

DEVELOPMENT STALLED: A STUDY ON THE NON-REALIZATION OF HOUSING PLANS IN NON-URBAN MUNICIPALITIES

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Preface

Before you lies the master thesis "Development stalled: a study on the non-realization of housing plans in non-urban municipalities." The entire research process has taken over a year, being my main occupation during that period. However, the finishing of this product would have not been possible without a couple of people. At first, my supervisor dr. ir. Ary Samsura, who provided me with useful insights, reflections, and of course a good laugh. Thank you for the confidence and helpful conversations. Second, I want to thank all respondents for their time, effort and hospitality during the interviews. If not for their expertise, this research would have limited value. Lastly I want to thank my girlfriend Sammy and my good friend Lisa for all the support and motivation during the thesis writing process.

That being said, I hope you will enjoy reading this thesis.

Joris Nijenhuis

Nijmegen, 6th of February, 2023.

Summary

The Netherlands are facing a serious shortage of new housing. Although sufficient plan capacity exists, (i.e. available housing locations that are mapped by municipalities) many of these plans are postponed or scrapped, aggravating the shortage. This research's aim to get qualitative insights in factors determining the realization of housing plans, specified to non-urban municipalities, and does so by answering the main research question: "*What factors and to what extent do these factors influence the realization of housing plans in non-urban municipalities?*" This research was executed by studying policy documents and scientific literature. Moreover, representatives from five different non-urban municipalities have been subject to semi-structured interviews, asking which factors are causing delay in their respective municipalities. In addition, two housing experts are interviewed, providing their insights in the reasoning behind stalled housing development.

Based on this qualitative research approach, it is found that non-realization of housing plans is mainly caused by long-taking procedures required to be undertaken in order to compose housing plans. While in the procedural phase, stakeholders can appeal against plans at the Council of State. This institution, in turn, is coping with backlogs as well. Consequentially, this extends the time scale in which housing plans are realized. Moreover, non-urban municipalities are lacking qualified employees to handle these procedures. Other variables, including project realization, financial feasibility, locational factors and developers and landowners were of lesser influence on housing plan realization in non-urban municipalities. Therefore, it can be concluded that housing plans in non-urban municipalities are mainly influenced by a combination of aspects affiliated with policy and regulations.

As this research focuses on five different variables influencing housing plans, further studies on this topic is suggested to be more specified on a single variable

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1. Introduction

1.1. Contextual background

For quite some years now, homeseekers are having a hard time finding a suitable home in the Netherlands. The demand for new housing is rising while production stagnates; projections show that 695 thousand additional homes have to be built by the year 2030 (ABF Research, 2019). In a process of decentralization that started in the 1990s, the national government transferred power to local governments. Municipalities are now responsible for the realization of housing plans within their borders (Needham, 2014). Although much more homes are needed, municipalities are not capable to do so for several reasons, including the conflict with other policy ambitions (CPB, 2019). Therefore, even though scarcity causes housing prices to rise, which makes it profitable for developers to build, there is still a shortage of homes.

Available housing locations are mapped by municipalities in plan capacity. Plan capacity in the context of housing showcases an overview of possible locations where a certain number of houses can be built. A distinction can be made between soft and hard plan capacity: soft plan capacity comprises land that is potentially fruitful for future developments, usually briefed in more general future visions called 'structuurvisies'; while hard plan capacity encompasses areas in which municipalities approved housing plans and established them in their zoning plans. However, once plans are approved, it is not guaranteed that the actual development will take place within short terms, resulting in an even further shortage of homes. Thus we speak of an 'implementation gap' (Adams, Leishman & Moore, 2009). It is estimated that of every ten housing plans, three will eventually not be realized (Verhagen, 2019). There is discussion on who or what is to blame for this delay in development: Some suggest that landowners and/or developers are partly responsible, as they purchase land and delay development for multiple purposes (Adams et al., 2009); (Van der Krabben, 2021); (Barker, 2004). Others are blaming the (local) government: their planning regime is demanding tough requirements and are therefore restricting development, as developers within a free market should be capable of keeping up with the demand for new housing (Jonkman, Meijer & Hartmann, 2022). However, studies show that setback in developments is not solely one party's fault but rather a consequence of multiple factors, including – in addition to the already named reasons – financial feasibility and locational problems (Buitelaar & Van Schie, 2018).

1.2. Research problem

As there is a housing shortage in the Netherlands, many groups are raising their voice to blame other parties for who is responsible for this problem (Voermans, 2021). Municipalities have sufficient plan capacity at their disposal in order to construct houses to cope with this shortage. However, part of these plans are postponed or not realized at all, aggravating the crisis. This research seeks to find further insights in reasoning behind the (non)-realization of housing plans in non-urban municipalities. The theoretical framework that will be used in this study is the real option theory, applied to real estate development by Trigeorgis (1995). This theory can be used to find further insights in whether a housing plan continues, is delayed or even cancelled.

At least one recent scientific study on housing plan realization has been conducted (Leeuwerik, 2018). In this study, Leeuwerik practices a quantitative research approach, in which he makes use of datasets to test which variables contribute significantly on plan realization. However, that study lacks qualitative reasoning behind those variables. Moreover, the study done by Leeuwerik focuses on housing plans in the Netherlands as a whole, rather than specified on a certain category of municipalities. For this reason, this research makes use of a qualitative research approach, as it is concerned with gathering qualitative insights of factors leading to plan (non)-realization. Therefore, this research will consist of multiple qualitative methods of inquiry, including scientific literature study, policy document study and semi-structured interviews (see [3. Methodology](#)).

Insights from the literature study and interviews will be helpful in understanding the reasoning why - even though there is sufficient plan capacity - this capacity is not converted into actual housing developments. By analyzing this qualitative information, it is possible to answer the sub research questions, whereafter the main research question will be answered and conclusions can be made. The following section will elaborate on these research questions.

1.3. Research aim and research questions

The aim of this research is to get insights in the factors determining whether housing plans in non-urban municipalities will be realized or not. Variables influencing the realization of housing plans are acquired from policy documents and other studies, and put in to practice in this study. Municipalities and housing experts are asked how, and to what extent these variables are applicable regarding whether housing plans will be realized or not. Therefore, this research has an explanatory aim: the causes of a certain problem are sought or studied. Existing theories will be applied in the search for causes, and new theories can be developed based on the empirical findings (Van Thiel, 2014). It could for instance happen, that other, unknown variables are influencing the realization of housing plans.

This study will be performed by means of the following main question:

- What factors and to what extent do these factors influence the realization of housing plans in non-urban municipalities?

In order to give an useful answer to the main question, the following sub-questions have been formulated:

1. To what extent does project realization influence the realization of housing plans?
2. To what extent does policy and regulation influence the realization of housing plans in de non-urban municipalities?
3. To what extent does financial feasibility influence the realization of housing plans in non-urban municipalities?
4. To what extent do locational factors influence the realization of housing plans in non-urban municipalities?
5. To what extent do developers and landowners influence the realization of housing plans in non-urban municipalities?

Answering these five sub-questions will be done by conducting in-depth interviews with representatives of five different non-urban municipalities and two topic experts, where after the main question can be answered.

1.4. Scientific and societal relevance

Studies on reasons why landowners are postponing developments on vacant building lots have been done in the UK (Adams, et al., 2009). Moreover, Jonkman et al. (2022) provide information about struggles on the municipality's side regarding housing plan implementation, raising the struggle between quantitative and qualitative housing policy aims as important factor in the non-realization of housing plans. In addition, Leeuwerik (2018), Verhagen (2019) and Beckers (2021) proved quantitative insights in their studies on how an increase in plan capacity does not necessarily lead to the expected number of houses developed. However, qualitative studies, providing in-depth information in the reasoning behind realization of housing plans from both the municipalities' and the developers' perspective remain scarce to non-existent or is specified on countries as a whole. Consequently, this study will try to seek better understanding in the more general factors influencing the realization of housing plans in non-urban municipalities, making the research fill in a gap in societal knowledge. The research will be performed by conducting a study on non-urban municipalities located within the Netherlands.

Since many housing plans are not realized, the supply side of housing is falling behind compared to the demand for new housing. Often labelled as the 'housing crisis' in the Netherlands, during the last elections it was one of the main topics for voters (NU.nl, 2022). Much debate has been going on in the country on who or what institutions are to blame for this crisis. This study can help providing adequate information on factors influencing the realization of housing plans, making it societally relevant.

2. Theoretical framework

2.1. Literature review

2.1.1. Dutch spatial planning system

Housing prices in the Netherlands have been rising for many decades now, with the exception of a period of decline during the economic crisis between 2008 and 2013. Despite of scarcity, the amount of newly-constructed dwellings is falling behind (CPB, 2019). This seems remarkable as scarcity causes prices to rise, which in turn makes development of new houses more profitable for developers, municipalities and landowners. Therefore, it is necessary to take a closer look at government policy and its influence on the housing market.

Spatial planning is seen as "a place shaping and space mediating mechanism", which takes place through interventions in the land and property markets (Van Straalen, 2014). In the Dutch context, the spatial planning act (Wro, Wet ruimtelijke ordening) from 2008 is playing a key role in spatial developments. Herein, the powers of the three governmental layers (national, provincial and municipal) are elaborated (Needham, 2014). Municipalities are responsible for establishing zonal plans. In these plans, it is stated which functions a certain piece of land may have. Land, and therefore housing policy is mainly the task of

municipalities and provinces, rather than that of the national government. The national government has limited influence on the housing market, it cannot determine where development takes place for instance, but rather provides general directives in a vision called the *Structuurvisie Infrastructuur en Ruimte* (Structure Vision for Infrastructure and Space), which is a non-legally binding document. In addition to this vision, the national government uses another instrument called the *Ladder voor Duurzame Verstedelijking* (Ladder for Sustainable Urbanization) in which the government aims for sustainable use of space, including for example the desire to build on inner-city locations rather than on greenfield sites (Sinoo, 2015).

The aim of housing policy is the realization of enough homes and the insurance that these houses are of high quality. Moreover, its aim is to tackle the overproduction of homes as well, preventing vacancy and loss of valuable green, open space. In the previous century, the government had a lot of influence in spatial planning. But in last decades, there has been a shift from government to market in housing provision (Shahab, Hartmann & Jonkman, 2020).

As stated, housing policy is taking place at the more local governments levels. Hereby, municipalities make agreements with provinces on how many houses need to be built, and of what quality they must possess. Usually, the province gives directives on this qualitative and quantitative matter, where after the municipality develops a housing program that fits within the provincial framework. However, municipalities can also make agreements with other neighboring municipalities within 'regions' to achieve the desired aims in housing provision, in which for each municipality is appointed what their share of the job is, as long as it fits within the provincial norms.

The *bestemmingsplan* (zonal plan, also called: zoning plan or land-use plan) plays a key role in Dutch land development. Municipalities create and make use of this instrument, since the plan regulates the use of certain demarcated areas within the municipality and prescribes certain functions for these areas. This fits within the Dutch planning tradition of *toelatingsplanologie* (allowance planning): guidelines are given on what is allowed to be built within a certain area, but no obligations are given (Needham, 2014). For example, when a location has a housing function, there do not have to be actual houses realized, but the zonal plan says it is allowed on that location. Because land price is determined by what is (allowed to be) built on that land, land prices vary based on the land-use plan (Segeren, 2007). For example, the market value of agricultural land is worth € 6,74 per square meter on average, while the value of housing land varies between € 400 - 800 per square meter on average (Kadaster, 2021). For this reason, land buyers want to purchase (agricultural) land strategically, on places where it is forecasted that housing developments will take place in the (near) future. By strategically buying the land, developers take a share of the profits made by development and have power on how developments will take place.

Instead of letting developers negotiate with many individuals about developing new sites, it is more efficient to appoint the municipality as representative of these individuals. Through negotiations with developers, the spatial planning department of municipalities can come towards a desired spatial outcome that is

beneficial for all (CPB, 2019). However, many existing residents do not benefit from new housing developments and mainly experience negative consequences from it, for example less free space and more congestion. Since municipalities are democratically elected representatives of these residents, they are also not so eager to approve more housing sites. Voices of house seekers from outside the municipality have no electoral power and thus their interest is less heard.

When spatial planning would be completely the municipality's responsibility, this would lead to a low amount of new housing. The national government and provinces represent a larger number of citizens: those living within a given municipality and those living outside, indicating that house seekers have a larger electoral say in this context (Meijer & Jonkman, 2020). The national government and provinces set housing targets that should lead to more houses, but municipalities do not always take over these targets. However, provinces also aim on the preservation of spatial quality, and mainly follow the principle to not build too much on expansion sites. Provinces do not want to exceed the 100% demand for housing as hard plan capacity, since not all plans will actually take place. This could potentially result in vacant housing sites and financial losses.

Municipalities have few power to acquire part of the revenue of new housing (Shahab et al., 2020). They can indirectly do this by giving building quality requirements. However, these requirements makes housing development less profitable. Consequently, a higher demand for new housing does not immediately lead to the provision of new housing. Moreover, a higher demand for new housing leads to higher requirements in order to meet good spatial quality. Municipalities and developers negotiate about the building requirements, causing a longer process of development. Some developers are even willing to avoid certain municipalities demanding too strict building requirements, for instance, when the construction of an underground parking space is required.

2.1.2. Housing development

In short, housing developments begin with acquirement of land needed for developments; financing of investments in land acquirement; allocation of land; making the land suitable for construction and provision of infrastructure; the selling of building plots to project developers, investors or users (Van der Krabben, 2021). Every housing project begins with an initiative: the municipality or a market actor brings up a plan to develop houses on a given location. The one taking the initiative is usually the landowner, who has acquired the land for purpose of future developments. Municipalities can develop land themselves in a process called active land policy. Hereby, the municipality owns the land, makes plans and contracts a builder to construct infrastructure and other amenities (Shahab et al., 2020). After the land-use plan has been established, building plots will be sold to market parties who realize the dwellings according to the municipality's wishes, or potentially sell the empty building plot to private individuals. This strategy bears more financial risks for municipalities. However, when the land is owned by a private developer, developments take place in agreement between municipality and developer, in a process called passive or facilitating land policy. The municipality then makes agreements with the private

developer on what the area should look like, but the private developer is responsible for constructing and selling the plots.

When a municipality or landowner comes up with an initiative, it is important to take the demand for new housing into account. Occasionally it is clear beforehand that there is sufficient demand, but unclear for what type of housing. For private developers it is needed for municipalities and provinces to collaborate. Therefore, they can look up the structuurvisie of given municipality, where desired future development areas are elaborated. The will of municipalities to collaborate usually is stronger when an initiative complies according to the structuurvisie.

Provinces determine how much space they grant municipalities for newly-built homes (Louw et al., 2003). They limit hard plan capacity (i.e. amount of homes that may be built according to zonal plans) based on demographic prognoses demand. Soft plan capacity consists of housing plans that are not legally binding (yet), for instance in structuurvisies. Whether the province is willing to collaborate depends on the amount of other housing plans in given municipality. Moreover, the province has to test whether the amount of houses on urban expansion areas could potentially be situated inside existing urban areas. Therefore, some parties say that provinces are taking a too critical viewpoint, leading to a further delay in housing development.

2.1.3. Housing market

The housing market is a complex market subject to government restrictions. Market regulation has implications for market outcomes. Economic theory can show what effects regulations on the housing market have. In literature, when studying the influence of planning on housing markets, a welfare economic perspective is applied regularly. Core principle of welfare economy is achieving an as high as possible welfare in which the desires of everyone in society are satisfied. The aim of an intervention is to cancel out undesired activities while supporting desired activities.

The housing market is not a perfectly working market (Adams & Tiesdell, 2013). There is information asymmetry between buyer and seller; it is a heterogenic market, as every house is different dependent on its appearance and location; housing markets are in addition to stock market also markets for newly-built homes. The newly-built home market share is a lot smaller than the existing home market, which makes it for the supply side to influence housing prices. For that reason it is said that the housing market is a stock market: prices of existing stock determine prices of newly-built homes (Leeuwerik, 2018).

Therefore it can be concluded that the housing market is not a perfect working market. Without regulation, this market would lead to market failure, making the housing market not lead to an optimal outcome but to welfare loss. It is needed to intervene in the market to come to a more efficient outcome, which on the housing market is done by spatial planning regulations.

