue functioning as central market actors is to buy land strategically at a very early stage, or by entering into strategic alliances with other market parties. To operate strategically, local authorities will often have to make concessions to the transparency of their policies (e.g. geographically vague structure plans) and related democratic controls. It is quite legitimate to ask whether local authorities should continue in the double role – that of market player and that of market controller – they occupied in the past.

As Needham argues in his book, the current situation asks for “other ways of pro-active planning without initial municipal ownership” (Needham, 2007) because local authorities want anything but to stop their pro-active planning role! A way out of this for municipalities has been found through three types of development arrangement with market parties: the building claim model (*bouwclaimmodel*), the joint venture model and the concession model. When municipalities and private parties enter one of these three models, we speak of Public-Private-Partnerships (PPP). A fifth model of development is the private development model, which leaves more or less all the development process to the market party. To ease the understanding of the development process under a PPP, it is useful to represent is by diagram. The following figure represent the traditional way land was developed in the past and two other partnership models often used presently (see figure 3.2.).

It is clear that when a municipality enters in a PPP with another party, it loses a part of its control over development. It might be that the different actors participating in a project seem to have the same goals, but it is important to keep in mind that public and private parties are not driven by the same interests. One thing is certain, all want

financial surplus at the end of the process, however public institutions have the duty to use it for the whole society. It is certain that only few municipalities enjoyed being forced to work hand-in-hand with private parties these last years, but that's how it is. Moreover one can ask himself to wonder if public institutions should really be joining market parties in development. Questions of ethic arise and the dangers of corporatism are well known.

Fig. 3.2. Three models of land development



Sources : de Regt W.J. (2003) and Needham (2007)
Adapted and translated by author

3.4.3. The decentralisation and privatisation of housing

The Dutch government has played a central role in the housing market for many years. In the 1990s, however it decided to give more room for the market. A strong sign of this shift was the privatisation of the housing corporations, which had been working, until then, hand in hand with the municipalities to ensure that everyone has access to an affordable house. As a results, the housing sector has become more market-oriented: it passed from a subsidy-intensive to subsidy-poor, decentralized, and privatized system (Van der Wouden and Bruijne, 2001).

The decision to reduce the relative number of social houses was motivated by the fact that people were leaving social housing for the private market and that the stock of rented housing was estimated too big for the demand. In fact, social housing lost ground especially as a consequence of the increasing prosperity of the population. The cities have seen their rich residents leave for private houses in suburban areas, where most owner occupied houses could be found. Many cities and the central government understood that they shouldn't exclusively focus on social housing, but leave more room for the market to satisfy the demand. The latest national step towards privatisation and decentralisation came about in 2001, with the publication of the document entitled "What People Want, Where People Live," (VROM, 2001). It places more emphasis than ever on freedom of choice for individuals.

The strong subsidies for social housing given by the central government allowed it to have a strong pressure point on municipalities. Since a large part of their budget was depending on national money, these ones were keener to accept the national urbanisation strategies. As Faludi (2005) puts it, housing has stopped being the important coalition partner for planning (Faludi, 2005). Dutch planners have now to act without substantial subsidies to distribute and therefore with no other choice but to rely only on the use of restrictive policies to control urbanisation. Also, the compact-city policy, central to this work, was developed to work best when the Dutch housing construction was still heavily supported by the welfare state. Therefore, we can rightfully ask ourselves if this dramatic cut in subsidies for and privatisation of the social housing market didn't have a negative effect on the compact city policy.

The improvements of the mobility in the 20th century, especially through the development of private cars, led to the present situation where people can easily choose to live in rural or urban areas. Isn't it the dream of everyone to live in a country house with all the benefits of the urban living? In the eye of the Ministry, it would seem that the Dutch people's ideal are not much different from the rest of the world.

3.5. CONCLUDING REMARKS

The current chapter had the purpose to provide a sufficient understanding of the continuity and change in the Dutch planning context: On the one hand, the presentation of the three-tiers system, the main housing and urbanisation policies, and the history of the national spatial planning strategies offered a good idea of the strength lying in Dutch planning and how it worked. On the other hand, this chapter has focused on the changes occurring in planning as a result of the new spatial planning strategy, the privatisation of the land market and the decline of the welfare state housing policy. This knowledge represents a solid foundation and a necessary pre-step for the development of the following chapters.

CHAPTER 4

METHODOLOGY

4.1. INTRODUCTION

4.2. METHODOLOGICAL ROUTE TO ANSWER THE FIRST RESEARCH QUESTION

4.3. METHODOLOGICAL ROUTE TO ANSWER THE SECOND AND THIRD RESEARCH QUESTIONS

4.1. INTRODUCTION

Chapter 2 and 3 have set the theoretical and contextual framework of this research. They provided the requisite answers and concepts that will serve as a sound basis to built the study concerning the city Groningen – its compactness, policies, urbanisation path and what are the impacts of the changing planning context on the city and its surrounding region.

This present chapter reports on the information sources used, as well as the applied methods and materials used to answer the main questions addressed in this master thesis. It will be subdivided in two parts. The first one is treating of the data and method applied to answer the research question:

- How compact is the city of Groningen and how does it compare to other cities?

It will especially develop on the method and the quality of data used to produce the density gradient study.

The next half of this chapter is devoted to the route followed to answer the questions :

- Which local policies and strategies are used to retain compactness in Groningen? How and why is the city following a new path of urbanisation?
- What impacts does the changing planning context has on the path taken by the city?

The provenance and the use of secondary and primary data related to these questions will be explained, and the nature of the interviews realised in the framework of this research will be motivated.

4.2. METHODOLOGICAL ROUTE TO ANSWER THE FIRST RESEARCH QUESTION

4.2.1. Fuzziness and misinterpretations

'*The secret language of statistics, so appealing in a fact-minded culture, is employed to sensationalize, inflate, confuse, and oversimplify*' (Huff, 1993).

Numbers, statistics and maps can all tell what we want them to say. These are always used to serve a purpose and one can easily be tempted to manipulate them to convince others. A careful analysis of what is exactly measured does not always precede the conclusions or the interpretations. Concerning the study of sprawl and of compactness, it is no different.

The main purpose of the first research question is to push this work to go further than the prejudged ideas designating Groningen as a compact city *per se*. This master

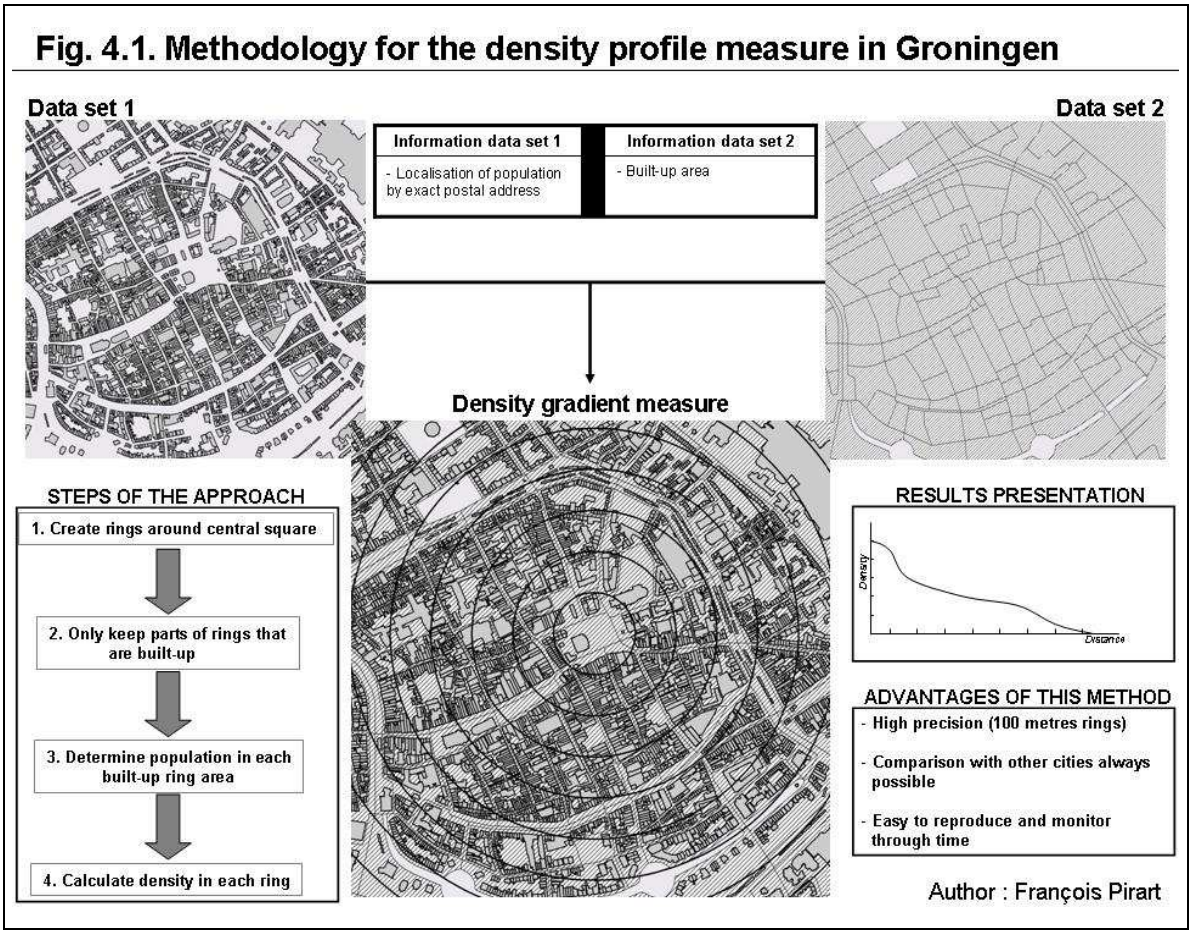
thesis goes on the assumption that one cannot judge of a city structure or model merely on subjective perceptions and assumptions. Therefore it was decided to base the analysis on a rather quantitative and descriptive approach. In chapter 2, it has been put forward that the measurement of sprawl or of compactness were something complex. This is especially true when one tries to pin down the exact consequences of sprawl on pollution, traffic, health, energy consumption, etc. Nevertheless, the physical measurement of urban areas themselves (i.e. their extension and density) is far more straightforward and objective. The section 5.2. of the next chapter will consist of a descriptive study of Groningen's compactness, focusing mainly on objective secondary data.

Several dimension of compactness are examined: the density, the city structure (through the density profile), but also eleven other characteristics of the compact city found in the literature (table 2.1.). We will give special attention to the population and job density gradient of the city of Groningen, especially since it makes this work comparable to other studies concerning other cities around the world. The descriptive study in chapter 5 will then serve as the basis of the analysis in chapter 6, where the critical answer to the first question is given.

4.2.2. Data gathering and treatments for the study of the density gradient

The study, quickly introduced in chapter 2, consists of measuring the density of population (or of jobs) in consecutive rings around the city centre. It often concerns very large metropolitan areas, the radius of which goes sometimes beyond 30 to 40 kilometres. Generally, the spatial data used in this measure do not need to be at the most disaggregated level, because the width of the rings intervals is rather large (1km in appendix 1 & 2). However, considering the relatively small size of Groningen and to allow eventual future researches to compare their results with this work, it was decided to use the most precise spatial data as possible.

Since disaggregate spatial data is far from being free in the Netherlands, for commercial but also for privacy reasons, this study was made in collaboration with Jozef Van Genk – a Geographical Information System expert of the municipality of Groningen. Population and employment data were at the most disaggregated level (i.e. postal address). These data sets and a built-up environment shape file allowed us to choose to measure real densities in successive rings of 'only' 100 metres wide around the Grote Markt. The following figure concretely presents the method (see fig.4.1.).



4.2.3. Data for the wider density study and for the compactness criteria

A wider presentation of Groningen density of population will be preceding the density gradient study of next chapter. Most of the data required for that part were found on the municipality website, which contains a source database entirely devoted to socio-economic information (gronometer), and on the Central Bureau of Statistics website (CBS).

The evaluation of the eleven compactness criteria (table 5.1.) was mostly based on relevant municipality reports or researches, secondary data found on the municipality website, but also on personal observations made this year. The evaluation will, as much as possible, be supported by additional secondary data.

4.3. METHODOLOGICAL ROUTE TO ANSWER THE SECOND AND THIRD RESEARCH QUESTIONS

4.3.1. Secondary data gathering

The first step of the method consisted of a review of all the freely accessible resources in relation to the local projects, policies and plans connected to the topic of this research. A careful review of key documents such as the recent structure plans of the city was particularly helpful at this early stage, since these enclose concise presentation of topics such as urban renewal, extention projects, intensification zones, etc. Moreover, in addition to the recent structure plans, Hurenkamps' work (1990; 1995) on the evolution of influential local plans until the 1990s will give an historical perspective to the 'compact city' belief in Groningen.

To answer the second research question, many official documents could be found on the municipality website - in the policy and the project databases. However, official websites always offer one-sided information often published by the same author – i.e. the municipality or the state -, thus it was necessary to complete these with other secondary sources such as newspapers, city districts websites, etc. The data needed to answer the third question, related to the changing policy context local impacts, could partly be found on the province and the Regio Groningen-Assen websites, partly in periodic planning journals and local news papers.

4.3.2. Supporting secondary data with local knowledge

The secondary data gathered according to the previous section does not offer a sufficient basis for the analysis. If information concerning the local planning policies and the several extension projects (residential and industrial/commercial estates) is found relatively easily in freely accessible reports, news papers, policy documents and internet websites, this knowledge remains descriptive in nature and is generally not directly connected to the specific topic of this research. In regard to the third question, the gap of knowledge is even more evident, since the changing policy context is almost exclusively studied at the national level of scale. Therefore, the choice was made to support the secondary data by **primary data** from the local planning practice.

Not only this helped to fill some information gaps, but it also meant that local planning insights, thoughts and opinions could be taken into consideration in the analysis. Throughout this year (2008), a total of six interviews with local planners have been realised. The choice of the interviewees was motivated by the desire to meet planners representing local parties having a major planning role in Groningen: the municipality of Groningen, the province of Groningen, the region Groningen-Assen, the Meerstad bureau, and additionally HKB - a private planning office located in Groningen and Rotterdam. The list of interviewees (appendix 4) shows that two planners from the municipality were interviewed.

There are many different types of interviews that can be chosen from, each one of them having a different purpose. These types have been classified in various ways. A

commonly used typology is related to the level of formality and structure of the interview. It ranges from the formalised and structured interviews, during which the researcher uses standardised questions for each respondent, to the informal and unstructured conversations (Saunders et al., 2003):

- structured interviews;
- semi-structured interviews; and
- unstructured interviews.

Structured interviews make use of questionnaires based on prearranged and standardised or identical set of questions, asked indifferently to all interviewees. This type of interview can be used in survey researches to gather data, which is then analysed through different quantitative analysis techniques. In comparison, *semi-structured* and *unstructured* interviews are non-standardised. In the *semi-structured* ones, the researcher has a list of themes and questions that need to be covered, also these may vary from one interviewee to another. Some questions may be removed, others may be added, depending of the degree of advancement of the research, and also on the flow of the conversation. Finally, the *unstructured interviews* are generally used to explore a general theme in depth. There is no pre-determined answers, although what will be explored is usually known in advance, and the interviewees are given the opportunity to express themselves freely without guidance of the researcher (Saunders et al., 2003). Semi-structured and unstructured interviews are always used in qualitative research in order to conduct and support exploratory discussions to reveal and understand the ‘what’ and the ‘how’, but also to approach the ‘why’.

In order to provide an answer to the second and third questions of this master thesis, it was decided to carry out **semi-structured** interviews, rather than using a standardised and identical set of questions to be asked indifferently to everybody. It meant that a certain number of themes, related to the main research questions and to other serious gaps of knowledge, were always approached during the six interviews. However, questions related to certain topics directly in touch with the domain of predilection of the interviewees were always given more time and emphasis. Moreover, depending of the level of advancement of this thesis, interviews have also been used to reframe the general scope and to build on the general understanding of the city. In average, the discussions lasted from one to one and an half hour and were more exploratory than explanatory.

Moreover, these discussions also helped to refine and to complete the data that had been collected since the beginning of the empirical research. The secondary data, collected before the interviews already provided a good description of the various local policies and the local residential and industrial projects in Groningen, but the interviews allowed to double-check the information. This can be seen as a triangulation technique, but not only. Indeed, the themes approached with the interviewees brought many additional information that is hardly found in official documents or in the general rhetoric – i.e. their opinion and own knowledge. A series of subjects were always part of the interview:

- the urbanisation path taken by Groningen;
- the residential and industrial estate projects;
- the success of the planning policies

- the changing planning context and its effect on the compact city; and
- the role of the party they represented.

Obviously, not all the primary data collected this year is laid down in this master thesis, but everything certainly does play a role in the understanding of the city and, thus, the analysis of the findings.

The planners from the municipality – including Mr Van Genk that played a major role in the density gradient study - especially helped in the understanding of the historical growth of Groningen and the decisions that shaped the current form of the city. They helped in supporting or criticising the assumptions on and analysis of the current situation of the city.

CHAPTER 5

RETAINING COMPACTNESS IN A CHANGING PLANNING CONTEXT – THE GRONINGEN CASE

5.1. INTRODUCTION

This chapter presents all the information and the results obtained throughout the empirical study focusing on Groningen. The objective pursued here is to describe rather than discuss the results. It provides a greater understanding of the local context and objectively lays down what came out of data gathering and data treatment.

The **first part** (section 5.2.) concisely sets the scene and gives an historical perspective for this study. It starts with a general presentation of Groningen as it is today; then it gives information on the evolution of the local spatial planning from the second half of the 20th century until now through a review of the major influential plans and spatial concepts followed by the city; and finally, it offers a view on the historical growth of Groningen.

The **second part** of this chapter (section 5.3.) describes the findings relating the compactness of the city. It is mainly composed of the results from the population and employment density gradient study explained in the previous chapter (cf. figure 4.1.), as well as of a review of 10 characteristics of the compact city found in the literature (cf. figure 2.1.).

The **third part** (section 5.4) treats of the local policies and strategies used by Groningen to retain or even to increase its compactness. It does not elaborate on the strong regulative instruments in hands of the municipality, but rather concentrates on the other ways to control urbanisation and to improve the urban environment – innovative architectural ideas, urban renewal, high-rise buildings.

The **Fourth part** (section 5.5) concerns the major residential and industrial/office estate projects located on the outskirt of the existing built-up environment. It objectively presents the information found on these extensions, in reports and freely available secondary sources, as well as cites some relevant comments from the local planners interviewed during this year.

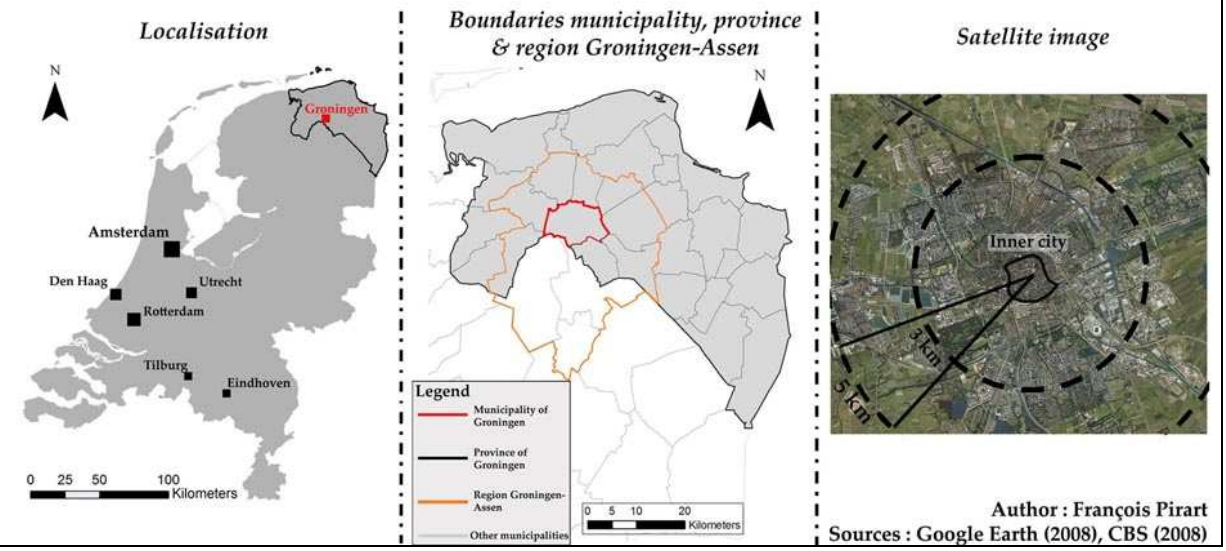
Finally, the **Fifth part** (section 5.6) focuses on the local impacts of the changes occurring in planning introduced in chapter 3 (cf. 3.4.). This section presents first the local changes in regional planning – i.e. Region Groningen-Assen and the new role for the Province of Groningen -, and then describes the effects of the speculation in the land market on Groningen.

5.2. GRONINGEN: PRESENTATION AND HISTORICAL FIGURES

5.2.1. The urban centre of the North

The city of Groningen is a medium-size city - seventh largest of the Netherlands - located in the North of the country. It is approximately 25 km South of the Wadden Sea and 40 km West of the German border. Since this work will often refer to the various physical and administrative boundaries of the city and its surrounding region, it is useful to start this chapter with a document concisely presenting a part of this information (see figure 5.1.).

