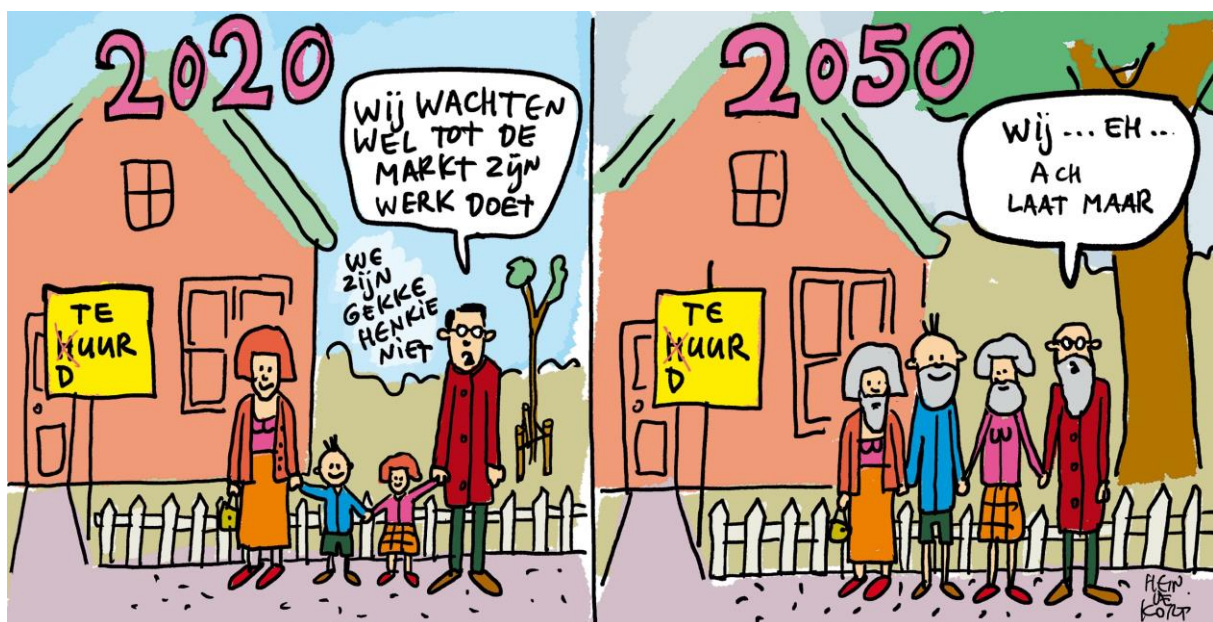# A place for all households in urban areas

An exploratory study of housing preferences and housing affordability of middle-income households in relation to rental housing supply

Colophon

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Abstract – Due to several factors, under which the widespread flexibilization in the job market and the fact that it ended up becoming more difficult to take out a mortgage, middle-income households ended up not having access to owner-occupied housing in Dutch urban areas. Also, middle-income households' incomes are too high to qualify for the social housing segment. Therefore, they depend on private rental housing in the Randstad. However, there is a shortage of private rental housing. Due to this lack of private rental housing, rental housing prices have increased tremendously. And this occurred while households' incomes have not been rising to the same extent. Furthermore, organisations that rely on key workers have a more difficult time finding employees in urban areas. Middle-income households, including the households that can potentially fill up these vacancies, are often forced to move to other areas to find housing that fits their preferences. Therefore, it is essential to gain knowledge of how private rental housing for middle-income households can become affordable. Having knowledge of housing affordability in relation to housing preferences is vital to understand how the private rental housing supply for middle-income households can be increased and preserved in urban areas. Therefore, this research seeks to answer: *"How can the rental housing supply in urban areas in the Netherlands, that is affordable for middle-income households, be increased following their preferences?"*

With this research question posed, the research aims to provide insight into middle-income households' housing affordability. It also aims to present the middle-income households' rental housing preferences. To reach this aim, the methodology applied in this research is a mixed-method with an embedded design. This research made use of the WoON 2018 data and the semi-structured interview method. To conclude, the findings of this research were validated by an expert panel. The comprehensive quantitative research, regarding what middle-income's housing preferences are, demonstrated that these preferences are not sufficiently affordably facilitated in Groot-Amsterdam. Delving into these results together with the qualitative research, this study determined what instruments could be used to increase and preserve the affordable rental housing supply for middle-income households following their housing preferences.

This research evinced that in Groot-Amsterdam, housing with five rooms is not sufficiently facilitated in the mid-segment rental housing supply. Additionally, for the couple, couple-one-child, couple-two-children, couple-three-children, and one-parent-three-children households earning a gross annual income near €36,798, mid-segment rental housing is not affordable. In order to provide affordable housing for all middle-income households, the central government should assume a more active role in steering toward increasing the mid-segment rental housing supply. Thereby, they should enlarge the housing associations' playing field. Furthermore, they should limit their role to spatial planning, providing infrastructure, and providing monetary means. Next to that, there should be a balance between municipal demands on development programmes and land prices. Together, the municipality and market actors should determine the demands of the development programme. An independent third party should calculate the residual land value.

Keywords: housing preferences, private rental housing, housing affordability, the Randstad, Groot-Amsterdam, middle-income households, liveability, steering instruments

Preface

This is my thesis; 'A place for all households in urban areas'. The topic caught my attention slightly over a year ago. It occurred to me that a lot of my friends and family were having difficulties finding a home, and I found it unfortunate to see them struggle in this domain. I am convinced that, in a country such as the Netherlands, everyone should be able to find a fitting home. Especially when a household earns a decent income. Therefore, I decided to devote my graduation thesis to this topic. This work is submitted as the graduation thesis for my master's degree in 'Management in the Built Environment' at TU Delft and was written and shaped during an internship at Fakton Capital and SpringCo Urban Analytics. I was engaged in this graduation the last year during the academic 2019-2020 and 2020-2021.

I would like to thank Fakton Capital and SpringCo Urban Analytics for having me as their intern. Due to this internship, I have met many people that were inspiring to me and helped me to define my results. During this period, I have learned a lot and was able to expand my knowledge on other topics besides my field of research. A special thank goes to Robert van Ieperen and Wim Rust, who helped me overthink and discuss my findings. I would also like to thank René Neijmeijer for helping me define the quantitative story I wanted to tell. Especially during this pandemic, I could not have wished for a better internship company.

Additionally, I would like to thank my main mentor, Harry van der Heijden, for sharing his knowledge on housing systems and his studious guidance. I would also like to thank my second mentor, Marietta Haffner, for her commitment and elaborate comments. It was of great value when defining different concepts. Furthermore, I would like to thank my third mentor, Harry Boumeester, by commenting on the data-analysis from an academic perspective.

Finally, I want to thank my loved ones; my friends for being my friends, my family, of which especially my mom for mentally supporting me during this graduation process. And I would like to thank my partner for supporting me, sticking up with me, and last but not least checking my thesis for grammar and spelling errors.

Enjoy reading my thesis!

Executive summary

In recent years, housing prices have been rising in the Randstad. Therefore, households with a gross income up to 1.5 times the gross average (€51,750) are locked out of the Randstad homeownership market, and thus they have to depend on the rental housing segment. However, households with a gross annual income above €36,798 cannot be granted access to the social housing segment by law. Thus, these households depend on private rental housing. These households are defined as the middle-income group and have a gross annual income ranging from €36,798 to €51,750 (price level 2018). The rental housing segment designated to them by municipal policy is called the mid-segment and has a monthly rent ranging from €710 to €1,000 (price level 2018).

Although middle-income households depend on private rental housing, the Randstad has an increasing private rental housing shortage. As a result, rental housing prices are increasing. At the same time, the households' income does not increase to the same extent. Hence, it becomes increasingly more challenging for middle-income households to find suitable housing matching their housing preferences.