Developers seek to make a profit out of constructing new houses. They sell or rent their developed homes. Before that can take place, they make costs involving the acquisition of land, hiring of architects or when negotiating with the

municipality. To finance these costs beforehand, they are dependent on own or borrowed capital. Whether they are able to acquire these loans is dependent on the availability of capital in the economy and how inventors interpret the project's risk. For projects (almost) included in land-use plans, it is rather easy to acquire financing, since the risks are low. However, for plans that are still in early stages of developing, it is not guaranteed that these plans will eventually lead to housing development. Therefore, banks are less eager to lend money to developers.

Citizens can have a mortgage for their homes against a low interest, which makes the buying home sector attractive to them. This leads to an increase in demand for housing.

2.1.4. Realization of housing plans

Project realization

ABF Research publishes the total plan capacity for the Netherlands every year. In this table (ABF Research, 2021), it is seen that the net plan capacity (i.e., the number of new houses minus demolished houses) is 961.300, while the number of homes needed is 706.300. The net plan capacity encompasses soft, yet to be established plans, and hard plans, included in land-use plans. Looking at this table, one could suggest that there is sufficient plan capacity, and therefore enough new housing. However, according to Bramley (1993), an increase in plan capacity a given number of houses, does not lead to the actual development of that respective number of houses. Brömmelstroet & Schrijnen (2010) name this an implementation gap: "an apparent mismatch between supply and demand." All planning policies are subject to an implementation gap to some extent, since there is a gap between what policies propose and actually deliver (Gilg & Kelly, 1997).

Provincie	2012 tot 2030			
	Bruto bouwopgave	Netto bouwopgave	Netto plancapaciteit*	Verhouding netto plancapaciteit versus netto bouwopgave**
Groningen	15.200	11.200	19.000	170%
Friesland	13.900	9.900	12.600	127%
Drenthe	9.000	6.300	13.000	206%
Overijssel	38.400	32.100	44.400	138%
Flevoland	31.600	30.900	38.900	126%
Gelderland	87.200	78.200	89.600	115%
Utrecht	83.800	77.200	105.900	137%
Noord-Holland	182.800	161.500	220.900	137%
Zuid-Holland	205.600	172.500	280.200	162%
Zeeland	6.600	4.300	7.900	184%
Noord-Brabant	120.400	110.300	109.300	99%
Limburg	17.200	11.900	19.400	163%
Totaal	901.200	706.300	961.300	136%

Figure 1: Plan capacity by province (ABF Research, 2021)

The supply elasticity for new housing is low, indicating that an increase in demand does not lead to a quick response from the supply side (DiPasquale & Wheaton, 1996). In other words, the Dutch supply of new houses does not meet up with the demand for new housing. As quantitative study shows, an increase in plan capacity does not lead to the proportionate development of new housing, thus the country overall is experiencing an implementation gap (Verhagen,

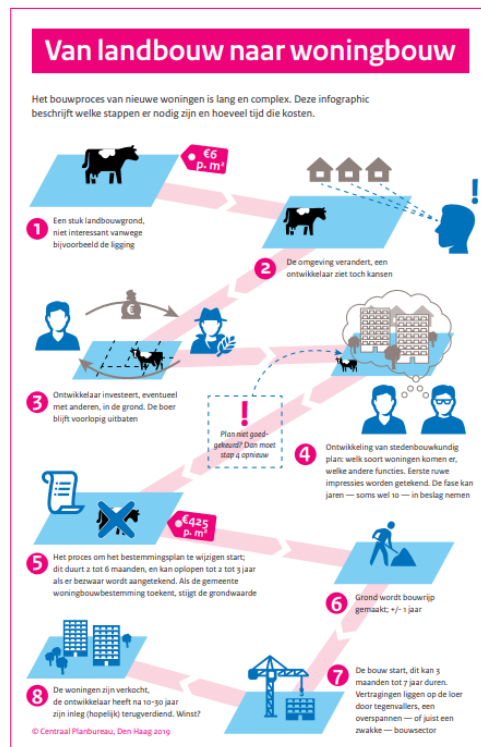


Figure 2: Housing development in the Netherlands (CPB, 2019)

2019). Although there is sufficient plan capacity to meet up with the demand for new housing, these sites are not being developed, causing a shortage of new housing, and since hard plan capacity remains unused, this is leading to “stalled sites” (Korthals Altes, 2021). Buitelaar & Van Schie (2018) suggest that delay can take place at multiple moments in the planning process: first, when a plan shifts from ‘soft’ to ‘hard’. Thus, when the housing plans becomes established in the zoning plan. Second, at the moment between establishing zoning plans and granting of building permits; and third, during the granting of building permits and actual development of estate.

Policy and regulation

The non-achievement of quantitative housing objectives is partly explained by the struggle of municipalities to cope with qualitative policy objectives, namely, maintaining the good spatial planning principle. This can lead to a “piling up of ambitions”, which is suggested as one of the reasons for the setback in housing developments (Jonkman et al., 2022). Municipalities have – in addition to quantitative housing ambitions – qualitative spatial ambitions, including the provision of high quality public space, inclusive neighborhoods, climate adaptive areas and the realization of affordable housing, thus, they do not want to expand

the housing stock regardless of other qualitative spatial ambitions. In addition, realization of housing plans is partly dependent on the plan features, for instance how many houses and what types of housing are desired (Verhagen, 2019). Moreover, city councils are elected by municipalities' inhabitants, that are often not too eager to support building on outer city green areas, leading to more expensive and inner-city developments that come with long-taking processes, partly because many stakeholders are involved, and thus participatory processes have to be undertaken involving these stakeholders before developments can initiate (Saiz, 2010) (CPB, 2019).

The process to gain approval is a long-term process, taking many months. To realize a housing program it is needed that it fits within the land-use plan. Regularly, the zoning plan needs to be modified to make new developments possible. This process phase comes with many procedures, and even after establishing the modified land-use plan, citizens can do a court appeal against it.

Financial feasibility

Financial feasibility is an important factor in the realization of housing plans. When the housing market is in bad condition, developers are less inclined to develop, causing building locations where the procedures have been completed, but there still has not been built yet. One possible reason is that the plan is potentially not financially feasible (Verhagen, 2019). Costs for making land usable were higher than expected. To make projects feasible again, the plans have to be modified, causing more delay, or development will be postponed before market conditions allow feasible development again, also causing delay. Building costs remain consistent, while revenue has decreased. Moreover, since development process take many years, it occurs that the demand for a specific type of housing has changed through time. And, since money needed for investment in housing projects usually is borrowed from banks, interest has to be paid each year, further increasing the costs and risks involved in housing development. Thus, there are few parties willing to invest in these time consuming and uncertain processes (Leeuwerik, 2018).

Locational issues

Locational features play an important role in the realization of housing plans. Physical problems take place when for instance the land on which developments are intended is polluted, requiring expensive clean-up before developments can happen. These physical issues make given locations risky for developers as it could harm the financial feasibility of projects. Moreover, plans have a different success rate based on their location relative to amenities and what type of housing is desired in the plan (Buitelaar & Van Schie, 2018).

Landowners and developers

Problems can also be caused by behavior of land owners and developers. Ownership rights can form a problem in realizing housing sites (Adams et al., 2009). Land owners will try to acquire land in early stages of planning. As ownership rights automatically gives developers development rights, they maintain a monopoly over this land. Subsequently, since there is no competition over this land anymore, developers can wait with developing the land and keeping it empty purposely (Van der Krabben, 2021). They are doing this

because of a number of reasons: to balance their production volumes over a number of years; to make developing more cost effective; and to wait for increase in housing prices.

Moreover, a lack of certified building personnel and construction material is named as one of the main reasons why housing site development has fallen behind (Jonkman et al., 2022).

2.1.5 Theories explaining the realization of housing plans

Real option theory

Real option theory explains the relation between the value of risk, uncertainty and managerial flexibility (Beckers, 2021). Titman (1985) applied this theory to real estate development: he saw that in Los Angeles were many vacant urban lots, held by private investors who keep valuable land underutilized, which suggested that those empty building plots were worth more in the future. To understand why land was vacant, he determined how land is valued under two alternatives: valuing land as construction site for a certain building at the current time, and valuing land as a potential future building site. The former can be done by calculating the residual value, i.e., extracting the plot preparation costs from the market value of the building and land; valuating the latter is not so straightforward: the building and its future real estate prices are uncertain. Titman's model provides a valuation equation for pricing empty-standing building plots. Therefore, it can help to make clear under which conditions it is rational to delay building. Through his model, he found out that the amount of uncertainty about the type of building that will be optimal in the future is an important determinant of the value of vacant land, and therefore, the willingness of investors to develop.

In addition to waiting to develop vacant building plots, land owners have other options as well. Trigeorgis (1995) made use of the real option theory and presented four distinctive options that developers can choose from when they acquired land: the option to defer; the option to build; the option to alter; and the option to abandon.

Table 1
Real Option Theory

Category	Description
<i>Option to defer</i>	Wait several years with developing, to see if output prices justify constructing developing an empty plot.
<i>Option to build</i>	Constructing at this moment is seen as profitable and will be performed.
<i>Option to alter</i>	Developer can opt to expand or reduce development scale.
<i>Option to abandon</i>	Developer will abandon current operations permanently and try to sell their land.

Note. Retrieved from Trigeorgis (1995).

2.2 Conceptual framework

Based on the literature review, a conceptual framework has been constructed, which is a visual representation of variables that are studied in this research. In the following conceptual framework, variables are displayed that influence whether housing plans will be realized or not within the Dutch spatial planning system.

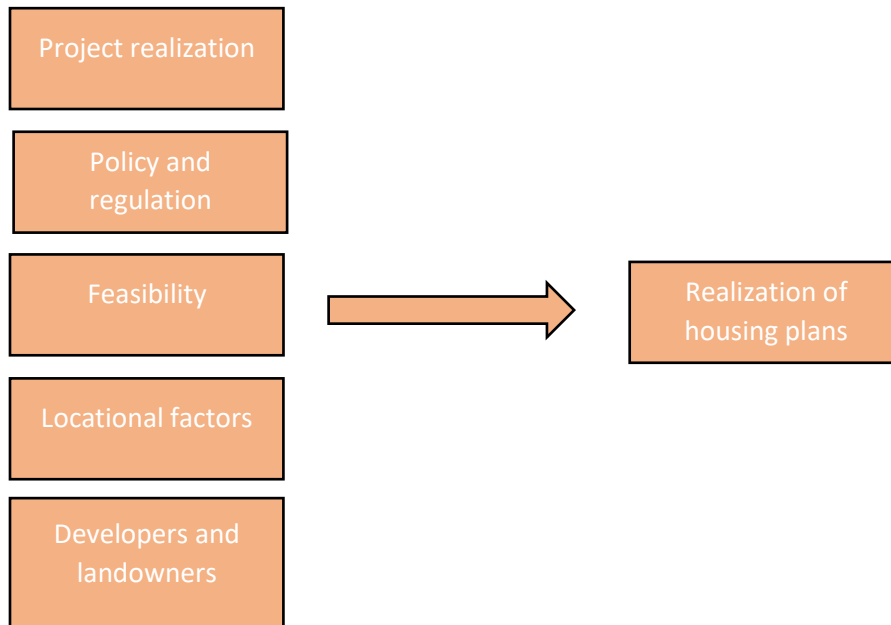


Figure 3: Conceptual framework

As showcased in the conceptual framework, roughly five variables determine whether housing plans will be realized. However, this does not mean that all possible variables, dimensions and indicators influencing the realization of housing plans are included in this operationalization scheme. These have been derived from literature study, and it is possible that through in-depth interviews there could be more, yet unknown variables. The variable 'policy and regulation' consists of three dimensions, based on the respective government levels. The government in its multiple forms has a regulatory influence on the housing market that varies by government level, with each its own indicators. Variables 'feasibility', 'locational issues' and 'developers and landowners' each consist of one dimension, and for feasibility and developers and landowners, multiple indicators. All these indicators will be derived from in-depth interviews with municipality officials.

Table 2
Operationalization

Variable	Dimension	Indicator
Project realization	Stalled development	<i>Time to develop</i>
		<i>Time to get permit</i>
		<i>Amount of undeveloped land</i>
Policy and regulation	Municipal regulation	<i>Qualitative policy aims</i>
		<i>Restriction of land supply</i>
		<i>Political setting</i>
	Provincial regulation	<i>Long-taking processes</i>
		<i>Capacity problems</i>
		<i>Restriction of land supply</i>
National regulation	<i>Provincial policy</i>	
	<i>Nitrogen regulation</i>	
Feasibility	Financial feasibility	<i>National policy</i>
		<i>Housing market condition</i>
Locational factors	Proximity to amenities	<i>Proximity to amenities</i>
	Locational issues	<i>Soil issues</i>
Developers and landowners behavior	Speculative behavior	<i>Price uncertainty</i>
	Capacity shortages	<i>Lack of materials</i>
		<i>Lack of qualified employees</i>
		<i>Rising development costs</i>

Note: adapted from Adams et al. (2019), CPB (2019), Jonkman et al. (2022), Van der Krabben (2021) & Verhagen (2019).

3 Methodology

3.1 Research strategy

The aim of this research, is as stated in chapter 1.2., to gather more insights in in-depth qualitative information about the factors influencing housing realization. To do so, a qualitative research strategy has been opted to find more insights on this topic. The qualitative research strategy 'case study' is seen as best fitting for this study, since this research is about gathering in-depth information on how municipalities and developers decide to continue housing projects in their plan capacity. The triangulation in this qualitative study will consist of three elements: first, scientific literature study, for example on scientific research on housing development; second, policy document study, for instance the municipalities' housing visions; and, third, in-depth semi-structured interviews, that will be conducted with representatives of the municipalities and topic experts. These interviews will - if permission is granted by the interviewees - be recorded in audio format, transcribed using transcription software and subsequently analyzed using Atlas.ti. Thereafter, analyzed data can be used to formulate answers to the sub questions, and jointly, the main research question to form results, and finally, the conclusion chapter of this research.

3.2 Research methods

3.2.1 Qualitative research approach

This research makes use of a qualitative research approach. According to Creswell and Poth (2016), it is appropriate to conduct qualitative research when a problem needs to be explored. This exploration is needed because of a need to study a group or population. Moreover, qualitative research is conducted to gain a complex detailed understanding of given problem. Therefore, this research approach is suitable for the study on the non-realization of housing plans, since there are different variables determining whether housing plans are realized are not. Usually, in contrast to quantitative data, qualitative data are not structured and cannot be arranged hierarchically. Although quantitative research has been performed on factors influencing the realization of housing plans (Leeuwerik, 2018; Verhagen, 2019), numeric data does not encompass the complexity of the Dutch housing system and factors involved. Downside of qualitative research is that this form of research is deemed too subjective and findings consist mainly of the researcher's own interpretation (Van Thiel, 2014). However, there are several measures that can be taken to ensure reliability and validity. One of those measures is triangulation: the use of more than one research method. Taking just measures regarding triangulation improves the research's validity and reliability (see 3.4). In this research, multiple data sources are used: the study of scientific literature on housing plan realization, the study of policy documents regarding housing plan realization and moreover, the conduction of standardized open-ended interviews, as described in 3.2.2.. From literature and policy document study, variables influencing whether housing plans are realized are deduced. Subsequently, multiple Dutch municipalities are asked to what extent these variables are applicable to them.

3.2.2. Interviews

When one studies the character of the social reality, qualitative methods can be used (Vennix, 2016). Empirical observation is one of those methods, however

that is not suitable for this research, since possible obstructions for housing development cannot be observed by observing material processes, but can rather be derived from speaking directly to those involved in housing development. In a scientific way of information gathering this is done by performing interviews. Interviews are qualitative research methods where respondents are subject to verbal interaction with the researcher. Four kinds of interviews exist, varying in how structured they are (Patton, 1980).

During an unstructured interview, the researcher does not assemble a questionnaire beforehand but prefers to think of questions during a spontaneous conversation. The respondent can speak freely about his knowledge, however it is possible to deviate from the original interview topic. More structured is the semi-structured interview, where the researcher brings an interview guide with him that includes all topics that need to be addressed during the interview and in what order it will take place. However, the respondent is open to answer any answer they would like, since there are no defined answer categories. Standardized open-ended interviews have no answer categories as well, meaning the respondent is free to answer to their own will, however, instead of only a list of topics that need to be addressed, actual questions have formulated that the researcher will ask during the interview. Finally, a researcher could opt for a closed, structured interview, with fixed questions and fixed answer categories (Vennix, 2016).