Fig. 5.1. Localisation of Groningen, administrative boundaries and the city from space



Groningen is the main city of the northern Netherlands because of its population, university, hospital and cultural amenities. It is the capital of the Province of Groningen. Along Assen, the provincial capital of Drenthe 30 kilometres to the South, it has been designated as one of six important urban networks for the Netherlands. With 180,000 inhabitants, the city represents more than half of the population of the entire Province, which accommodate 320,000 inhabitants. Moreover, the city is the working core the region, this being proved by the fact that nearly 50 percent of its 123,000 jobs (Gemeente Groningen, 2007) are being filled by out-of-city commuters. The city has two major universities: Rijksuniversiteit Groningen (RuG) and Hanzehogeschool, with about 20,000 students each (Van Steen, 2007) and the UMCG University Hospital are also playing an important role for the entire North. In consequence of the University, Groningen has a relatively young population, on average, with more than half of the population under the age of 35.

As for most other cities in the Netherlands, Groningen's development was under the principal guiding force behind of the municipality (Gemeente Groningen), but also under the influence of the national level. The Netherlands being a decentralised state, the responsibility of actually implementing the national policy rests with the municipal governments. Moreover, the municipal of Groningen also has received the ability and requirement to create both structure plans (struktuurplannen) and local land use plans (bestemmingsplannen). Every development has to stick to these plans (see chapter 3).

Groningen is especially known and recognised by many other cities within the Netherlands and in foreign countries as an example concerning bicycle climate and usage. This has been achieved throughout the years with the support of three elements (Boersma and Alteren, 2004): policy, consistency and continuity. Presently, the municipality still pursues a broad bicycle policy, which has been firmly embedded in the global mobility and transport policy. Moreover the spatial policy itself aims, already for more than a decade, at maintaining and reinforcing the city compactness. The synergy between these two achievements involves that the inhabitants can easily reach most activities by bicycle.

5.2.2. An early belief in the compact city strategy

Around 1964 Groningen was the most densely populated city of the Netherlands (Hurenkamp, 1990). Until then the municipality borders left no choice but to make the existing built-up area denser. The policy had aimed - by force of circumstance - at the concentration of housing in and round the city centre. Parts of the inner city were relatively worn out, impoverished. The companies had been oriented on the waterways. However, in the 1960s, the population began to increase rapidly than the structure plan of 1950 had supposed and the employment, both in the industrial and in the service sector, were bringing prosperity to the city. Therefore the previous structure plan seemed very much out-of-date. The structure plan of 1961 took these trends into account, and assumed that the population of the municipality Groningen would reach 265000 inhabitants in 2000. Considering this, it was clear at the time that space was to be made available for development (see appendix 5).

As Groningen was seen as the principal centre stimulating the north of the country the national state and the province governments decided to annex the municipalities of Hoogkerk and Noorddijk to give Groningen more air for its development. This institutional arrangement became effective in 1969. Three new living neighbourhoods were planned, two in the North-East of the city and one in the South-West. A work sector was indicated in the South-West, near the core of Hoogkerk. Also the university extension in the North of Paddepoel was considered as a separate sector. Originally, the Noorddijk was supposed to accommodate as many as 60.000 citizens.

The spatial concept presented in the two structure plans of 1961 and 1969 was the so-called *sector-city*. This concept, pulled out from the Provincial Regional Plan (Steekplan), was chosen because Groningen's spatial development had led to a concentric town model that couldn't grow much further. If the city was to grow according to this model, it would push the new developments further and further from the town-edge. Thus the sector-city proposed to split the concentric extensions by means of green areas. These so called `gelede sectors' consisted of new residential areas separated from each other and from the inner city, with their own centres and green lungs. Within these new locations, much social houses had to be realized, so that the growing number of families could find a decent home. A strong increase of the traffic resulted from this concept. Because of the combination of the enlargement process of the city and of the housing dilution, we could no longer speak of a compact city around 1980 (Boersma and Alteren, 2004). The devised city consisted of more or less mono-functional zones to live, work and for recreation, all of them surrounding a centre regrouping the other vital city functions.

The 1950s to the 1960s was the period that acknowledged the fastest expansion of the cars. This was translated clearly in the 1969 structure plan. The road network was to be greatly expanded, with a new agglomeration highway and an outside ring accompanied by many other roads. However, the outside regional ring has never been realized and only the ring road scheme was completed.

A few years later, the forecasts on which these plans were proved to be far too optimistic. The growth even stopped in the 1970s. The population of the city reached a peak with 171,500 inhabitants in 1971, but decreased afterwards to 168,500 in 1986. This was first attributed to the fall of the birth rate, much stronger in Groningen

than in the rest of the Netherlands, because of the growing proportion of the young population (15-29 years old) coming at the Universities. Secondly large scale suburbanisation was caused by the emigration of: graduates who found a job elsewhere in the Netherlands and young families with children who preferred to live in more rural areas. This was one of the reasons why the ambitious structure plan of 1969 had to be revised quickly.

In fact, the structure plan 1969 was also highly contested by students and the left-wing local politicians for its devotion to the automobile and because it needed many buildings to go down. A ‘new discourses on transport issues’ emerged, supported by the student organisations and the newly elected young politicians. Notions of quality of life and quality of the environment came to replace the growth paradigm of the 1960s. In fact, from 1972 onwards, environmental objectives have been integrated into transport policies and planning in Groningen (Hansen C.J., 2005). New pedestrian areas were planned in the city centre, noise and air quality problems had to be tackled, and the car traffic into the inner city has been dramatically reduced since the Circulation Plan of 1977.

The idea of a new city form emerged in 1970. This vision has been laid down first in the objective note (*doelstellingennota*) for the inner city of 1972, and then in the global land use plan (*bestemmingsplan*) of 1976. This last one is at the origin of the hierarchical road structure of the city and of the strengthening of functions the city centre. The centre of Groningen had to gather all functions: live, work and recreate. This new vision on the city-form, in which much attention is paid to the existing parts of the city has been defined in the terms of compact and concentrated city ("*compacte en geconcentreerde stad*").

According to this compact city policy, the inner city and the other historical neighbourhoods, called ‘19th eeuwse schil’, should be preserved and renewed, and any new living area developed on green fields should be located as close as possible from the existing built up areas. In the period 1974-1985, approximately 14.500 pre-war houses have been replaced or renewed in the city (Hurenkamp, 1995), and profound transport mutations occurred. The new compact city vision and town planning has even gained a new dimension with the publication of the structure plan of 1986 (see appendix 6). This new plan focused principally on the intensification of facilities and employments in the inner city. This strengthening had to be accompanied by an improvement of the living quality of the existing urban environment and of the traffic network. Moreover five intensification areas had been designated, where new functions of regional importance (*bovenregionaal*) and intensification of the land use had to take place. These zones were:

- The zone Verbindingskanaal (and stationgebied), including the Zuiderpark;
- Het AAgrunol-terrein;
- The area Oosterhaven, A.Z.G.-area, Bodenterrein, Gasfabriekterrein, Boterdiep en Circusterrein;
- The area between the Damsterdiep, the Eemskanaal and Van Starkenborghkanaal until the Eastern ring road;
- The area along the Southern ring road.

From 1986, and until now, there has been a deliberate and continuous effort towards the integration between urban and transport policy making and planning (Hansen C.J., 2005). Opportunities for establishing businesses were nearly all situated in these intensification zones, which benefited of a great accessibility to diverse modes of public transport. In fact, this strategy constitutes a part of national ABC policy derived from the VINEX policy (see chapter 3). For Groningen, this 'integrated travel management' and 'the Compact City' led to great improvements of both the living environment and the traffic conditions in the city centre. In the 1990s, the principle 'liveability' made its apparition in the planning rhetoric and was rapidly adopted by the city. It asked for a more complex and integrated physical planning and planning for the quality of life.

The compact-city policy of 1980s and 1990s didn't stop Groningen growth. In the nineties, the population of the city started to grow once more, supported by the provincial policy giving less opportunity for suburbanization and by the construction of more houses for young families around the city. In fact, the city had already built Lewenborg and Beijum as an alternative for the suburbanization at the end 1970s and beginning of 1980s, but these areas were soon developed further. Later, the city has seen the apparition neighbourhoods such as Hoornsepark, and Ulgersmaborg and the Hunze located in the green spaces between Lewenborg and Beijum.

Beside the apparition of these new large living areas and others, of a smaller scale the spatial policy of Groningen remained focused on the compact city. Some companies from and around the downtown were shifted to new areas, connected to water and the road, to make room for more living houses and offices. Large scale retail stores were realized directly on the edge of the inner city for (Westerhaven) and in relatively short distance from it (IKEA-location), for the retails asking a bigger floor surface. From 1990, the municipality chose for a relatively small-scale increase model on its outskirt. That offered more flexibility than the development of the large new districts of the 60s and 70s. Moreover this way the existing infrastructure and supplies could be used more intensively, such as district shopping centre.

Therefore, the spatial structure of the city has not grown too extensively. The outside line from 1980 has been more or less maintained. The consequence of the city's small size and of the extensive bike network is, among other things, that anyone can easily make the trip between any places he/she by bike. Today the average distance covered by bike is, nevertheless, longer than in the sixties, but this has been compensated by high quality bike lanes joining the outer districts to the inner city.

The structure plan 'Stad Van Straks Extra' of 1999 points out that the compact city has, however, not only benefits but also its limitations. Those ones become clear as soon as one asks what the people of the city think. Compactness leads to an increased pressure on green areas and public spaces, to problems concerning the accessibility of functions and supplies, and to a lack of space and possibilities for companies wishing to establish themselves or to expand (Gemeente Groningen, 1999). In fact, Stad Van Straks Extra was also needed because the Dutch national government initiated the grotestedenbeleid (*Big Cities Policy*) in 1994. This policy, entirely devoted to urban renewal, was developed to solve the housing, living and employment problems in 31 large cities of the Netherlands.

The spatial concept and strategy for Groningen presented in 'Stad Van Straks-Extra' has been revised. It is not only a matter of following the simple monocentric compact city model, but the aims is to reach the 'new compact city of the future', the alternative city form (stedelijk alternatief) for Groningen: "a conglomerate of several 'living milieu' with varying compactness - from low to high – where attractive living and work areas are solidly linked with each other and with the urban facilities centres by means of the urban connection areas (corridors)" (Gemeente Groningen, 1999). A key strategy of the Municipality is, thus, to diversify the housing offer to be able to meet the heterogeneous wishes of the population. The domains and corridors had been designated for mix-use development and intensification (*intensieveringszones*). These were designated to complete the city centre which should, nevertheless, keep its central role in the future. The more recent actualization of the structure plan, 'Van Nu Naar Straks' (2004), kept these intensifying zones (see Appendix 7).

Since 1996 and especially 1999, the structure plans have a wider vision than the city itself. It looks beyond the municipality boundaries and recognize entirely the central role of the city in the Northern Netherlands. This has been strengthened since the apparition of the Region Groningen-Assen, a body of inter-municipal and provincial cooperation for housing, economic, social and transport development and management. This regional cooperation already existed in the 1990s, but has its own institutional body only since 1999. The last Spatial Strategy Document (Nota Ruimte, 2004) recognizes the region Groningen-Assen as one of the National Network. We will explain in further details the role of this new region in later on (see section 5.6.1).

5.2.3. Historical growth of the city

My main research questions do not focus on Groningen's growth in the past, but rather on the path the city is presently following. However the study of urban sprawl or, in this case, the one of compactness and of local strategies and spatial concept to retain it cannot be achieved out of context. Therefore it is undoubtedly useful to visualise the city expansion throughout the years, so we can better grasp its present spatial structure.

The growth of Groningen has not followed a continuous line from its creation. Although the city is 1.000 years old, its physical expansion only really started in the 20th century, pushed by a rapid demographic growth. In the beginning of the previous century, the population increased rapidly from about 66.000 inhabitants in 1900 to about 100.000 in 1928. Nowadays, it is almost two times as much (GRUNN).

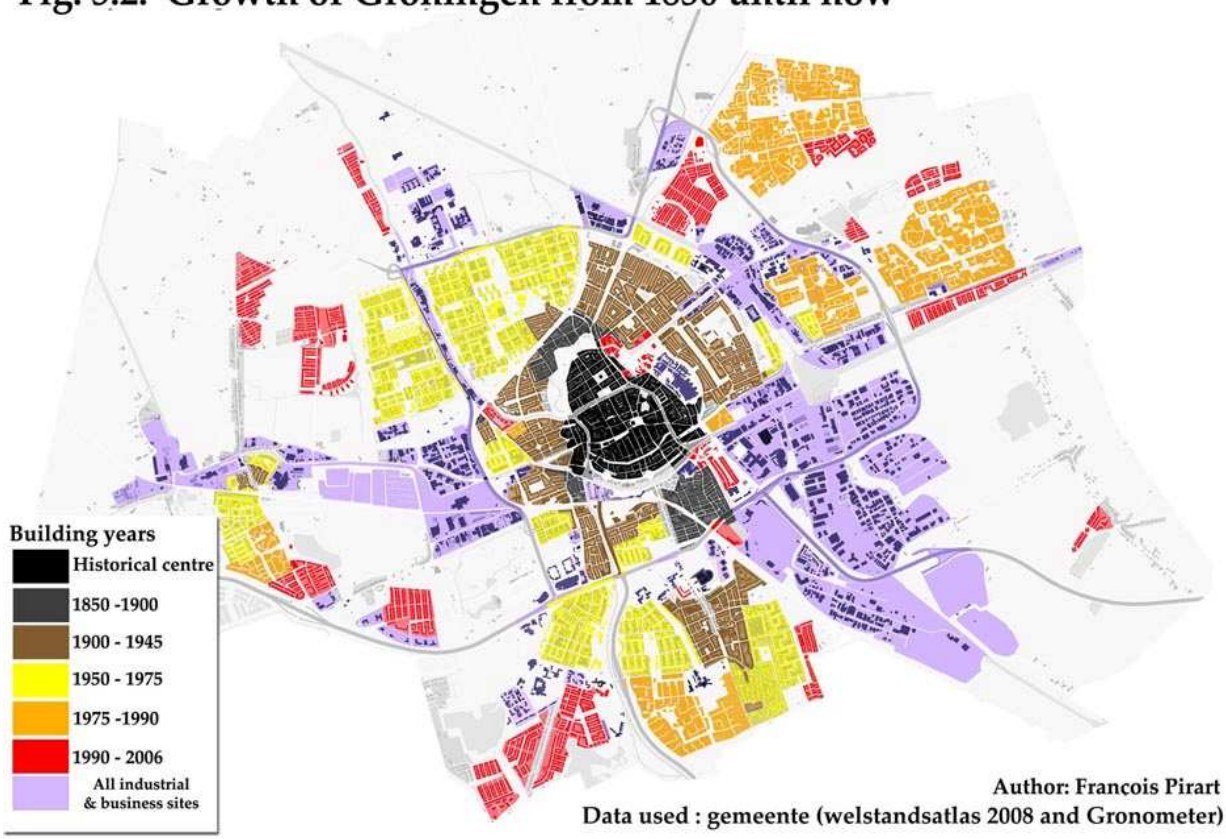
As for most Dutch cities, the urbanisation of Groningen has been helped by the housing subsidies accorded by the central state, especially after WWII. The focus has for many years has been on the quantity of housing. A good way to apprehend the development of Groningen is to present it in maps. The development of the city has occurred in a rather concentric way around its historical centre and does not breach the distance of 7,5 km from the big square.

Growth in the 20th century had also the characteristic to occur through large homogeneous extensions. In period of big housing needs, such the early 1900s and after Second World War (*naoorlog*), the city has planned big living areas to

accommodate the increasing population. These large residential areas are now the target of strong revitalising policies, because they pose a certain number of social and economical problems. This urban renewal effort, necessary to retain the city compactness and to improve the living environment, is developed further in this chapter (see section 5.4.).

Despite the fact that the population growth in Groningen has slowed down during the 1980s and never reached back the same level as in the early 1900s and the post-war period (see appendix 8), the city has continued to grow rapidly. The constant diminution of the households size, faced in most Western countries, is also an important factor pushing the housing demand higher. The following map (figure 5.2.) gives us a perfect idea of the size of these large extensions.

Fig. 5.2. Growth of Groningen from 1850 until now



5.3. HOW COMPACT IS GRONINGEN

In chapter 2 (section 2.2.5), it has been put forward that the measurement of sprawl or of compactness was something complex. This is especially true when one tries to pin down its exact consequences on pollution, traffic, health, energy consumption, etc. Nevertheless, the physical measurement of urban areas themselves (i.e. their extension and density) is far more straightforward. In this section, I'll 'only' focus on a descriptive study of Groningen's compactness, rather than trying to determine its consequences and causes.

The measures of compactness, usually simply associated to the one of the population density, should reflect more adequately the reality of the compact city. In this thesis, it has been decided to look more closely at the numbers and to provide the closest and most relevant indicators of compactness. The measure of compactness will consist of a review of the 10 criteria that were already presented in the theoretical chapter (table 5.1.). A particular attention will be paid on the population and job density in the city of Groningen.

5.3.1. Study of density

General measure

At first, to evaluate whether or not Groningen is compact, one can be tempted to compare directly, the population density of Groningen with other cities. These measures are frequently appearing in governmental reports and many other studies. The total area of the municipality of Groningen being of 8,349 hectares and its total population of 181,610 inhabitants, the simplest measure of density leads to a density of population of 22 inhabitants/ha. In fact, a similar calculus is the number of dwellings per ha. In the case of Groningen, the housing density is of 9,9 dwellings/ha. These figures are, however, very poor indicators as they take all the land of the municipality into account. Thus this counts all the land as if it could be developed, regardless of water bodies, steep land, natural areas, etc. For Groningen and many other cities, this result in a large underestimation of the real built-up environment as the municipality boundaries enclose many other land uses.

Therefore, another measure, more representative of the compactness of the living environment can be calculated by only taking into account of the surface of land actually occupied by the housing function. For Groningen, the built-up area for housing (bebouwd woonterrein) represents, with 1,858 ha (CBS, bodemgebruik, 2003), just a bit more the a fifth of the total area within the municipal boundary. Calculated like this, densities are, thus, of 45 dwellings/ha and of 98 inhabitants/ha. These figures have the privilege to allow rightful comparison between cities. According to this measure, a high density truly means that the population is living in higher density living environments. According to this measure, the city of Amsterdam is characterised by the highest population densities on housing land.

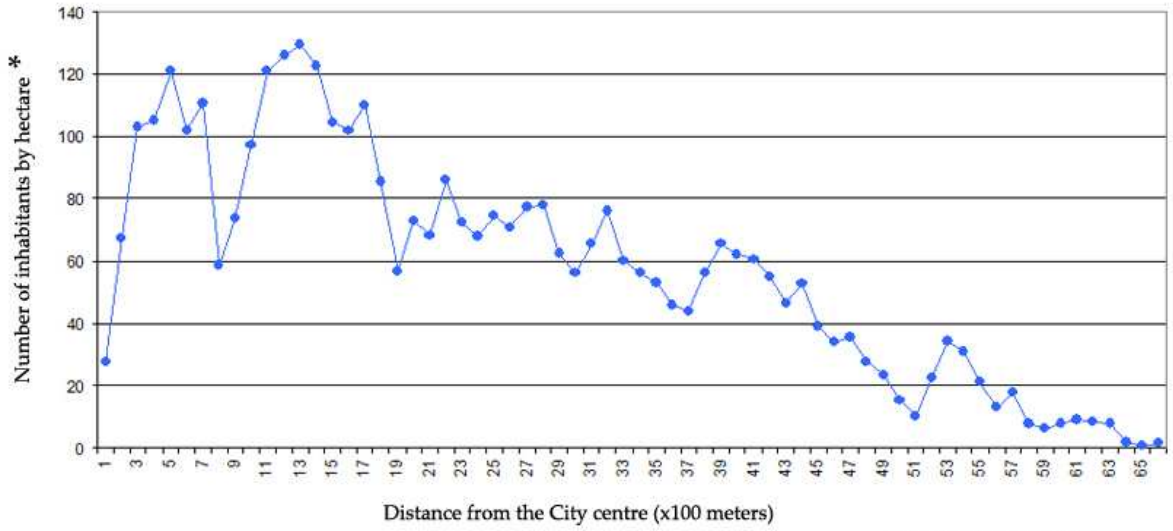
Measure of the urban structure: the density gradient

The advantage and principles of this measure are presented in chapter 2, and the methodology concerning adopted in this study has already been extensively presented in chapter 4. Here we certainly do not expect the density gradient curve of Groningen to adopt an exponential behaviour, characteristic to many metropolitan areas in a market led situation. Indeed, the city form and density of Groningen have been influenced by the strong land use regulations and governmental actions throughout history.

The central point that was taken in consideration in this study was the big square of Groningen (Groote Markt). The choice of this point was quite simple, considering the central role played by this square and the surrounding pedestrian commercial allies. The remarkable thing about Groningen, as we can see, is that both the density of

population and the density of job are very high in the first 2 kilometres from the city centre. A large number of people live, work and shop in this small area. The following two charts represent the result of the approach for the population and job density gradient (see figure 5.3. & 5.4.).