Each household has an ideal housing image, containing the household's housing preferences when no constraints are posed on the housing market. Next to this ideal image, one can distinguish an aspiration image, containing the household's housing preferences while taking the housing market's constraints into account. Two primary housing market constraints can be: a lack of affordability, and a lack of housing with certain housing characteristics available in the supply.

Research question

There is a shortage of affordable rental housing for middle-income households in the Randstad. Therefore, middle-income households in the four largest cities in this region cannot meet their housing preferences. Thus, the question arises:

"How can the rental housing supply in urban areas in the Netherlands, that is affordable for middle-income households, be increased following their preferences?"

Methodology

This research is mixed-method research, consisting of quantitative and qualitative research (Bryman, 2016, p. 635). The quantitative research has its findings based on the data of WoON 2018. Studying the housing market of the Randstad in its totality is not possible since each area of the Randstad contains a different housing market (Pararius, 2016). Therefore, regarding performing the quantitative research, the Groot-Amsterdam corop level has been the main focus. The quantitative research studies middle-income households' housing affordability, current living situation, and housing preferences. Also, the current rental housing supply of Groot-Amsterdam is studied. The result of this study is an answer to the sub-research question: *"What housing preferences of middle-income households are not sufficiently affordably facilitated in the mid-segment rental housing supply of Groot-Amsterdam?"*

The problems concerning the housing market in Groot-Amsterdam are similar to the housing problems found in other large urban areas situated in the Randstad area. Therefore, the outcomes of the study of this area also provide insights regarding the issues that the other areas of the Randstad need to cope with. Therefore, the qualitative study focusses on the Randstad as a whole. The qualitative study incorporated semi-structured interviews with municipalities, housing associations,

investors, and developers. Thereafter, the findings of the qualitative study are validated using an expert panel. The qualitative study focuses on what instruments can be used to increase and preserve the affordable housing supply in the Randstad.

Main results quantitative study: Middle-income housing preferences that are insufficiently affordably facilitated in Groot-Amsterdam

When observing Groot-Amsterdam's middle-income households' preferences for the quality of mid-segment rental housing, one can conclude that it lacks housing with three- and housing with five rooms. All the other housing characteristics are sufficiently facilitated in this segment. The housing supply consists of housing that is in accordance with the spatial standards for each household type, except for couple-three-children. Observing the difference in percentages, the mid-segment rental housing supply does not contain plenty of housing with five rooms. Since the spatial standard objectifies the households' housing preferences, it is used to determine what housing characteristics the housing supply lacks. Therefore, housing with five rooms is not sufficiently facilitated in Groot-Amsterdam. For the other household types, not being able to meet the spatial standards might have something to do with the housing affordability for the household.

Apart from housing with certain characteristics not being sufficiently facilitated, affordability can be an issue. Especially for the couple, couple-one-child, couple-two-children, and couple-three-children households, this turns out to be the case. If they have a gross annual income near €36,798, mid-segment rental housing is not affordable. The same is true for the couple-three-children household type. In addition, for the couple-three-children household the mid-segment is also not affordable whenever they earn a gross annual income near €51,750. The same goes for the couple-two-children, the couple-three-children, and the one-parent-three-children households earning an income near the lower limit of the middle-income range. Most of them are underrepresented household types in Groot-Amsterdam. Of these underrepresented household types, only the one-person household can afford the mid-segment. Next to the affordability of housing, the accessibility of mid-segment rental housing is also an issue. For all middle-income households with an annual gross income below €43,200, the mid-segment housing supply is barely accessible since landlords demand a gross monthly income that makes up as much as four times the monthly rent.

Recommendations on how to increase and preserve the Randstad's affordable rental housing supply for middle-income households

Central Government steering

First, the central government should take on a more active role in increasing and preserving the Randstad's affordable rental housing supply for middle-income households. Their role should be limited to spatial planning, infrastructure and providing monetary means for municipalities. Besides that, the central government's aim should be to pave the way for housing associations to provide affordable housing for middle-income households.

It can be asserted that the mid-segment is not affordable or accessible for some household types with a gross annual income near €36,798. Therefore, the central government should increase the social housing income limit, which is also in line with the opinion of one of the housing associations, to make affordable housing accessible (declared in semi-structured interviews and expert panel. This should not necessarily be household-specific. However, other subsidies should be used to increase the affordability of the couple-one-child, couple-two-children, and couple-three-children households that would otherwise have severe affordability issues. Thus, not only the social housing income limit should

be household-specific. The housing allowance income limit should be household-specific and should be available for mid-segment rental housing as well. This makes for the subsidy to end up being temporarily in effect rather than permanently. The latter is the case for the social housing segment. Still, the affordability issue of large middle-income households' is not permanent.

Currently, housing associations are being taxed with the landlord levy whenever they own over fifty social dwellings. This landlord levy diminishes their available capital for investing. Furthermore, amongst other things, the landlord levy causes market parties to avoid investing in social housing or liberalised housing near the liberalisation limit. The central government should thus abolish the landlord levy. When abolishing the landlord levy, agreements should be made with housing associations for there to be plenty of incentive for them to use this capital to invest in new

Spatial planning	↑
Infrastructure	↑
Providing monetary means	↑

Figure 0.1: The aspects in which the central government should assume a more active role and that they should steer towards.

Social housing income limit	↑
Housing allowance	↑
Landlord levy	↓

Figure 0.2: The aspects for which the central government should reconsider regulation and which they should steer towards.

To meet these spatial standards, housing associations should be able to take on a more active role regarding the increase of mid-segment rental housing since they can develop market contrary. This makes them able to develop housing with, for example, a larger surface area. When housing associations have a long-term vision regarding the provision of mid-segment rental housing, they might also assure a more permanent mid-segment supply. Besides that, housing associations only increase the annual rent in order to correct for inflation. Contrary to market parties, the returns of housing associations do not have to be paid out to shareholders. Therefore, this return can be reinvested in other housing directly. The central government should thus abolish the market test altogether. Thereby, housing associations become able to assume a more active role in the increase of mid-segment rental housing. And when they do so, they would do well to aim for housing with a monthly rent below the €850-€900 range, which the mid-segment is currently lacking. Market parties can then take on a more active role in providing mid-segment housing with a monthly rent exceeding the €850-€900 range.

Low-segment   Mid-segment   High-segment

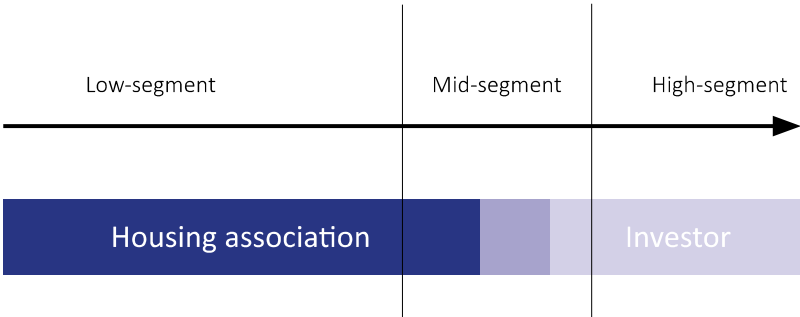Housing association   Investor

Figure 0.3: The proposed scope of housing associations and market parties concerning the increase and preservation of the mid-segment rental housing supply in the Randstad.

Balancing between high land prices and municipal demands

Housing affordability for those with an income near €36,798 is a significant issue among several middle-income household types. Next to that, it is difficult for couple-three-children households to meet spatial standards. Imposing rent regulation on mid-segment rental housing is not advisable since that leads to avoidant behaviour by market parties. However, rent regulation concerning new developments could be applied. When taking this into consideration, one should bear in mind the comment that the development should be feasible after taking the revealed regulation into account.