Although a list of pre-formulated questions will be elaborated, it is possible to deviate from this to some extent to gather more useful insights. This interview method has consequences for the study's validity however, which will be lower than when a structured interview would be performed instead. However, it can be imagined that experts on housing development cannot restrict themselves to only a few answer categories. Moreover, when the structured interview would be performed, potentially additional interesting insights would not be featured in the data gathering of this study (Van Thiel, 2014). On the other hand, when an open-ended interview would be opted for, it is probable that important questions would not be featured and therefore the researcher will miss out on important data as well. Therefore, the semi-structured interview with standardized formulations is regarded as the best interview method in this research.

As this research focuses on housing plans in non-urban municipalities, municipalities of that category will be subject to this type of interview, where beforehand a questionnaire is created in order to ensure no topics will be left out. Moreover, after the interviews with the municipalities have been conducted, two non-municipal housing experts will be interviewed in order to relate practical information to a scientific perspective. In this study, provincial housing experts of Gelderland and Overijssel will be contacted as they have more general knowledge on housing plan realization. In addition, professor Boelhouwer of Delft University will be requested for an interview, as he has performed scientific studies on housing in the Netherlands.

In order to find municipalities fitting for this study, information from the Dutch Central Bureau for Statistics (CBS) is used. The CBS distinguishes municipalities

in five categories, ranging from strongly urban to non-urban, based on housing density, as illustrated in the following table (CBS, 2022).

Table 3
Urbanity level of Dutch municipalities

Urbanity level	Value	Address density
Very strongly urban	1	>2500 addresses per km ²
Strongly urban	2	1500-2500 addresses per km ²
Moderately urban	3	1000-1500 addresses per km ²
Not so urban	4	500-1000 addresses per km ²
Not urban	5	<500 addresses per km ²

Note: retrieved from CBS (2022).

Moreover, CBS provides a list of all Dutch municipalities including their urbanity rates. Using Excel, all municipalities containing a value of three or higher are deleted. What remains, is a list containing of 173 municipalities having an address density of less than 1000 addresses per square kilometer, as seen in [Appendix 7.3](#). Using a random number generator, ten municipalities were randomly sampled. However, solely Aa en Hunze and Tubbergen did respond positively to interview requests. Consequently, contact was made with employees of Aalten, Bronckhorst and Oude IJsselstreek, since the researcher knows acquaintances working there, thus making contact easier.

Table 4
Urbanity level of selected municipalities

Municipality	Urbanity level	Value	Address density
Aa en Hunze	Not urban	5	283
Aalten	Not so urban	4	778
Bronckhorst	Not urban	5	381
Oude IJsselstreek	Not so urban	4	653
Tubbergen	Not urban	5	295

Note: retrieved from CBS (2022).

In the following map (Gemeentenatlas.nl, 2023), the municipalities subject to interviews can be seen in the following order clockwise, starting north: Aa en Hunze, Tubbergen, Aalten, Oude IJsselstreek and Bronckhorst. The shades of blue have no other purpose than making the bordering municipalities easier to distinguish.

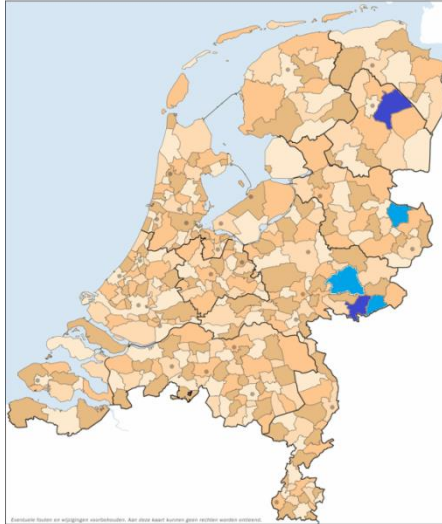


Figure 4: Map of interviewed municipalities (Gemeentenatlas.nl, 2023)

3.3 Data Analysis

In order to analyze qualitative data retrieved from interviews, the data will be divided into units, into even smaller units, where after these units will be labelled with a code. These codes will subsequently be compared with each other (Van Thiel, 2014). A code has as means indicating what a certain qualitative data unit entails. Data units that are similar to other data units will be assigned a code, or, in other words, a key word. This process will be conducted with the use of software program Atlas.ti. This program lends itself to create an organized code scheme, which then can be organized in the next analysis phase: axial coding. Hereby, different types of codes are grouped, which makes it easier to compare data retrieved from interviews. In the analysis phase that follows, the codes are compared and contrasted with each other to search for patterns, where after the results can be interpreted and conclusions can be drawn from it.

3.4 Validity and reliability

In order to assess the quality of research, the validity and reliability need to be evaluated. Using a qualitative research approach has implications for the study's validity and reliability. Validity, the extent to which a concept is accurately measured could be low for qualitative research, as data analysis is dependent on the researchers' interpretations. Van Thiel (2014) distinguishes validity in two groups: internal validity and external validity.

Internal validity involves whether the researcher actually did measure the effect they intended to measure, and whether the presupposed relationship between independent and the dependent variable exist. In order to draw conclusions, a valid experimental design has to be used. Therefore, the researcher should create an operationalization table of all research concepts, in which all concepts are translated from theory into measurable units.

External validity, on the other hand, is concerned with the generalization of results to other studies. However, external validity is often more affiliated with

quantitative research, rather than with qualitative research. Nevertheless, generalization is not the aim of qualitative research, as it is more focused on contributing on creating new theories or adding information on existing theories.

Reliability entails whether the research, if repeated by another researcher would produce the same results. It is concerned with the accuracy and consistency with which variables are measured. However, repeatability is hard to achieve in qualitative research, because every study subject is different and semi-structured interviews lead to different possible outcomes. Nevertheless, measures can be taken to enhance accuracy, including peer-reviewing the operationalization table and interview guide. Moreover, to enhance reliability, the researcher should account for every step he takes, including the recording, transcribing and coding of interviews.

To improve both the study's validity and reliability, triangulation was practiced: information is gathered from multiple sources of evidence, namely: (1) scientific literature study; (2) policy document study; (3) semi-structured interviews with non-urban municipalities; (4) semi-structured interviews with housing experts.

4. Results

This chapter elaborates the results that have been derived from performing this results. Each section provides results found during interviews with the five non-urban municipalities and the experts on this topic. After that, comparisons will be made between municipalities, highlighting possible similarities and differences. In 4.6, it will be discussed whether the findings are in line with literature and the theoretical framework. Moreover, it will be discussed whether the relationship between independent variables and the dependent variable can be explained by theory.

4.1. Project realization

Development of houses in the Netherlands could take many years, and in some cases, even decades. The process starts with developers acquiring agricultural land, deemed suitable for future housing developments. Thereafter, urban plans are made, including the type of housing that will be built. According to the data from CPB, this process can take up to ten years. Consequently, before actual developments can take place, the land-use plan relevant to that area has to be modified, taking two to six months, or two to three years if objections are made by stakeholders. If the new zoning plan has been created, land has to be made suitable for developments, and conclusively, developments can take place, taking three months to seven years. Below, the descriptions of housing development project realization in the five municipalities based on interviews with the respondents are provided.

4.1.1. Tubbergen

Developers in Tubbergen have to wait a relatively long time before they have received their building permit. It can take several months, the interviewee argues. Moreover, developments take longer, before they are eventually realized: "When plans become hard, it takes three to four months for developers to receive their building permit. (...) Main obstacles for realization include

building material scarcity and connecting to existing gas and water networks, this is making development realization taking longer than in previous years.”

4.1.2. Aa en Hunze

The time scale for developers to obtain a building permit is eight weeks, as is prescribed in WABO regulations, argues respondent #1: “It depends when the initiator requests their permit. We have to follow the WABO regulations that prescribe that handing out the permit cannot take longer than eight weeks.” However, after receiving their building permit, the time scale needed for finishing developments is much longer, thus both interviewees expressed concerned views on this topic: “After obtaining the permit, developments can take around eight years, which is gigantic.”

4.1.3. Oude IJsselstreek

In Oude IJsselstreek, the time between developers requesting and actually obtaining building permits varies. However, if developers are willing to start, this process is usually taking place within a short time frame. The same applies for what time it takes before developments eventually take place after receiving their permit, as expressed by the interviewee: “It depends on the developer, they have to request for a permit, they decide on what moment, and occasionally, they will not request it. However, it can happen quite rapidly. The same goes for how quickly developments take place after receiving the building permit.”

4.1.4. Bronckhorst

When plans move towards their hard phase, it does not take long before developers obtain their building permit in Bronckhorst, as developers would like to hurry up and finish developments as soon as possible, since there is a large demand for new housing. Therefore, the time frame for developers to receive their building permit is short. However, as a result of external factors, housing developments are often not realized within the intended time frame. This applies in particular to larger scale developments consisting of more than 100 dwellings, argues interviewee #1: “It depends on the developer... But, if there is demand, they want to hurry up, it takes half a year at maximum. (...) If it concerns an individual wanting to build a home, they would start immediately. But for larger scale developments, for example one of 150 dwellings, it would be spread through five terms of 30 houses each.”

4.1.5. Aalten

Developers in Aalten receive their building permit within eight weeks after requesting them, which is in line with WABO guidelines, as described by interviewee #1: “If developers request a permit in time and their plans are fulfilling our land use plan, we have to grant the permit within eight weeks.” How quickly developments take place after receiving permits, depends on the developer and what has to be built: “It varies per housing complex. Occasionally developers are eager to build and start right away. And in other cases, the housing plan will not be realized.” (Interviewee #1).

4.1.6. Comparison between municipalities

The following table visualizes a comparison between the five interviewed municipalities. At first, for every municipality, their plan capacity is illustrated (i.e., the possible amount of houses each municipality has documented for future developments). A distinction has to be made between hard plans, which comprises of housing locations that have been approved in housing plans; and soft plans, locations where municipalities intend to develop homes but for which no legal land-use plan has been established yet. Subsequently, interpretation of the municipalities' answers is showcased regarding the time frames it takes for developers to receive their planning permission and the time it takes for developers to complete developments. Different shades of colors have been used to visualize the extent of that indicator. Orange indicates a negative influence on plan realization while blue indicates a positive influence on plan realization.

Table 5

Project realization indicators in interviewed municipalities

Municipality	Tubbergen	Aa en Hunze	Oude IJsselstreek	Bronckhorst	Aalten
Soft plans	360	158	2000	1000	300
Hard plan	110	267	175	75	600
Total plans	470	425	2175	1075	900
Planning permission	Long	Fast	Quite fast	Fast	Fast
Completion	Long	Long	Varying	Varying	Varying

Note: adapted from author's analysis. Source: interview 1-5.

It can take multiple weeks to multiple months before developers receive building permits. Aa en Hunze and Aalten named the time scales it took, namely eight weeks, following the Wabo guidelines. In Tubbergen this can take up to three to four months, while Oude IJsselstreek and Bronckhorst elaborated that it depends on the developer in the question of how long it takes before developers receive building permits while arguing it can happen quite fast.

When developers have obtained their building permits, they only need to make their land suitable for development and consequently realize their housing plans. The pace at which this takes place varies per municipality: while Tubbergen and Aa en Hunze argued that it generally takes longer, for example as a result of issues regarding connection to existing water and gas networks, Oude IJsselstreek, Bronckhorst and Aalten pointed out that the pace at which houses will be built varies per developer and type of housing, thus providing ambiguous replies.

4.2. Policy and regulation

Policy and regulation encompasses all procedural barriers one can encounter while developing housing plans. Maintaining the “good spatial planning” criterium is the starting point for all spatial developments in the Netherlands. The Dutch spatial planning system is extensive in the sense that many procedures have to be carried out before an actual development can take place. In addition to quantitative housing ambitions, municipalities have qualitative policy ambitions, for instance in order to ensure a high quality public space or to provide for enough affordable (social) housing. The process to gain approval for a housing plan is a long-term process taking multiple months, and in some cases, even years. Negotiations between land owners, developers and municipalities take place to come to an agreement on how the eventual development will take shape. This could lead to a delay or cancellation in housing plans. Moreover, the political situation within municipalities are of influence whether plan capacity will be put to use or not, as some political parties have different views on housing development than others.

4.2.1. Tubbergen

Housing policy

For housing plans, Tubbergen collaborates with other municipalities in Twente, a sub-region of its province Overijssel, for the creation of the Regional Housing Agenda Twente. Between 2016 and 2018 negotiations have taken place on how many new houses have to be built, which the respondent explains as following: “The negotiations could be visualized like a pie: every municipality obtained a pie slice containing the number of houses to be built.” In 2022, Tubbergen created its municipal housing policy document (Woonvisie), containing the locations where and under which conditions new housing is possible. Plan capacity is distributed between the nine municipal towns, with a stated preference to build within or on the edge of residential areas. However, new housing developments in the countryside are possible as well, although under different policy, as described by the interviewee: “Many farmers will stop, and since we want to maintain a tidy countryside, it is possible to replace abandoned farming sheds for houses.” Usually, housing plans in Tubbergen are initiated by large developers, but private initiatives are one the rise since a few years. Developers drop by at the planning office to share their housing plans, making a principle request (principeverzoek), whereafter the municipality has to assess whether the submitted plans fit the housing vision, elaborates the respondent: “It is then our task to assess those plans, do they fit our housing vision? And do they conform to all spatial regulations?”. When the municipality agrees with the developers’ preliminary plans, developers have to come up with a full conceptual land use plan. Subsequently, it enters the procedural phase, and eventually the plan becomes irrevocable and will shift from soft to hard.

Reasons for delay

The municipality of Tubbergen could play a limiting role in housing developments, since it puts restrictions on the amount of houses that can be built per town. Besides, due to the housing crisis, Tubbergen has been very careful with the acquisition of land, implying a restrictive role quantitatively, as illustrated by Tubbergen’s respondent: “We have distributed the numbers of

houses that can be built between our villages, developers cannot exceed that amount, if they want to build large amounts of houses. We only acquire land

“It depends on the developer how negotiations will unfold. Do they want a proper development or just a quick profit grab?”

when there is sight of development, our neighboring municipality Dinkelland suffered millions of losses as a result of acquiring too much land and having to write that off.” The municipality does not only play a limitative role in quantitative sense, but in qualitative sense as well, since Tubbergen’s housing vision also contains qualitative requirements, including target groups, argued the interviewee: “Imagine a developer wanting to build 15 huge villas, we will reject their plans, as our target groups are starters and elderly not able to pay for this type of housing.” Negotiations with the municipality could form obstacles for developers whether they want to continue or not, as the municipality makes use of an operation agreement in which all necessary aspects are explained, for example developers having to contribute funding for infrastructure moderation. Moreover, agreements on the price range of new houses and possible target groups are discussed in this. However, the interviewee states it is dependent on the developer how quickly the negotiation phase will pass by: “It depends on the developer how negotiations will unfold. Do they want a proper development or just a quick profit grab?”

Two examples were illustrated by Tubbergen’s respondent on how negotiations can have a negative influence on plan realization: “I have a plan for 14 apartments for elderly, however it is not getting anywhere, since the developer is stubborn and not willing to share data. (...) For instance, they proposed a parking lot the average person does not dare to enter without damaging their car. Another instance involved a particular developer that assigned a different architect, who insists on adding extra layers on an apartment building, otherwise it will not be financially feasible, however, it is only about making additional profits.” Besides, capacity shortages at municipalities play a role in non-realization of housing plans, argues Tubbergen’s respondent: “Performing those procedures demands a lot of time and effort from municipalities.”

The composition of the municipal council has played a role in the realization rate of housing plans, on small scale and large scale: “On small scale, in Albergen there was a plan to build 45 houses, since there were concerns of young people emigrating to other municipalities. However, local residents objected these plans, and since one of the local parties was sensible for those concerns, it remains to be seen whether the municipal council will approve of this land use plan.” More generally speaking, municipal councils can influence the realization of housing plans as well: “On large scale, take a left-oriented municipal council, who could object plans containing too many owner-occupied dwellings, preferring to develop social housing.”