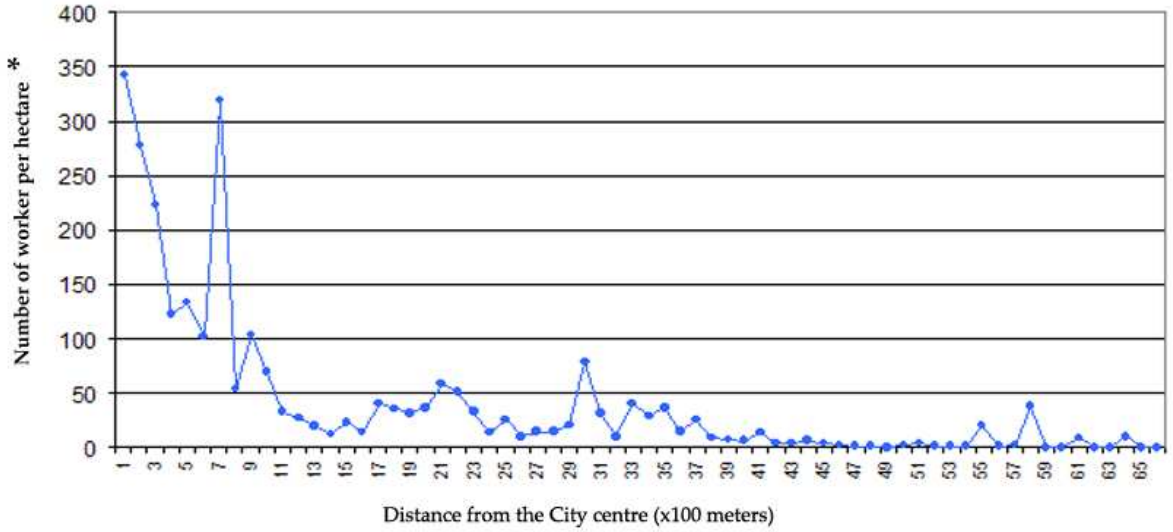
Fig. 5.3. Population density gradient of Groningen (2008)



* Only the built environment is taken in consideration

Authors : Pirart and Van Genk
Data sources : Gemeente Groningen, Postcodes 2004

Fig. 5.4. Job density gradient of Groningen (2008)



* Only the built environment is taken in consideration

Authors : Pirart and Van Genk
Data sources : Gemeente Groningen, Postcodes 2004

Even in the close vicinity of the square, where many houses ground floors are occupied by a commercial activity, the density of population stays remarkably high. Despite this visible achievement, the municipality of Groningen is still trying to fill the few remaining empty places with the 'Wonen Boven Winkels' (*living above the shops*) policy (see section 5.4.4.).

Beyond the canal surrounding the inner city, and until 1.7 kilometres away from the centre, the population still lives in high densities averaging more that 100 inhabitants per ha. It is interesting to notice - thanks to the historical map (cf. figure 5.1.) - that the majority of neighbourhoods at this distance are still rather old. Most of houses there were built before the Second World War. The highest densities of population are not found in areas where high buildings rise above the ground, but in popular neighbourhoods in which narrow houses are all connected together. Oosterpoort, situated on the South-East of the inner city is the perfect example of these Dutch living areas, where many students and small households are living on both sides of narrow streets.

The high density of jobs in the centre, and also at 700 metres to the East of Groote Markt resulting from the presence of the biggest employer of the city – i.e. the University Hospital – is without any doubt the result of the strong compact city policy followed by Groningen. Indeed, the city – supported by national policies and regulations – has put strong restrictions for out of town shopping centres and focused on keeping the inner city as alive as possible.

5.3.2. Evaluation of the various characteristics of the compact city

The compact city criteria

The density, alone, does not represent a sufficient indicator for qualifying Groningen of compact city. We have seen in theory (cf. figure 2.1 & section 2.4.1) that the compact city is considered to be much more than a dense urban environment. Other criteria such as public transports, connectivity, open space, continuity, mixed land-use… come into play when one wants to appraise if a city is close from what is believed to be the compact city form.

This section presents the concise evaluation of some criteria that refer to the compact city characteristics. These have been highlighted by Neuman – and others (i.e. Burton, 2000; Galster et al., 2001) – but don't necessary need to be measured with precision in this thesis. Ten criteria have been chosen and estimated on the basis of the secondary data gathered and the knowledge acquired throughout interviews (see table 5.1). The table does not go to much in details, since no complicated measures of the criteria realised. For the biking and road network characteristics, nevertheless, the points made are illustrated in the appendix.

Table 5.1. Compact city characteristics : quick evaluation for Groningen	
Explored criteria	*Evaluation for Groningen*
1. High residential and employment densities	Both residential and employment densities highest in and around the inner city. Population density remains averagely high until the limit of the built up area. Employment density drops more sharply. (*developed extensively in section 5.3*)
2. Mixture of land uses	Mix land uses in the inner city (retails, schools, pubs, houses, etc). Some residential areas on the outskirt of the city are more homogeneous (majority housing), but always in vicinity of public facilities or small grocery stores.
3. Fine grain of land uses (proximity of varied uses and small relative size of land parcels)	The parcels are small, especially in the historical centre and old neighborhoods. It tends to increase in new residential areas built in recent years on the outskirt of the city, but remains much smaller that what can be experienced elsewhere.
4. contiguous development	Only few empty spaces are left vacant. They have been filled up over the years. By development. No leap-frogging development has occurred within the municipality boundaries.
5. Contained urban development, demarcated by legible limits	The limit between the city and the countryside is sharp. Around the city itself, only a few roads have experienced ribbon development in the past. Thus once one leaves the city, he finds himself in a rural landscape of open fields. The land use regulation through the land use plan and the building permit acted, over the years, as the best tool to draw a legible limit around the city.
6. Multimodal transportation	Without any doubt, the biggest achievement of Groningen. Everything has been done to limit the use of private cars in the inner-city. Today, more or less 50% of the trips inside the municipality are achieved by bike, 5% by public transports and 30% by car. The small size of the city (~7km radius), the high proportion of students and the quality of the biking network are all favorable elements for this achievement.
7. High degrees of accessibility: local/regional	All major public facilities (hospital, university, municipality) are accessible by bike or public transport for local residents. Major railway lines are connecting major towns in the region and the bus network goes virtually everywhere from/to Groningen. However, almost 80% of people from outside the municipality come by private cars. New improvements such as the Kolibri network will hopefully improve the regional picture.
8. High degree of streets connectivity, including sidewalks and bicycle lanes	The biking network has developed dramatically in the last 25 years. Any new housing area is directly connect to the network. The road network is well developed and hierarchically organized in main, secondary and collectors roads in such a way that the traffic in living neighborhoods stays a low as possible. **See appendix 9** for visualization of the networks development and biking use.
9. Low open-space ration and high degree of impervious surface coverage	Despite the fact that it is surrounded by green agricultural land, one cannot say that Groningen has much open-space for the citizens. However, consciousness to conserve and create urban green space has improved the situation. Making space for water storage has recently become a priority at the national and municipal level. This has also been a push-factor for the new integrated area development to the East of the city (Meerstad). Open recreation land, a new lake and forestry areas will be developed there for 2025. This is, however, not really IN the city.
10. Sufficient governmental fiscal capacity to finance urban facilities and infrastructure	Groningen, as well as all Dutch municipalities, have different sources of revenues : local tax of residents and firms, national subsidies and the surplus money from their role played in the land market (see chapter 3).
Author : François Pirart Criteria from Neuman 2005	

5.4. LOCAL POLICIES FOR COMPACTNESS

The city of Groningen has recognised, for many years now, the benefits to remain compact and to maintain the central role of its city centre (see 5.2.2). The city's best tools to avoid sprawl and unwanted development are, as for every Dutch municipality, the binding land use plan and building permit (see chapter 3). However, passive regulations do not point to a direction, and thus must be accompanied by other policies and incentives to achieve strategic goals. The aim of this section is (1) to summarise the policies and strategies currently used by the municipality of Groningen to keep and even to increase its compactness, and (2) to give an idea of what these policies involve on the ground by a selection of the major projects born from them.

5.4.1. The recent Structure Plans

The structure plan should no be considered as a local policy for compactness, however it highlights the direction towards which the city goes and/or should go. It is the document that summarizes the spatial planning targets of the municipality. In the Netherlands, its components can have a normative or an indicative value. Only the normative elements are binding and are linked directly to the bestemmingsplans (see 3.2.3.).

In Groningen, the previous structure plans played a crucial part in the designation of intensification areas (*intensiveringszones*) and urban renewal areas (*wijkvernieuwing*). Concretely, the intensification zones receive a special treatment from the municipality: higher buildings are allowed, roads/bike path are improved, new housing and offices are planned. In these areas, the municipality supports innovative solutions such as mixed land use development and work/live concept. The '*intense stad'* program (see 5.4.5.) and the high-rise building policy (see 5.4.2.) have, thus, all their effects and projects concentrated in these areas.

The designation of urban renewal (more detailed 5.4.3.) areas is at least as important for compactness than the one of intensification corridors. Without renewal, further deterioration of housing in some districts would push more and more people to leave their home – leading to further spatial deconcentration and segregation.

5.4.2. High-rise buildings note (Hoogbouwnota)

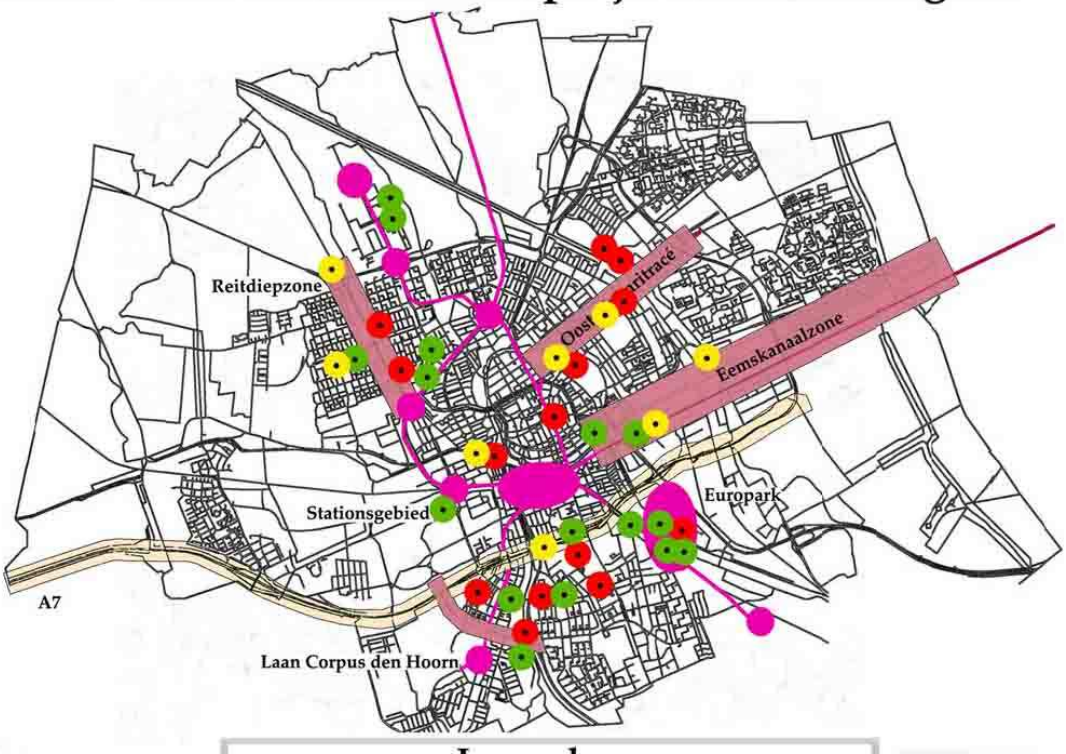
General presentation

Building higher to attain higher densities. The idea is simple to understand, as piling up people and office space does result in a direct saving of space, and to a certain extent of energy. This is one direction that Groningen wishes to follow in the future. The high-rise building policy of the city, published in 2002, is the concrete proof of this desire. This document, the 'intense stad' and other public announcements the city of Groningen clearly goes towards the acceptance of a higher city and wishes to increase the number of high-rise buildings in the city.

In general, the height of building is highly regulated in the country, but each municipality is free to follow tailor-made policies. In Groningen, for example, there is a marked differentiation between the inner city, where high-rise is nowadays more or less prohibited - except for the large new forum that will be built near the big square - and its surroundings. However, even outside of the centre, the municipality strictly defined the zones in which high buildings projects are allowed. These areas are chosen on the basis of the neighbourhood profile, environmental characteristics, and so on. As a result, only a part of the intensification zones mentioned in the structure plans - and other areas that already contain high buildings - were designated. Not to mention that the accessibility of the sites have been taken into account.

In summary, the municipal preferential zones for high buildings development are (gemeente, 2002): (1) the central station area Groningen, (2) the area around future NS-Station the '*Kempkensberg'* and the '*Europa park*', (3) the Eemskanaalzone (especially along the '*Sontweggebied*' and the route to Meerstad), (4) the '*Oosterhamriktracé*' (from Ciboga-area towards the Kardinge), (5) the '*Reitdiepzone*' taking into account existing `green and blue' qualities, and (6) the '*Laan Corpus den Hoorn*' (as from the Julianaweg A28 until the new South entry of the town park 'Stadspark'). The following map represents these areas and the current high-rise building in construction, development or in their study phase (Figure 5.5.).

Fig. 5.5. Designated areas for high buildings and current state of the projects in Groningen



Source : Hoogbouw nota (gemeente 2002) & Overzicht plannen Groningen (Skyscrapercity website)
Modified and combined by François Pirart

Even if the high-rise buildings are more gladly welcome than in the past, the acceptation of project still require an in depth evaluation of several concrete criteria. Moreover the initiator of a project, higher than 25 metres, must prepare a report showing a map of the impact on the 'city landscape' (phase 1) and the impact of the high building on its direct surroundings (phase 2) (Hoogbouwnota, 2002). Finally, the note called for a new commission (*hoogbouwadviescommissie*) which reviews each construction plan higher than 25 metres to these two criteria and other recommendation within the note.

An important thing to notice is that the denomination of '*Hoogbouw*' - based on the building height - varies from one city to another in the Netherlands. For example, in the larger city of Rotterdam this term only regroups buildings higher than 120 meters, while this figure drops to 50 metres in smaller cities such as Groningen. This denomination can even change within the same city: differentiation between the inner city buildings and the outskirts.

If high buildings constitute the most straightforward way towards compactness, achieving higher densities is far from being the only goal of high-rise buildings. Today, these often serve the image marketed by city as well. They help attracting the eyes of businesses on the city and are also used to compete against other cities. The will to attain higher densities of functions and to intensify the use of land might even be a secondary goal of some. In fact forty years ago planners and architects were also driven by different goals when they built vertically. For example, in Groningen and many other cities, the development of high flat-towers built in the 60s and 70s in greenness aimed to increase the public space rather than to increase the density (Gemeente Groningen, 2002).

In the coming years, the Hoogbouwnota is aiming for 1 to 3 new buildings of 90 metres, 3 to 8 averaging 60 metres, and from 10 up to 20 of 30 metres in the municipality designated zones. These new high constructions are not going to be the first ones in the city. In fact there are already many buildings higher than 35 metres in the city. But there clearly is a boom of the high-rise building projects now.

In March 2008, 24 new projects were in development – coming out of the ground or in preparation – and 14 others were in their study phase (very likely to be built). All these projects have also been located on the previous map (fig. 5.4.), so that the reader can appreciate the relative importance of new keen interest of Groningen for high-rise development.

5.4.3. Urban renewal

An important challenge tackled by a collaborative work

In the 1990s, the municipality Groningen observed that the post-war districts (naoorlogse wijken) in the city no longer satisfied the wishes and needs of the population. These ones, such as Vinkhuizen located in the North West of the inner city, have seen an impoverishment of their population in the course of time. People in search of a better housing quality or a more suburban house type could not find what they wanted in their surroundings and left the districts. Eventually, they got replaced

by new residents, but usually poorer than the predecessors. The reduction of the population and the growing empty locations in these districts were leading these areas in a downgrading spiral in which things could only get worse (Wijkvernieuwingsplan Vinkhuizen 2003). The next figure highlights quite well the challenge that these areas represent. It shows on the left side the liveability index in Groningen neighbourhoods, and on the right the demographic variations that occurred between 1991 and 2007 (see figure 5.6).

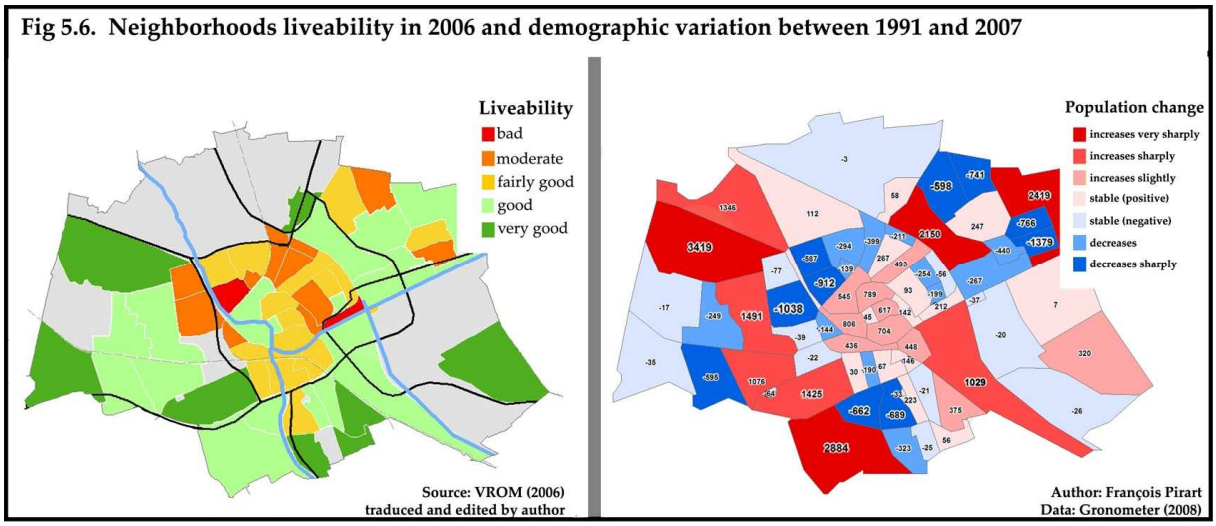


Fig 5.6. Neighborhoods liveability in 2006 and demographic variation between 1991 and 2007

Between 1991 and 2007, almost all post-war districts lost a part of they population, while the major increases in population were located on the edge of the city in new residential districts – usually more in line with the current requirements of the population, but also destined for the higher segments of the population. The liveability index map, presented by the Ministry of Housing, Spatial Planning and the Environment in 2006 (VROM, 2006), also highlights that these post-war districts are generally poorer and less healthy that the rest of the city. The population fluctuations and the liveability index seem to be clearly correlated as most districts that experienced a decrease of population in recent years also score low in term of their liveability. This is true except for the inner city and its close surroundings, which have become increasingly attractive in recent years.

The apparent problem of the post-war districts asked to be tackled seriously by the municipality. In 1999, urban renewal was almost the most important topic of the city vision and the structure plan (Stad van Straks-extra, 1999). Large parts of the city were designated for renewal: '*Vinkhuizen*', '*Paddepoel-Zuid*', '*de Korrewegwijk*', '*de Oosterparkwijk*', '*Corpus den Hoorn-Noord*', '*De Wijert-Noord*', '*het centrum van Lewenborg en Beijum Oost*'. The quality of life criterion used to designate these areas has been based on an interview campaign conducted in the city, combined with secondary data concerning average income, population age, quality of housing, etc. The map presented above (see figure 5.6.) highlights a more recent evaluation of these criteria (2006).

The municipality is not working alone for urban renewal. The city is working, for many years now, with the major housing corporations to improve the urban environment.

To achieve its ambitious restructuring program the municipality signed, in 1998, a cooperation agreement with the three largest housing corporations in the city. In the this agreement, the financing and the organization of the district renewal was explained and scheduled until 2010: 8.000 houses should be repositioned in another market segment, 10.000 houses owned by corporations should be renovated, and 4.000 should be sold to the market. Logically, the districts that presented the biggest problems had to change more profoundly than the others, thus the municipality also committed itself to improve their infrastructures and accessibility to facilities (Gemeente, 1999). Later on, in 2002 the first local accord (*Lokaal Akkoord*) was signed and recently prolonged and completed by the new local accord of 2007.

In the last document, it is stated that as many as 8.000 houses will be provided in the existing built-up environment, of which 5.000 in the urban renewal areas. Moreover, the role of the corporations extends and now includes the investments in social infrastructure, supplies and public services, previously covered only by the municipality. All parties are investing 20 millions euros extra in 14 districts on the topics of: livability, social cohesion, public space and security (Wijkactieplan Korrewegwijk, 2007).

Last remark, but not least, is that the money spent locally for urban renewal does not come only from the municipality. It is important to remember (see chapter 3) that the Dutch municipalities receive important subsidies from the national state, without which the renewal efforts could not even exist. However, as some of the interviewees pointed out, this financial support seems to be under pressure.

> …the urban renewal funds, helping to improve the competitiveness of the existing urban areas, are supposed to diminish greatly after 2009. The national help composed of the ISV (urban renewal) and the BLS (housing) budgets is currently under pressure. The Planner believes that the city needs both of these support to achieve its current projects of renewal (Huis in 't Veld, 2008 [interview]).

These potential financial cuts in 2009 could make the developments made inside the city even more complicated than they already are. The negotiations with market parties will get more and more tense since the cuts in the national funds for urban renewal and intensification will bring the municipalities to negotiate the price of land development with them.

Re-development of brownfields

Brownfield redevelopment is a particular field of the urban renewal policy. This is due to the nature of the previous activities on the targeted land. In most cases, the soil is polluted and need to be cleaned up before any new activity reinstall itself. The costs of brownfield redevelopment projects are thus very high and usually need the intervention of the government to attract interests. Lack of funds for soil sanitation is one of the main reasons to prevent development of these locations in the near future (Groningen, 1996).

In Groningen the CiBoGa area is the last major inner city site at which housing can be realised in accordance with the VINEX targets. The site is situated along the park 'Noorderplantsoen' and is edged by several living neighbourhoods. It is not far from the main features and facilities of the city, and from three major centres of

employment: the city centre area, the University Hospital and Groningen University. This premium location makes this project one of the most interesting in the eye of the compact city policy.