The G4 applies rent regulation for new construction of mid-segment rental housing. This regulation includes a set rental price for several years, a set annual price indexation, a specified residential programme including surface area, the number of rooms, and an enforced housing allocation system for the mid-segment. However, this set of regulations often causes an unbalance between municipal demands and land prices.

Municipalities can use stimulus instruments to steer market parties into development that follows municipal demands. First, the different parties, including the municipality, need to reach an agreement on the development programme itself. Thereafter, an independent third party should calculate a residual land value to match the demands. In the case of municipal-owned land, the municipality should charge the residual land price determined by the third party. In the case of privately owned land, the municipality could compensate for the extra costs of their demands by subsidising the development to match the residual value calculated by a third party. Suppose the municipality lowers land prices or provides subsidies in return for their demands; they would obtain a private agreement, including all the agreed settlements, to ensure that these market parties meet the municipal demands.
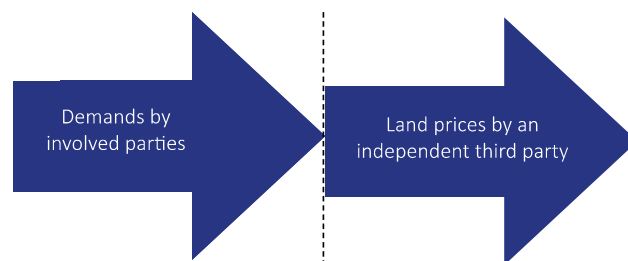

Figure 0.4: The proposed subdivision of parties for determining the development programme demand and the residual land value

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1. Introduction

From the 1990s onwards, the Dutch housing market has been known to stimulate an increase in owner-occupied housing. On the demand side, the central government stimulates homeownership in income tax by a mortgage interest deduction (in Dutch: hypotheekrenteaftrek) and Capital Gains Tax's exemption (in Dutch: vermogensrendementsheffing). Also, in the 90's it was possible to get a mortgage with loan-to-value above a hundred per cent for households. On the supply side, private investors had a higher return on developing and selling housing to individual buyers. Municipalities used to prefer to reserve their land to construct owner-occupied housing, since this type of housing comes with a higher land value. Thus, municipalities had a higher yield in selling or leasing their land for owner-occupied housing. Therefore, in total, the share of owner-occupied housing increased. This preference for owner-occupied housing has led to a decrease in private rental housing in the Netherlands (Schilder, Daalhuizen, Groot, Lennartz, Van der Staak, 2020, p.8).

During the financial crisis that started in 2008, there was a lower demand for housing than before it. This financial crisis resulted in decreased housing prices. Therefore, the housing market became demand-driven instead of supply-driven. For many Dutch homeowners, the reduced housing prices led to negative equity; a situation in which a mortgage is bigger than the value of their residence (in Dutch: 'onder water staan van het huis'). Due to the crisis's consequences, the Dutch government has set stricter norms for taking out a mortgage, making homeownership access more difficult for the lower end of the income ladder. After the financial crisis, a housing shortage presented itself. Therefore, the housing market in the Netherlands became supply-driven instead of demand-driven. This change was leading to increased housing prices.

It has structurally been becoming more challenging to access homeownership in most regions of the country (Boumeester, 2004, p.24; Van Middelkoop & Schilder, 2017, p.27/38). Some markets are coping with a housing shortage, while others have a surplus. The housing shortage is the largest in the Randstad; foremost in the four biggest cities: Amsterdam, Rotterdam, Utrecht and The Hague (Van Dam & De Groot, 2017, p.5). In the areas with a housing shortage, the housing prices are higher than in areas without a housing shortage. For households with an income until one-and-a-half or two times the median income (in Dutch: modaal inkomen) it is nearly impossible to find owner-occupied housing in the Randstad (Julen, 2020; Ten Teije, 2019). A household with an income until one-and-a-half times the median income belongs to the middle-income group. Because of the shortage of affordable housing on the homeownership market for middle-income households, middle-income households searching for housing in the Randstad are dependent on the rental housing supply in these areas. This research focuses on the Randstad. Furthermore, in the Netherlands, the pressure on the housing market in a particular area has a strong relation to employment rates there (Visser & Van Dam, 2006, p.7). Therefore, the job market has a significant influence on the housing market.

The job market does not just significantly influence the housing market concerning the specific areas where most employment exists. In recent decades, a lot has changed on the job market itself and the housing market. Employees used to have a permanent employment contract and spent most of their lives working for one company (Economie Lokaal, n.d.). Older employees often still have a permanent employment contract, but younger employees have a flexible contract increasingly more often. This makes that younger employees have to cope with insecurity about their income-related prospects, making it difficult to take out a mortgage. When requesting a mortgage, the lender takes the last three years' income into account, which should point out whether the mortgage-applicant earns a steady income (Vereniging eigen huis, n.d.). But on average, employees with a flexible employment contract have a lower income than employees with a permanent contract (CBS, n.d. d). Therefore, it has become increasingly harder for them to access homeownership. All the above accumulated; for households with an income below one-and-a-half times the median income, it has been becoming

structurally more challenging to access homeownership. Therefore, these households depend on the rental housing supply.

Next to homeownership, the housing market also consists of rental tenures that may offer an alternative to households that cannot access homeownership. The Dutch rental housing market is divided into four categories: social housing owned by housing associations, social housing owned by private or institutional investors, liberalised rental housing owned by housing associations, and liberalised rental housing owned by private or institutional investors. The liberalisation limit is the monthly rental price limit that divides the rental housing market into social housing (below the liberalisation limit) and liberalised/private rental housing (above the limit) regardless of who the owners are. In 2018 the liberalisation limit was €710.68 per month (Rijksoverheid, n.d. b).

Housing with a base rent below the liberalisation limit, owned by housing associations, is not accessible for middle-income households. In the Netherlands, most (social) rental housing is owned by housing associations (Kullberg & Ras, 2018, p.9). Therefore, a significant part of the middle-income households depends on private rental housing (Francke, Harleman & Kosterman, 2016, p. 5; Vlak, van Middelkoop, Schilder & Eskinasi, 2017, P12.; Blok, 2018, p. 89; Gemeente Den Haag, 2019). Section 2.7.1 discusses the rental housing market in the Netherlands in more detail. The paragraphs below focus on some aspects of the rental housing market of the Netherlands.

In the Netherlands, the housing evaluation system (in Dutch: woningwaarderingsstelel) has been put in place to safeguard social housing rent levels. This point system of quality indicators determines the maximum rental housing price of social housing. In the current housing market, housing associations and market actors compete with each other. This competition causes a gap between the social rents, which are stated below-market prices, and the private rents of market actors that charge prices above the liberalisation limit (Van Middelkoop & Schilder, 2017, p.43). Until a specific rental housing price, it becomes more likely that investments will be made as liberalised rental prices rise. Thus, housing with a rental price just above the liberalisation limit mostly do not exist.

When the Dutch government announced a new regulation for 2021, they announced that the transfer tax (in Dutch: overdrachtsbelasting) on housing would increase from 2 to 8 per cent for investors (Hypotheker, 2020 b). This announcement makes such an effect as less investment and less supply of private rental housing likely due to the rising costs of investment. The transfer tax will not be in effect for upstarts aged 35 years or younger investing to become a homeowner. This transfer tax can increase rental prices since investors still need a market-conforming return on their investment (Ten Teije, 2020). The increased transfer tax may lead to a decrease in the supply of rental housing. Less supply will lead to rent increases. Because of this rent increase, more liberalised rental housing owned by private or institutional investors will be no longer affordable for middle-income households (Van Middelkoop & Schilder, 2017, p.43).