The province used to be a restrictive factor in housing plans, however, it is not anymore. Overijssel is stimulated by the national government to make housing agreements with municipalities within the municipality's region. Nevertheless, the respondent expresses concerning views about that same national government, since the Dutch housing minister De Jonge wants to prioritize special target groups for housing. That could form a problem for Tubbergen, as social housing is traditionally situated in larger cities, and not in a rural municipality like Tubbergen. Even though this development is undesirable, the interviewee expects that his municipality has to conform to this new policy, as his municipality was not involved in negotiations on this topic: "The government made agreements behind our back, solely addressing the larger municipalities in our region, implying the total amount of social housing will be spread between all of the region's municipalities, even though the demand for social housing is minimal here." Moreover, the national government has a restrictive influence on housing plans, since Tubbergen had to put their current housing plans on a halt and wait for new national policy, the respondent argued: "We had it going pretty well. However, now we have to wait for the government to come with new requirements, so this is definitely a cause for delay." Conclusively, Tubbergen has to comply to all spatial regulations, argues the interviewee: "If we develop land use plans, we walk through every rule, including environmental norms, nitrogen, archeology, etc."

4.2.2. Aa en Hunze

Housing policy

Similarly to other municipalities, Aa en Hunze has its housing policy in their housing vision that contains an assessment framework. In the framework, housing initiatives are assessed using a 'point system', explains interviewee #2: "The framework is a direct translation of our spatial criteria elaborated in the Woonvisie and includes quantitative and qualitative criteria". Based on how many points housing initiatives score, the assessment framework can give permission for plans. The housing vision contains a flexible part, called the 'adaptive housing program'. On a yearly basis, demand for new housing is monitored and is anticipated upon in Aa en Hunze.

Reasons for delay

Aa en Hunze, similar to all Dutch municipalities, makes use of a housing vision document to assess housing initiatives. Many housing plan initiatives are rejected, since they do not fit to the housing vision. Most plans that involve filling open space or affect traditional town structures are rejected, since this space is valued highly in Aa en Hunze. This does not mean all housing plans are immediately rejected, argues interviewee #1: "Starting point is our yearly monitoring that charts the demand for new housing every year. Nevertheless, you have to take in mind, that Aa en Hunze consists of valuable nature areas where developments can never take place. Moreover, we have ancient town structures, where on certain locations developments cannot take place as well. So new developments are really made-to-measure tasks."

The plan preparation phase is taking a lot of time in housing developments. In particular planning procedures are time extensive, argues interviewee #2.

Moreover, she argued that developers sometimes do not agree with the municipality, leading to stalled developments: "If we, based on our policy, tell developers to build 30% social housing, developers will resist, arguing the development to not be cost-effective."

Appeal procedures against housing plans are named as the largest restrictive factor in the procedural plan phase, argues interviewee #1: "Barely any housing plan nowadays comes without court appeal at the Council of State. This leads to delay, and due to rising development costs this forms a plan for housing plans. And, due to huge backlogs at the Council of State, this leads to even more delay." Not only local residents can appeal to developments, but the possibility to do court appeal can be done by other types of stakeholders also: "If one belongs to interest group for archeology, somebody from Groningen can appeal against housing developments in our municipality for example."

There is no political party in Aa en Hunze that opposes housing plans, implying the municipal council is no restrictive factor in housing plans there, argued both interviewees: "There is no party daring to have that in their programs since the demand is too high. They rather call for accelerating developments."

The province can interfere when plans do not cohere with the provincial environmental vision, this does not occur in Aa en Hunze however. Interviewee #1 emphasizes the role of their regional mentality in this: "It is the Drenthe mentality to have discussions on this topic, maintaining good relations, rather than to be in conflict and arguing over plans." Mostly the interests of municipalities and provinces are pretty equal. However, sometimes there are conflicting views, as Aa en Hunze prefers denser developments, while the provincial landscape architect completely disagrees. Nevertheless, these differences are on small scale and do often pose no threat for housing developments.

The national government's new housing policy is not viewed as a restrictive factor by the interviewees: "We are encouraged to accelerate housing development." However, conflict between government departments could be, as they regularly have conflicting interests: "The one minister wants to build houses, while the other wants to reduce nitrogen." Nevertheless, due to the small scale of developments in Aa en Hunze, not a single plan has been cancelled as a result of nitrogen policy yet. What forms a problem in realizing housing plans however, is a lack of municipal capacity, capable of handling planning procedures, argues interviewee #2: "There is a huge capacity shortage, in the north of the country even worse, which will cause stagnation as there simply are not enough people to do procedural work etc.."

4.2.3. Oude IJsselstreek

Housing policy

The housing vision and the regulating policies are the starting point for housing developments in Oude IJsselstreek. They encompass the municipality's spatial policy, including aspects like the preference for infill developments, rather than expansion developments. Land use plans are established by external urban planning agents: "We request the plan initiator to hire in an urban planning office

that establishes the land use plan, after which we assess whether it is according to our qualitative criteria.”

Reasons for delay

To come with a proper land-use plan is a long-taking process that involves many procedures taking lots of time. The resources put into this process is done not only by the municipal spatial planning department, but also requires work by traffic, soil and archeology employees, as well as external advisors. The main reason for stalled development is a lack of employees handling these procedures, argues the interviewee. As a result, not every intended housing location can begin simultaneously, the respondent argues: “So we prioritize larger housing locations containing of more than ten houses.” Several procedures have to be carried out, like participation trajectories, before zoning plans can be established. Moreover, many of these plans are delayed even more by citizens that object these plans, argues Oude IJsselstreek’s respondent: “Neighbors object plans, that eventually have to be carried out by the Council of State.” Negotiations between developers and landowners influence the realization of plans, but varies, based on the developer, argues the interviewee: “Is the developing party willing to put a lot of effort, time and money in the plan, then the process can go smoothly. But if someone wants a lot but is not willing to deliver, that can cause delay. If they come up with a low quality plan, we need to do a lot of work to get it on a proper level.”

Quantitative restrictions do not play a role in Oude IJsselstreek: “There is enough space for plans, our plan capacity allows for around 2.000 new houses.”

However, qualitative requirements can have a threatening effect on developers, since the housing policy prefers infill developments over expansion developments. Infill locations, however, come with many difficulties and restrictions as developers have to meet many spatial requirements before building. Moreover, for countryside developments, the housing vision prescribes a compensation policy, called the ‘red-for-red-regulation’: “For every 750 square meters of demolished agrarian buildings it is allowed to build a single house, meaning that when for example only 700 square meters is demolished, no permission is given for housing development. We are trying to come with new, more tailor-made policy on this, as some plans are not allowed because they slightly fail to meet our compensation requirements.”

The municipal council is not interfering with housing plans too much, argues the interviewee: “Our municipal alderman is ambitious for housing development. The municipal council does not intervene with our housing policy on a daily basis, but the alderman does. That effect is noticeable more than an ambitious council.”

The Province of Gelderland is playing a role in housing development in several ways, primarily in expansion developments. Two forms of nature have been selected: Groene Ontwikkelingszone (Green Development Zone) and Gelders Natuurnetwerk (Gelderland Nature Network). In those locations, development is possible, but compensating measures have to be executed. Besides, the interviewee states the province is not regarded as restrictive in housing plans, but only recently: “The policy used to be non-growth of the housing stock,

meaning houses had to be demolished elsewhere before new ones could be realized.”

National regulations are more on the background. The municipality has to anticipate all spatial regulations, for example, the distance to nuisance. However, they all have already been considered in the municipal housing policy, argues the interviewee: “The new national policy is not limiting, but the regulations that prescribe the planning procedures are, since they set out the rules for the game.” Besides, nitrogen regulations have not formed a threat for spatial developments in Oude IJsselstreek thus far: “Our plans do not contribute to nitrogen pollution significantly.”

4.2.4. *Bronckhorst*

Housing policy

Starting points for housing developments in Bronckhorst are stated in their housing vision. These starting points include target groups and desired types of houses, thus providing the municipality an assessment framework for housing plans, argues interviewee #1: “For example, we do not want developments on virgin land, we have to deal with provincial policy, and moreover, we have our own environmental vision that elaborates how we treat our land.” For developments in the countryside, there is a different policy, similar to that of Oude IJsselstreek: namely, red-for-red policy, as described by interviewee #2: “This policy involves the transformation or replacement of vacant agricultural buildings.”

Reasons for delay

Part of Bronckhorst’s plan capacity does not shift towards hard, as particular housing initiatives do not fit the municipality’s policy, mainly because they involve large, expensive houses, while Bronckhorst’s housing vision expresses preference for smaller, affordable housing. Besides, new houses have to fit within the towns structure and have to meet qualitative criteria, argues interviewee #1: “Houses are here to stay for at least 100 years, thus we want to ensure proper quality.” Occasionally, private landowners take housing developments too lightly, not fully aware of the difficulties that come with it, for example the financial consequences. Moreover, the municipality sets quantitative restrictions on development, designating current possible expansion sites in larger towns, while in smaller towns developments are allowed based on demand there.

Establishing proper land-use plans takes a lot of time. Unforeseen causes lead to plan delay, and they are more rule than exception. That is mainly a result of neighbors opposing housing plans, going so far as to prosecute at the Council of State, adding up at least a year of delay. In addition, negotiations between municipality and developer play a role in plan delay, as the interests of both municipality and developers are different, as explained by interviewee #1: “Negotiations will rarely limit to one or two conversations, we have our demands that developers do not always tend to agree with.” Participatory processes involving citizens take a lot of time, in particular when it concerns an infill location, as that requires developers to have conversations with stakeholders involved. However, it depends whether construction takes place on municipal or private ground and whether developers are willing to collaborate: “If it concerns

a single house it is a different story than when it is on private land. Some developers do not value a good relationship with the municipality, they purely have financial motives." Shortage of municipal capacity is a problem in Bronckhorst as well. The municipality always had a shrinking population, around which their municipality was structured. Therefore, Bronckhorst needs to prioritize on expansion sites, as those include larger numbers of housing, argued interviewee #1: "We were always a municipality that had a shrinking population, our organization was structured around that. Now, we have a lack of capacity, meaning we cannot handle too many plans simultaneously, and we have to prioritize on expansion sites since we can realize a lot of houses there." Although the former variables have a possible negative influence on plan realization, that is not to blame on the municipal council, argues interviewee #1: "In Bronckhorst, the entire municipal council is positive regarding housing developments. All parties share the viewpoint we have to build for our own residents' demand."

The province of Gelderland prescribes nature areas where developments are not allowed or only allowed by compensation. There, developments are only allowed when they improve the surrounding environment's spatial quality, having a possible diminishing effect on plan realization, explains interviewee #1: "It could be that we are allowed to build less there than we initially wanted." However, the province is not perceived as restrictive in housing plans anymore by Bronckhorst's planning officials, since Gelderland stimulates housing developments, they argue: "We are in a period where the province encourages housing development, but we still have to keep spatial quality in mind."

National policy under housing minister De Jonge is regarded as encouraging. Still, Bronckhorst has to follow spatial regulations for establishing land-use plans. Besides, nitrogen regulations have not led to plan cancellation in Bronckhorst, as a result of the smallness of housing plans, describes interviewee #1: "National policy is rather encouraging than restrictive. (...) Plans did only consist of small amounts of housing, not contributing significantly to nitrogen norms."

4.2.5. Aalten

Housing policy

Most housing plans in Aalten are located on infill sites. Around 70% of housing plans involve infill locations, while the other 30% is dispersed over the countryside. In 2022, Aalten introduced new policy for these countryside developments, called VAB policy, where VAB stands for former agricultural buildings. For general housing plans, Aalten makes use of an evaluation framework, which determines whether plans receive green light. Criteria include aspects as affordability and sustainability, as described by interviewee #1: "The framework gives five outlines on which plans can score. If they obtain three or more points, they can continue."

Interviewee #2 names the Provinciale Verordening (provincial regulation) the most important provincial factor in housingplans: "Agreements that the province makes with the region (Achterhoek) and the region with us."

Reasons for delay

As Aalten makes use of an evaluation framework, plans need to be assessed, based on qualitative criteria. However, this task is time intensive, describes interviewee #1: "Plans need to score at least 3 points to be able to continue. Otherwise, plans need to be adjusted. This takes a lot of time." Quantitatively speaking, Aalten has sufficient plan capacity and thus is not restricting the use of building land. Throughout the municipality, there is sufficient land available. The negotiation phase in the planning process could form a stumbling block in realization of plans. For countryside developments, Aalten expects a certain integration, thus when developers do not meet the municipality's demands, they are not allowed to start building. This does not happen too often however, as argued by interviewee #2: "Most of the times it will work out, but in some cases, it will not. During the most recent larger scale development in Aalten, no delay was experienced as a result of negotiations, as agreements were made in the preliminary negotiations." Moreover, the municipal council is supportive of housing development, elaborate both interviewees: "Our Council program is signed by all political parties, thus they are embracing housing developments in Aalten."

Provincial and national policy or regulations are not a cause of non-realization of housing plans in Aalten, but a lack of municipal capacity is a threat for developments, as argued by interviewee #2: "You have to come to agreement with the province, and that also includes the amounts of housing. However, I see the capacity shortages of municipalities as a larger challenge." The new national policy is a good development, underlines interviewee #1: "The government provided financial resources making plans better achievable. Besides, nitrogen regulation has not been of influence on housing plans here either, since our development locations are situated far from Natura 2000 areas."

4.2.6. Comparison between municipalities

In the Dutch context of realization of new housing, the *Wet ruimtelijke ordening* (spatial planning act) plays a key role. This act prescribes the role of the three government layers: municipal, provincial and national. Municipalities prescribe conditions under which and where housing development can take place in their own housing visions. Thus, municipalities demand qualitative requirements for new housing, potentially having a deterrent effect on developers. Moreover, municipalities allocate certain development locations, whereas they restrict land outside those sites. As local councils determine municipal policy regarding housing, they could restrict certain developments, thus a municipality's political setting influences the realization rate of housing plans. Besides, the establishment of housing plans come with lengthy procedures, including negotiations between developers and municipalities. When both parties do not come to an agreement, plans will be cancelled or revised, adding up to delay. Lack of municipal capacity leads to delay in handling these procedures, which moreover can be delayed by stakeholders objecting housing plans and appealing at the Council of State.

In addition to municipalities having their role in housing development, provinces and the national government have their influence as well. Housing policy from

both layers of government can limit or stimulate housing developments. Besides, in recent years, many housing plans have been delayed as a result of nitrogen regulation by the national government.

Table 6
Policy and regulation indicators in interviewed municipalities

Municipality	Tubbergen	Aa en Hunze	Oude IJsselstreek	Bronckhorst	Aalten
Qualitative restrictions	Somewhat restrictive	Very restrictive	Somewhat restrictive	Somewhat restrictive	Not so restrictive
Quantitative restrictions	Very restrictive	Very restrictive	Not restrictive at all	Somewhat restrictive	Not restrictive at all
Political setting	Moderately supportive	Very supportive	Very supportive	Very supportive	Very supportive
Procedural processes	Somewhat restrictive	Very restrictive	Very restrictive	Somewhat restrictive	Not so restrictive
Capacity shortages	Somewhat present	Very present	Somewhat present	Somewhat present	Somewhat present
Council of State	Somewhat restrictive	Very restrictive	Somewhat restrictive	Somewhat restrictive	Not restrictive at all
Provincial policy	Not so restrictive	Not so restrictive	Not so restrictive	Not restrictive at all	Not restrictive at all
National policy	Somewhat restrictive	Not restrictive at all	Moderately restrictive	Not restrictive at all	Not restrictive at all
Nitrogen	Moderately restrictive	Not restrictive at all	Not restrictive at all	Not so restrictive	Not restrictive at all

Note: adapted from author's analysis. Source: interview 1-5.

Qualitative restrictions

All five interviewed municipalities further shared the notion that qualitative policy aims form a possible stumbling block for developers. On the one hand, housing initiatives are rejected since they do not within their municipal image and landscape, as is the case Aa en Hunze, Oude IJsselstreek and Aalten while on the

other hand plans are rejected since they do not meet the municipalities' own housing vision, for example, they fail to provide in sufficient affordable housing, like in Tubbergen or in Bronckhorst. In all cases however, it was a combination of the two factors that caused plan cancellation.