CiBoGa has enough space for over 900 homes that will be built in high densities (70 homes per hectare), 1300 underground parking places (a third for residents), two supermarkets and 6000 m^2 of large-scale retail facilities. Moreover, the draft urban development plan reserves 20,000 m^2 for functions linked to the University Hospital. This redevelopment project is quite remarkable in terms of its multi-functionality and 'environmental adaptation' – i.e. all functions of the projects have been located in accordance to the current level of pollution of the soil and risks of contamination. Moreover, a particular attention has been paid to connect this project to the efficient public transport network and to limit the impacts of the additional residences and commercial activities on the car traffic in the city.

5.4.4. Living above shops (Wonen Boven Winkels)

This policy, established in 2004 by the city council, aims at an increase of citizen living above the shops in the city. It targets specifically the inner city – where most of the retails on the ground floor of houses capable to accommodate occupants on the higher levels are located. Since the shops are usually using the whole front façade of the buildings, it is impossible, if no alternative entrance is available, for people to live in the empty upper levels. Concretely, the municipality offers subsidies for the building owners wishing to renovate, to adapt and arranged their houses so that upper levels occupancy gets possible. The amount of money proposed by the municipality is of maximum 40.000 Euros by house.

An evaluation, in 2006, had proven that this policy wasn't as successful as it was wished. The goals of 20 housing per year (200 in 10 years) - first considered by some as relatively low - is not even met now. The owners ask more money than what the municipality offers or they are not interested in having people renting or buying the upper levels of the houses. Moreover, the downtown is an area where it became more and more complex to construct – especially because many historical buildings are protected. Lots of actors get involve straight away and the many other policies are interacting and conflicting with each other.

Nevertheless, this policy comes in line with past policies to reinforce the role of the city centre and is, thus, far from being the first effort towards intensification. The density gradient study (5.2.2) proved us that shops and inhabitants are sharing the same space. One can consider that the relatively low goals of this policy are due to the fact that only few buildings still have unoccupied upper levels. Moreover, the executive board responsible for the policy 'living above shops' has recognised lately that the market was also coming into play and helped refurnish the upper-levels where private parties considered that profit was possible. Therefore many projects have developed without the policy subsidies.

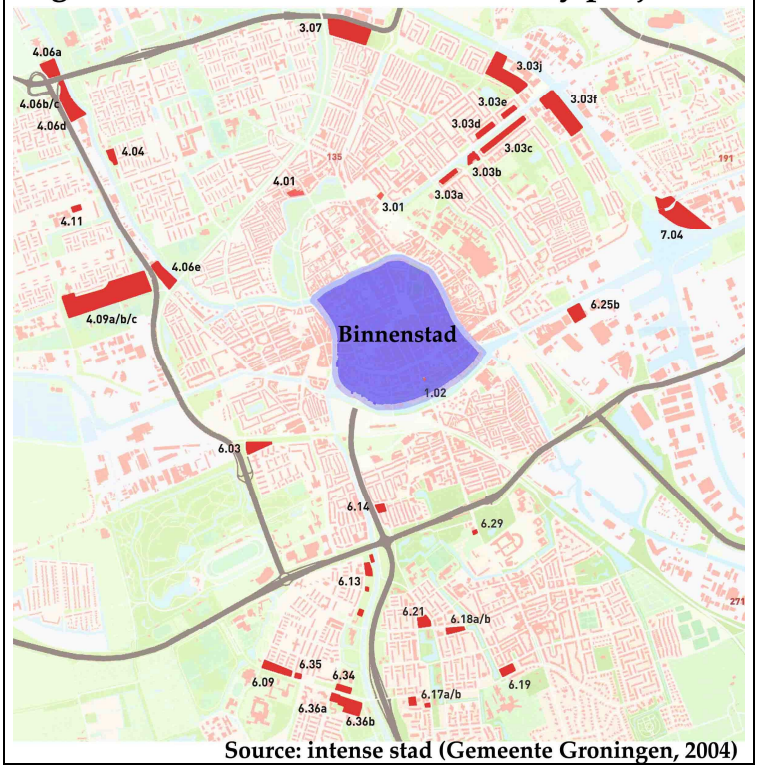
5.4.5. Intense city and function merging concepts

Intense stad

The intense city (*intense stad*) program consists more or less of a gathering of innovative architectural development projects and ideas. In 2004, an exposition and a book presented all the projects that could provide an alternative to the city growth through traditional out of town extension. Thus, the key idea behind '*intense stad*' is to provide a new vision for internal developments (infill) that have been insufficiently looked upon in the past (intense city, 2004). The projects are characterized by a plural and intensive use of space: a principle that is arguably the most important in smart growth strategies and new compact city strategies.

If the preparation and the study of '*intense stad*' was a clear success in 2004, many project haven't seen the daylight. Investments were not as high as expected and the complexity to build such projects in the existing built-up environment is far higher than for an city expansion on greenfield, where less actors are affected by new constructions, risks are lower, and the demand is still very high. Naturally, nearly all projects are located in the intensification zones and corridors highlighted in the recent structure plans of the city (see figure 5.7.).

Fig. 5.7. Locations of the Intence City projects



Source: intense stad (Gemeente Groningen, 2004)

In the continuation of the program from 2004, new ideas have now emerged to reach higher densities. Recently a manifestation called '*The intense laagbouw*' (intense construction layer) also calls on new ideas for the development of empty locations in the city. This concerns another sort of intensification through ground-tied houses gathered in high compactness. We can see example of this in Beijum-Oost, near Wibenaheerd. Instead of altitude, the intense city would be achieved through horizontal compaction. On one hand, this is already criticized for putting further

pressure on the green space (zonlichtenruimte, 2008), but on the other hand it seems easier to achieve than high-rise buildings which always attracts more opponents and difficulties. The '*intense laagbouw'* program is only at the study phase but there is no doubt that the demand for ordinary houses with a garden located in the city is high. For these dense development, the innovative solution of using roof as garden for which a subsidy could be given, is also thinkable. The municipality has now unlocked some money to study the laagbouw concept, just like it did for the intense city in 2004, after what the municipality Council will decide whether or not this kind of development will be given a start.

'Wonen and werken'

A lot of discussions in the Netherlands are presently directed towards the idea of merging the residential with the working land uses. In the past, planning tended to separate these to assure a certain distance between environmentally intrusive and sensitive functions. Indeed, economic activities greatly influence their physical surroundings, creating pollution, noise nuisance and movements. However, lately function merging is believed to be able to contribute positively to the city's livability (bouwkennis, 2007) and push them towards a more sustainable outcome. Besides the '*Intense stad*' program, already proving in itself that Groningen has welcomed these mixed land uses innovative ideas, the city counts two recent projects that highlight perfectly the application of the live-work concept: the '*Ciboga*' and the '*Europa park*' projects. Since the former one has been presented before, only the latter will be highlighted here.

The idea of Europa park finds its origin in the structure plan of 1996 ('stad van straks'). This project forms a completely new city districts with offices, houses, recreation, and entertainments such as the new FC Groningen stadium (see figure 5.8.). Moreover, besides the wishes concerning the mix of functions, a great effort is done to make this site accessible by public transports from the wider region – most notably by creating a new railway-station on the site. An additional attention has also been paid to the parking places of this sites, which are limited in numbers and have to be shared between the employees and visitors.

Fig. 5.8. Function merging in *'Europa Park'*

Source: Europapark stedenbouwkundig plan (Gemeente Groningen, 2000)

It is important to notice, however, that the working functions are in this case of a non polluting nature. Offices mixed with residences do not usually pose excessive tensions, except for the traffic and noise increase during the day. Besides, in this case, the active transport planning policy of the municipality and the creation of the new railway-station are expected to neutralize these negative effects relatively well. Finally, it is essential to bear in mind that the success of such projects greatly depends on the acceptance of the population to live near their working place. It is still uncertain whether or not the population that will live in "*Europa Park*" will also work in the offices next door.

'Bovenstad'

Another innovative idea that is acquiring momentum in the Netherlands, and for which an exhibition has recently taken place in Groningen, concerns the use of the buildings' roofs to accommodate different functions. 'Conventional architecture' sort of assumed that the roofs could only serve one purpose – i.e. a protective shield against the weather. '*Bovenstad*' leaves from the principle that the top of buildings are currently underused, and could easily accommodate new housing, open space or recreation. Even if this movement remains at its first steps, it could already have some effects on the design of future constructions in Groningen in the future.

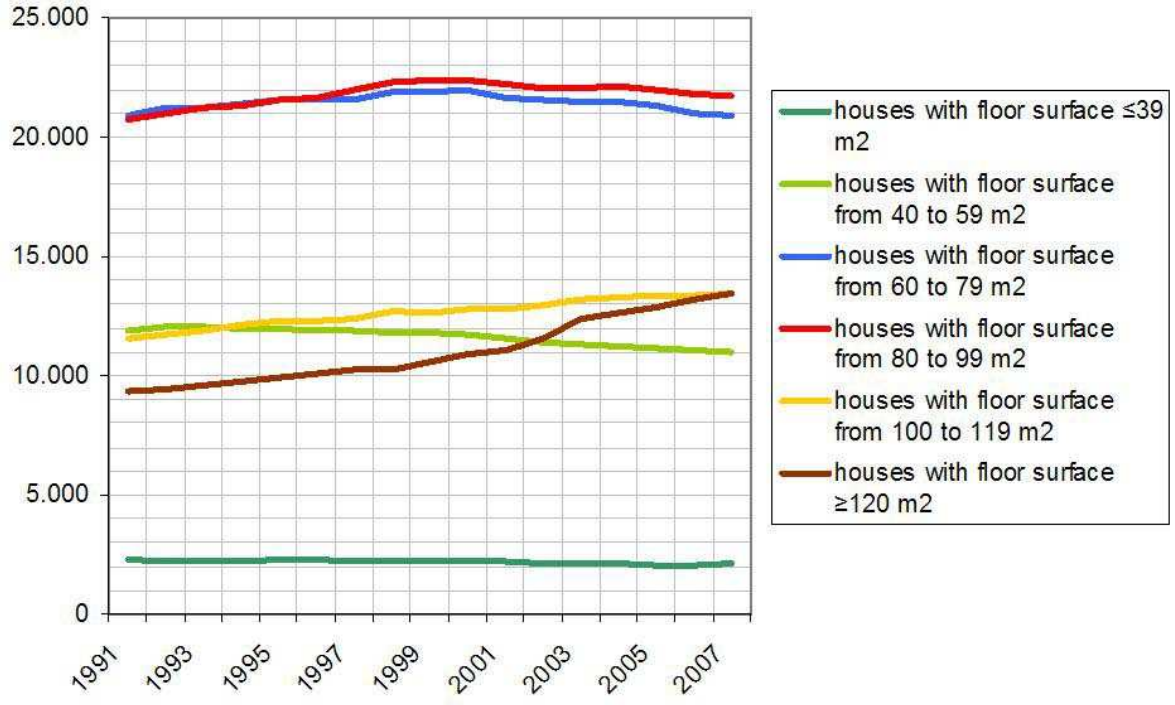
5.5. MAJOR PROJECTS ON THE EDGE OF GRONINGEN

5.5.1. The need for new high quality residential neighbourhoods

The local policies supporting compactness presented in the previous section are all meant to intensify or improve the existing urban environment of Groningen but do not, and are not supposed to, provide all the houses and work locations for the city. The map presenting the historical growth of Groningen (see fig. 5.1) has proved that the city size has still increased in the recent past. There are two main reasons why city needs to grow. Firstly, there is not enough available space within the city to support the houses and working needs; Secondly, demand for bigger houses with garden is rising and is insufficiently satisfied by the existing housing stock.

The municipality of Groningen has recognised the uselessness to apply a strict compact policy if it pushed its citizens to establish themselves elsewhere to find a chosen living environment and housing style. The new concept of compact city, presented in '*De stad van Straks – Extra' (1999)*, offers a wider variety of living environments. Neighbourhoods of detached or semi-detached houses with their own garden are annexed on the outskirts of the existing city. Many of these projects were presented in 1996 (*De stad van straks),* but some are still under way. The local response to the growing demand for bigger houses can be first illustrated by the chart below (figure 5.7.). This chart demonstrates that the houses built between 1991 and 2007 in Groningen were in generally bigger than 100 square metres (inhabited surface), while the market of smaller accommodations more or less stagnated.

Fig. 5.9. Evolution of the number of independent houses
- classed by their inhabited surface -

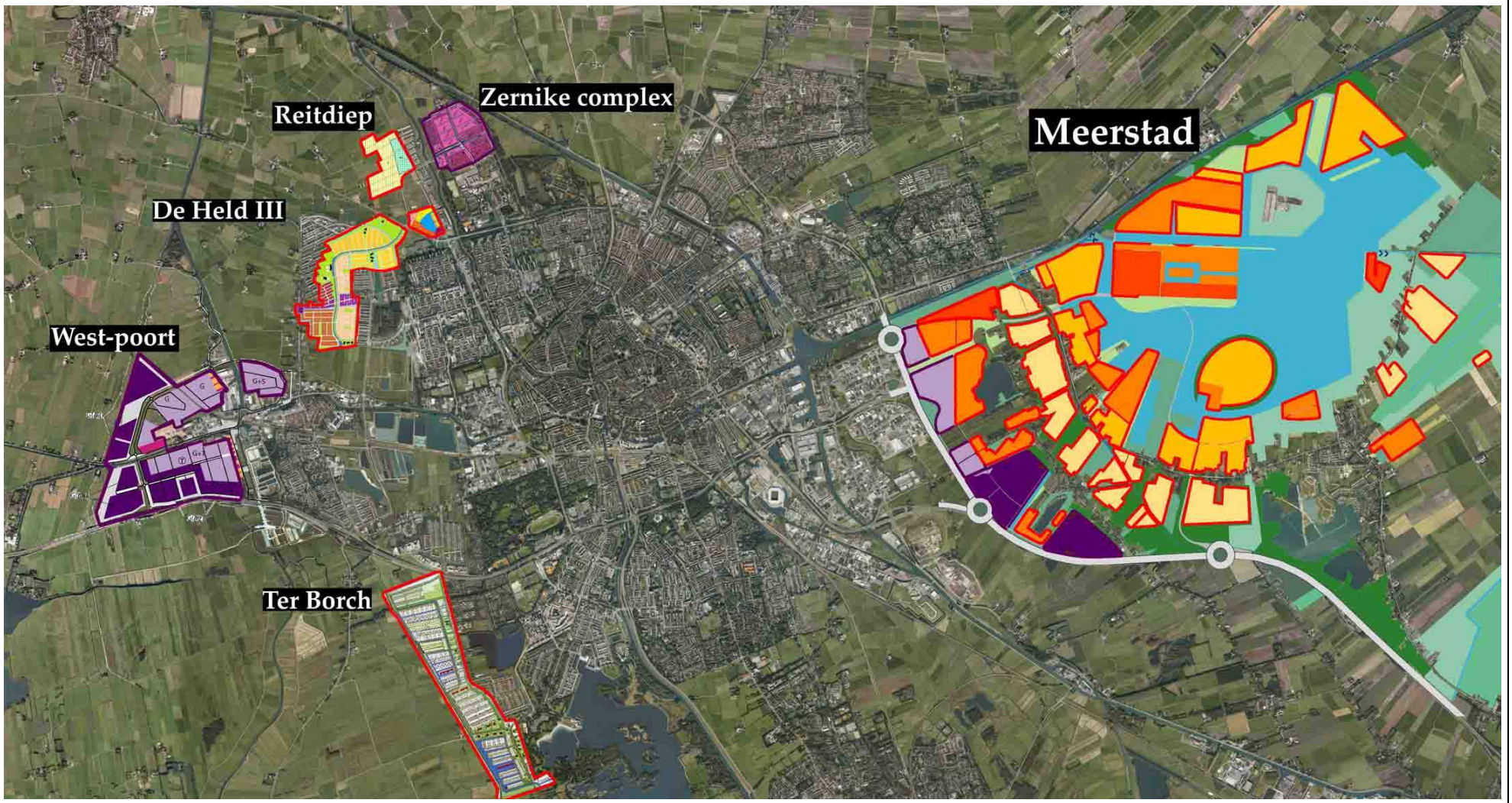


Source : Gemeente Groningen (DIA, 2008)

The municipality believes that the new living areas give more balance to Groningen by increasing the housing choice for its citizens. In parallel to this 'diversification' of housing, the city continues all the policies mentioned in section 5.4.: high-rise buildings for flats and offices are built, and money and efforts are spent on urban renewal, land use intensification and innovative ideas. Ultimately, the city is supposed to be more complete – i.e. capable to fulfil the demand of a wider population.

The following sections will present all major projects situated on the edge of Groningen: the major residential projects currently in development (5.5.2), the new industrial estates Westpoort and Zernike complex (5.5.3) and the project Meerstad (5.5.4), which represent a new kind of integrated area development. Each one of these three sections will contain a short descriptive presentation of the projects, and also additional information and comments based on the interviews of the local planners realised this year - completed by additional secondary sources. For the sake of clarity, we decided to place all these projects on a recent satellite image of the city, so that the reader could directly get an idea of their extent and location (see figure 5.8.).

Figure 5.10. Extension projects around the city



Sources : Google Earth, Land use plans (*bestemmingsplannen*) from the projects (gemeente website, 2008)
Edited and modified by Author

5.5.2. Housing projects

The three new housing areas on the West part of Groningen have all started now. In reality, De Held III and Reitdiep (III,IV and Haven) already represent the remaining phases of what had been planned in 1996. Previous extensions, part of the same plan, were achieved between 2000 and 2008. For Ter Borch, the first phase has just started in 2008. If compared to the size of Meerstad, located on the East of Groningen, they seem really small projects. However, these three new developments represent an increase of nearly 4,000 new houses, 5 percents of the current housing stock of the city. Comparatively, the project Meerstad should account 10,000 new houses (yellow/oranges areas), but its size is enormous because it is not merely a residential area.

De Held III is a project of nearly 1,600 houses comes filling in the hole between De Held I and Gravenburg - the two first phases of the Helden project - completed in the recent past. This project has the particularity to be on a VINEX location. This development is characterised by a relatively high density of housing considering its suburban nature (25-33 dwellings/ha) and differs from Reitdiep and Ter Borch by its relatively higher number of cheap houses (goedkopere woningen). The area of the project covers 85 ha of previous greenfield.

Reitdiep is the extension of Reitdiep currently in progress - phase III-IV and Reitdiep Haven - lie West of the Zernike complex, in between the N355 in direction of Leewarden and the Hoogeweg. Half of the entire Reitdiep project has already been built, the other half (850 houses) starts now. The prices really depend on the type of house offered. In Reitdiep Haven, the prices of apartments are half the price of the houses located on piers above the water (around €300,000).

Technically, **Ter Borch** is not a project of Groningen. Indeed this project of 1,250 houses stands on the ground of the municipality of Tynaarlo; however there is no doubt that it must be considered as an extension of the city of Groningen, as it touches it and was planned in co-operation between the two local institutions. It's localisation, along the southern lake of Groningen (Hoornse Meer) makes of Ter Borch one of the most agreeable environment in the region. Completed in 2014, this district will probably represent the most luxurious living environment of Groningen. The district has been intended for people who do not want live within the city but want, nevertheless, to be close enough to go in the inner city when they please. The parcels are quite big and the housing density is of 11 houses per hectare for the all area, 25 per ha if only considering the residential ground.

The interviewees have not formulated any deep criticism concerning these new living neighbourhoods on the outskirt of the city. In the contrary, most of these planners see these as a necessity or just a normal answer to the existing demand. Of course, they are all concerned about the expansion of the city, but the city had to answer a houses shortage and the unbalanced matching between the supply and demand.

If these kinds of houses are not to be built around the city, many people will go find a place suiting them somewhere else and increase the number of daily commuters coming to Groningen everyday. This population emigration is what is tried to be tackled with these three projects and Meerstad.

The biggest threat arising from these developments is to create migration from and segregation of older neighbourhoods considered as being outdated and of bad quality. The major challenge for the future will be on urban renewal to improve the quality of these problematic districts. If this is not done, the problem experienced now in the post-war districts will be accentuated.

5.5.3. Industrial sites projects

The nature of industrial activities pushes the municipality to make room on the outskirt of the city. The location of these land uses are generally preferred at a reasonable distance of the residential areas – except for ICT and offices which do not cause to much nuisance – especially since the EU has introduced strict regulations concerning air and water quality.

Presently in Groningen, the industrial estate area is approximately of 750 hectares, which represents 9% of the total municipal space or 25% if we only take the built-up environment into account. For 2020, the municipality – in accord with the new region Groningen-Assen (see 5.5.2) - wishes to make room for an additional 470 hectares. This will be achieved mostly through the enlargement of the existing Eemspoort area in the East, the development of Westpoort and the part of Meerstad dedicated to that purpose. In the North, the Zernike complex will also contribute for a slight increase of the present situation.

The company park **Westpoort** (door of the West) will be, with 200 ha one of the largest company areas in the North of the Netherlands. Its location, along the A7 offers the firms good visibility and accessibility. The municipality wishes to attract there logistic and ICT companies. Because of its size, this project has attracted most of the public attention lately, especially since the sugar factory – occupying a large area closer to the city – took the decision to shut its doors.

Planners know that when a new industrial area is created in a city, it almost always creates internal migration of firms. These companies can be moving to the new area for different reasons: better location for them, need to expand, creation of a new image or moving from an unappreciated site. All planners interviewed agreed that the biggest risk occurs when the demand is lower than the supply of industrial land. In that case the new industrial estate only pulls existing companies to leave their current locations.

Not much can be done to stop this process, especially since the municipalities want their new sites to be successful – sometimes at all costs. A way to reduce unwanted migration is to ask a higher price for the parcels. But, right now, as Hans Havenga argued during the interview:

> Many planners argue that the prices of bedreifterreins (industrial and business estates) are set too low in most of the Netherlands. This increases the overall movements of companies and sometimes provide the false idea that there always is more demand for new sites" (Havenga, 2008 [interview]).