There were also legislation changes in recent years which caused that housing associations have less incentive to build housing for middle-income households. With the reform of the housing law, housing associations need to focus on their core task rather than on housing for middle-income households (Rijksoverheid, n.d. i). Most housing associations would like to develop rental housing for middle-income households but are not allowed to do so (De Waal, 2020). After letting the government perform a very strict market test, housing associations can get permission to develop housing for middle-income households. This is so that housing associations are only allowed to construct housing for middle-income households when market parties are not interested. In the coming period, the market test will ease, and housing associations will get more possibilities to construct housing for middle-income households again (Aedes, 2019; Stadszaken, 2020 b). Before the market test was eased, most housing for middle-income households could only be constructed by private actors.

As for the situation in the Randstad, amongst other things, the current private rental housing supply has a tremendous shortage. Therefore, in recent years, rental housing prices have been increasing significantly (NVM, 2020 a). Rising rental prices (NVM, 2020 a; Pararius, 2020) combined with households' incomes not rising accordingly percentagewise (CBS, 2018; Van Der Molen, 2020), consequentially had middle-income households becoming effectively locked out of a large part of the privately owned rental housing market. Especially in the Randstad (Gemeente Den Haag, 2019 a; Nul20, 2020 a). Hence, it became barely possible for middle-income households to find suitable housing (Gemeente Den Haag, 2019; Haffner & Elsinga, 2019; Van der Vegt, 2018; Schilder, 2020).

Due to increasing rental housing prices, crooked inhabitants (in Dutch: scheefwoners) in social housing are stuck in their current housing (Van Middelkoop & Schilder, 2017, p.30). According to regulations, they are no longer the target group of social housing. Meanwhile, they are not able to afford private rental housing or to access the homeownership market. Also, at an increasing rate, cities lack key workers (van der Vegt, 2018). Key workers are vital to society; they are employees such as nurses, teachers and police officers. Most urban key workers earning a middle-income depend on private rental housing. In urban areas in the Netherlands, there are several initiatives to create housing for key workers. Other than housing availability steering households' choices concerning housing, personal preferences steer such decisions as well (Boumeester, 2004, p. 8). Therefore, it is essential to know what households want with respect to what they can afford. Thus, this research will contribute to this knowledge gap and answer the main question:

"How can the rental housing supply in urban areas in the Netherlands, that is affordable for middle-income households, be increased following their preferences?"

To be able to come to answers, in chapter 2, a framework for this research is presented, concluding with all research questions. In chapter 3, the methodology that is needed to answer the questions will be explained.

2. Framework

Some of the current problems occurring in the Dutch housing market were described in the introduction. Several potential causes of these problems have been mentioned, with some in need of some further explanation. The framework will give the required description of these aspects and concepts. Next to that, having plenty of theoretical background is necessary to define the different concepts: housing preferences, housing affordability, and middle-income.

In section 2.1, the concept of housing preferences is defined. Section 2.2 addresses housing affordability and debates the relation between housing affordability and the housing market. In section 2.3, the relation to the concept of housing affordability notion of housing standards is discussed, and section 2.4 focuses on the definition of middle-income. Section 2.5 follows and discusses the Randstad area. Section 2.6 elaborated upon the theoretical knowledge of policy instruments and is followed by section 2.7, which focuses on the Dutch housing policies in general. This chapter concludes with section 2.8 and section 2.9. In section 2.8, the research questions are presented, and in section 2.9, this study's societal and scientific relevance are discussed.

2.1 Housing preferences

In this section, the concept, housing preferences, is defined. Defining this concept provides an understanding of what housing preferences are and how households define theirs.

Some notable individuals assert that everyone has preferences and makes people behave in specific ways (Boumeester, 2004, p.8). Most people have a long-term vision established for their lives; their preferences are derived from this vision (Boumeester, 2004, p.9). Preference is defined as "*a greater liking for one alternative over another or others*" (lexico.com, 2020). Households' preferences are translated into a subjective ideal image of housing (Boumeester, 2004, p.24). The ideal image for housing is the perceived best housing situation for an aspect of the household's wishes and/or desires, regardless of the costs. The ideal image will be translated into an aspiration image, which contains the household's ideal housing situation, and does take income and (other) constraints into account within a long-term perspective (Boumeester, 2004, p.26). When translating the ideal image to the aspiration image, trade-offs are made. Relocation will bring households a step closer towards their aspiration image (Boumeester, 2004, p.26).

In the past, there has been a clear relationship between housing career and lifecycle (Beer & Faulkner, 2011, p.20; Boumeester, 2004, p.11). Rossi (1955) states that:" The process by which families adjust their housing to the housing needs that are generated by shifts in the family composition that accompany lifecycle changes" (p.9). Lifecycle can be defined as: "The series of changes in the life of an organism including reproduction" (lecixo.com, 2020). The research of De Groot, Mulder and Manting (2011, p.21) proves that the households who had an intention to relocate ended up relocating more often when their household composition had recently changed than when it did not. Also, Beer and Faulkner (2011, p.19) suggest a strong correlation between lifecycle and housing type.

In the past decades, quite a few households have not had a housing path that went mainly uphill. Not all households have had a usual housing career since a housing career assumes a more traditional path marked by mainly growth-progression. A shift in social perspectives in society changed the relationship between the housing career and the lifecycle (Beer & Faulkner, 2011, p.4). Because of the changed social perspectives, lifecycles (household composition), as well as working careers (flexibility, income), have become more diverse (Beer & Faulkner, 2011, p.21; Badcock & Beer, 2000, p.90). Therefore, one should talk about housing pathways, as for the movement through the housing

market, instead of housing career. Housing pathways can be defined as "patterns of interactions (practices) concerning house and home over time and space" (Clapham, 2002, p.63).

A household's freedom to choose between housing options is limited by income level (Boumeester, 2004, p.23) and the limited diversity of affordable housing in urban areas, caused by a lack of housing supply (Van Middelkoop & Schilder, 2004, p.12). Haffner and Elsinga (2019) state that there is no freedom to choose regarding options for middle-income households in the Netherlands' urban areas. Therefore, households cannot live out their long-term visions since they lack the fulfilment of their housing needs and wishes (Schilder et al., 2020, p.4,15).

Being limited due to income level and scarcity in available options causes a trade-off between housing preferences and affordability. This trade-off results in a difference between stated and revealed housing preferences. Stated housing preferences are the enumeration of a household's desires before relocating. The stated housing preferences can be considered to be the same as the aspiration image. A revealed preference is essentially a household's current living situation in the first two years after relocation. The revealed housing preferences are the trade-off outcome between the aspiration image and affordability (De Groot et al., 2011, p.2). For example, when housing is not affordable, the lack of affordability can cause households to relocate to a non-preferred area that is affordable (Haffner & Hulse, 2019, p.11-13).

2.2 Housing affordability

As indicated in section 2.1, the degree to which a household can choose housing to their liking unrestrictedly is determined by its income level; that degree being pointed to 'housing affordability'. In this section, the concept, housing affordability, is defined.

Before looking into the concept of housing affordability, first, one needs to define affordability itself. The Cambridge dictionary (n.d. b) defines it as: "*the state of being cheap enough for people to be able to buy"*. 'Cheap enough' refers to the product being inexpensive enough, and 'buy' can be replaced with 'rent' or 'lease.' Since we're looking into housing affordability, the definition needs to be broadened. Thus, in this study, it is defined as *'housing being inexpensive enough for people to buy or rent'*. There are two common approaches to measuring the affordability of housing costs; the housing-costs-to-income ratio, or in this case, the rent-to-income ratio, and the residual income method. Both approaches are discussed here below.

In the Netherlands, the rent-to-income ratio (in Dutch: huurquote) is used to determine housing affordability (Haffner & Heylen, 2010, p.48). According to this rule of thumb, rental housing is considered not affordable if the rent-to-income ratio is above thirty per cent of the income (Haffner & Heylen, 2010, p.48). The rent-to-income ratio does not take housing composition and other consumption expenditures into account. Therefore, the rent-to-income ratio can be misleading when looking at individual households (Stone, 2006, p.157). Thus, the rent-to-income ratio is not a preferred method for this research.