Quantitative restrictions

Only interviewees of Oude IJsselstreek and Aalten argued they did not impose restrictions on the amount building land, given the fact both municipalities provide sufficient plan capacity in relation to demand. Tubbergen performs a careful land acquisition policy, following the financial crisis of 2008 that made municipalities vulnerable for bankruptcy and therefore only acquires land when there is short sight of development, and selects limited areas where it is possible. For that reason it is quantitatively restrictive. Aa en Hunze is very restrictive as well, since the municipality consists of valuable green space, within and outside of towns, where building is not allowed. Bronckhorst's policy for designating housing sites is that development must take place in certain locations in larger towns, while development in smaller towns is solely possible in relation to demand there, therefore, it is somewhat restrictive. Overall, it can be concluded that municipalities do not impose restrictions on available building land as much as they imposed before the housing crisis, since many of these municipalities had a shrinking population. Nevertheless, due to preserving valuable landscapes and towns, these municipalities are still not too eager to provide sufficient building land, imposing quantitative restrictions on what is possible.

Political setting

Except for one, every municipality that was interviewed underlined the fact their municipal council was in full support of housing plans, as they recognize the necessity for new housing. Only Tubbergen experienced an opposing council, as one political party picked up critical notes by inhabitants that were opposing housing developments. Nevertheless, this remained to one single example of municipal councils opposing housing developments, thus it can be argued that nowadays, municipal councils generally are supportive of housing plans.

Procedural processes

Aalten was the sole municipality to mention procedural processes not bothering housing plan realization during recent projects, as agreements were already made in preliminary negotiations, making clear for both parties what to expect from each other. This is in contrast with the other four municipalities, as from those interviews it appeared that housing plan procedures are very time-consuming and occasionally the main cause of plan delay, in particular since municipalities and developers often are not on the same wavelength, and negotiations did often not limit to only a few occasions. In addition, Oude IJsselstreek's respondent elaborated that procedures did not only take much effort and time for municipalities themselves, but for external planning offices as well, that municipalities hire in to perform some duties. In general it can be concluded that planning procedures and all processes that come with it are a large determinant for non-realization of housing plans.

Capacity shortages

All interviewed municipalities addressed lack of capacity as an important reason

for non-development, as procedures that need to be handled out cannot be done by the limited hands available. In particular Aa en Hunze noted 'huge' capacity shortages in their part of the country, while other municipalities also addressed the issue, but expressed a less alarming tone. Bronckhorst's interviewee #1 argued that non-urban municipalities like Bronckhorst were always organized around a shrinking population with few housing plans. However, as the demand for new housing escalated, those municipalities were not properly structured to handle that. Oude IJsselstreek's respondent further elaborated that employee shortages caused municipalities to outsource plans to private planning offices, however this did not fully solve the problem, as setting out the starting points and frameworks for these offices to work with is an extensive task as well, and moreover, those offices also cope with employee shortages.

Council of state

Except for Aalten, all municipalities suffered from court appeals done by stakeholders, delaying their housing plans for a longer time scale than was foreseen. Aa en Hunze goes as far to call appeal procedures by stakeholders the largest restrictive factor, while other municipalities did not use this label, but experienced it adding up to delay nevertheless. Overall, housing plans in non-urban municipalities suffer under the possibility by citizens to appeal against these plans, adding up to several years of delay, since the Council of State is dealing with backlogs as well.

Provincial policy

Oude IJsselstreek addresses that provinces used to be strict in allowing land for new housing, but that this has changed due to changing market conditions, thus the province is not experienced as restrictive anymore, similarly to what Tubbergen, Aa en Hunze and Aalten describe. Bronckhorst places a critical notion on this, as they discuss the fact that provinces make certain housing sites impossible by imposing laws to protect nature areas. However, Bronckhorst still experiences provincial regulations as rather stimulating than slowing down the housing process. Thus provincial policy form no obstacle for housing plans as it used to be.

National policy

Tubbergen raised the most critical voices about minister Hugo de Jonge's approach, since Tubbergen was going right on schedule with their housing plans, but they now have to wait for new requirements, such as the provision of sufficient social housing, even though there was no real need for that in Tubbergen. Furthermore, Tubbergen added that national regulations regarding housing need to be taken in consideration when establishing housing plans, including all procedures that are time and effort consuming. This view was further shared by Oude IJsselstreek discussing the many procedures and laws that need to be paid attention for. Nevertheless, the other three non-urban municipalities were positive about the new policy and considered it rather as supportive than as restrictive.

Nitrogen regulations

Tubbergen was the sole municipality to have addressed nitrogen briefly as a possible setback in developments. Four other municipalities have not named

nitrogen as obstacle in their housing plans at all, since their housing plans did not contribute significantly to nitrogen norms, as they were only composed of small numbers of dwellings, as described by Aa en Hunze, Oude IJsselstreek and Bronckhorst. Aalten added to that, that housing plans in Aalten were situated far away from Natura 2000 areas, thus not exceeding relevant nitrogen norms. Thus, it can be concluded that nitrogen regulations have not posed a threat for housing development in these municipalities so far, but that could change as a result of changing policies.

4.3. Financial feasibility

Housing developments can come with financial beneficiaries for developers that seek to make a profit out of it. However, long-taking projects with uncertain outcomes are hard to finance: interest has to be paid for a long time, while capital is unavailable for other purposes. Therefore, developers want to build as quickly as possible, to ensure a maximum financial profit.

The financial situation of housing development was not discussed during the interview with Tubbergen, therefore this municipality is not included in the results for this variable.

4.3.1. Aa en Hunze

In Aa en Hunze, developers experienced beneficial times as they made good margins of profit. However, financial feasibility posed threats for plan realization, mainly as a result from other causes of delay, for instance backlogs at the Council of State, which stalled housing development, argued interviewee #1: "The developer sold all building plots. Consequently, buyers had mortgage offers running, while the mortgage rent is rising. Meanwhile, building costs have been rising to the point that developers cannot take anymore. However due to the plan being in process at the Council of State, no action could be taken."

4.3.2. Oude IJsselstreek

In Oude IJsselstreek, financial backlogs have been a result from other forms of delay, such as policy and locational issues. The municipality demands qualitative criteria, which endangers a plan's feasibility, the respondent explained: "In an average neighborhood developers can not simply build too tall apartment buildings since the municipality restricts that. The municipality requires developer to build a large proportion of affordable housing. This or other restrictions on what houses need to be built could lead to a housing project not being feasible anymore. Or take contaminated soil for example: it is needed to remediate the soil first, and this comes with a lot of costs, making the plan not feasible any longer." Recent economic developments are a cause for plan cancellation as well, since mortgage rates are rising, resulting in house seekers to be more careful before they would buy homes.

4.3.3. Bronckhorst

Developers in Bronckhorst are eager to start developing due to beneficial market conditions. Even before construction starts, developers would have sold a certain proportion of houses. Future economic developments can threaten the financial feasibility of housing plans, warns interviewee #1: "Mortgage rates are increasing

rapidly, people are less inclined to outbid houses, so I wonder how that is going to develop.”

4.3.4. Aalten

Macroeconomic developments can pose a threat for housing plans in the future. At this moment, the financial situation is good, interests are rising and house seekers can possibly not acquire financing for houses, argues interviewee #1: “3% or 6% mortgage is quite a difference. If house seekers acquire less money it will become harder to obtain houses, causing recession in the housing market.”

4.3.5. Comparison between municipalities

The financial situation of housing development was not discussed during the interview with Tubbergen, therefore this municipality is not included in the results for this variable.

Table 7
Financial feasibility indicators in interviewed municipalities

Municipality	Aa en Hunze	Oude IJsselstreek	Bronckhorst	Aalten
Financial situation	Somewhat restrictive	Somewhat restrictive	Not so restrictive	Moderately restrictive

Note: adapted from author’s analysis. Source: interview 2-5.

Overall, all municipalities reported developers experiencing financial feasible times in recent years, as there has been a great demand for new housing, which led to them making profits of housing developments. Nevertheless, Aa en Hunze elaborated on the fact that some housing developments could stall due to financial reasons, as a result from other restrictive variables, for example stakeholders objecting plans and therefore delaying it to such extent, that a projects’ financial feasibility is endangered. All other municipalities mainly focused on that developers experienced profitable times in recent years, but pointed out that this could not be the case in the near future, as mortgage rates are increasing, leading to a possible stagnation in the housing market.

4.4. Locational factors

Some housing plans are delayed due to physical problems on site. It could occur that the soil under which the developments will take place is contaminated or is inhabited by endangered species. Extensive research, cleaning and potential compensation have to be carried out before developments can take place, leading to delay or cancellation of housing plans on that given area. Moreover, plans have different success rates based on their location relative to amenities and infrastructure.

4.4.1. Tubbergen

For Tubbergen, locational features such as proximity of amenities and infrastructure is no determinant in the success rate of plans. There are no

highways in Tubbergen, but all locations are decently accessible, elaborates Tubbergen's respondent: "Location specific features are not too relevant here." Some villages do not contain any facilities, including supermarkets or cafes. Nevertheless, people still want to live there, as the inhabitants are used to living with few amenities, argues the interviewee: "They are used to travelling to other towns for these facilities." Besides, physical problems, such as contaminated soil and endangered flora and fauna species on future housing locations have not led to plan cancellation, he argued: "These aspects are investigated beforehand and should not lead to unpleasant surprises in the procedural phase."

4.4.2. *Aa en Hunze*

In Aa en Hunze, similarly to Tubbergen, nearness of amenities is not influence on the success rate of plans, as the municipality contains of many villages consisting of few facilities, as elaborated by interviewee #2: "Here are many villages where few facilities exist, but inhabitants are used to that, they mainly love the quietness, the nature and free space". It is emphasized however, that when there is few demand for new housing, locational features are increasingly important for the realization rate of plans, but now, during times of huge demand for new housing, locational features are not so important for plans' success rates, as argued by interviewee #1: "Now there is large demand and few supply in new housing, so every new house is selling regardless of the proximity of amenities." Physical problems on new housing locations are a problem however, commonly leading to plan delay or cancellation in Aa en Hunze. A lot of research and remediation is involved when for example soil is contaminated. And, as Aa en Hunze is a nature rich municipality, similar occurrences take place often, as described by interviewee #1: "Protocols for research is a big deal for us, since our municipality consists of a lot of flora and fauna." These statements are further supported by both interviewees, providing examples of delay that have taken place in Aa en Hunze: "If protected bat species are found, the bat protocol needs to be carried out, adding up three quarters of a year of delay. (...) Or when we transformed a former fuel station into a housing location we first had to remediate the soil contaminated with leaked petrol."

4.4.3. *Oude IJsselstreek*

Oude IJsselstreek has not experienced delay or cancellation of housing plans due to locational features like infrastructure or amenities, however, they play a role in formulating plans, as proximity of amenities is one of the factors Oude IJsselstreek pays attention to, the interviewee explained: "We base our housing plans on the proximity of amenities, for example we are inclined to develop life-proof houses near the center of towns, easily accessible to facilities. For starter housing this is less applicable." Nevertheless, proximity to infrastructure or amenities is not of influence on the realization of housing plans in Oude IJsselstreek, as described by the respondent: "It is not our policy to not build homes when a certain location is situated far away from facilities. Oude IJsselstreek consists of five larger towns and some smaller villages, spread throughout the municipality, what makes that new housing in those places is close to amenities. Thus, this is not playing a large role in our municipality." Physical issues on potential housing locations could endanger plans however, with regard to archeological findings for example. Oude IJsselstreek analyzes

the archeological expectation value of future housing locations. In addition, studies have to be performed on soil problems, which makes it potentially necessary to remediate that soil before developments can take place there. It is needed to pay attention to these issues, as they result in large monetary costs and research. The interviewee gave an example of similar events: "Then we need to take mitigating measures to ensure a habitat for those animals, this comes with additional research that has to be undertaken before development can begin, extending the delay with approximately one year."

4.4.4. Bronckhorst

The availability of infrastructure has a positive influence on whether housing plans are feasible. When the municipality is looking for possible housing locations, they take in mind areas with good accessibility, as it is cheaper to make use of existing infrastructure, interviewee #1 argued: "When we are looking for a housing location it is easier to find an area that has good accessibility, as it is cheaper to make use of existing infrastructure than having to build that yourself."

On the other hand, locational issues influence the realization rate of housing plans negatively, causing a delay of up to half a year. This includes doing research on flora and fauna, that needs to be executed in the preliminary plan phase. as argued by interviewee #1: "Research on bats can only be performed twice a year. Sometimes it appears that when doing initial research that there is need for further research, leading up to half a year of delay." Locational issues do not limit to flora and fauna, as archeological findings could pose a threat on housing plans as well, interviewee #1 illustrated: "In Hengelo (main town of Bronckhorst) there is a housing location next to a country estate with an expected archeological value, potentially adding up to delay."

4.4.5. Aalten

Aalten makes use of an evaluation framework to assess housing plans. The framework, however, does not include the need for proximity to amenities or infrastructure, explains interviewee #2: "For our villages and towns we have no focus areas in the sense that housing locations need to lay closer or farther from amenities." Surprisingly, Aalten has not experienced locational issues that lead to delay or cancellation of plans, elaborates interviewee #1: "I cannot remember housing plans involved with the remediation of contaminated soil... surely, archeological value is a concern, but no plans have been blocked based on that." Endangered flora or fauna species have also not played a restraining role in housing developments in Aalten, thus locational issues overall are not leading to plan cancellation in Aalten, argued interviewee #1: "As far as I can remember, no protected animal species have been found on housing sites."

4.4.6. Comparison between municipalities

Table 8

Locational factors indicators in interviewed municipalities

Municipality	Tubbergen	Aa en Hunze	Oude IJsselstreek	Bronckhorst	Aalten
Proximity to infrastructure and amenities	Low proximity	Low proximity	High proximity	Moderate proximity	Moderate proximity
Locational issues	Not so present	Very present	Somewhat present	Somewhat present	Not present at all

Note: adapted from author's analysis. Source: interview 1-5.

From the interviews with the five municipalities it did not become clear locational factors were an important determinant in housing plan realization in non-urban municipalities. In Tubbergen people are used to travelling far to amenities, thus it is no big deal for inhabitants. Aa en Hunze underlined that view, adding that locational features could play a role in a more calm housing market situation, but with the large demand for new housing recently, it does not really matter where new houses are built since there is demand for them anyway. In Oude IJsselstreek, proximity of amenities and infrastructures are factors reckoned with in housing plans but is not influencing the success rate. Availability of existing infrastructure has a positive influence on the feasibility of housing plans, was elaborated by Bronckhorst, however it did not become clear that plans have been delayed or cancelled based on this factor. In Aalten, nearness of infrastructure and amenities was not playing a role in housing plans at all.

Based on the conducted interviews, it became clear that locational issues are influencing the realization rate of housing plans, as this was shared by Oude IJsselstreek, Bronckhorst and mainly Aa en Hunze, with particularly the latter broadly elaborating on the issues that come with flora and fauna research, soil research and archeological research. These physical problems have not led to cancellation of plans in Tubbergen and Aalten however.

4.5. Developers and landowners' behavior

Instances of non-development can be caused by the behavior of land owners and developers, since ownership rights automatically grants development rights, thus developers maintain a monopoly over their land. As a result, developers can wait developing and keep it empty purposely. Moreover, recently rising construction material costs and a lack of certified building personnel has been named as one of the main reasons of stalled housing development.

4.5.1. Tubbergen

Developers deliberately leaving land vacant is rare in Tubbergen, but has taken place on several instances, reported Tubbergen's respondent: "We purchased a location, but he does not deliver. He did not show up at the notary, which resulted in a legal fight. We have no idea why he is doing this." In another case, Tubbergen had to deal with a farmer who owned a large portion of land the municipality intended to develop. However, the farmer was not willing to sell, proving the argument that land owners can form a delaying factor in housing plan realization. On a national scale, developing parties are experiencing capacity shortages, and those in Tubbergen do not escape this fate, argues the interviewee: "Developers are overloaded with work. Here in town, we have a plan consisting of 51 houses, and the future inhabitants are complaining it is taking too long, however, the developer replies he cannot work faster."

4.5.2. Aa en Hunze

In past times, land owners deliberately left land vacant in Aa en Hunze. However, as a result of the large demands and the large profits that can be made as a result of the changing housing market, this is no restraining factor anymore, argues interviewee #1: "They are hesitant to start developing." Moreover, in contrast to other parts of the country, developing parties and construction companies are not suffering from capacity problems in Aa en Hunze, since the interviewees experienced developers starting right away after procedures have been finished. Interviewee #2 states that the labor force in their province is the cause of that: "Here live many non-academic scholars employed in construction companies and such."