The necessity to create space is not questioned in Groningen, but most local planners strongly regret the fact that the sugar factory site was not considered before

as a potential site for the future. This site is much more in line with the compact city strategy and would have surely provided a large amount of space for new companies. However, you cannot always know what will happen to the existing land uses. Decision-making happens sometimes in a way that choices can be regretted very soon after being taken, but they most often have long-term consequences.

5.5.4. Meerstad

Meerstad (lake city) is an integrated project of about 2,300 ha situated in the polder landscape East of Groningen. The area of the project – currently mainly used for agriculture – will be transformed in the coming 25 years into a multifunctional complex of housing (red), water (blue) and nature (green) functions. Except for the extension of the industrial and office estate (135 ha) to the West of Meerstad (light/dark mauve on figure 5.8), this project is before everything a living and recreational development. The project has also the particularity to be developed in a public-private-partnership regrouping six governmental actors – the municipalities of Groningen and Slochteren; the province of Groningen; the Ministry of Agriculture, Nature and Food Safety; the Agency for Land and Water Management; and a Waterboard - and market parties, which bought the land around Groningen in prevision of its growth.

The residential area takes on 714 hectares of the project and will welcome the construction of 10,000 new dwellings – most of them for the higher segment of the market – that will accommodate an estimated 30,000 inhabitants. The projects offers a great diversity of living environment; in total 17 different neighbourhoods with their own character will be created. Moreover Meerstad will give more architectural freedom for small individual projects. Housing densities in Meerstad are lower in comparison to the ones found in the city of Groningen – even comparing to the new outskirt extensions. These densities will vary from 27 to 6 dwellings per hectare, with an average of 16 dwell/ha when all the housing area is considered (Masterplan, 2005). House Parcels (*kavels)* are voluntary bigger than the usual – with a maximum of 2000 m² and an average of 500 m² (Westra, 2008 [interview]). The overall residential area created here can be qualified of: a suburban living environment (*suburbaan woonmilieu*).

The key principle of this kind of project is that ‘Red’ pays for creating new ‘blue’ and ‘green’ qualities; houses in natural areas and near water gain price as a result of their privileged situation, and it is this extra cash flow that is reinvested in the environment quality. It is presented as the new win-win strategy, as new developments don’t destruct nature but helps to improve it. However, the combination of strategic planning with an implementation period of 20-30 years make the ‘red for green strategy’ risky. The financial involvement of the parties are so important in this project that the parties could be opting for ‘more red for less green’ if the return on investments are not as high as expected (Minder Meerstad, 2006).

The parties involved, and especially the municipality of Groningen, are taking a major risk with Meerstad. It costs presently 10 million euros annually to the city and the delays in the process are now greatly irritating the local politicians. After the

construction starts – hopefully at the end of 2008 – the delivery of houses will be realised little by little until the end of the project.

> A major point of negotiation is on the pace of this housing delivery. The supply should be quite slow so that the market could cope with the new housing stock (Huis in 't Veld, 2008 [interview]).

The public parties prefer this solution, so that Meerstad doesn't create an overflow of houses in the coming years, putting in danger all the other projects in the region. After a long negotiation, this has been accepted by the market parties involved, but it constitute a big risk for the accomplishment of the project if the increase of the demand for housing reveals itself less important that the present predictions.

According to the Bureau Meerstad, the success of the project is also closely linked to the new tramline - in study - between the centre of Meerstad and Groningen. This line is crucial in the eyes of the planners. First because the planners deliberately decided that the project would have few commerce – except for daily supplies such as grocery stores – or other activities (e.g. cinema) to avoid any negative effect on the inner city of Groningen.

> It really need a efficient and attractive public transport system to bridge this living area with Groningen centre where most people will go shopping, working, drinking… (Westra, 2008 [interview]).

Second, the city fears an increase of the road traffic considering the relatively longer distance between these new houses and the city. Finally, they want the new recreational and nature area to be highly accessible – combination train/tram - for people coming from the larger region.

5.6. THE CHANGING PLANNING CONTEXT AND GRONINGEN

The third chapter of this master thesis highlighted the different changes that occurred in the Dutch planning context the last few years – i.e. new spatial planning policy, changing land market, disappearance of the national state in the Housing sector and new regional area development. This section considers these changes and their impacts on the development and planning practice in the city Groningen and its surrounding region. It does not try to answer the third research question of this master thesis, which is dealt with in the next chapter, but rather it presents objectively the information obtained through the interviews and the secondary data that could be found on these issues.

5.6.1. The 'New' Regional planning and spatial concept

Region Groningen-Assen: a co-operation platform

The city of Groningen is the main city of the national urban network, called Region Groningen-Assen, figuring in the new spatial strategy (Nota Ruimte) of 2004. National urban network regions have a very different position and strength in the Dutch planning system than the state, provinces or municipalities. They don't have any

binding powers nor any obligation to draw structure plans. The role of these regions is usually to steer the development of an efficient infrastructure network, and to help municipalities and provinces working together on housing, industrial estates and green space issues. The decisions and actions of these regions are driven by the decisions taken by their steering committees representing all the parties involved. Any decision made must satisfy 100% of the stakeholders involved in the regions, which asks time and a great deal of consensus building.

However, municipal co-operation between Groningen and the surrounding municipalities is not exactly a new phenomenon brought by the new spatial strategy. Ten years ago, the national government asked the city of Groningen to collaborate with the surrounding municipalities so that the best locations could be found for new housing developments. A clear proof of the regional focus of the municipality of Groningen is the municipality structure plan of 1996. Indeed, a big part of this municipality strategic document concerned the role of the city in the region. It was, nevertheless, very important for the region Groningen-Assen to be recognized as one of the six national urban networks. First, because it helps attracting the national and international attention on its existence and assets. Second, because local governments always appreciate to figure in the national strategy, and finally, for financial reasons.

Participants in the Region Groningen-Assen are the provinces Drenthe and Groningen and the municipalities Assen, Bedum, Groningen, Haren, hoogezand-Sappemeer, Leek, Noordenveld, Slochteren, Ten Boer, Tynaarlo, Winsum and Zuidhorn. The region area is of 1100 km² and counts a population of 450,000 inhabitants and 220,000 jobs (regiovisie 2030). The concept of T-structure is commonly used to represent schematically this region. Groningen occupies the central point of the T-structure and is connected via major roads and railways to the other three main urbanized areas in the region - hoogezand-Sappemeer, Leek/Roden and Assen - that form the extremities of the T shape. All the parties taking part in the region have agreed on the fact that new houses and industrial land should be situated in and around the main existing cities forming the T-structure or along the main existing infrastructure, and benefit from a good accessibility to an existing or planned public transport hub. The co-operation of the municipalities and the provinces is voluntary, but the case of Groningen-Assen urban network is quite different than others in its financing:

> The Region Groningen-Assen is unique in Holland because of its financing. All the actors involved in the region contribute with its own money resources to join the club (Havenga, 2008 [interview]).

From 2008-2015, each stakeholder has agreed to bring €9.5 million in the common region resource called the ‘regiofonds’. For the seven years to come this €100 million support from the municipalities and provinces constitute about 25% of the investments needed for the regional projects. This own resource adds up to the support brought by the national government to the urban networks and to possible European funds. This allows the region to have its own independence and assure a certain degree of commitment to get the job done by the stakeholders. This money is used for projects of a regional importance concerning public transportations such as the light bus network Kolibri, the regional bicycle projects and the projects for the landscape conservation (programme region park). Of all the actions taken, the

improvement of accessibility is without any doubt the central focus of the region as it accounts for 80% of its direct financial help.

The region also has an permanent executive board, composed of a small number of experts, which has the following tasks: to make sure all the actions and decisions are transparent, to publish reports on the projects and programs, to show the assets of the region to private investors, and most importantly to play the role of a process manager in the negotiations and to make sure consensus is reached between the all the stakeholders.

The new role of the Province Groningen

Until now, the role played by the province Groningen in the urbanization process was linked directly to the national law on spatial planning (Wet Ruimtelijke Ordening WRO) regulating the responsibilities of the three tiers of the government, but also giving the streamline principles of development. In the past, the Province Groningen also played, along with the city and the central government, the card of concentration and bundling of activities. Controlling development and sprawl was done passively in the past, through plans and instruments given by the WRO of 1965. Since the report written by the Dutch Scientific Council for Governmental Policy (WRR 1998), however, there has been a change in the spatial planning processes in the Netherlands (WRR 1998).

The paradigm shift from a passive regulative planning (*toelatingsplanologie*) to a pro-active development-led planning (*ontwikkelingsplanologie*) changed the role of provinces (section 3.3.1). This major change in the way planning is handled seems to be particularly welcomed by the Province Groningen, which is already personally involved in the two major integrated development projects Meerstad and Blauwestad, and also looks forward to develop other projects in the North of the Netherlands.

Concerning the project Blue city (*Blauwestad)*, the province is not only participating but has been the crucial actor from the beginning. As it is the case for all projects of this type, many parties are involved in a public–private partnership. The public partners are the Province and three municipalities, but also Water Authority, the State Forestry Service and the Groningen Provincial Nature Conservation Society. On the private side, the private partners have formed a consortium of three developers (Spaans, 2007a). The Province is playing here a proactive role in the land market; it is responsible for land acquisition and it also pre-finances the project at a low interest rate.

5.6.2. The changing land market: speculation and public private partnerships in Groningen

Speculation in strategic Groningen locations

The land supplier and land developer role historically played by municipalities allowed them to better control the development taking place within their boundaries, and was an important source of revenue for these local administrations. However, we have discussed (in chapter 3) that the land market has changed in a way that municipalities now often have to enter in PPP to develop the land, unless they could

strategically buy the land before the private parties. Even if we could argue that land speculation did not take place at the same level as in the VINEX locations situated close to the Randstad, many parcels of land have been bought strategically by private parties around the city of Groningen.

Some speculative private land developers or land owners (called here the 'Twentse bouwers') do not want to take risks in the development process, but wish to make the most profits as they can. Big projects can be postponed until the conflict between them and the municipality is solved. This has been the case for the project De Held III (see 5.5.2), where the 'Twentse bouwers' had strategically acquired much land. In this case, the municipality had to bring more money (€4 million) on the table so that the construction of the 1200 houses could start, five years behind schedule (Groninger Internet Courant, 11/07/2007). These sorts of problems and tensions arose in many different strategic locations of Groningen.

One can easily imagine that land speculation is the biggest threat to area development projects such as Meerstad. The simple explanation comes from its large size, and therefore the large amount of land to acquire by the parties involved. Investments are colossal, and the stakeholders cannot take the risk to see the land prizes skyrocket because of speculation of parties external to the project. In fact this new area development projects is also slower than it should be. In mid 2007, the Twentse bouwers - Droste, Mega, Roosdam Tijhuis and Plegt-Vos Bouwgroep – had still 30 per cent of the land of Meerstad in option. Groningen really blames the opportunism of these few Twentse project developers.

5.7. CONCLUDING REMARKS

The present chapter has presented all results and findings that came out of the empirical research that was conducted in Groningen. It does not provide raw data, but well documented and founded information that can directly be used in the analysis laid down in the following chapter. This chapter stayed mostly descriptive in nature. It gave a general presentation of Groningen, of the compactness study realised this year, of the policies to retain compactness and projects on the outskirts of the city, and finally of the observable local effects of the changing planning context. Firstly, the density gradient study and compactness criteria evaluation highlighted the monocentric structure of this city as well as its major characteristics. Secondly, the review of the local policies and strategies to retain compactness highlighted that intensification/revitalization is based on four principles: building higher, merging functions, improving and renewing the built up environment and, naturally, regulating development. This chapter shown that these are now in balance with extension projects initiated in the structure plan of 1996 and also by more recent projects (Meerstad and Westpoort). Finally, the impacts of the changing Dutch planning context in Groningen have been introduced by an objective presentation of the role of Region Groningen-Assen, the new role of the Province in new types of projects, and the observable impacts of speculations for projects and planning in Groningen. What do these information mean in the wider context of this master thesis and how can they be explained is discussed in chapter 6.

CHAPTER 6

ANALYSIS OF THE FINDINGS

6.1. INTRODUCTION

This chapter tries to provide clear and critical answers to the major research questions addressed by this master thesis. It should also make the link between the findings presented in chapter 5 and the wider theoretical and planning contexts developed in chapter 2 and 3. In other words, the descriptive analysis of Groningen in the changing policy context - its past, its present compactness, policies and projects –, allows us to critically assess what has already been achieved and conceptualise the path that the city has chosen for the future.

The next section of this chapter (6.2.) will allow the density gradient study and evaluation of the compact city criteria presented earlier (5.3.) to teach a wider lesson about the compact city of Groningen, and how it differs to other cities around the world. It provides an answer to the first question concerning the city of Groningen: how compact is the city of Groningen and how does it compare to other cities?

The second part of this analysis (6.3.) will focus on the urbanisation path taken by Groningen. This section will discuss the move from the 'simple' monocentric compact city strategy towards the present situation in which local policies and efforts to retain compactness are paralleled with projects located on the outskirt of the city. This analysis builds upon the knowledge brought by the previous chapter, and provides an answer to the research question: which local policies and strategies are used to retain compactness in Groningen? How and why is the city following a new path of urbanisation?

The last section of the previous chapter (section 5.6.) has objectively described the impacts of the changing planning context on the local planning practice and local projects in Groningen, but also gave us evidence of the new role played by regional planning institutions. The third part of this analysis (6.4.) discusses of the changes presented before in relation to the wider theoretical framework. The question answered here is: what impacts does the changing planning context have on the urbanisation path taken by the city and its surrounding region?

6.2. ANALYSIS OF GRONINGEN'S COMPACTNESS

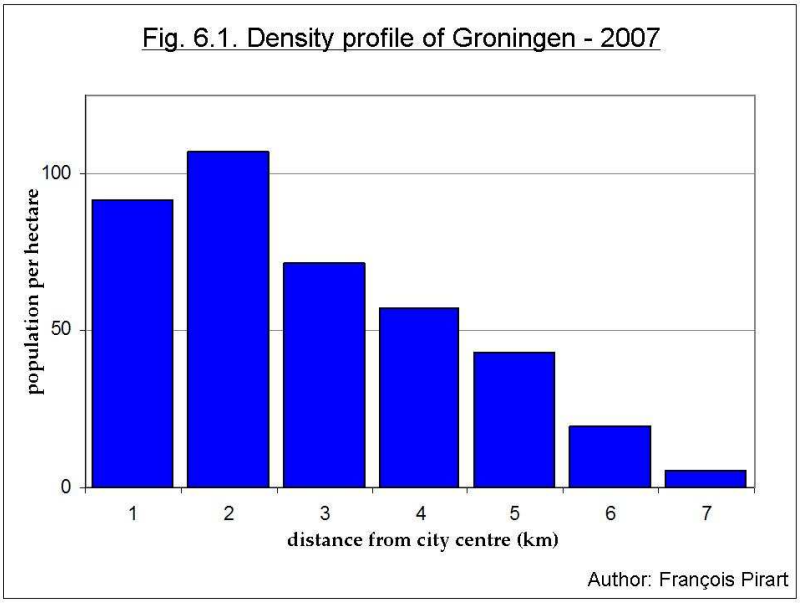
6.2.1. Comparative view and evolution of the density gradient

A lot can be learned about the characteristics of the compact city by comparing the density gradient study – supported by an understanding of the historical growth of Groningen – with the ones of other cities around the globe. This analysis mainly draws on the results of this research on Groningen (previous chapter), the Dutch planning context (chapter 3) and on the work of Alain Bertaud (introduced in chapter 2) that studied the role played by the regulations, the history, the market and the culture of places to explain the spatial structure of various cities in Europe, United States, Asia and communist countries.

When comparing the density gradient of Groningen to the ones of cities in appendices 1 and 2, many similarities and differences can be highlighted. But first, it is important to underline the difference in size between the cities Bertaud studied and Groningen. The international role of many of these world cities and their history differ enormously with the ones of a regional centre in the middle of a Dutch agricultural region. Nevertheless, the same sort of forces influence the structure of cities – at different scale of course.

The description of the profile of Groningen (fig. 5.3) highlighted the high densities of population encountered from the centre and until two kilometres from it. However, in comparison to the cities studied by Bertaud or other researchers, this statement must be carefully moderated. Here below, the results from the population density gradient analysis are presented with same scale as the ones in the appendix (i.e. densities in successive rings thick of 1 km instead of 100 metres in chapter 5).

Fig. 6.1. Density profile of Groningen - 2007



A quick visual comparison between this diagram and the appendices 1 & 2 directly shows that the most densely populated areas of Groningen – i.e. the inner city and the historical neighbourhoods around it – could as well be considered as very low density areas in other cities, most notably in Asia but also in Europe. This can be naturally explained first by the relative smaller size of Groningen in comparison to these other cities, but not only. The role of planning regulations has to be highlighted. In many countries of Europe, and notably in the Netherlands, densities are limited by strict regulations on building-heights and heritage conservation. Therefore while densities in many neoliberal world cities were only limited by financial investments and engineering capabilities, density profiles of European countries reflect more closely the architectural and planning history of those places. The densities are the highest in Groningen's popular neighbourhoods characterised by narrow houses, such as Oosterpoort.

If the density of population is unlikely to impress any Asiatic city planner, what could strike them to see is how fast density is dropping after the two first kilometres. The regulative Dutch planning system here shows its strength, especially for a medium-size city such as Groningen. The limit between the urban and rural worlds is sharp. In

just 6 kilometres, one passes from a Dutch urban environment to a rural countryside. This achievement should not be seen merely as a result of an active local compact city policy, but rather by a combination of the binding instruments in the hand of the municipality – i.e. land use plan and planning permit – with the national planning strategies of the past. Land for development was loosen little by little on the edge of the city, making any uncontrolled sprawl illegal and also pushing for infill development.

In chapter 2, the usefulness of the density gradient to measure the sprawling process has also been put forwards. Indeed, if considered as a process, urban sprawl is often viewed as a flattening of the city's density gradient (see figure 2.4.). Understood like this, it means concretely that population decreases in the central areas, while more and more citizens go and find new places to live on the outskirts of cities. Many cities have experienced a gradual flattening of their density gradient over the 20th century, mainly as a consequence of the transportation revolution. If the regulative spatial planning system of the Netherlands explains why urban sprawl patterns can not really develop in Dutch municipalities *per se,* it does not mean that suburbanization - accompanied by the weakening of the inner city areas - do not take place.

In Groningen, however, such a process did not really occur, at least during the last fifteen years. Indeed, as it has been shown in the precedent chapter (see figure 5.6), the population increased at the same time in the inner city and on the city's edge between 1991 and 2007. On the one hand, the inner city of Groningen became more attractive to live in as a result of the active transport planning policies that limited car use, and on the other hand it benefited from being at the heart of the 'compact city' policy – i.e. benefitting from subsidies and other preferential treatments. Thus, there has not been a 'sprawling process', but rather an physical expansion of Groningen accompanied by an intensification of the city centre. Nevertheless, not all areas of the city have seen their population increase or remain the same during this period. The post-war districts have generally experienced a weakening of their population.

6.2.2. Why is Groningen a compact city?

Two of the reasons why it was decided to use the density gradient for the study of the urban structure of Groningen are its comparability and simplicity. As it was mentioned, however, the study of density does not constitute a complete measure of compactness nor sprawl. This is why it must be accompanied by an evaluation of other indicators or characteristics of compactness. What comes out of the brief descriptive results of the city in regard to ten basic characteristics of the compact city (table 5.1) is especially the effort made on transport planning and achievements.

The review of the literature on sprawl, policies and spatial concepts in chapter 2 highlighted that the monocentric compact city strategy has been adulated but also criticized by many planners (see section 2.3.3). In the case of Groningen, however, many criticisms, usually thrown at the monocentric compact model, do not really make sense. In particular, the continuous effort to develop the bike use and the biking network has led the city to overcome many of the fallacies known to occur in high compactness: pollution, noise, traffic jams, etc. The global liveability of the city increased, where in many other cities aiming at intensification it tends to decrease.

The improvement of the urban environment – through friendly transport planning - should also be considered as a policy for compactness, as it increases the attractiveness of the inner city.

The municipality, rightfully proud of the transport planning achievements, is well conscious that the relatively small physical size of the city inherently serves well the bike policy. The monocentric urban model is usually assumed to work best when cities do not extent on kilometres, otherwise the population has to travel longer distances to get to work and to their other activities than if a polycentric structure had developed.

The evaluation of the ten criteria have proven that Groningen generally fulfilled the 'conditions' to be rightfully considered as a 'compact city'. There is a favourable interdependency between the urban structure and the other indicators that were investigated. Most notably, it seems that Groningen has reached more or less an optimal size that allows its active bike strategy to work particularly well. However, there is more than density numbers and compactness criteria to the picture. The 'compact city' imagery is not only a matter of facts, it also touches the question of the city's identity. Some might argue that Groningen should be considered to be a compact city only because it became a part of the population everyday life, of their general beliefs.

6.3. GRONINGEN'S STRATEGY: BETWEEN INTENSIFICATION AND DIVERSIFICATION

6.3.1. Towards a new urbanisation path

The discussions with the local planners, the review of the local policies to retain compactness, and to intensify and revitalise the existing urban environment, and finally the wider understanding of Groningen's historical growth leave no doubt on the fact that the city is strongly attached to its compact city structure. It has become part of its identity, and not only lies in the planning discourse anymore. Looking at the "Green Heart" and the Randstad getting more and more filled by new houses and industrial estates makes this local feeling even stronger. It is not surprising, therefore, that a great effort is made to retain this compactness.