A method that takes household composition and consumption into account is the residual income method (Stone, 2006, p.164; Haffner & Heylen, 2010, p.49). Therefore, the residual income method is more accurate, and it is not a rule of thumb. Therefore, the residual income method is the preferred method for this research compared to the rent-to-income ratio.

Following the residual income method, housing affordability is defined as the challenge of balancing housing costs and other expenditures, taking into account the household's income and the constraints of the income with regard to the current housing market (Stone, 2006, p.151). If the rent for a

preferred dwelling is higher than a household can afford, the household has an affordability problem (Stone, 2006, p.154). The residual income is defined as the income that remains for a basic level of non-housing expenses after the household's housing expenses are subtracted from the income. Thus, residual income = income – housing expenses. A household's disposable income is the desired income type to be taken into account, as gross income will lead to a misidentification of households with an affordability problem (Stone, 2006, p.171).

To determine the affordability of housing, the benchmark of affordability is set at the amount where the residual income is equal to the necessary amount of income for non-housing expenses. Hence, a basic standard of non-housing needs and costs should be set for each type of household. Since having one basic standard of non-housing for all households does not take the required diversity in housing situations linked to household composition into account, the households should be divided into groups of different household compositions.

The residual income method can be used to get an insight into the influence of different types of expense related to housing within the total housing expenses. Housing expenses can be defined as the cost of rent only. When taking into account the broader range of costs, one can include service costs, energy costs, and municipal taxes, which are all factors that rental housing expenses include in the Netherlands (CBS, n.d. c). Service costs can include several kinds of expenses, such as energy costs, extra monthly fee claimed by the caretaker (in Dutch: huismeester), administrative costs, furniture costs, cleaning costs, repair costs, shared space costs (Rijksoverheid, n.d. g). This makes service costs anything that can be related to housing and can be included in rental costs. Other expenses related to housing are those made by internet, television, telephone, childcare, additional costs (Van Gemen, 2018, 97-156). The occurrence of all these extra costs makes using results from the rent-to-income ratio method yet less favourable, especially as opposed to the residual income method.

Subsidies can also lower housing costs; for example, housing allowance (in Dutch: huurtoeslag), which will reduce housing costs (CBS, n.d. c).

Affordability stands in relation to the household's housing preferences, and it cannot be viewed separately from personal housing standards (Stone, 2006, p.155). To be objective, section 2.3 elaborates on creating a housing standard, for housing preferences, in relation to housing affordability.

2.3 Housing standards

The previous section discusses that housing affordability tends to point to something subjective, assuming there is no basic housing standard. Therefore, a basic housing standard is necessary for housing affordability to be defined objectively. This section elaborates on defining space standards for housing.

A spatial standard should be household-specific since the minimum amount of space needed depends on the number of residents. After setting a basic housing standard, it can be compared with the household's housing preferences to get insight into how this standard relates to the housing preferences. The primary spatial standards define what surface area and number of rooms are needed for housing to be a 'merit good'. A merit good can be defined as a good from which a household benefits upon consumption but from which society gains as well (Economicsonline, n.d.).

In the Netherlands, a predefined spatial standard cannot be found. However, Eurostat (2014) has set an overcrowding rate from which a spatial standard can be derived. For a one or two-person

household, the overcrowding rate determines that a household's housing is not overcrowded if the dwelling does consist of at least:

- One living room;
- One bedroom.

For a household with over two persons, the dwelling needs to have at least:

- One living room;
- One room for every single person above 18 years;
- One room for a pair of single persons of the same gender with age between 12 and 17 years old;
- One room for every single person from the other gender with age between 12 and 17 years old;
- One room per pair of children under 12 years old.

Thus, if more non-partnered adults live in a dwelling than there are rooms (living room excluded), the dwelling is overcrowded. In the Netherlands, next to overcrowding, occurs undercrowding (Crutzen & Hagen, 2020, p.12), which is, however, a subjective concept. A household lives undercrowded if the household remains under the overcrowding norm. When comparing housing preferences to housing supply, one can determine if housing is undercrowded by choice. If housing is not undercrowded by choice, undercrowding should be researched as a starting point for a possible solution to the housing shortage. Since overcrowding and undercrowding are loaded concepts, they will be referred to as above and under the space standard concerning number of rooms.

Next to the overcrowding rate, different cities in the Randstad (Rotterdam, The Hague and Amsterdam) have set a minimum user surface per person in a dwelling. In these cities, the minimum surface is 12 square metres per person (Boer, 2014; Gemeente Den Haag, n.d.). This minimum surface follows the building decree (in Dutch: Bouwbesluit) for newly constructed and renovated housing. Next to the minimum surface per person, a minimum surface for self-contained housing is set by the building decree. Housing needs to include an accommodation area of in total 24 square metres (Ministerie van Binnenlandse Zaken en Koninkrijkrelaties, n.d.). Next to that, a user surface should have a minimum surface of 4 square metres. Therefore, housing must have a minimum surface of 28 square metres. Also, at least 55% of housing must be accommodation area. Thereby, the minimum surface area for a one-person household must be between 28 and 44 square metres. In table 2.1, an overview can be observed for the minimum obtained surface area per household type. The norm of the surface area will be referred to as the space standard concerning the surface area.

	Rooms	Surface (square metres)
One-person (1)	2	28-44
Couple (2)	2	40-65
Couple-one-child (3)	3	52-87
Couple-two-children (4)	4	64-109
Couple-three-children (5)	5	76-131
One-parent-one-child (2)	3	40-65
One-parent-two-children (3)	4	52-87
One-parent-three-children (4)	5	64-109
Nonfamily (x)	-	-

Table 2.1: minimal number of rooms and minimum surface area per household type, which can also be called the space standard of housing per household type (own table)

Both spatial standards say something about the maximum number of residents per dwelling, but a standard on the minimum number of residents cannot be set. From these standards, it can only be stated if the different household types live above the standard.

2.4 Middle-income households

The introduction discusses that middle-income households cannot enter the social rental housing market. Also, it recently has been getting increasingly more difficult for them to enter the homeownership market. This has been making middle-income households dependent on the private rental housing market. In this section, the middle-income is defined.

For a balanced city population, middle-income households are essential (Van Gijzel, 2018, p.5). Having a household variation ensures that there will be plenty of support for different amenities in the city. Furthermore, a variety of households offers possible candidates for vacancies. For households with an income until one-and-a-half times or twice the median gross income (in Dutch: modaal inkomen) it is most difficult to find housing in the Netherlands (Julen, 2020; Ten Teije, 2019). Households that make an income higher than twice the median income do have reasonable access to homeownership. In urban areas: the accessibility to homeownership is more difficult, but it is possible for households with an income higher than twice the median (Ten Teije, 2019). Therefore, the group with an income level below twice the median is dependent on private rental housing. However, these households have difficulties in getting private rental housing as a result of high rental housing prices (Gemeente Den Haag, 2019 a; Nul20, 2020 a).

A statistical definition of middle-income cannot be found in the scientific literature. Van Gijzel (2018, p.9) defined the middle-income as a gross income between €34.000 and €52.500. These numbers are subtracted from that year's limit for social housing and one-and-a-half times the median income.

This research will make use of the numbers of 2018[1]. Middle-income households are hardly eligible for social housing. The gross income limit for social housing in 2018 was below €36.798 per year, with an expansion to €41.056 per year (Schram, 2017). Housing associations are allowed to rent ten per cent of the housing stock to households with a gross income between €36.798 and €41.056 (Rijksoverheid, n.d. a). Therefore, in this research, the middle-income starts at an annual gross income of €36.798 for 2018.

The median income can define the upper limit of the middle-income. According to Centraal Planbureau (2019 a), the median income is defined as seventy-nine per cent of a working year's average income. The median income is the most commonly earned income in a country. The median gross income of the Netherlands was €34.500 in 2018 (Centraal Planbureau, 2019 b). As already mentioned, for households with an income until one-and-a-half times the median income, it is the most difficult to find housing.