4.5.3. Oude IJsselstreek

In Oude IJsselstreek, some developers were allowed to begin but did not start developing. Nevertheless, this remained to a rare few instances, with reasoning only to be speculated about. There is no need for developers to stall development, as material costs are rising, argues the respondent: "At this moment, they are still aware about the prices for building materials, so they cannot wait to develop." Similar to other municipalities, developers and constructors are experiencing large workload in Oude IJsselstreek, the interviewee elaborates: "We perceive developers are incredibly busy."

4.5.4. Bronckhorst

Bronckhorst has not experienced developers struggling with capacity problems, probably due to the fact no large scale housing projects are existent in the municipality. The somewhat larger housing projects are under supervision by two nationwide parties, and they have suffered no problems. Besides, in Bronckhorst, developers have not deliberately left land vacant, even stimulating the municipality to accelerate, interviewee #1 argued: "Developers are encouraging us to work more rapidly, they are eager to begin."

4.5.5. Aalten

In Aalten, similarly, developers have not dealt with capacity problems recently: "They have not reported that they could not provide." Also, no instances of land owners not developing deliberately have been reported. Past cases where that happened were solved with their 'traffic light model', as described by interviewee

#2: “We threatened to remove building rights from vacant plots, by giving them the red light.” However, that is not practical anymore, since due to the housing crisis, land owners are inclined to develop where they can, describes interviewee #2: “That has changed since Covid-19, because there has been a growing demand for new housing here since then.”

4.5.6. Comparison between municipalities

Table 9

Landowners and developers indicators in interviewed municipalities

Municipality	Tubbergen	Aa en Hunze	Oude IJsselstreek	Bronckhorst	Aalten
Leaving land vacant	Not so present	Not present at all	Not so present	Not present at all	Not present at all
Lack of materials or personnel	Somewhat present	Not present at all	Somewhat present	Not present at all	Not present at all

Note: adapted from author’s analysis. Source: interview 1-5.

Two of the five municipalities, namely Tubbergen and Oude IJsselstreek, reported instances of landowners keeping land vacant. However, this was only limited to a few rare examples, and thus not really of influence on non-realization of housing plans in these municipalities. Aa en Hunze, Bronckhorst and Aalten did not report similar experiences, arguing there are financial motives for developers to perform such behavior.

Aa en Hunze, Bronckhorst and Aalten did not perceive building companies struggling with capacity or material shortages in their respective municipalities, which is a result of the smallness of housing projects, as argued by Bronckhorst, or availability of sufficient educated employees, corresponding to experiences by Aa en Hunze’s interviewees. However, Tubbergen and Oude IJsselstreek do receive notions of stalled development in their municipalities as a result of developers’ capacity problems, since they have too much work for what they are able to do with their current capacity, but this did not lead to large scale stalled developments.

4.6. Discussion

As seen in this table, Aa en Hunze and Tubbergen stand out in various aspects. They are the municipalities with the highest housing scarcity, while having space for the least amount of houses compared to other municipalities’ plan capacities. Both have long completion times and both are very restrictive in quantitative terms, meaning both municipalities leave little room for housing developments. Moreover, both municipalities suffer from capacity shortages, resulting in that long-taking procedures that lead up to housing development cannot be

performed in time. Overall, Aa en Hunze and Tubbergen are most restrictive in housing plan realization.

Oude IJsselstreek and Aalten are both not restrictive at all when it comes to quantitative housing numbers. They are both the most densely populated municipalities in this study, 290 and 279 respectively, and have relatively high plan capacity. Both are very comparable in terms of low scarcity, population density, average WOZ value, and households with low/high income.

4.6.1. Project realization

Development of houses in the Netherlands takes many years, and in some cases, even decades. The process starts with developers acquiring agricultural land, deemed suitable for future housing developments. Thereafter, urban plans are made, including the type of housing that will be built. This process can take up to ten years. Consequently, before actual developments can take place, the land-use plan relevant for that area has to be modified, taking two to six months, or two to three years if objections are made by stakeholders. Thereafter, granting of the building permit will take eight weeks at maximum, with the possibility to extend this period to multiple months (*Hoe lang duurt een procedure?* (z.d.)). If the new zoning plan has been created, land has to be made suitable for developments, and conclusively, developments can take place, taking three months to seven years (CPB, 2020). Although dr. Boelhouwer, professor in housing systems does not provide specific numbers, he argued that granting of building permits is done in a short period: "The period between certain plan capacity becoming hard and distributing building permits is short." This is the case in Aalten and Aa en Hunze, where developers receive building permits within eight weeks, while the other municipalities argued it depends on the developer in question, but discussing it can happen quite fast. Housing developments can be realized within shorter time span on average than as described by CPB, namely a year to two years, argues Boelhouwer: "A year, a year and a half... But most times, it takes two years, if utilities are already there. Constructing prefab houses can be done in a shorter period."

Most municipalities did not provide specific time frames in which constructions usually take place, as Oude IJsselstreek, Bronckhorst and Aalten argued the development pace depends on the developer in question. Tubbergen and Aa en Hunze expressed negative emotions on development pace, explaining it was taking long. Thus, no definitive conclusions can be made on the project realization rate in non-urban municipalities, as it strongly varies per municipality, developer and housing project in question.

4.6.2. Policy and regulation

From the interviews, it became clear that municipal qualitative spatial requirements can have a deterrent effect on developers interested in doing housing projects in respective municipalities. Reasons provided for that are in line with literature, as Jonkman et al. (2022) suggested that non-realization of housing plans can be explained partly by municipalities' qualitative policy aims:

in addition to quantitative housing ambitions, that include the number of houses desired, municipalities want to maintain high quality public space and provide for sufficient affordable housing. Aa en Hunze, Oude IJsselstreek and Aalten explained that sometimes it happens that housing plans are not realized since they do not fit to the municipalities' spatial landscape, while Oude IJsselstreek and Aalten provided examples of rejected housing plans due to them not meeting requirements for sufficient social housing. Professor Boelhouwer goes even further and argues that municipalities make unrealistic demands that result in stalled development, while the province of Overijssel's housing expert Douwes suggests the preference for infill locations over expansion developments as a possible restriction. Speaking on national level, municipalities do not impose quantitative restrictions on building land (ABF Research, 2019). Nevertheless, Boelhouwer argued that some locations are easier to develop than others, implying there are still quantitative restrictions on building land. Aalten, Bronckhorst and Oude IJsselstreek municipalities do not maintain strict land policies, implicating a non-restrictive quantitative housing policy, while Aa en Hunze and Tubbergen do, as the former has many valuable green space on which developments may not take place, while the latter performs a very careful land acquisition policy due to financial reasons.

Besides, current residents are regularly not eager for housing developments in their town, and will therefore oppose new developments. This sentiment can translate to local city councils and therefore form an obstacle for housing developments (Saiz, 2010). Boelhouwer further supports this argument, explaining that municipal councils set out qualitative plan criteria, thus when developers cannot meet these criteria, they will resign. Douwes confirms this has taken place in his province, where in a certain municipality housing plans were an election topic, which resulted in plan cancellation due to a changing municipal council that opposed these plans. Contrastingly to literature and expert interviews, four out of five municipalities experienced their municipal councils to be in full support of housing plans, as they were all seeing the need for new housing. Only Tubbergen experienced a single occasion of their municipal council opposing housing plans, but overall, municipal councils do not oppose housing plans anymore, but even support them. Citizens can not only oppose housing plans through elections, they have the possibility to appeal against housing plans as well, adding up to two years of delay (CPB, 2019). Both Boelhouwer and Douwes further explained that the Council of State, at which appeal can be done, is dealing with backlogs as well, adding up to delay. While this is the largest restrictive factor for housing plans in Aa en Hunze, other municipalities did not go as far to name this as the largest factor, but that it is limiting their realization rate as well. Although Aalten did not experience similar problems, generally stakeholders' appeals form a large determinant for plan realization in non-urban municipalities.

Verhagen (2019) further argues that long-taking procedures that come with establishing housing plans lead to setbacks in development, coming not only from municipalities, but from provinces and the national government as well. Moreover, the Dutch spatial planning system requires involving stakeholders during every housing project, which can add up to delay. From the interviews it

became apparent that procedures add up to the longevity of non-realized housing plans: both experts and nearly all municipalities have highlighted the difference in interests by developers and municipalities causing a delaying effect on negotiations, and therefore, plan realization. Only Aalten has not attributed planning procedures to be a cause of plan delay. Not mentioned before in existing literature, one of the main reasons for plan delay in non-urban municipalities was lack of municipal employees to handle out planning procedures. Every municipality that was interviewed for this research confirmed this was a huge issue for them, as they do not have enough capacity to deal with planning procedures, adding up to delay. Aa en Hunze expressed an alarming tone on this topic, arguing there are not enough qualified employees in their part of the country. While other municipalities expressed a less alarming tone, it was still endangering the realization rate of housing plans in these non-urban municipalities. Bronckhorst gave the fact that their organization was focused around a shrinking or stagnating population, and now, when housing demand has escalated, their municipality was simply not organized for the current situation. It can thus be concluded that municipalities dealing with capacity shortages is one of the main reasons for plan delay nowadays.

Since provinces prefer inner-city developments over expansion developments, this has an effect on plan realization (CPB, 2020). Although Boelhouwer confirms this, none of the other respondents confirmed the idea of a restrictive province. Douwes, as provincial official himself, elaborated on the fact that his province provides municipalities with expertise for struggling municipalities, and trying to help where it is possible. He also argued however, that this supportive role is one that has been stepped up in recent years due to changing housing market conditions. All five municipalities agreed on this, with some mentioning that the province has only been supportive of housing plans since recent times indeed.

According to Meijer & Jonkman (2020), the national government plays a role in housing by setting ambitions and the provision of funding. The current housing policy, executed by housing minister Hugo de Jonge is regarded as positive and ambitious by all municipalities, and thus having a supportive rather than a restrictive character, similar to Boelhouwer's arguments. Tubbergen however placed most critical notes, explaining their municipality was heading in the right direction before new government policy put a halt to their municipal housing policy, as their municipal policy did not align with the new national housing program. This is in line with what Douwes argued, as he questions the generalized approach by the government, suggesting a more customized approach to be more effective. Nevertheless, the national governments' new policy is generally perceived as stimulating and opening new opportunities for housing developments in non-urban municipalities. Despite the national housing policy being ambitious, policies from other ministries can threaten housing developments, argues Douwes. He mainly speaks about nitrogen regulations that have cancelled housing developments in the Netherlands in recent years. This is in line with the report by NEO Observatory (2019), where it is discussed how exceeding nitrogen norms disallow for housing plans to be realized. Boelhouwer adds that this factor is more applicable to development sites in close proximity to Natura2000 areas, similarly to what Aalten's interviewees elaborated why

housing plans did not cease to continue due to nitrogen regulations in Aalten. Tubbergen is the only municipality to have named nitrogen regulations as possible setback in developments, since the scale of housing plans in Aa en Hunze, Oude IJsselstreek and Bronckhorst has been too small to exceed nitrogen norms. Overall, nitrogen regulations have not posed a serious threat for housing plans in non-urban municipalities, but it could differ for non-urban municipalities closer to Natura2000 areas.

4.6.3. Financial feasibility

The realization rate of housing plans is partly determined by economic factors. When there is low demand for housing, developers can profit less, and thus, housing plans will not be realized (Verhagen, 2019). However, all municipalities argued the housing market is currently beneficial for developers, since large demand for new housing caused prices and thus profits to rise. Housing projects that are taking a long time are hard to finance, since landowners have to pay interest annually, implicating the longer time housing plans need to be fully realized, the more interest needs to be paid, threatening the financial feasibility of housing plans (CPB, 2020). Therefore, as a result of other restrictive factors, for example stakeholders' appeals that are extending the development by several years, it could endanger the plan's financial feasibility. Aa en Hunze and Oude IJsselstreek, pointed out although developers experienced financial profitable times recently, this could change due to future economic developments, as a result of rising mortgage rates that possibly could lead to stagnation in the housing market. This concern is shared by Boelhouwer: "Mortgage rents have increased, possibly resulting in a recession on the owner-occupied home market, and in addition, the overall economic situation makes people more careful in how they are spending money, leading to demand loss." Generally speaking, financial feasibility has been a moderately restrictive factor in recent years in non-urban municipalities, but the situation could worsen in the (near) future as a result of economic developments.

4.6.4. Locational factors

The proximity of infrastructure and amenities is one of the determinants for housing plans' success rate, argues Verhagen (2019). Boelhouwer agreed to this notion, underlining the importance for proper infrastructure and amenities: "When developments take place outside of urban areas, they are farther situated from amenities. Consequently, mobility problems could arise." However, none of the interviewed municipalities agreed to this argument, as inhabitants of non-urban municipalities are often used to travelling far to amenities and main infrastructure. Although nearness of infrastructure and amenities is paid attention to in housing visions and plans in Oude IJsselstreek, it is no determinant for plans' success rate.

Locational issues, including contaminated soil or presence of endangered flora and fauna species on development sites, are of influence on the realization rate of housing plans, as argued by Buitelaar & Van Schie (2018). In Oude

IJsselstreek, Bronckhorst and Aa en Hunze, similar problems led to plan delay and cancellation. In particular Aa en Hunze experienced locational issues as a probable setback for housing plans, due to the high nature values in this municipality. These municipalities, along with Boelhouwer discussed the many additional research and procedures that arise when endangered bat species are found on plan locations: "Of course that is playing a role... when bats are encountered on a potential housing site, that problem needs to be tackled first, causing a delay of one to two years." Interestingly, in Tubbergen and Aalten, similar events have not led to the cancellation of housing plans. Nevertheless, it can be concluded locational issues are a moderately determinant factor for housing plans' realization rate.

4.6.5. Developers and landowners

According to Adams et al. (2009), landowners can stagnate development, since they acquire ownership rights in early planning stages. They can therefore maintain monopoly over this land, and since there is no competition over this land any longer, developers have the possibility to stall developments and keep land vacant for several purposes: to balance production volumes over a number of years, to make development more cost effective and to wait for an increase in housing prices (Van der Krabben, 2021). However, land ownership monopolies did not lead to stagnated developments in non-urban municipalities. Only in Tubbergen and in Oude IJsselstreek this has occurred on rare instances, but other municipalities did not report landowners holding monopoly positions to be of influence on the realization of housing plans, since it is financially feasible for landowners to start developing as soon as possible. Furthermore, according to Boelhouwer the assumption that landowners are deliberately not developing for whatsoever reason is false, since housing prices are not rising any longer and developers are inclined to develop as soon as possible: "When housing prices are rising developers could wait constructing homes, but since prices are not rising anymore there is no need for them to do that." Therefore, it can be concluded that developers and landowners' behavior to leave land vacant is not applicable to non-urban municipalities.

Jonkman et al. (2022) argued that a lack of certified building personnel and construction material scarcity are one of the main reasons for stalled housing site development. This is further framed as a serious problem by Boelhouwer, as it leads up to higher non-development rates: "Developers are dealing with an increasing scarcity of building materials, and consequently, price escalation and long delivery periods, and thus, due to rising expenditures, developers find it increasingly difficult to get by with exploitation." Nevertheless, Aa en Hunze, Bronckhorst and Aalten contrasted this argument, arguing that there is sufficient certified personnel in their municipalities, and moreover, since housing projects there are usually small-scale developments, there is no material scarcity. However, Tubbergen and Oude IJsselstreek did indeed experience development delay due to developers dealing with capacity problems, although this was not perceived as too severe. In general, lack of materials or qualified building personnel is not too big of a threat for developments in non-urban municipalities.

4.6.6. Main summary of discussion and further reflection

The following table provides general characteristics for every municipality (CBS, 2022). After that, every variable's indicator is included.