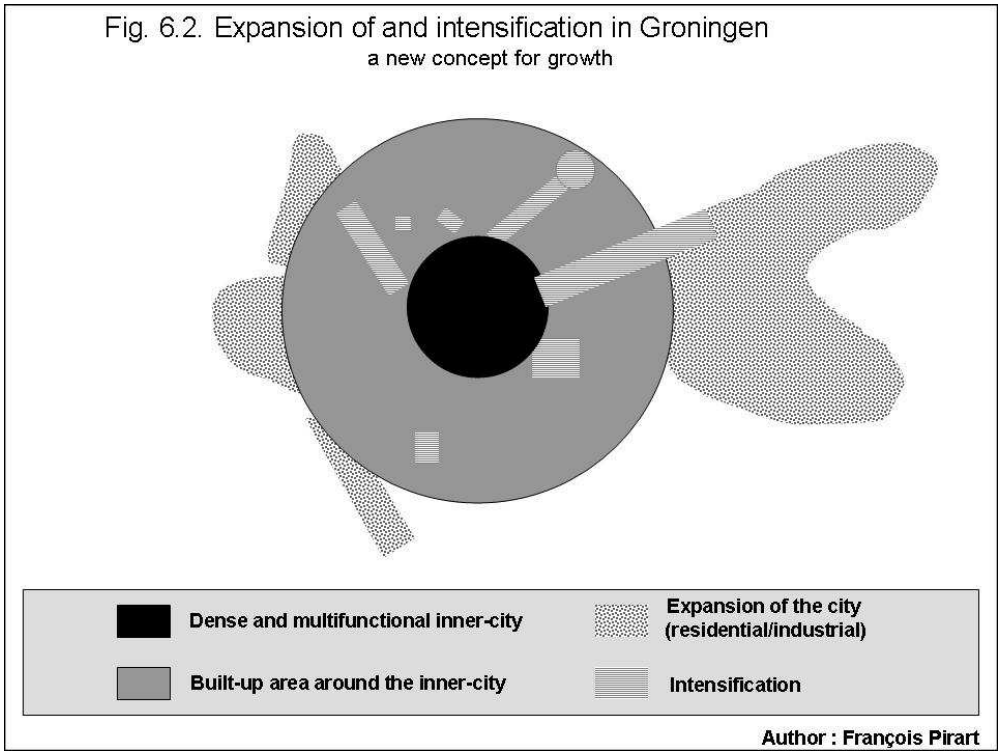
The strongest planning instruments held by the municipality of Groningen – in reality by all Dutch municipalities - to fight against sprawl and to retain compactness are the land use plan (bestemmingsplan) and the building permit, which are used in combination. Although there is no other policies or instruments more powerful than these two legally binding elements that allow to keep control over urbanization, chapter 5 has proved that the fight to retain compactness do not merely rely on these passive planning tools. The review of the recent structure plans and the discussions with local planners have allowed to highlight the local policies and strategies used to further intensify or revitalise the existing built-up area.

The recent structure plans had the important task to show where and to explain how these policies were to be implemented. Overall, the previous chapter has highlighted that Groningen's intensification strategy is based on four principles: (1) building higher; (2) merging functions; (3) filling empty places; and (4) improving and renewing the built up environment. For the two first elements, the municipality has designated intensification zones and corridors in which regulations on buildings size have been loosened and innovative function merging ('Intense Stad') ideas have been promoted. Concerning urban renewal, the subsidies and actions undertaken are directed to the most problematic districts of the city. These four constitutive elements of the intensification strategy of Groningen are naturally used in combination with the regulative powers lying in the land use plan.

The extent of the effort made to retain compactness in Groningen is highlighted by the high percentage of constructions situated in the city. In fact, even in recent years, approximately 50% of all new constructions have still taken place inside the city's outskirt, despite the fact than the national strategy only asks for 33% anymore and that the Groningen is getting more and more full. However, since the structure plan of 1996 and its actualisation in 1999, all the efforts to retain Groningen's compactness have been paralleled by new projects located on the periphery of the city that distance themselves from what had been accepted in the past.

In fact, since the end of the 1990s, Groningen has taken a new path of urbanisation. The city chose to offer a wider *diversity of living environments* through the development of several new residential areas on its outskirt, and through the realisation of Meerstad. The 'suburban' nature of these areas translates the will of the municipality to respond more adequately to the growing demand for bigger houses with gardens situated in a green environment. Moreover, the design and characteristics of these new houses demonstrate the break from the past governmental focus on quantity of houses to be built towards quality houses closer to the market demand. However big may be these expansions, the city does not give up on its compact city goals. In the contrary, the recent structure plans and local policies prove that the city actually spends a considerable amount of time and money to further intensify and renovate the built-up environment.

This new urbanisation path can be interpreted as a shift from a monocentric compact city strategy - in which most planning efforts target the inner city – towards a dual strategy of intensification and diversification. Intensification of land uses is targeting a wider area than the traditional compact city policy of the 1980s. It takes place along certain corridors within the city edge and towards the future centre of Meerstad and other designated areas such as the Europa Park. Along these axes, higher buildings and mixed use innovative ideas will further develop. This can also be interpreted as the local adoption of the urban network concept at the city scale. On the other hand, the municipality accepted lower population density and a large business site (Westpoort) on its periphery, and agreed on the development of the integrated project Meerstad – offering a wide variety of new living neighbourhoods of a suburban character in a recreational and natural environment.



One could ask him/herself why a compact city - which has achieved so much in terms of friendly transportation use, improvement of its inner city and of its overall quality of life – would purposefully release some land on its periphery for lower density developments. This master thesis does not give a simple answer to this question, but rather tries to take a few steps back to understand the problem from a broader angle.

6.3.2. Causes of the 'modernisation' of the compact city strategy in Groningen

Local decisions and policies cannot be understood if taken out of their broader institutional, economical, social and cultural contexts. Chapter 2 presented a model illustrating the interrelations between the key forces pushing towards urban sprawl (see figure 2.2.). The macro-, meso- and micro-forces that form this model are interacting permanently with our lives and our surrounding, influencing our behaviour and our societies, and often ask for a modernisation of governance, policies and political decisions. The strategic path taken by Groningen can be understood as a local respond to major changes occurring at the supra-national scale and in the Dutch society in general, and to local factors such as population migrations, housing market, environmental quality, etc.

The macro-forces presented in the model – i.e. Globalisation, cheap energy, reduction of transport costs, rising real incomes, failure to account for socio-environmental effects of consumption and production, declining household size, ideology of property owning democracies – have deep impacts on all cities in all parts of the world. They have, either a direct effect on the local policies and projects in Groningen, either an indirect effect by influencing individual decisions (micro-influences) or the strategies adopted at by the national government.

The conjunction of the rise of mobility and wealth of the population with the inadequacy of the housing supply in Groningen has steered a migration process from the city towards its wider region. This emigration was coming in addition to the existing flow towards the province of Utrecht and the province of Noord Holland. The new residential districts planned since 1996 on the outskirt of Groningen had for primary objectives to put a break to this phenomenon as it offered houses more in touch with what the fleeing population wanted, and to release some pressure of the land market.

6.3.3. Risk incurred for betting on two horses

Despite their relative low housing densities in comparison to older neighbourhoods in Groningen and their more or less mono-functional nature (residential), the new residential districts planned on the West of the city – i.e. De held, Ter Borch and Reitdiep – are not moving away from the other basic principles of the compact city. The extensive and high quality biking network in Groningen assures them a great accessibility to the inner city and to the main public services and daily amenities – however through longer trips.

Maybe the local project distancing itself the most from the compact city strategy followed by Groningen in the past is Meerstad. First, it translates the changing use of the rural space considered by the Dutch. In the past, rural areas had to be protected from urban land uses so that agriculture could be preserved and intensified; nowadays rural land should also fulfil a recreational function and – since the new spatial planning strategy – it should make room for water storage. Meerstad breaks away from the long lasting planning policy discourse focusing on the rural-urban dichotomy. Second, population densities are much lower than in Groningen and houses are further away from job locations because Meerstad has predominantly a residential nature.

Such kind of long-term strategic projects entails more risks than smaller and shorter ones. One big threat comes from the difficulty to predict the demographic trend for a longer period of time. Not only does the municipality of Groningen take a big financial risk in Meerstad, it also risks jeopardizing its intense city vision if the demographic growth does not follow. Since the public investments in Meerstad are enormous, the success of this project could indeed pass before the pro-compactness policies and projects. Another risk incurred would be to create a surplus of houses and industrial estates in the future.

If it is possible to more or less predict how the new projects – Westpoort, De Held, Ter Borch, Reitdiep and Meerstad – will affect the spatial structure of the city, it is much harder to determine whether or not the ‘compact city’ identity of Groningen will remain in the future. Speaking of planning discourse and planning culture, Faludi (1994; 2005) had insisted on the fact that planning had become part of the national culture:

> Key planning concepts shaping perceptions of the country, such as the Randstad and “Green heart”, have become part of everyday Dutch…..Having thus structured people’s perceptions is a powerful achievement of Dutch planning. (Faludi, 2005)

In Groningen, the ‘compact city’ concept that started as a planning rhetoric in the past, rapidly crossed the boundary to become part of everyday ‘*Groningers*’.

6.4. IMPLICATIONS OF THE CHANGIN PLANNING CONTEXT FOR THE UBANISATION POLICIES AND MANAGEMENT

6.4.1. Inter-municipal coordination

“*Scientists, planners and policy-makers are becoming increasingly aware that adequate decisions on urban development cannot be made solely at the local level.*” (EEA, 2006)

The compact city strategy and the construction of the post-war residential districts implied that Groningen has transformed over the years in a quite homogenous “high density” living environment, while the current market is asking more and more for a larger variety of housings ,bigger and of better quality. It has been shown (c.f. 5.5. & 6.3.) that the city tries now to solve this shortcoming by offering more divers living neighbourhoods on its outskirt. However, there will always be some population willing to live in the surrounding region of Groningen.

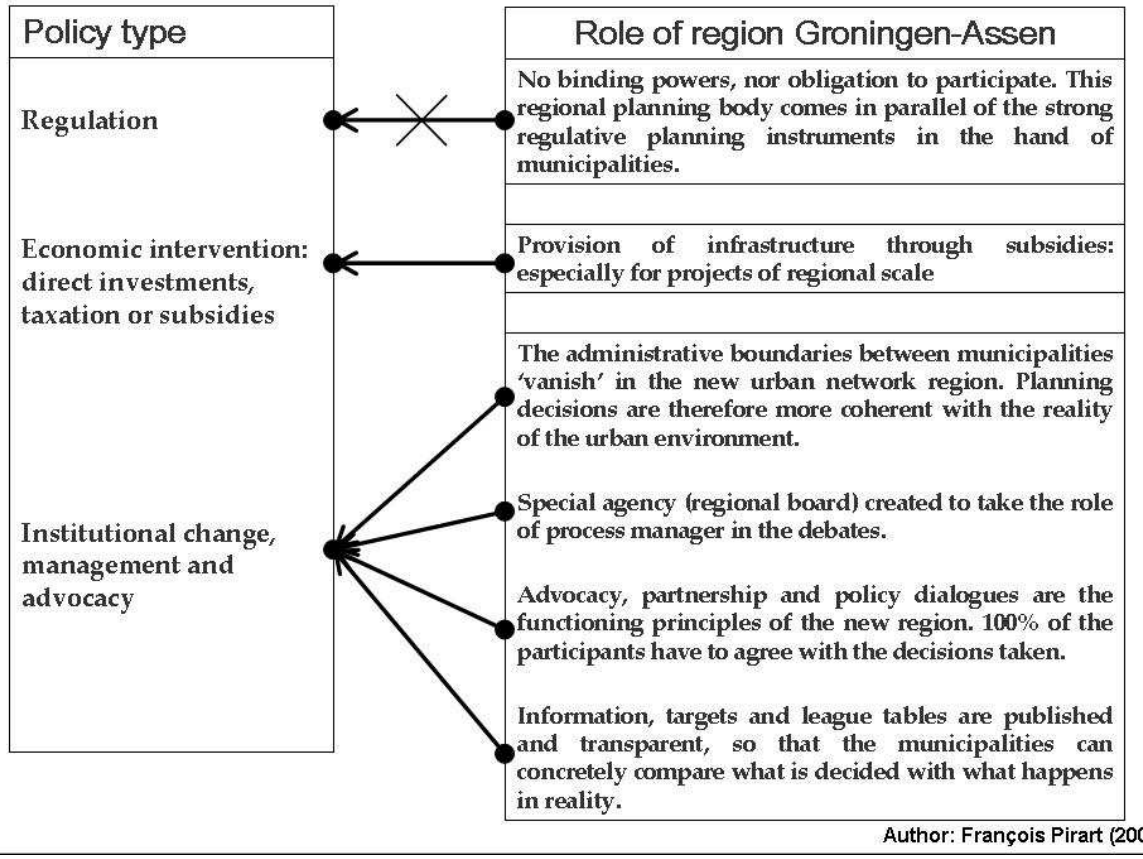
Since the city represents the major employments and services centre in the North of the Netherlands, it attracts a large part of the population living in its surrounding. Therefore a population increase outside the municipality boundaries should often be interpreted as the growth of the Groningen urban system. Alone, the municipality would have no grasp on the regional growth, and would only suffer from the growing traffic flows entering the city everyday.

Cooperation between Dutch institutions and the other stakeholders (public and private) is far from being a new trend in the country. Chapter 3 already introduced the Dutch tradition of consensus building and cooperation between all stakeholders that led to terms such as “Dutch model” or “polder model” of cooperation. In fact, in a highly decentralised country such as the Netherlands, the only way for the national goals to be achieved is through a certain commitment of local government to work together. Moreover, growth management done at a regional level offers the advantage to be more in line with the increasing mobility and information flows in urban regions.

The cooperation between the municipality of Groningen and its surrounding neighbours has taken a new dimension recently. The role fulfilled by the region Groningen-Assen, designated as one of the national urban networks, does not only address housing but also regional public transport improvements and business parks and natural network management. The key role of this ‘new institution’ is to achieve an effective regional planning through directing the new settlements primarily and intensively along rail lines, in co-ordination with several municipalities.

The competences and the role of this new regional body reinforce the set of policies and instruments used to control the urbanisation process in an efficient way. Using the policy typology introduced in chapter 2, the role of the region Groningen-Assen. can better visualised and understood (see figure 6.3.).

Fig. 6.3. In which types of policy does the new region innovates?



Author: François Pirart (2008)

6.4.2. Discussion on the shift from passive planning towards proactive planning

The province of Groningen does not only limit itself to its integrative and strategic role anymore. The evidence of what happens on the ground leave us no doubt about the new proactive role taken by the regional government. What the new spatial planning strategy (*nota ruimte)* termed as development planning (*ontwikkelingsplanologie*), or regional area-development (*regionale gebiedsontwikkeling*), has a large impact on the path taken by the city of Groningen and its region. Two major comprehensive area development projects - i.e. integrating different levels of institutions, disciplines, policy fields and the interests - are now under way: Blauwstad and Meerstad. Basically, the former one, supported mainly by the province, is planned to steer economic development in the problematic declining rural area touching the border of Germany. The later, directly touching the East edge of the city of Groningen, carries more dominantly residential function.

The concept of 'red for green', applied in the two projects, is quite seducing for planners and the public. Growth does not only resume itself to filling greenfield with

houses and offices, but ultimately leads to an “environmental betterment”. Lets remember that this research is embedded in the Netherlands and that here the land needs to have a purpose. Thus since agriculture conservation is not on the top priority of planning anymore, it should be transformed to accommodate uses such as recreation, water storage and nature parks.

The sharp limit between the urban environment and the countryside does not exist anymore in these projects. The long-lasting planning discourse on the urban-rural dichotomy fades away, leaving space for a ‘better’ integration of the residential and the natural worlds, a new marriage of the town and country (Priemus, 2004). Houses enjoy a prime situations within a high quality natural environment partly financed by their own sales. Urban development creates nature, a virtuous circle? Of course, this is when the loss of agricultural land is not considered.

6.4.3. Public-Private-Partnership as a result of land market speculation: effects on urbanisation

The section 5.5.2 described some problems – in the municipality of Groningen point of view - brought in by the stronger position occupied by private parties on the land market. Overall, the municipality lost a part of its holy planning power. Groningen has to negotiate longer with private parties and is forced to enter a PPP if it wishes to participate in projects. The various PPP models (see chapter 3) do allow the municipality to stay active in the development of the land and/or of the all project, but what is developed at the end is the fruit of lengthy negotiations with market parties.

Obviously, the market parties strategically buying the land are expecting to make profit out of it, not to serve public interest or social equity. The more houses are built and the less of these are intended for the social housing segment, the better it is for the developers. The space left for the lower segments of housing is generally quite small in PPP, and if the municipality has higher social expectations it needs either to offers more money to serve its goals, either it needs to compensate the private developer in another way.

Ultimately, the stronger private parties influence in the urbanisation process should lead to a closer match between what the market offers and what the public asks for. This might accentuate the difficulty to follow a compact city strategy, since the present population preferences seem to be oriented towards larger house with gardens.

CHAPTER 7

IN CONCLUSION

7.1. RESEARCH QUESTIONS AND ANSWERS

7.2. REFLECTION ON THIS RESEARCH

7.3. SCOPE LIMITATIONS AND HINTS FOR FUTURE RESEARCH

7.1. RESEARCH QUESTIONS AND ANSWERS

This master thesis situated itself in the broader debates concerning, on the one hand the fight against urban sprawl, and on the other hand the changing planning context occurring in the Netherlands. The goal of this research was to provide a better understanding of the urbanisation strategy of the 'compact city' of Groningen and to determine what impacts does the changing planning context has on the city and its surrounding region. To achieve this goal this master thesis has been divided in two main parts. The first one has provided the theoretical framework (chapter 2) and contextual framework (chapter 3) of this master thesis and responded to a set of preliminary questions on urban sprawl and the continuity and change in the Dutch planning context. The second part of this work was an empirical study focusing on the city of Groningen itself.

The **second chapter** has given a complete overview on what has arguably become one of the most important urban issue in the past decades: urban sprawl. This term, usually assumed to refer to the uncoordinated, unlimited and leapfrogging growth on the edge of cities, is used with little restraint to describe urban patterns and growth processes across the world. It carries a pejorative connotation and is often used to designate the 'ideal culprit' of most urban problems. This chapter highlighted that urban sprawl has become an umbrella term, used to describe a large array of different urban forms and processes. This blurry view, originating in the lack of consensus on the definition of urban sprawl, has prevented the debate from going up. Nevertheless, many agree that this phenomenon leads to an unsustainable use of space and to many urban problems. Therefore, while a considerable amount of efforts from the research arena aims towards a constant (re)definition of this elusive concept, more and more research is also done on the study of policies used to fight it. The second chapter of this master thesis has also focused on the various types of policies, as well as on the various spatial concepts in which urban planners and politicians have had faith and used to fight sprawl/suburbanisation. It underlined that the compact city, especially, has been subject to the most vigorous debate in the last years. At first considered by a large part of the planning community as the only path towards urban sustainability *per se*, many planners soon pointed out the various fallacies and dilemmas that it faced (de Roo, 2000; Williams et al, 2000; Gordon and Richardson, 1997; Musterd, 1999; Masnavi, 2000; Martens, 2006).

After the discussion on urban sprawl and the various policies and spatial concepts to fight/avoid it, the **third chapter** came to underline that the fight against urban sprawl has been a constant focus of spatial planning in the Netherlands for the last 30 years. The national government has committed itself, ever since the second Report on Physical Planning published in 1966, to restrain the suburbanisation process and to protect the rural areas. Over the years, the Dutch planners have made use of a great variety of spatial policy concepts, which represented the cornerstones of the successive national planning strategies (Hajer and Zonneveld, 2000; Needham, 2007). In fact, spatial concepts such as the 'compact city', 'concentrated deconcentration' and 'green heart' have all become part of the Dutch culture. Despite the fact that the only binding instruments (land use plan and building permit) lied in the hand of municipalities, the previous national spatial strategies were remarkably followed on the ground. This was explained by the fact that the national government

heavily subsidised the construction of social housing after the Second World War. The municipalities, keen to perceive national financial help, were more prone to accept the ideas coming from the national level. In consequence, the Netherlands is one of the rare country in which spatial concepts and strategic planning were punctiliously applied on a large scale.

However, the Dutch planning context has undergone major changes in the past few years. Most notably, the publication in 2004 of the New Spatial Planning Strategy (*nota ruimte*) officially announced a shift in the way spatial planning had to be handled in the future. Most relevant to the urban sprawl debate encompassing this master thesis, the new strategy moves away from the 'compact city' policy, which was the main feature of the VINEX strategy. The concept of urban network – already introduced in the Fifth Memorandum (2001) – is now used in the new document as a response to the new 'network geography' of information and population flows. For this concept to work well, the national government counts on an increased inter-municipal coordination. The clear-cut urban–rural dichotomy that constituted the major policy discourse of the 1980s and 1990s fades away to make room for what Priemus (2004) calls a new 'marriage' of town and country. In addition to the new strategy, the land market and housing market have also experienced profound changes in the course of the last decade – market speculation and the move away from the social housing subsidies -, which redefined the role of both the national and local governments in the development process.

The ever-growing attention that Europe addresses to the urban sprawl issue, and the changing planning context occurring in the Netherlands makes this period an opportune time to study how urban containment is dealt with by the Dutch cities. Drawing on the knowledge presented in the first theoretical and contextual part, chapters 5 and 6 have tried to answer the main research questions concerning the city of Groningen.