Therefore one-and-a-half times the median income will be used to define the upper limit of the middle-income. Thereby, in this research, the middle-income's upper limit for 2018 will be a gross income of €51.750. To conclude, middle-income households are defined as households with a gross income between €36.798 and €51.750 for 2018 regardless of the number of people the household consists of.

[1] The middle-income needs to be defined for the year of which the data is used for this research. This research will use WoonOnderzoek Nederlands 2018 (WoON 2018), Dutch research on housing of 2018. Therefore, the numbers in this research need to be translated to the year 2018.

2.5 Randstad

The introduction discusses that the Randstad area is the most challenging region for obtaining housing for households (ten Teije, 2019). To obtain an overview of what type of region the Randstad is, this section discusses the Randstad.

In the Randstad, housing shortage has led to a lack of housing affordability for middle-income households (Julen, 2020; Ten Teije, 2019). Because of the low housing diversity in the affordable housing supply, households cannot be provided in their housing need (van Middelkoop & Schilder, 2017, p.12). The consequence of this shortage is that households have to relocate to other areas within the Randstad. This relocating will lead to the rising of housing prices in these areas (Haffner & Hulse, 2019), making it the most urgent task of the Randstad to deal with the housing shortage[1] (van Dam & de Groot, 2017, p.5).

The Randstad counts approximately fifty per cent of the inhabitants of the Netherlands. The Randstad is marked by a minimum of 1000 inhabitants per square kilometre (Langenberg & Verkooijen, 2018, p.4). In the Randstad, sixty-five per cent of the inhabitants live in a city with an environmental address density of over 1500 addresses per square kilometre (Nijmeijer, 2000, p.22). The Randstad covers the following corop areas: Agglomeratie' s-Gravenhage, Agglomeratie Haarlem, Groot- Rijnmond, Agglomeratie Leiden en Bollenstreek, Zaanstreek, Delft en Westland, Utrecht, Het Gooi en Vechtstreek, IJmond and Groot-Amsterdam. The corop areas can be observed in figure 2.1. A corop area is an area demarcated by the Dutch government to mark a region with a care function. The corops were geographically shaped, based on the commuter flows in an area. Corop areas cross the borders of areas such as provinces (Het Ministerie van Binnenlandse Zaken en Koninkrijkrelaties, n.d.).

[1] This is the pre-COVID19 situation; at the moment, it is not sure what the COVID19-crisis will do in the long-term to the housing market in the Netherlands.

COROP regio's

1.	Overig Groningen	2.	Delfzijl en omgeving
3.	Noord-Friesland	4.	Oost-Groningen
5.	Zuidwest-Friesland	6.	Noord-Drenthe
7.	Zuidoost-Friesland	8.	Kop van Noord-Holland
9.	Zuidoost-Drenthe	10.	Zuidwest-Drenthe
11.	Flevoland	12.	Alkmaar en omgeving
13.	Noord-Overijssel	14.	Zaanstreek
15.	IJmond	16.	Groot-Amsterdam
17.	Agglomeratie Haarlem	18.	Veluwe
19.	Zuidwest-Overijssel	20.	Twente
21.	Het Gooi en Vechtstreek	22.	Agglomeratie Leiden en Bollenstreek
23.	Utrecht	24.	Agglomeratie 's-Gravenhage
25.	Oost-Zuid-Holland	26.	Achterhoek
27.	Delft en Westland	28.	Arnhem/Nijmegen
29.	Zuidwest-Gelderland	30.	Zuidoost-Zuid-Holland
31.	Groot-Rijnmond	32.	Noordoost-Noord-Brabant
33.	West-Noord-Brabant	34.	Midden-Noord-Brabant
35.	Overig Zeeland	36.	Noord-Limburg
37.	Zuidoost-Noord-Brabant	38.	Zeeuwsch-Vlaanderen
39.	Midden-Limburg	40.	Zuid-Limburg

Deze kaart is afkomstig van www.regioatlas.nl

Figure 2.1: Overview of corop areas in the Netherlands (Ministerie van Binnenlandse Zaken en Koninkrijkrelaties, n.d.)

Also, the four largest cities of the Netherlands are located in the Randstad. These cities are Amsterdam, Rotterdam, Utrecht and The Hague. Each of these cities has more than 250.000 inhabitants (CBS, n.d. a). They have an environmental address density of over 2500 addresses per square kilometre (CBS, 2020). In these cities, the largest population growth occurs (De Beer, Ekamper and Gaag, 2018). Only twenty-five per cent of the Randstad is not urban. As already discussed, the most significant housing shortage is found in the four largest cities of the Randstad: Amsterdam, Rotterdam, Utrecht and The Hague (Van Dam & De Groot, 2017, p.5). Therefore, this research focusses on the Randstad, including these four cities, concerning the qualitative study.

Studying all eight different corop areas separately within this research's quantitative study is too much of a task. Studying the housing market of the Randstad at once is not possible since each area of the Randstad contains a different housing market (Pararius, 2016). Therefore, the quantitative research focuses on the Groot-Amsterdam corop level. Groot-Amsterdam is selected for this research since the pressure on the housing market is the highest in Groot-Amsterdam, as discussed. Also, for the corop level Groot-Amsterdam, more information is available compared to other regions in the Randstad. However, the problems concerning the housing market in Groot-Amsterdam are comparable to the housing problems of the other large urban areas in the Randstad. Therefore, the outcomes of the study of Groot-Amsterdam will give insight into the issues that the other areas of the Randstad need to cope with. Groot-Amsterdam contains the following municipalities: Aalsmeer, Amstelveen, Amsterdam, Beemster, Diemen, Edam-Volendam, Haarlemmermeer, Landsmeer, Oostzaan, Ouder-Amstel, Purmerend, Uithoorn and Waterland.

2.6 Policy Instruments

As discussed, the quantitative study focusses on Groot-Amsterdam. However, the qualitative study concentrates on the whole Randstad, since Randstad regions other than Groot-Amsterdam also have a housing shortage to overcome. Therefore, the instruments discussed in the qualitative study are applicable to the Randstad in general as opposed to just Groot-Amsterdam.

To overcome the housing shortage in the Randstad, one option is to reshape the housing market. If the government wants to reshape the housing market, it needs to find a way to influence and/or modify all the main actors' house market-shaping behaviours (Adams & Tiesdell, 2013, p. 130). This section discusses the theoretical background on how the housing market could be reshaped.

To reshape the housing market, the government must learn how to use and create incentives to steer the actors in the housing market since the government only has limited control over these actors. To steer actors, the government can use instruments and policies. Policies specify the outcomes that governments want to accomplish and consists of different instruments. Instruments are the means that governments can use to steer the actors into the desired results. This section will elaborate on the various instruments that the government has at its disposal in this regard.

In a decision environment, just as in an environment where policy instruments are wielded, an actor can steer behaviour by coercive means (sticks), persuasion (sermons) and remuneration (carrots) (Adams & Tiesdell, 2013, p. 132). In the government's terms: the policy instruments are used to shape, regulate or stimulate the actor's behaviour.

Besides the different instruments that the government can use, the government can assume different housing market roles (Adams & Tiesdell, 2013, p.131). Roles that a government can assume are building contractor, funder, infrastructure provider, investor, land developer, landowner, occupier, parcel developer, politician, and regulator. In this research, policy instruments are looked into from a planning perspective rather than a governance perspective since the planning perspective takes a

broader set of types of instruments into account. From the planning perspective, not just the instruments that a governmental body can use to steer the housing supply need to be considered; also the assumed positions of governmental bodies and market actors. This study focusses on the increase of the rental housing supply, which will be discussed in section 2.8. Therefore, the focus of the instruments should be on planning rather than governing. The policy instruments can be distinguished into four main types: shaping instruments, regulatory instruments, stimulus instruments, and capacity-building instruments (Adams & Tiesdell, 2013, p. 134-135). What the four types of instruments contain is stated in table 2.2.