Table 10
Comparison between interviewed municipalities

Municipality	Tubbergen	Aa en Hunze	Oude IJsselstreek	Bronckhorst	Aalten
Inhabitants	21.276	25.386	39.473	36.212	26.962
Size	147 km ²	279 km ²	138 km ²	286 km ²	97 km ²
Population density	144 inh / km ²	92 inh / km ²	290 inh / km ²	128 inh / km ²	279 inh / km ²
Address density	295 / km ²	283 / km ²	653 / km ²	381 / km ²	778 / km ²
Proximity to large urban area	10,8 km	11,6 km	11,8 km	9,6 km	14,5 km
Supermarkets within 5 km	3,4	2,7	5,7	2,9	3,2
Households with low / high income	29 % / 29 %	32 % / 23 %	39% / 17%	32 % / 23%	35% / 18%
Average WOZ value	€ 269.000	€ 246.000	€ 207.000	€ 267.000	€ 206.000
Scarcity (0 = no scarcity)	90	100	76	87	71
Soft plan cap	360	158	2000	1000	300
Hard plan cap	110	267	175	75	600
Total plan cap	470	425	2175	1075	900
Planning permission	Long	Fast	Quite fast	Fast	Fast
Completion	Long	Long	Varying	Varying	Varying
Qualitative restrictions	Somewhat restrictive	Very restrictive	Somewhat restrictive	Somewhat restrictive	Not so restrictive

Quantitative restrictions	Very restrictive	Very restrictive	Not restrictive at all	Somewhat restrictive	Not restrictive at all
Political setting	Moderately supportive	Very supportive	Very supportive	Very supportive	Very supportive
Procedural processes	Somewhat restrictive	Very restrictive	Very restrictive	Somewhat restrictive	Not so restrictive
Capacity shortages	Somewhat present	Very present	Somewhat present	Somewhat present	Somewhat present
Council of State	Somewhat restrictive	Very restrictive	Somewhat restrictive	Somewhat restrictive	Not restrictive at all
Provincial policy	Not so restrictive	Not so restrictive	Not so restrictive	Not restrictive at all	Not restrictive at all
National policy	Somewhat restrictive	Not restrictive at all	Moderately restrictive	Not restrictive at all	Not restrictive at all
Nitrogen	Moderately restrictive	Not restrictive at all	Not restrictive at all	Not so restrictive	Not restrictive at all
Financial situation	No data	Somewhat restrictive	Somewhat restrictive	Not so restrictive	Moderately restrictive
Proximity to infrastructure and amenities	Low proximity	Low proximity	High proximity	Moderate proximity	Moderate proximity
Locational issues	Not so present	Very present	Somewhat present	Somewhat present	Not present at all
Speculative behavior	Not so restrictive	Not restrictive at all	Not so restrictive	Not restrictive at all	Not restrictive at all
Lack of material and/or personnel	Somewhat restrictive	Not restrictive at all	Somewhat restrictive	Not restrictive at all	Not restrictive at all

Note: adapted from author's analysis. Source: CBS (2022); interview 1-5.

When one takes a look at this table, it is clearly visible that Aalten is suffering the least amount of restrictive factors regarding housing plans. Moreover, they stand out as having the lowest proximity to large urban areas and having the

lowest housing scarcity. Meanwhile, Tubbergen, Bronckhorst and in particular Aa en Hunze have the highest scarcity rates, while generally scoring the highest for many variables' restriction rate. This suggests a possible relation between scarcity and realization rate. Moreover, Oude IJsselstreek and Aalten have the lowest average WOZ value for houses, while also being the least restrictive quantitatively. In contrast, Tubbergen, Aa en Hunze and Bronckhorst have higher WOZ values as well as the highest scarcity rates, suggesting that the less municipalities impose quantitative restrictions on new housing, the lower the average housing price will eventually be. Besides, the higher municipalities score on qualitative restrictions and quantitative restrictions, the lower the plan capacity municipalities are, as visualized by Aa en Hunze and Tubbergen being the most restrictive while maintaining the lowest plan capacity, while both having long completion times. Possible explanation for this is Aa en Hunze and Tubbergen being located in other provinces than Oude IJsselstreek, Bronckhorst and Aalten, that are all located in Gelderland. However, no relation on this can be found regarding their score on the restrictive role of their provinces.

When compared to literature on housing plan realization, the findings of this research differ for several variables. While literature, including Verhagen (2019) and CPB (2020) pointed out provincial policy, national policy and nitrogen regulations as being restrictive for housing plan realization, this was not the case for non-urban municipalities, as a result of changing policy due to the current housing market crisis. This made the various government levels generally more supportive of new housing plans rather than restrictive. Moreover, speculative behavior by landowners was no determinant for the non-realization rates of housing plans in non-urban municipalities. It is possible landowners left plots vacant for multiple economic reasons, as a result of the current housing market situation this has not taken place in these municipalities recently. Interestingly, the largest restrictive factor that came to light during this research, was municipalities dealing with capacity shortages. Housing plans come with many different procedures that need to be carried out before actual development can take place, for which qualified employees are needed. However, all municipalities were dealing with this problem at the moment with no sight of improvement in the near future.

5. Conclusion, reflection and recommendations

5.1. Answering research questions

This chapter will provide an answer to the main research question: *'What factors and to what extent do these factors influence the realization of housing plans in non-urban municipalities?'*. In order to answer this question, the following sub research questions have been formulated:

1. To what extent does project realization influence the realization of housing plans in de non-urban municipalities?
2. To what extent do policy and regulation influence the realization of housing plans in non-urban municipalities?
3. To what extent does financial feasibility influence the realization of housing plans in non-urban municipalities?
4. To what extent do locational factors influence the realization of housing plans in non-urban municipalities?
5. To what extent do developers and landowners the realization of housing plans in non-urban municipalities?

These sub questions will be elaborated from section 5.1.1. until 5.1.5.. Subsequently, in 5.1.6. the main research question will be answered.

5.1.1. Sub research question 1

The time it takes before developers receive building permits varies: in some municipalities this takes multiple weeks, while in others it can take multiple months. However, this time frame does not only differ per municipality, but also depends on the developer in question. Besides, after building permits are granted, it can take longer before housing projects are realized, varying between less than a year to ten years, depending on the developer responsible for building. Aalten's, Bronckhorst's and Oude IJsselstreek's planning officials all have been mildly positive about the time frames in which both project phases take place. Constrastingly, interviewees from Aa en Hunze and Tubbergen perceived the realization phase as too long. Thus, no definitive conclusions can be made on how project realization influences the realization of housing plans, as the municipalities provided ambiguous answers.

5.1.2. Sub research question 2

Aspects regarding policy and regulation have the most significant influence on the success rate of housing plans. Many housing plans fail to meet qualitative spatial criteria as described in the municipalities' housing visions. While some plans are cancelled as a result of not fitting within a particular town structure, others are declined due to not developing in accordance to the municipality's target groups. However, most municipalities reject plans for both given reasons.

Quantitative restrictions differ per municipality. Tubbergen, following the financial crisis of 2008, maintains a careful land policy, while Aa en Hunze is reluctant in land acquisition due to the large proportion of nature there. Bronckhorst explicitly states plan capacity is only available on the edge of larger towns, while in smaller towns it is only possible in relation to demand. Aalten and Oude IJsselstreek claim they do not impose quantitative restrictions at all.

While municipal councils in all interviewed municipalities were supportive of housing plans and therefore formed no obstacle in the realization of housing plans, the largest factor contributing to non-realization of housing plans are the procedural processes that need to be undertaken before new housing is eventually realized. Except for in Aalten, it has become clear that housing plan procedures are very time exhaustive: the developing party needs to come to an agreement with the municipality. Often, both parties have diverging interests: while developers have strong financial motives, municipalities want to maintain high quality public space, leading to lengthy negotiations and plans that need to be re-adjusted. Moreover, because all municipalities are coping with a lack of qualified employees, there are not enough people to handle these extensive procedures, adding up to delay and possible cancellation. Besides, during the procedural phase, stakeholders have the possibility to file appeals against housing plans. Whilst Aalten has not experienced similar events, all other municipalities have experienced plans being subject to court appeal: Citizens can appeal at the Council of State, and because that institution is also suffering from backlogs, this factor can delay housing plans by multiple years.

As opposed to formerly named obstacles in plan realization, the provinces and the national government are not a cause of plan delay, as is perceived by the interviewed municipalities. Municipalities used to perceive these higher levels of government as restrictive. However, as a result of the rising demand in recent years, the provincial and national policies have changed towards being more supportive. Besides, nitrogen regulations have not led to plan cancellation in non-urban municipalities at all.

5.1.3. Sub research question 3

Through interviews, it has become clear that the current housing market condition is very profitable for developers, thus forming no obstacle in the realization of housing plans. As there has been a large demand for new housing, developers are able to ask higher prices for houses and gain more profits. However, delay as a result of other variables can harm a plan's financial feasibility: landowners have to pay interest annually. Consequently, when housing plans are delayed through other variables, including court appeals, this can lead to developers cancelling the project due to profit loss.

Aa en Hunze and mainly Oude IJsselstreek have experienced some housing plans being cancelled due to financial reasons, whilst in other municipalities this effect has been rather low. Thus, for most housing plans in non-urban municipalities, financial backlogs have not formed a large deterring effect on housing plans.

5.1.4. Sub research question 4

Proximity to infrastructure and amenities are not of influence on the success rate of housing plans in non-urban municipalities. Although it is paid attention to in housing visions, residents of non-urban municipalities are accustomed to living far away from main traffic networks and amenities, thus forming no obstacle for plans' success rate.

However, issues involved with making land suitable for development moderately influence the realization rate of housing plans, as three out of five municipalities have experienced plans being cancelled, due to the fact that the presence of endangered animal species or poisoned soil requires additional, expensive research to be executed before developments can take place.

Taking both aspects into consideration, it can be concluded that in general, realization of housing plans is moderately influenced by locational factors.

5.1.5. Sub research question 5

Through analyzing the interviews, it became clear that housing plans in non-urban municipalities are hardly ever cancelled or delayed as a result of landowners holding land vacant. Solely Tubbergen and Oude IJsselstreek experienced landowners behaving this way. However, the landowners' motives for acting in this manner are undisclosed. Moreover, both interviewees from both municipalities expressed this has only taken place on rare past instances, articulating that due to the current housing market condition, it is financially unfeasible to not develop land. The other municipalities did not experience similar events taking place, deeming it is unimaginable to hold land vacant because it would be financially unfeasible to do so.

Developing parties can struggle with capacity problems, including a lack of certified employees or building materials. Here, differences are greater between municipalities. As a result of developers lacking capacity to take on various housing projects at once, a small amount of housing projects in Tubbergen and Oude IJsselstreek have been delayed. Nevertheless, did not lead to large scale non-development, whilst housing plans in Aa en Hunze, Bronckhorst and Aalten have not sustained delay due to this reason. Taking these two aspects in consideration, developers and landowners are rarely the cause of plan delay in non-urban municipalities.

5.1.6. Main research question

This research aimed to get better understanding in factors determining whether housing plans are realized or not, and did so by answering the main research question: *'What factors and to what extent do these factors influence the realization of housing plans in non-urban municipalities?'*. Based on a qualitative research approach, that included literature study, policy document study and in-depth interviews with five non-urban municipalities along with two housing experts, it can be concluded that a combination of indicators affiliated with policy and regulation are of most influence on housing plan realization. Municipalities put quantitative restrictions on land, limiting the amount of land available for housing developments. Moreover, municipal policy prescribes qualitative demands for housing plans. It is then necessary to pass a lengthy cycle of procedures that shape the plan's eventual outcome. However, these procedures are regularly extended as a result of stakeholders objecting housing plans and ultimately appealing at the Council of State, adding up multiple years of plan delay. Furthermore, non-urban municipalities are faced by employee shortages,

unable to completely handle procedures in time, adding to the non-realization rate.

Compared to the previous reasons mentioned, other variables were of less influence on whether housing plans are realized or not. Even though the housing market has been lucrative for developers as a result of large demand, the financial feasibility of plans can be endangered by other factors, making housing projects less profitable due to ongoing interest that has to be paid by developers. Besides, locational issues involved with land development are a plausible cause of non-realization, due to the fact that remediation – if possible – is affiliated with obliged additional research and costs. At last, developing parties struggling with employee shortages or lack of materials contributes to the non-realization rate as well, albeit not in all municipalities. Nevertheless, the influence of policy and regulations remains to have the most significant influence on the realization of housing plans.

5.2. Reflections and possible further development of theories

This study has aimed to gather more insights in factors determining whether housing plans are realized or not in non-urban municipalities. Therefore, this research has attempted to make use of real option theory, applied to vacant building lots by Trigeorgis (1995). However, this theoretical framework has not proven to be versatile for this research, since it focused mainly on the developer's side of housing developments, while this research encompassed multiple sides involved in housing developments. For that reason, factors from other studies and policy documents have been retrieved in order to compose a conceptual model, consisting of five variables influencing the realization of housing plans. Subsequently, an operationalization table has been created that includes all variables into smaller, measurable units of study, improving the study's internal validity. These units of study have then been transformed into a semi-structured interview guide, used to interview housing officials from five non-urban municipalities. Before these interviews have taken place, the interview guide has been peer-reviewed by the researcher's supervisor. In addition, the interviews have been recorded, transcribed and coded, in order to enhance the reliability of this study.

Despite using a sampling strategy to select municipalities, most recipients have not replied to interview requests. For that reason, three, for the researcher's familiar, non-urban municipalities (Aalten, Bronckhorst and Oude IJsselstreek) have been interviewed, affecting the research's generalisability negatively, as these three municipalities are located in the same province, whilst Aa en Hunze and Tubbergen are situated in Drenthe and Overijssel respectively. Thus, there is a chance an external variable is influencing the realization rate of housing plans depending on provincial policy or other geographical factors.

Besides, it should be noted that housing shortage in the Netherlands is a main point of discussion in Dutch society often leading to heated debates on who or what institution is to blame for shortcomings in housing production. For that reason, municipality officials could potentially provide thought-out replies in order to create a positive image of their own municipality. In this research, this

has potentially emerged during an interview with one of the five municipalities, as results from Aalten did deviate significantly compared to the other four municipalities. In order to counter this response bias, two housing experts have been interviewed, as they could provide further insights, while being independent of any municipality's interests. However, to further enhance this study's external validity, housing developers could have been interviewed, as they would have been able to share their views regarding plan realization. Nevertheless, this study is still able to provide new insights in factors determining whether housing plans are realized in non-urban municipalities.

This study has shown that several variables and indicators, described as constraints for housing development by policy documents and scientific studies, have no significant influence anymore as a result of changing market conditions: municipal, provincial and national policies are now supportive rather than restrictive; developments come with higher profits, thus housing projects are more financially feasible; speculative behavior is almost non-existent since leaving land vacant would mean profit loss. On the other hand, other variables have a more significant influence on the realization of housing plans.

One interesting finding was that non-urban municipalities lack capacity to handle intensive planning procedures as a result of changing market conditions. Formerly, these municipalities were organized around a constant housing growth or decline. However, as a result of higher demand, non-urban municipalities lack employees to deal with procedures in time. As demand for new housing has risen, developers have no incentive to leave land vacant due to higher profits that can be made by developing and selling dwellings. Thus for further development of theories, it should be accounted that when there is high demand for new housing, landowners and developers do not leave land vacant deliberately.

5.3. Recommendations for practice

In non-urban municipalities, housing plans are mainly delayed or cancelled as a result of long-taking procedures, extended by stakeholders appealing at the Council of State or a lack of municipal capacity. Municipalities and developers could attempt to prevent neighboring citizens doing court appeal against housing plans. This is possible by addressing neighbors beforehand, providing all necessary information and by hearing their concerns. Perhaps, developing parties can meet the concerns expressed by compensating measures, thus ensuring stakeholders will not do court appeal at the Council of State, extending housing plans for multiple years. Moreover, assuming that the demand for new housing will rise continuously, municipalities should hire more employees in order to handle procedures. Besides, municipalities should be open for more non-traditional forms of housing to tackle housing shortage problems.

5.4. Limitation of the study and recommendation for further research

Whilst providing useful insights, this study still has its limitations. It has attempted to find out how several variables are influencing (non)-realization of housing plans in non-urban municipalities. However, by taking all five variables into account, it has given a more broad, general explanation, rather than specified to a single variable. For instance, every municipality has indicated that court appeals at the Council of State have been a cancelling factor in housing plans. However, it remains unclear under what circumstances and for what reasons plans are cancelled. This could be an interesting topic for future research. Moreover, this study has focused on non-urban municipalities in the Netherlands. It would be interesting to see a study on a different category of municipalities, for instance that of the largest urban municipalities, or municipalities within a certain region.

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7. Appendix

7.1. Interview guide

Interview guide: de (niet)-realisatie van woningbouwplannen in niet-stedelijke gemeenten.