First research question

The first question concerning Groningen's compactness - **How compact is the city of Groningen and how does it compare to other cities?** – aimed to provide a better understanding of the spatial structure of Groningen and to determine if, whether or not, this city rightfully deserved the title of compact city. This was tackled by a combined analysis of the city density gradient and an evaluation of ten criteria of compactness found in the literature. The study of the population and employment density profiles highlighted the predominant monocentric structure of the city, since the highest densities of jobs and population are found in and around to the inner city. The comparison with other cities, for which similar measures were used in other researches, revealed however that Groningen was not as densely populated as many could be tempted to think. What makes Groningen a compact city is not merely determined by its density, but rather by the sharp boundary between the urban and rural environments, the relatively small size of the city itself and its transportation achievements – especially in terms of biking atmosphere and network.

What exactly were the impacts of the past Dutch urbanisation and housing strategies on the current structure of the city has also been quickly discussed. Even if the Netherlands is a decentralised state, in which municipalities do have the strongest planning instruments, all cities bear deep marks of the strong social housing and

spatial planning policies followed by the national level in the past. This is especially true for a city such as Groningen, which really started to grow in the twentieth century, after the Second World War. The historical review of the consecutive structure plans and the cartographical presentation of the growth of Groningen in chapter five, proved that both the spatial concepts emerging from the national level, and the large post-war districts have given the city its current shape.

Second research question

The second research question addressed by this work was: **Which local policies are used by the municipality of Groningen to retain the city's compactness and what place do these have in the current urbanisation strategy of the city?** The first logical step in the empirical case study provided a clear overview of all the local planning policies and strategies used to retain or even to increase the compactness of the city. Since the role of the binding land use plan (bestemmingsplan) had already been introduced in chapter 3, and that this one is used indifferently by all Dutch municipalities, the study focused 'merely' on all the other local policies contributing to the compact city. This work has put forward that the current Groningen's intensification strategy lies on four principles: (1) building higher; (2) merging functions; (3) filling empty places; and (4) improving and renewing the built up environment. The time, efforts and money devoted for developing new innovative ideas (e.g. '*intense stad'* program, *'woon-werk'* concept, '*bovenstad*'), supporting the inner city ('*wonen boven winkels'*) and renewing the problematic neighbourhoods are all proofs that the city is still very attached to its urban structure.

However, since the end of the 1990s the city is also following a new urbanisation strategy. In parallel to the continued efforts supporting urban containment via infills, high-rise building and urban renewal; this thesis presented the new outskirt residential projects symbolising the shift taken by the municipality in 1999 towards a new urban concept: "a conglomerate of several 'living milieu' with varying compactness - from low to high – where attractive living and work areas are solidly linked with each other and with the urban facilities centres by means of the urban connection areas (corridors)" (Gemeente Groningen, 1999). The "diversification strategy" of the city, as this thesis called, stands for the deliberate will to give room for new living environment on the outskirt of the city, which respond more adequately to the demand for bigger houses in the higher segments of the market.

Since the increasing population can not be entirely accommodated in the existing built up area, the growth of Groningen can be seen as inevitable. However, there are some risks incurred for following an urbanization path between intensification and extension. Risks are especially important regarding the project Meerstad that asks a long term financial involvement of the public institutions, and for which the outcome is more uncertain. The issue of the city's identity was also raised in the analysis. To what extent can the municipality distance itself from its original compact city model and still be called the '*compacte fiets stad*'? The city's growth, and the increasing number of detached or semi-detached houses with gardens on its edge will surely in the long run affect the way the population perceives Groningen.

Third research question

The third question asked in this research touches more directly the changes in the Dutch planning context: **What impacts does the changing planning context has on the urbanisation path taken by the city and its surrounding region?** The answer to this question has been given in three parts. The first one focusing on the new urban network Groningen-Assen, the second one on the impacts of the shift from passive regulative planning towards proactive regional area development planning, and finally a last part treating of the implications of public private partnerships – resulting from private parties land speculation - on local urbanisation.

The investigation of the role played by the new regional authority (Regio Groningen-Assen) in the control over urbanisation and development allowed to clarifying what concretely lied behind the new concept of *urban network*. Regio Groningen-Assen is before everything a co-operation platform where the provinces Drenthe and Groningen and the municipalities Assen, Bedum, Groningen, Haren, hoogezand-Sappemeer, Leek, Noordenveld, Slochteren, Ten Boer, Tynaarlo, Winsum and Zuidhorn share ideas and build a common strategic vision for the region. Discussions relate first of all on regional transportation planning where most of the money is spent for projects such as the Kolibri network (light rail). Another topic on which the regional stakeholders discuss concerns the amount and location of housing to be built. In fact, despite the fact that participation in the region is voluntary, all municipalities have agreed to sign a constraining housing agreement limiting the number of houses to be built in each municipality and asking development to take place near the existing or planned public transportation hubs. Relating to the typology of policies against urban sprawl developed by Couch et al. (2007) and presented in the theoretical framework, this thesis has highlighted in which type of policy this new regional agency innovates (cf. figure 6.3).

The second point discussed, concerning the shift towards development planning, has proven that this new pro-active and integrative way to deal with spatial planning has deep effects on urbanisation and for public institutions. In Groningen and its surrounding region, two major area development projects are currently under ways: Blauwstad and Meerstad. Many stakeholders are involved in these projects that not merely provide new houses, but also develop and conserve nature and serve as water retention areas. Nature, water or agriculture are not financially attractive and do not directly give returns on investments, hence private parties are originally not interested in leaving too much of their project space for these land uses, but the new '*red for green*' idea is believed to lead to a win-win situation. In short, it means that nature is created with the extra-value inherently acquired by the houses from being situated in a prime natural environment.

However, this thesis has underline the risks incurred by public institutions that have a stake in these projects. Risks arising from the scale and complexity of these projects and from their important costs. Once these projects are under way, public institutions involved (regional and local) have no choice but to succeed, otherwise this would lead to catastrophic loss of public money. For Groningen, the possible consequence of the deep financial involvement of the municipality in Meerstad means that this one could pass before other development projects in the city if the demographic growth gets lower than expected. This master thesis has also highlighted that the Dutch rural-urban dichotomy did not exist anymore in the new integrative area-development

projects such as Meerstad. The limit between built and non-built becomes more blurry as houses are “better integrated” in nature. Thus, since the identity of this ‘compact city’ lies greatly on the sharp limit between the Groningen and its surrounding, one could ask himself if whether or not this project risks to make this identity fade away.

Finally, this research looked into the effects of land speculation on local planning and development. As it was presented in the third chapter, the traditional land development model, in which municipalities had the central role to purchase, service and then sell the land to private developers has been hindered by the strengthening position of private parties on the land market. Since land ownership gives the right for its owner to develop its parcel, what happens is that the municipalities have now to enter more often in partnerships with the private parties if they wish to develop. In Groningen, also, a large part of the agricultural land that had the highest chance be urbanised was bought strategically in the 1990s and since the major extension projects had been planned in the structure plan of 1996. The effect on urbanisation is clear: what happens on the ground does not depend solely on the municipalities vision and expectations, but also on what the private parties want – i.e. higher returns on investments and make sure the outcome of development is sold.

7.2. REFLECTION ON THIS RESEARCH

Presently, a lot of efforts in the planning arena are made to build a common understanding of urban sprawl in Europe. The publication of the European Environmental Agency Report: ‘*Urban Sprawl In Europe – The ignored Challenge*’ (2006) came to point out that this issue was not merely an American problem after all, but that it was faced by most countries of the ‘old continent’. This report translates the increasing attention of the European Union on this issue and defines urban sprawl as a ‘common challenge’ that should be tackled by all European countries. It is not surprising to see the EU paying so much attention to urban sprawl, since this phenomenon is seen as a threat for what the EU have tried to achieve through its environmental policies such as the Habitat and Bird Directives. Moreover, another additional explanation for this keen interest for sprawl could be that the EU uses sprawl to unite the research and political arenas around a common enemy, and thus tries to reinforce the feeling that European countries have more points in common than one might think.

Whatever the reasons behind this recent increased interest in sprawl, it should be seen as a beneficial thing and welcomed by the research and political arenas. The numerous new researches help to increase the overall body of knowledge concerning urban sprawl and the existing policies used to fight it across Europe. Usually, however, researchers tend to study urban sprawl in static contextual frameworks – i.e. considering cities to be embedded in a given national planning context. This master thesis distances itself from these researches since it tried to underpin what were the effects of a changing planning context for the local fight against sprawl, or in this case the fight to retain or increase compactness. This

creates a bridge between two debates: the one of urban sprawl, and the one of the changing Dutch planning context.

This work has highlighted the local tensions existing between the past and present, between the previous compact city policy and the “innovative” urban network, and between a planning discourse focused on the rural-urban dichotomy and a development planning concerned of integration of functions that were before divided. It showed how a city that is perceived as one of the last standing compact city example of the Netherlands – a country with a long planning culture - embraces growth to respond to the macro- and micro-level forces governing this world.

In this master thesis, I did not intend to freely criticize the choices made by local planners and decision makers of Groningen, but rather I tried to identify the forces that pushed the city towards a new urbanization path. In my point of view, if we keep in mind that the city has strongly been attached to its compact city identity for many years and until now, the new urbanization strategy is there to prove that the macro- and micro- level forces surrounding the city can not be ignored by decision making. I refuse to think that the city of Groningen has taken a wrong path. In my opinion this one only translates the changing planning context – understood in its broadest sense.

It was also important to highlight which of the new projects were distancing themselves the most from what had been achieved in the past. The new area development projects that require an active involvement – in their financing and their process – from the public institutions not only disrupt deeply the dichotomy urban-rural by their integrative nature, but also are prone to higher uncertainties arising from their complexity and time-frame. However, these projects attract a lot of the planning attention, from beyond the Netherlands national boundaries, for their innovative way to treat of environment and development in a comprehensive manner. But if such kind of projects are to be built in other planning contexts, they might not distance themselves with the existing planning culture there, as it is the case in the Netherlands.

7.3. LIMITATIONS AND HINTS FOR FUTURE RESEARCH

Throughout the year, the scope of this research has naturally been refined as my knowledge of the Dutch planning context and of Groningen evolved. Overall, the outcome of this work fulfils the initial goal that had been fixed at the beginning of the year. However, many other things could be studied on the topics approached by this master thesis. Moreover, what has been done in this work could be the start of furtherresearch. Here are several recommendations.

Urban measurements as policy assessment

The study of the density gradient represented quite an important part of this work and proved to be an relatively objective and reproducible way to present the structure of the city of Groningen. However, since the primary focus of this work remained on the

urbanisation strategy and policies of Groningen and given the time frame to finish this work, other urban metric measures could not investigated. But despite its simplicity, the density gradient could in the future be used to monitor the impacts of urbanisation policies and play a role in the assessment of local strategies and projects.

More studies of medium-size cities

Studies focusing on urban sprawl and urbanisation policies most often concern large cities and metropolitan regions that can expand for hundreds of square kilometres. The author feels that more studies should be devoted for the study of medium-size cities in which one single large project (e.g. Meerstad) can drastically change the urban structure and dynamic of the city. If the growth of major metropolitan regions is often perceived to occur in a continuous and monotonous way, smaller urban systems are evolving in a more iterative manner. Policies and political decisions have, therefore, to adapt more quickly to handle the new urban environment.

Evaluating the health, energy consumption and pollution consequences of compactness

In this work, the study of the consequences that the urban structure of Groningen has in terms of population health, energy consumption and pollution were not investigated because falling out of the research scope. However, it would be highly interesting to provide a comparative analysis on these concerns, so that one could really assess whether or not the monocentric compact structure of Groningen is really a really solved per se the urban problems attributed to urban sprawl in general.

Europeanization of Dutch planning and its impacts on urban sprawl/containment

The scope of this research did not encompass the various impacts that the European environmental policies have on the Dutch planning system, or even directly on local planning practice. However, this Europeanization of the Dutch planning context do also have concrete implications for the fight against urban sprawl. Most evidently, the Habitat and Birds Directives induced the designation of ‘no-go areas’ for urbanization. Other policies such as the air quality and water framework directives are also known to have direct effects on spatial planning. The local effects of these European policies on the urbanization process, and on the fight against sprawl or fight to retain compactness should also be subject to more research.

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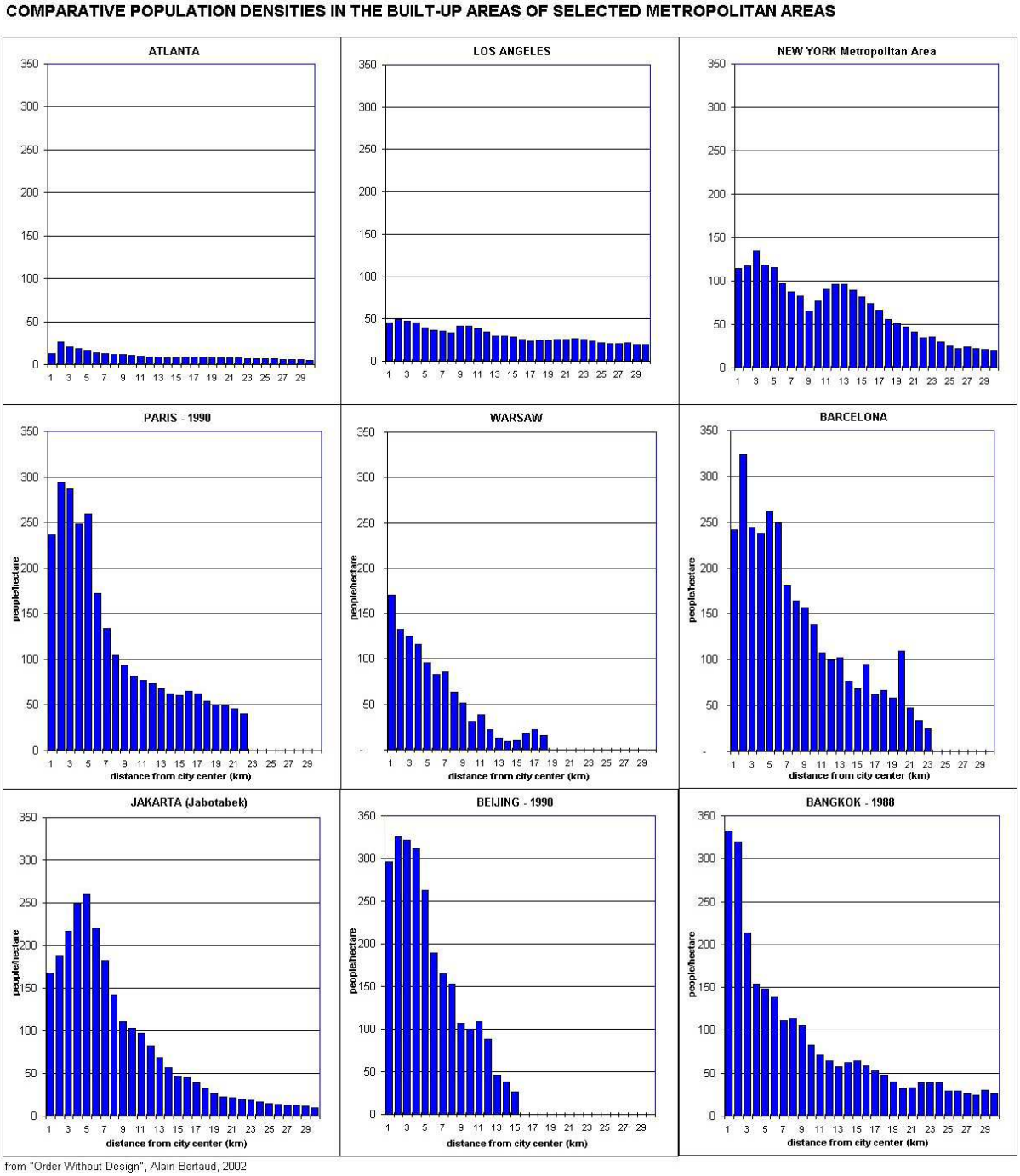
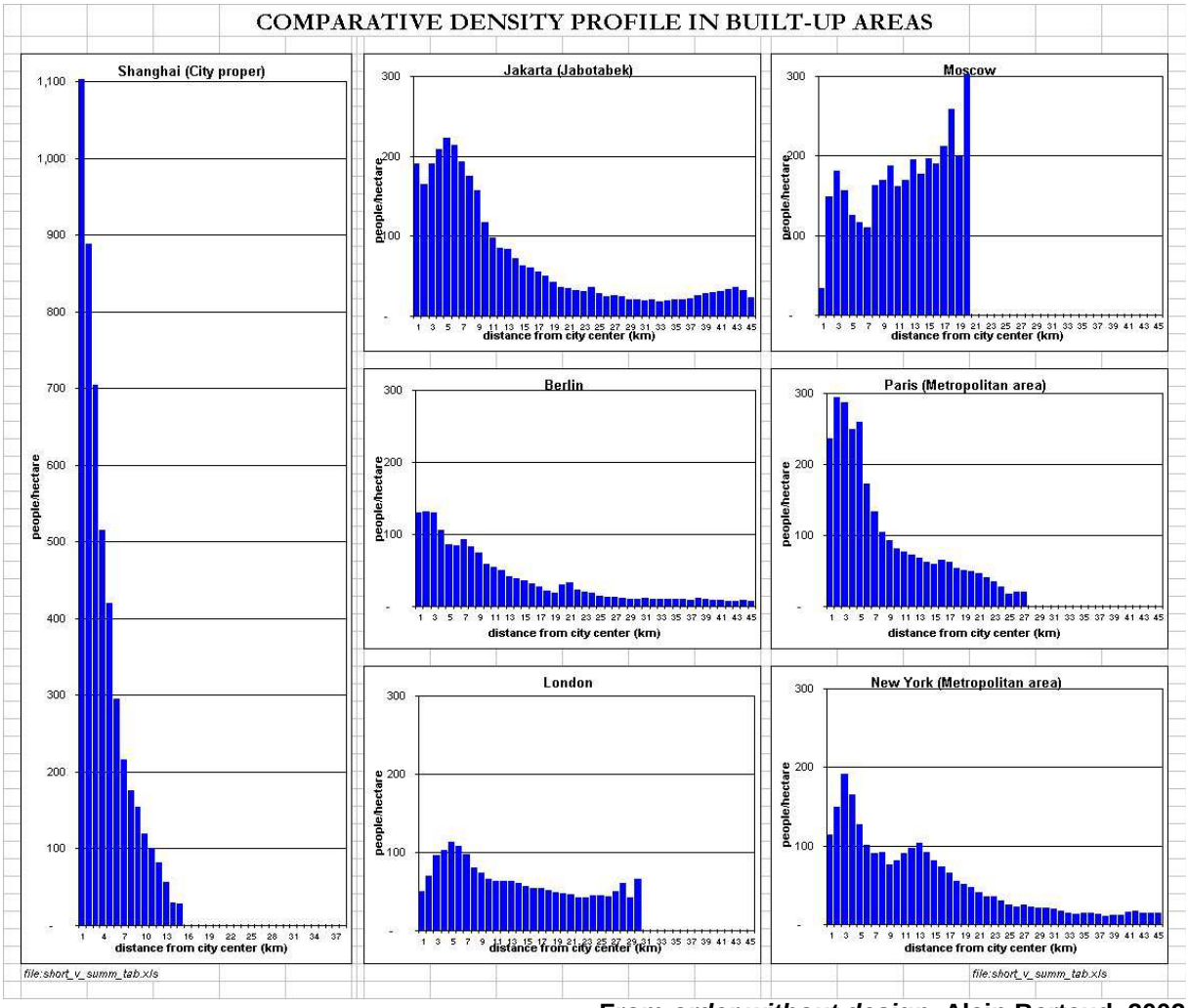
APPENDIX 1: Density profile examples (1)



From *order without design*, Alain Bertaud, 2002

APPENDIX 2: Density profiles examples (2)



From *order without design*, Alain Bertaud, 2002

APPENDIX 3: Evolution and prediction of land uses area

Table 1. Land use in the Netherlands 1890-1996 *(hectares)*

	1890	1930	1950	1970	1985	1996
Agriculture	2,157,269	2,340,610	2,512,900	2,519,497	2,395,924	2,350,807
Wood&nature	835,014	681,528	506,319	497,087	450,024	461,177
Urb. functions	123,739	144,093	191,405	268,868	416,217	441,317
Infrastructure	29,218	41,178	89,591	92,255	129,682	134,048
Water	1,007,378	945,209	852,403	774,911	760,771	765,269
Total	*4,152,618*	*4,152,618*	*4,152,618*	*4,152,618*	*4,152,618*	*4,152,618*

Source: Ministerie VROM 2001/CBS Bodemstatistiek

Table 2. Predicted land use demand 2000-2030 *(hectares)*

	Low growth scenario	High growth scenario	Present land use total
Housing	39,000	85,000	224,000
Business sites	32,000	54,000	96,000* 454,000
Infrastructure	35,000	60,000	134,000
Recreation	144,000	144,000	83,000
Wood&nature	333,000	333,000	461,000
Agriculture	-170,000	-475,000	2,351,000
Water	490,000	490,000	765,000

Source: Ministerie VROM 2001 *estimate

Source: VROM (2001) in Pellenbarg and van Steen, (2001)

APPENDIX 4 : List of interviewees

- Gerard Tolner and (*municipality of Groningen*)

- Laurens Huis in 't Veld (*municipality of Groningen*)