Instrument	Explanation	Examples
Shaping instruments	Shaping the decision environment by setting a broad context for market actions	- Making it clear what kind of places the government wants to see developed by means of publishing plans, strategies, visions and/or other documents; - By restructuring the institutional environment, for example: by making changes to property rights or taxation systems; - Delivering strategic market transformation by radically changing what market actors think is achievable.
Regulatory instruments	Constrain the decision environment by regulating and/or controlling market actions	- Public regulation by statute; - Private regulation by contract; - Regulating and restricting action; - Regulation of activities by restricting unlicensed production; - Regulating different aspects of an activity; - Regulation to cause eradication of an activity; - Elective or mandatory enforcement; - Regulation based on meeting common standards or rules.
Stimulus instruments	Expand the decision environment by facilitating market actions by delivering strategic market transformation	- Stimulate development in places that otherwise would have been avoided by for example reclamation, infrastructure provision, land acquisition and land disposal; - Price-adjusting instruments such as grants, tax incentives and project bonuses; - Risk-reducing instruments by ensuring accurate market information, policy certainty, demonstration projects, environmental improvements and holistic place management. - Capital-raising instruments.
Capacity-Building instruments	Enable actors to operate more effectively by gaining knowledge and competences and so facilitate the operation of other policy instruments	- Create market-shaping cultures; - Create and maintain market-rooted networks; - Learn market-rich information and knowledge about how place quality can be influenced through market and development processes; - Learn market-relevant skills and capabilities.

Table 2.2: Four types of instruments that the government can apply, with explanations and examples (Adams & Tiesdell, 2013, p.134-135,250).

Although governments can use lots of instruments and roles to steer the housing market, the policy outcome is not necessarily achieved (Adams & Tiesdell, 2013, p.131). Policy outcomes are not necessarily achieved because the government's instruments are deficient or not effectively put to use. Here must be emphasised that using a policy instrument is a political decision (Adams & Tiesdell, 2013, p.133).

2.7 Dutch housing policies

Management of the Dutch housing market is performed on three governing levels, namely the central, provincial, and municipal level. Each governance has a policy regarding the housing market. This section gives an introduction to Dutch housing policies. Section 2.7.1 discusses rental housing policies, and section 2.7.2 addresses municipal housing policies.

2.7.1 Rental housing policies

Rental housing can be divided into four categories (table 2.3). Regulated housing or social housing is all housing where the monthly rent is below the liberalisation limit, which was €710,68 a month for 2018 (Rijksoverheid, n.d. b). Unregulated rental housing or liberalised rental housing makes for all housing above the liberalisation limit in the Netherlands. Three different types of actors supply rental housing: housing associations, private investors and institutional investors (Schilder et al., 2020, p.8). Both social and liberalised rental housing can be owned by all three types of actors (Table 2.3) (Vestia, n.d.; Rijksoverheid, n.d. a).

	Social housing	Liberalised rental housing
Owned by housing associations	Housing below the liberalisation limit	Housing above the liberalisation limit
Owned by private parties	Housing below the liberalisation limit	Housing above the liberalisation limit

Table 2.3: Division of the Dutch rental housing market (Vestia, n.d. a; Rijksoverheid, n.d. a) (own table)

Aspect	Social housing contract	Liberalised housing contract
Maximum rent level	Based on housing evaluation system (woningwaarderingsstelsel)	Contractual freedom
Annual rent increase	The maximum percentage of annual increment	Contractual freedom
Dispute settlement	With the help of the rental commission (huurcommissie)	- By a judge - By the rental commission for the test of the initial rent, only if the quality of the dwelling justifies a regulated rental contract - The advice of rental commission if agreed
Housing allowance	Accessible if the income is under the housing allowance limit	Not applicable
Landlord levy	By rent out of more than 50 dwellings	Not applicable

Table 2.4: Differences between regulated housing contract and liberalised housing contract (own table) (van Gijzel, 2018, p.11).

For both social and liberalised rental housing, specific regulations have been set by the central government to apply. For liberalised rental housing, the rent can be increased once a year, for which there is no maximum unless it is determined in the contract. Also, the landlord is not obliged to inform the tenant in time before the rent increase. If the tenant disagrees with the rent increase, the landlord can end the lease agreement (Rijksoverheid, n.d. c). There are some more differences in regulations

between social housing and liberalised rental housing. An overview of these differences is shown in table 2.4.

To be precise, this research will elaborate on unregulated housing or liberalised rental housing for middle-income households. Several municipalities define housing that is meant for middle-income households as housing with a monthly rent between €710 and approximately €1000 a month for the year 2018 (Gemeente Den Haag, 2019; Gemeente Utrecht, 2019; Gemeente Amsterdam, n.d.; Sijbers, Postma, de Bruin & Wijbrands, 2019). This rental housing segment will be referred to as mid-segment rental housing from now on. Mid-segment rental housing will consist of liberalised rental housing owned by housing associations, private investors, and institutional investors.

In the Netherlands, most rental housing is facilitated by housing associations. In the past decade, regulations for housing associations have been changed. The housing law (in Dutch: woningwet) states that housing associations need to focus on Services of General Economic Interest (SGEI) (in Dutch: diensten van algemeen economisch belang (DAEB)) (Rijksoverheid, n.d. i). The housing associations aim to supply sufficient housing for households who cannot find suitable housing in the housing market themselves. With the new regulations, housing associations have to assign at least eighty per cent of their housing supply to low-income- or other vulnerable households. Housing associations can only perform activities (not-SGEI) if there are no market parties that look to perform these activities. A market test (in Dutch: markttoets) needs to be performed to determine if market parties have no desire to perform these activities (Rijksoverheid, n.d. i).

The rental price of social housing is set by a housing evaluation system (in Dutch: woningwaarderingsstelsel) (Rijksoverheid, n.d. e). The housing evaluation system takes different aspects of the dwelling and its environment into account, including the property value (in Dutch: woz-waarde). For each existing element, one or several points are given. The points determine the rental price of a residence. If, when allocating a dwelling, the housing evaluation system values it above the liberalisation limit, it is declared to be liberalised. If the renter and tenant get into a conflict over rent or other topics, the tenant can make use of the rent commission (in Dutch: huurcommissie) (Huurcommissie, n.d). The evaluation system is forced by law, and therefore, can be stated in the category of regulatory instruments.

For renting housing with rental pricing below the liberalisation limit, a landlord levy is imposed (in Dutch: verhuurderheffing). Landlords that rent out over fifty dwellings have to pay a levy of approximately zero point five per cent of their dwellings' market value each year (Rijksoverheid, n.d. f). The landlord levy is an incentive for private investors to rent out dwellings with monthly rent above the liberalisation limit (Vlak et al., 2017, p.30). Besides that, the property value is included in the housing evaluation system only a couple of years ago. Therefore, more private owned social rental housing has become liberalised rental housing. The landlord levy is forced by law and thus can be stated in the category of regulatory instruments.

In the past decade, buy-to-let housing has become more appealing. The stimulus for investing in buy-to-let is formed by the before mentioned changes regulations concerning: housing associations, the modified housing evaluation system, the historic low returns on savings and the high demand for housing. The interest in buy-to-let dwellings is so confident that investors can overbid others on the housing market (Schilder et al., 2020, p.9).

In the Netherlands, there is the possibility to get a housing allowance. Housing allowance is only provided to households with a rent level below the housing allowance level of that year in the first month of the contract and with an income below a certain level (Vlak et al., p.15). For the year 2020, the housing allowance level was €663.40, with an annual income below approximately €22,400 for one-person households and €30,400 for more person households (Rijksoverheid, 2019).