Introductie: Ongeveer 30% van de woningbouwplannen binnen de harde plancapaciteit in Nederland vindt uiteindelijk niet plaats. Dit onderzoek bekijkt of dit ook het geval is voor niet-stedelijke gemeenten en welke redenen daarvoor zijn. We beginnen eerst met een aantal algemene vragen over woningbouwplannen binnen deze gemeente. Daarna gaan we de belangrijkste redenen langs die van invloed zijn of woningbouwplannen gerealiseerd worden of niet. De vragen hebben betrekking op deze gemeente. Natuurlijk mag u gedurende het interview ook afwijken van de vraag als u extra informatie heeft. Als u bovendien opmerkingen heeft over de vragen of vindt dat er bijvoorbeeld vragen missen, dan bent u natuurlijk ook zeer welkom om dit te melden om dit onderzoek te verbeteren.

Algemene vragen:

- Hoeveel zachte woningbouwplannen bestaan er in deze gemeente?
 - En hoeveel woningen betreft dit?
- Hoeveel harde woningbouwplannen bestaan er in deze gemeente?
 - En hoeveel woningen betreft dit?
- Wat zijn de redenen dat 'zachte' plannen niet 'hard' worden?
- Als een plan hard wordt, hoe lang duurt het alvorens een ontwikkelaar een bouwvergunning krijgt?
- Hoe lang duurt de fase tussen het verkrijgen van een bouwvergunning en de uiteindelijke oplevering?
- In hoeverre is er binnen deze gemeente krapte op de woningmarkt? M.a.w., hoe hoog is de noodzaak om te bouwen?
- Is er in deze gemeente sprake van uitgestelde woningbouwprojecten? Zo ja, van welke omvang zijn deze uitgestelde projecten?
- Waar in de ontwikkelfase vindt de meeste vertraging plaats?

Beleid en regulering

Gemeente

- Welk gemeentelijk beleid is de belangrijkste factor in de realisatie van woningbouwplannen?
- In hoeverre is conflict met andere kwalitatieve beleidsdoelen van invloed op de realisatie van woningbouwplannen?
- In hoeverre is de restrictie van bouwgrond van invloed op de realisatie van woningbouwplannen?
- In voor manier speelt de samenstelling van de gemeenteraad een rol in de realisatie van woningbouwplannen?

- In hoeverre speelt het (langdurige) onderhandelingsproces of andere processen een rol in de realisatie van woningbouwplannen?
- Kunt u nog andere redenen bedenken waardoor de gemeente een rol speelt in de realisatie van woningbouwplannen?

Provinciaal

- Welk gemeentelijk beleid is de belangrijkste factor in de realisatie van woningbouwplannen?
- In hoeverre speelt provinciaal beleid een rol in de realisatie van woningbouwplannen?
- In hoeverre limiteert de provincie het gebruik van bouwgrond?

Nationaal

- Welk nationaal beleid is de belangrijkste factor in de realisatie van woningbouwplannen?
- Welke rol spelen nationale wetten een rol in de realisatie van woningbouwplannen?
- Wat is de invloed van de stikstofregulering op het realiseren van woningbouwplannen?

Financiële haalbaarheid

- Hoe ziet de financiële situatie eruit m.b.t. woningbouw?
- In hoeverre zijn locatiefactoren van invloed op de realisatie van woningbouwplannen, d.w.z. locatiekenmerken die huizenprijzen doen opdrijven of dalen, zoals nabijheid van voorzieningen?
- In hoeverre is het type huizen dat gebouwd wordt van invloed op de realisatie van woningbouwplannen?

Locatieproblemen

- Hebben zich hier locatieproblemen afgespeeld, zoals een vervuilde grond?
- Wat voor invloed heeft dit gehad op de realisatie van woningen?

Ontwikkelaars en grondeigenaren

- Hebben ontwikkelaars te maken gehad met capaciteitsproblemen?
- In hoeverre is dat van invloed op het realiseren van woningbouwplannen?
- Zijn er ontwikkelaars/grondeigenaren die bewust de bouw vertragen?
- In hoeverre is dat invloed op de realisatie van woningbouwplannen?

Overige redenen

- Kunt u andere factoren bedenken die van invloed zijn op het uitstellen of schrappen van woningbouwplannen, die nog niet zijn genoemd in dit interview? Zo ja, in hoeverre zijn die dan van invloed?

7.2. ATLAS.TI Codebook

Name	Grounded	Density	Groups
◆ Aansluiting nutsvoorzieningen	4	0	[Locatieproblemen]
◆ Aantal woningen in de harde plancapaciteit	6	0	[Planologische procedures]
◆ Aantal woningen in de zachte plancapaciteit	11	0	[Planologische procedures]
◆ Ambtelijke capaciteit	24	0	[Planologische procedures]
◆ Beleid van de gemeente	88	0	[Beleid] [Planologische procedures]
◆ Beleid van de provincie	33	0	[Beleid] [Planologische procedures]
◆ Beleid van het Rijk	30	0	[Beleid] [Planologische procedures]
◆ Bewust vertragen door ontwikkelaars	16	0	[Grondeigenaren en ontwikkelaars]
◆ Bezwaarmakers	14	0	[Planologische procedures]
◆ Capaciteitsproblemen bouwbedrijven	19	0	[Grondeigenaren en ontwikkelaars]
◆ Conflict met kwalitatieve beleidsdoelinden	28	0	[Beleid] [Planologische procedures]
◆ Externe bureaus	3	0	[Planologische procedures]
◆ Financiële situatie	19	0	[Financiële situatie woningmarkt]
◆ Financiering woning	4	0	[Financiële situatie woningmarkt]
◆ Initiatiefnemers	10	0	[Beleid] [Grondeigenaren en ontwikkelaars]
◆ Krapte op de woningmarkt	7	0	[Financiële situatie woningmarkt]
◆ Leegstaande kavels	2	0	[Grondeigenaren en ontwikkelaars]
◆ Locatiefactoren	10	0	[Locatie en type woningbouw]
◆ Locatieproblemen	17	0	[Locatieproblemen] [Planologische procedures]
◆ Omgevingswet	6	0	[Beleid]
◆ Onderhandelingsproces	55	0	[Planologische procedures]
◆ Ontwikkeling woningmarkt	4	0	[Financiële situatie woningmarkt]
◆ Onzekere toekomst	7	0	[Financiële situatie woningmarkt] [Planologische procedures]
◆ Participatietraject	8	0	[Planologische procedures]
◆ Periode voor woningnood	10	0	[Beleid]
◆ Plancapaciteit	1	0	[Planologische procedures]
◆ Raad van State	7	0	[Planologische procedures]
◆ Redenen dat zachte plannen niet hard worden	23	0	[Beleid]
◆ Regionale woonagenda's	9	0	[Beleid]
◆ Restrictie van bouwgrond door gemeente	15	0	[Beleid]
◆ Rol van de gemeenteraad	15	0	[Beleid]
◆ Rol van de gemeenteraadWet	1	0	[Beleid]
◆ Stikstof	17	0	[Beleid]
◆ Tijd tot ontwikkelaar bouwvergunning krijgt	8	0	[Planologische procedures]
◆ Tijd tussen bouwvergunning en oplevering	5	0	[Planologische procedures]
◆ Transformatielocaties	4	0	[Locatie en type woningbouw]
◆ Type woning	21	0	[Locatie en type woningbouw]
◆ Uitgestelde woningbouwprojecten	8	0	[Beleid]
◆ Uitleglocaties	7	0	[Locatie en type woningbouw]
◆ Waar staan de woningen in de plancapaciteit	1	0	[Locatie en type woningbouw]
◆ Wethouder	2	0	[Beleid]

7.3. List of non-urban municipalities

Municipality	Score	Urbanity	Addresses per km²
Aa en Hunze	5	Nietstedelijk	283
Aalsmeer	4	Weinigstedelijk	940
Aalten	4	Weinigstedelijk	778
Achtkarspelen	5	Nietstedelijk	434
Alphen-Chaam	5	Nietstedelijk	324
Altena	4	Weinigstedelijk	508
Ameland	5	Nietstedelijk	260
Baarle-Nassau	5	Nietstedelijk	353
Barneveld	4	Weinigstedelijk	889
Beek (L.)	4	Weinigstedelijk	892
Beekdaelen	4	Weinigstedelijk	500
Beesel	4	Weinigstedelijk	758
Berg en Dal	4	Weinigstedelijk	651
Bergeijk	4	Weinigstedelijk	511
Bergen (L.)	5	Nietstedelijk	318
Bergen (NH.)	4	Weinigstedelijk	821
Berkelland	4	Weinigstedelijk	657
Bernheze	4	Weinigstedelijk	692
Bladel	4	Weinigstedelijk	698
Boekel	4	Weinigstedelijk	560
Borger-Odoorn	5	Nietstedelijk	262
Borsele	5	Nietstedelijk	323
Brielle	4	Weinigstedelijk	911
Bronckhorst	5	Nietstedelijk	381
Brummen	4	Weinigstedelijk	781
Bunnik	4	Weinigstedelijk	677
Buren	5	Nietstedelijk	294
Coevorden	4	Weinigstedelijk	502
Cranendonck	4	Weinigstedelijk	597
Dalfsen	4	Weinigstedelijk	514
Dantumadiel	5	Nietstedelijk	458
Deurne	4	Weinigstedelijk	898
Dinkelland	5	Nietstedelijk	472
Doesburg	4	Weinigstedelijk	797
Drechterland	4	Weinigstedelijk	508
Drimmelen	4	Weinigstedelijk	795
Dronten	4	Weinigstedelijk	781
Druten	4	Weinigstedelijk	810
Echt-Susteren	4	Weinigstedelijk	716
Eemnes	4	Weinigstedelijk	960
Eemsdelta	4	Weinigstedelijk	706
Eersel	4	Weinigstedelijk	586
Eijsden-Margraten	5	Nietstedelijk	467

Elburg	4	Weinigstedelijk	687
Emmen	4	Weinigstedelijk	861
Epe	4	Weinigstedelijk	732
Ermelo	4	Weinigstedelijk	921
De Fryske Marren	4	Weinigstedelijk	557
Gemert-Bakel	4	Weinigstedelijk	792
Gennep	4	Weinigstedelijk	651
Goeree-Overflakkee	4	Weinigstedelijk	632
Gulpen-Witter	5	Nietstedelijk	285
Halderberge	4	Weinigstedelijk	760
Hardenberg	4	Weinigstedelijk	568
Hardinxveld-Giessendam	4	Weinigstedelijk	987
Hatter	4	Weinigstedelijk	849
Heerde	4	Weinigstedelijk	625
Heeze-Leende	4	Weinigstedelijk	585
Hellendoorn	4	Weinigstedelijk	825
Heumen	4	Weinigstedelijk	797
Hilvarenbeek	4	Weinigstedelijk	593
Hoeksche Waard	4	Weinigstedelijk	834
Hof van Twente	4	Weinigstedelijk	608
Het Hogeland	5	Nietstedelijk	415
Hollands Kroon	5	Nietstedelijk	439
Horst aan de Maas	4	Weinigstedelijk	576
Hulst	4	Weinigstedelijk	513
Kaag en Braassem	4	Weinigstedelijk	655
Kapelle	4	Weinigstedelijk	656
Koggenland	5	Nietstedelijk	435
Krimpenerwaard	4	Weinigstedelijk	789
Laarbeek	4	Weinigstedelijk	652
Land van Cuijk	4	Weinigstedelijk	638
Leudal	5	Nietstedelijk	394
Lingewaard	4	Weinigstedelijk	968
Lochem	4	Weinigstedelijk	601
Lopik	5	Nietstedelijk	371
Losser	4	Weinigstedelijk	754
Maasdriel	5	Nietstedelijk	484
Maasgouw	5	Nietstedelijk	444
Medemblik	4	Weinigstedelijk	527
Meerssen	4	Weinigstedelijk	618
Midden-Drenthe	5	Nietstedelijk	408
Midden-Groningen	4	Weinigstedelijk	867
Moerdijk	4	Weinigstedelijk	747
Molenlanden	5	Nietstedelijk	398
Montferland	4	Weinigstedelijk	767
Montfoort	4	Weinigstedelijk	753

Mook en Middelaar	5 Nietstedelijk	435
Neder-Betuwe	5 Nietstedelijk	448
Nederweert	4 Weinigstedelijk	648
Nieuwkoop	4 Weinigstedelijk	505
Noardeast-Fryslân	5 Nietstedelijk	467
Noord-Beveland	5 Nietstedelijk	241
Noordenveld	4 Weinigstedelijk	687
Noordoostpolder	4 Weinigstedelijk	735
Nunspeet	4 Weinigstedelijk	806
Oirschot	4 Weinigstedelijk	626
Oisterwijk	4 Weinigstedelijk	935
Oldambt	4 Weinigstedelijk	831
Oldebroek	4 Weinigstedelijk	657
Olst-Wijhe	5 Nietstedelijk	476
Ommen	4 Weinigstedelijk	515
Oost Gelre	4 Weinigstedelijk	739
Ooststellingwerf	5 Nietstedelijk	481
Opmeer	4 Weinigstedelijk	539
Opsterland	5 Nietstedelijk	421
Oude IJsselstreek	4 Weinigstedelijk	653
Oudewater	4 Weinigstedelijk	845
Overbetuwe	4 Weinigstedelijk	813
Peel en Maas	4 Weinigstedelijk	589
Pekela	4 Weinigstedelijk	534
Putten	4 Weinigstedelijk	921
Raalte	4 Weinigstedelijk	667
Reimerswaal	4 Weinigstedelijk	521
Renkum	4 Weinigstedelijk	922
Renswoude	4 Weinigstedelijk	529
Reusel-De Mierden	4 Weinigstedelijk	574
Rhenen	4 Weinigstedelijk	930
Roerdalen	5 Nietstedelijk	390
De Ronde Venen	4 Weinigstedelijk	886
Rozendaal	4 Weinigstedelijk	948
Rucphen	4 Weinigstedelijk	677
Schagen	4 Weinigstedelijk	749
Scherpenzeel	4 Weinigstedelijk	948
Schiermonnikoog	5 Nietstedelijk	321
Schouwen- Duiveland	5 Nietstedelijk	491
Simpelveld	4 Weinigstedelijk	685
Sint-Michielsgestel	4 Weinigstedelijk	647
Sluis	5 Nietstedelijk	433
Someren	4 Weinigstedelijk	750
Son en Breugel	4 Weinigstedelijk	715
Stadskanaal	4 Weinigstedelijk	840

Staphorst	5 Nietstedelijk	359
Steenbergen	4 Weinigstedelijk	739
Steenwijkerland	4 Weinigstedelijk	594
Stein (L.)	4 Weinigstedelijk	905
Súdwest-Fryslân	4 Weinigstedelijk	852
Terneuzen	4 Weinigstedelijk	876
Terschelling	5 Nietstedelijk	250
Texel	5 Nietstedelijk	492
Tholen	5 Nietstedelijk	494
Tubbergen	5 Nietstedelijk	295
Twenterand	4 Weinigstedelijk	601
Tynaarlo	4 Weinigstedelijk	512
Tytsjerksteradiel	5 Nietstedelijk	478
Utrechtse Heuvelrug	4 Weinigstedelijk	791
Valkenburg aan de Geul	4 Weinigstedelijk	676
Veere	5 Nietstedelijk	347
Vijfheerenlanden	4 Weinigstedelijk	913
Vlieland	5 Nietstedelijk	212
Voerendaal	4 Weinigstedelijk	548
Voorst	4 Weinigstedelijk	581
Waadhoeke	5 Nietstedelijk	469
Waalre	4 Weinigstedelijk	881
Waterland	4 Weinigstedelijk	642
West Betuwe	5 Nietstedelijk	463
West Maas en Waal	5 Nietstedelijk	431
Westerveld	5 Nietstedelijk	214
Westerwolde	5 Nietstedelijk	287
Weststellingwerf	4 Weinigstedelijk	683
Westvoorne	4 Weinigstedelijk	623
Wierden	4 Weinigstedelijk	713
Wijdmeren	4 Weinigstedelijk	600
Woensdrecht	4 Weinigstedelijk	666
De Wolden	5 Nietstedelijk	313
Woudenberg	4 Weinigstedelijk	986
Zaltbommel	4 Weinigstedelijk	706
Zeewolde	4 Weinigstedelijk	839
Zoeterwoude	4 Weinigstedelijk	837
Zundert	4 Weinigstedelijk	577
Zwartewaterland	4 Weinigstedelijk	726