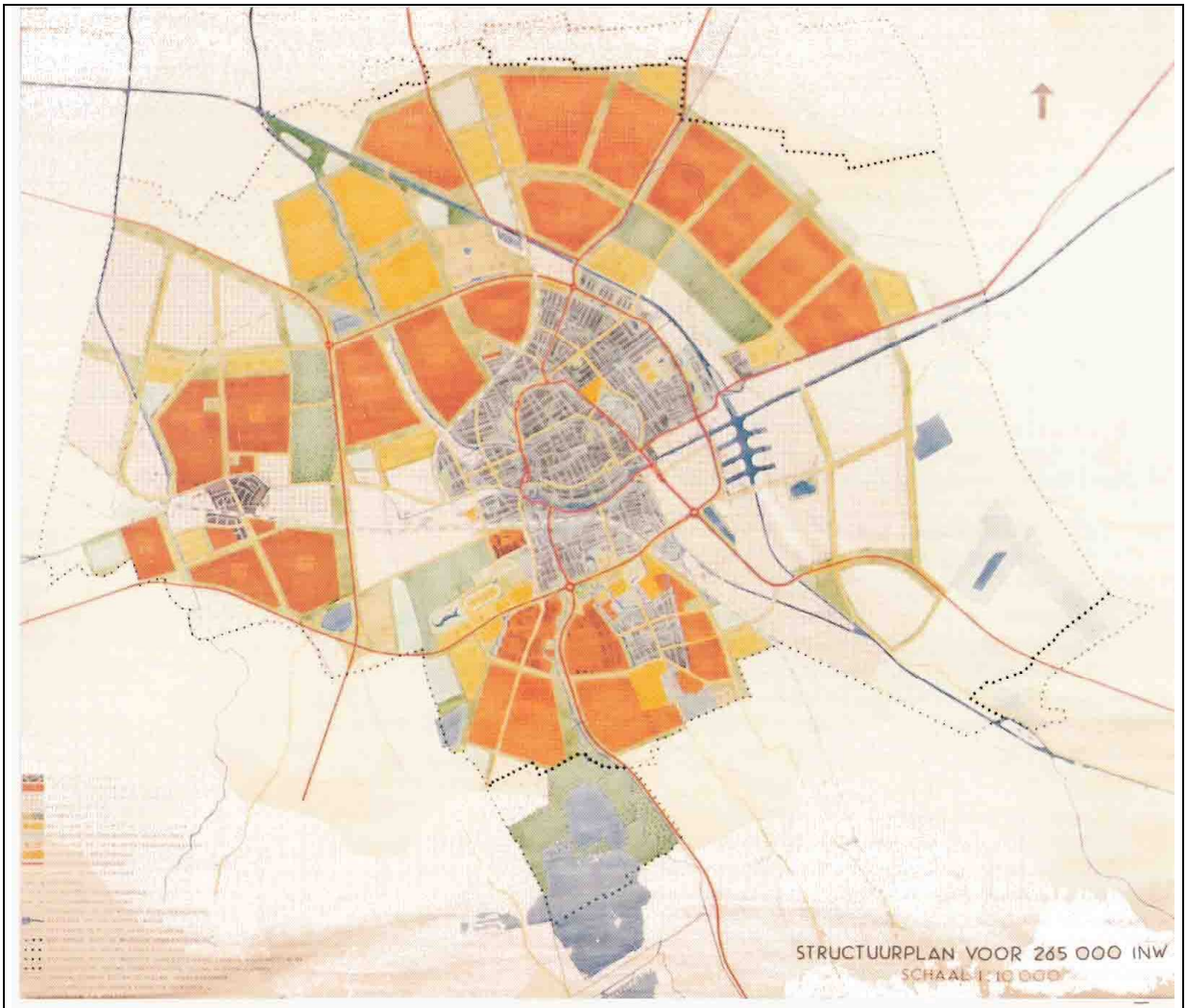
- Frans Spakman (*Province of Groningen*)

- Hero Havenga (*Region Groningen-Assen*)

- Hans Westra (*Bureau Meerstad*)

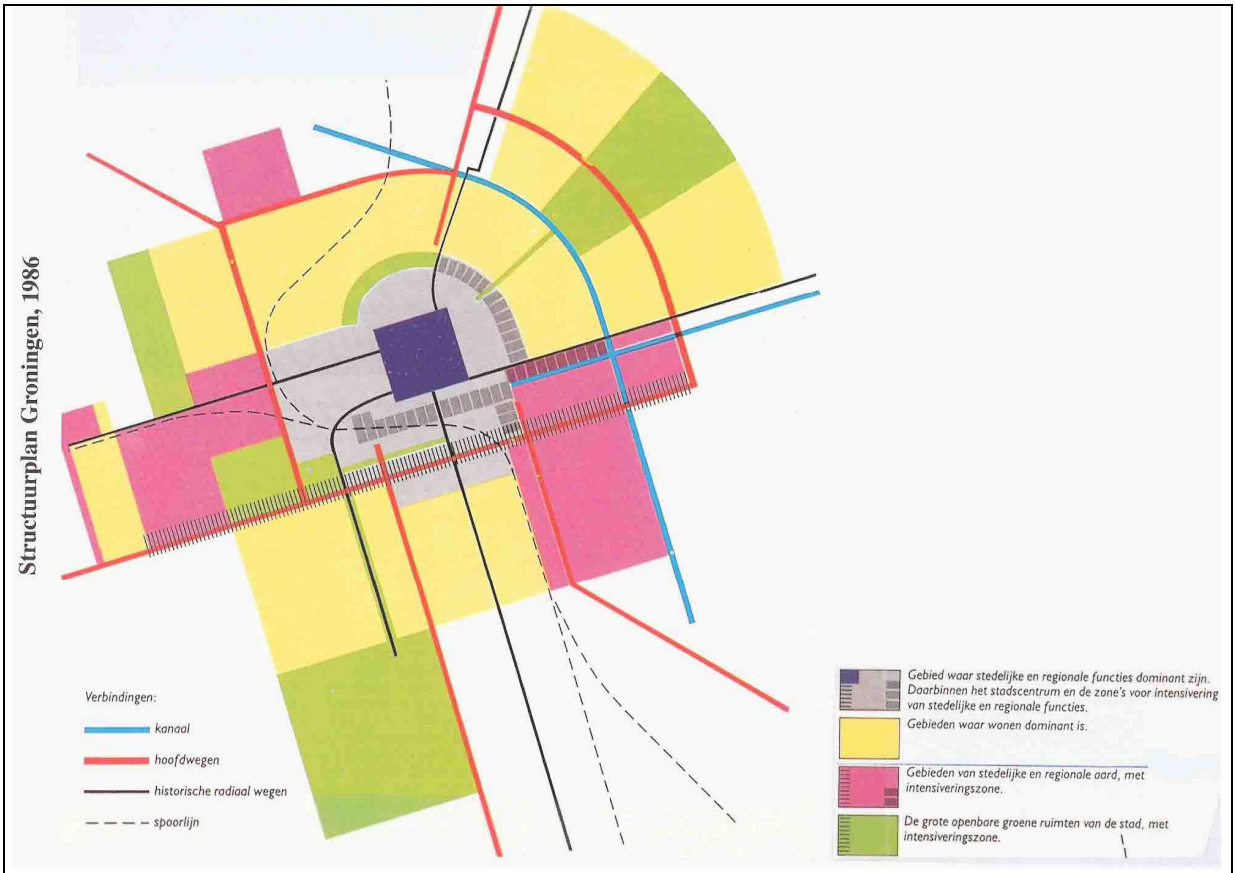
- Martin Elfrink (*HKB*)

APPENDIX 5 : Structure plan of 1961



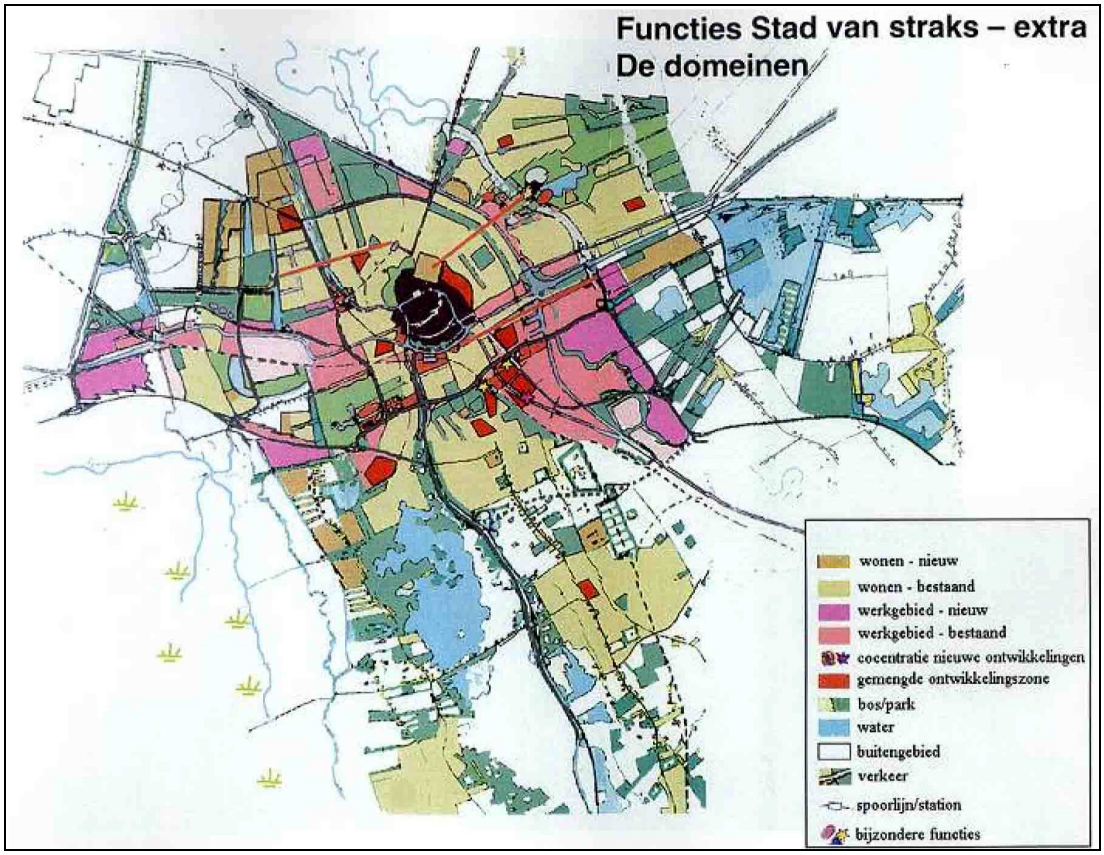
Source : Structuurplan Gemeente Groningen (1961) in Hurenkamp (1995 : 28)

APPENDIX 6 : Structure plan of 1986 (compact city)

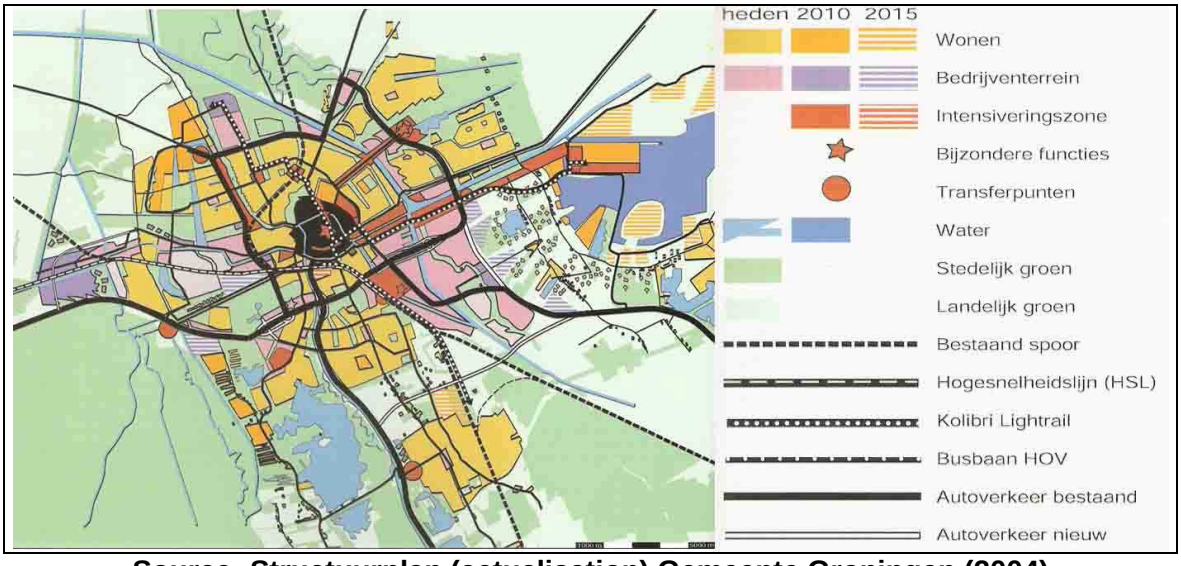


Source: Structuurplan Gemeente Groningen (1986) in Hurenkamp (1995: 34)

APPENDIX 7 : Actualisations of structure plan (1999 & 2004)

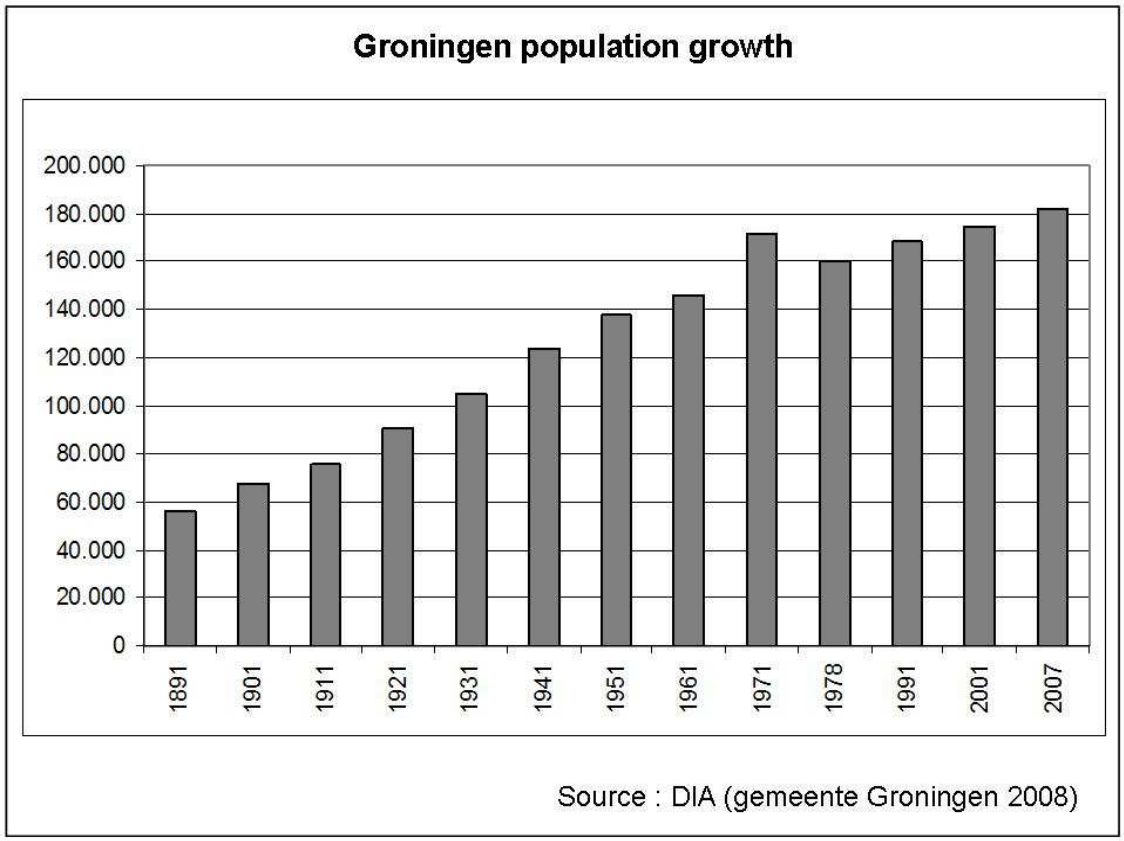


Source: Structuurplan (actualisation) Gemeente Groningen (1999)

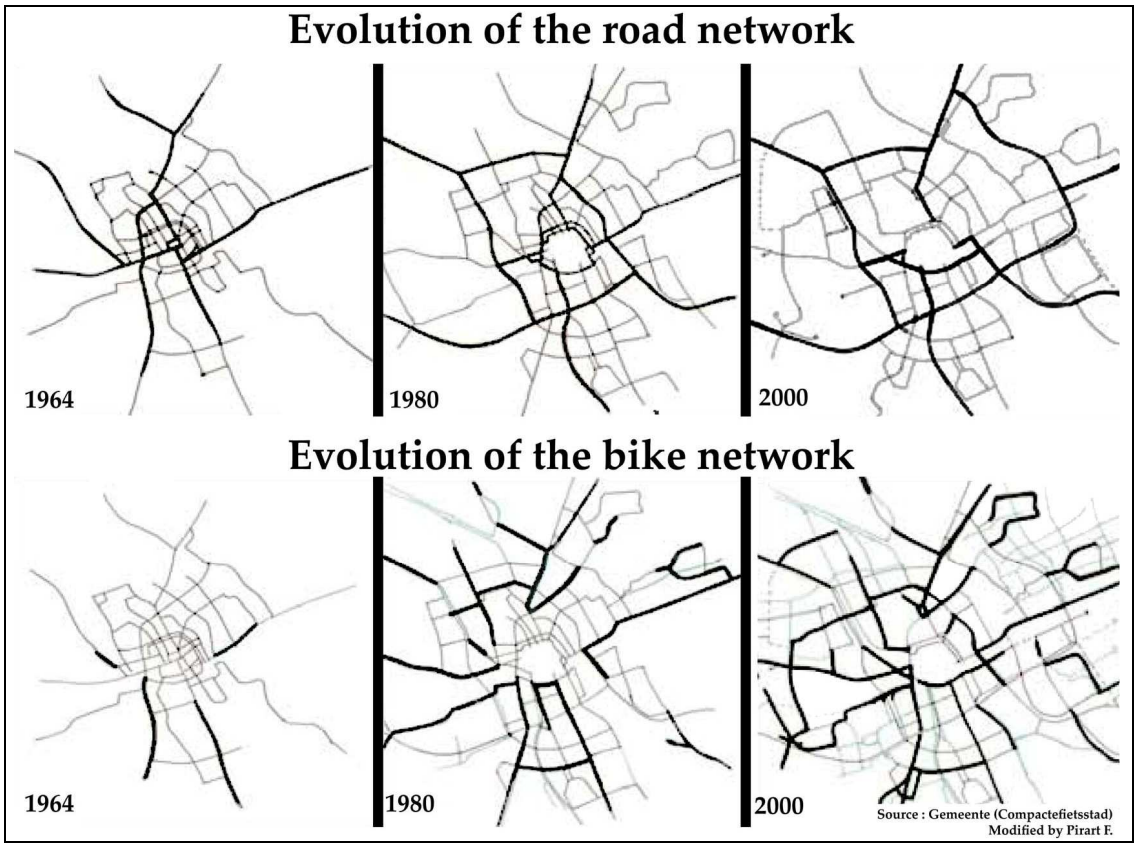


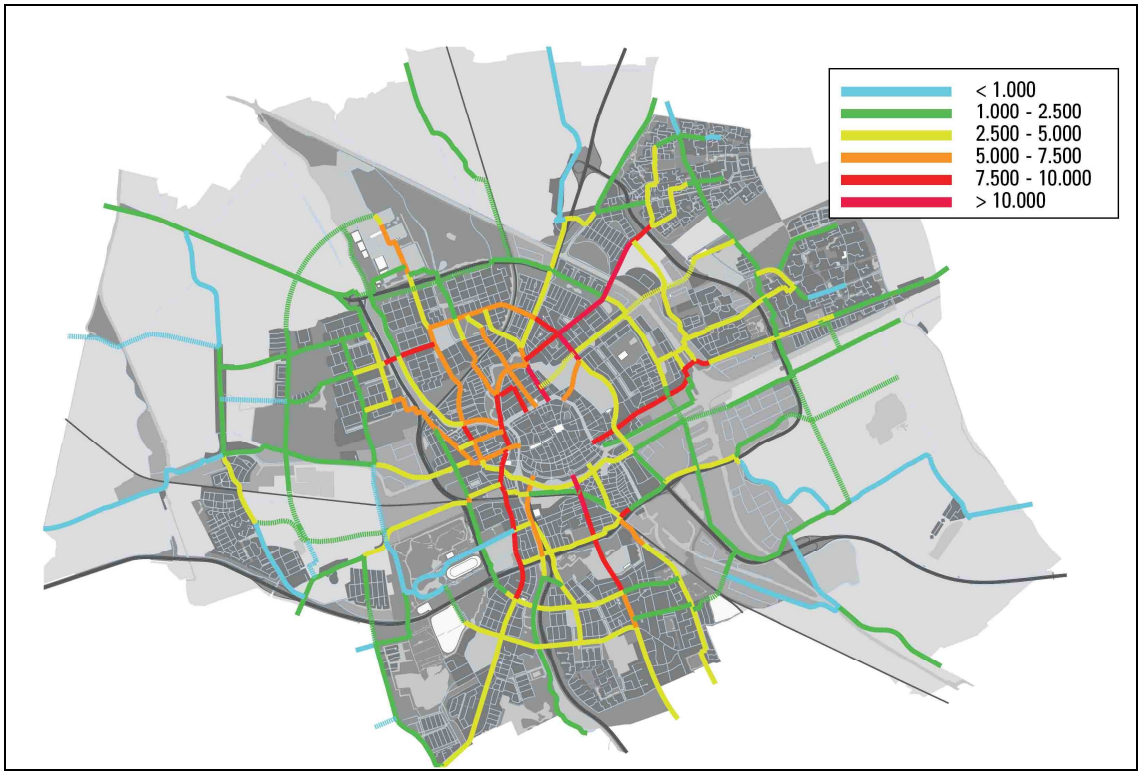
Source: Structuurplan (actualisation) Gemeente Groningen (2004)

APPENDIX 8 : Historical population growth in Groningen



APPENDIX 9 : Road and bike network evolution





Source : Fiets Beraad (2006)