To summarise, table 2.5 provides an overview of the instruments used concerning rental housing in the Netherlands. There are some instruments in it besides the ones discussed in this section; they are discussed in section 2.7.2. The table also displays on what level the instruments can be implemented. Policy documents are a shaping instrument since they give the market parties an idea of what a governmental body attempts to achieve. Policy documents are implemented both on a local level as well as on a central level. More on policy documents and the communication platforms are discussed in chapter 9.

Type of instrument	Instrument
Shaping instruments	- Policy documents; - Market test;
Regulatory instruments	- Tender procedure; - Liberalisation limit; - Housing evaluation system; - Dutch rental commission (non-liberalised rental housing); - Maximum increment of rent (non-liberalised rental housing); - Income limit for 80% of the (non-liberalised rental dwellings of housing associations; - Housing law; - Landlord levy;
Stimulus instruments	- Housing allowance or other subsidies
Capacity-Building instruments	- Communication platforms;

Table 2.5: Overview of instruments concerning rental housing (own table)

2.7.2 Municipal housing policies

Spatial planning and policy responsibility has recently been decentralised, having gone from the central government towards municipal governments (Van Gijzel, 2018, p.12). Thereby, the municipality is responsible for the zoning plan, infrastructure and the supervision of housing associations (Rijksoverheid, n.d. j).

Municipalities can decide when to give a housing permit (in Dutch: huisvestingsvergunning) by the use of housing ordinance (in Dutch: huisvestingsverordening) (Rijksoverheid, n.d. k). They often publish their housing vision, and in these publications, they present their plans concerning housing. The municipal housing ordinance states what regulations a municipality will apply or take into account when allocating a dwelling, and it contains rules concerning private rental housing for middle-income households.

For the government and mostly for municipalities, land can be used as a tool for executing the municipal policy concerning housing (Rijksoverheid, n.d. l). The municipality has three options concerning the municipal land policy: active land policy, facilitating land policy, and public-private partnerships. By executing an active land policy, the municipality buys land, parcels out the land, and sells it. By implementing a facilitating land policy on the landowner's parcel, the municipality is responsible for the infrastructure from which the costs will shift towards the landowners. And by engaging in a public-private partnership, the municipality forms a joint-venture with a market actor and shares the risks with the market actor.

In the Netherlands, the government is obligated to sell land using a tender procedure. A tender procedure's award criteria can be price, quality, technical merit, aesthetic and functional characteristics, environmental characteristics, running costs, cost-effectiveness, after-sales service and technical assistance, delivery date, delivery period, commitment with regard to spare parts and

security of supplies. The award criteria should be known beforehand (Chao-Duivis, Koning & Ubink, 2013, p.135-145).

Next to the standard municipal instruments, the municipality can use an emergency instrument for the private rental housing supply. When it uses this emergency instrument, the municipality is allowed to regulate the rents of liberalised dwellings with a property value beneath €300.000 for four years. Using this instrument, the maximum annual rent increase of these particular dwellings can only be six per cent of the property value in case of a new lease contract (Schilder et al., 2020, p.26).

Type of instrument	Instrument
Shaping instruments	- Housing vision publication; - Municipal land policy; - Other policy documents;
Regulatory instruments	- Zoning plan; - Housing ordinance; - Housing permit; - Emergency instrument.
Stimulus instruments	- Subsidies;
Capacity-Building instruments	- Communication platforms;

Table 2.6: Overview of instruments concerning municipalities (own table)

2.8 Research questions

This section presents the main- and sub-research questions for this research extracted from the problem statement. The main problem is: there is a shortage of affordable rental housing for middle-income households in the Randstad. Therefore, middle-income households in the four largest cities in the Randstad cannot meet their housing preferences. Thus, in case of a household composition change, the shortage forces middle-income households to relocate from the largest cities to other parts of the region or even out of the region since there is no affordable and suitable alternative in the area where they currently live. Relocation of households from one area to another area results in a shortage of key workers in these areas. A side effect of forced relocation from one area to another is that rental housing prices in the destination area rise, making housing in these areas eventually becoming unaffordable. Therefore, the question arises:

"How can the rental housing supply in urban areas in the Netherlands, that is affordable for middle-income households, be increased following their preferences?"
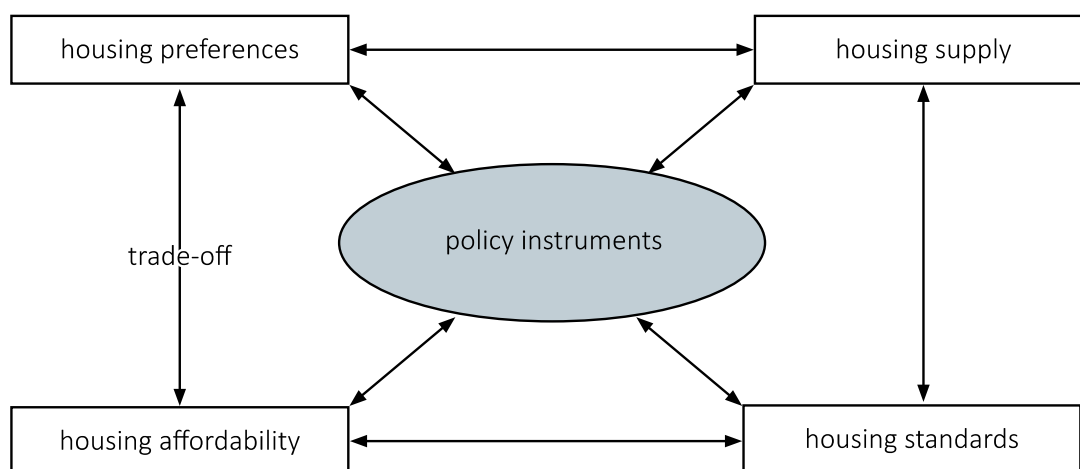
Figure 2.1: Conceptual model (own illustration)

The conceptual model (Figure 2.1) can be used to explain the main question. It displays the relationship between the five concepts. The four outer concepts: housing preferences, housing affordability, housing standards, and housing supply, influence and shape each other. The government can shape these four outer concepts by using policy instruments, but which ones are used is determined by (if not, influenced by) these mentioned four concepts. In reshaping the housing supply in the Randstad, policy instruments are of major importance, but which exact policy instruments are useful as means to find a solution for the lack of affordable and appropriate rental housing for middle-income households needs to be studied. Each different type of instrument can potentially end up steering one or several of the concepts. For example, the housing evaluation system steers into housing affordability.

In order to answer the main research question, formulating these sub-questions is a pre-requisite:

Housing affordability and housing preferences in relation to rental housing supply
1. Which types of middle-income households can be distinguished?
2. What is the maximum affordable base rent for middle-income households?
3. What housing characteristics does the mid-segment rental housing supply in Groot-Amsterdam have?
4. In what kind of rental housing do Groot-Amsterdam's middle-income households currently live and does this housing meet the affordability and space standards?
5. What housing preferences do Groot-Amsterdam's middle-income households have and do these preferences meet the affordability and space standards?
6. What housing preferences of middle-income households are not sufficiently affordably facilitated in the mid-segment rental housing supply of Groot-Amsterdam?

Possible instruments
1. What policy instrument(s) can be used to steer the market into increasing affordable housing, for middle-income households fitting their preferences?
2. How can the increased affordable housing supply fitting preferences of middle-income households, be preserved in the Randstad?

2.9 Societal and scientific relevance

The following section discusses the societal and scientific relevance of this research. Section 2.9.1 addresses the societal relevance, which discusses what this research's implications could mean for society as a whole and organisations within society. Section 2.9.2 goes into the potential housing-related scientific value.

2.9.1 Societal relevance

From the previous sections can be concluded that there is a shortage of rental housing for middle-income households. This shortage has resulted in rising housing prices, and not having any diversity in the housing supply (van Dam & de Groot, 2017, p.5; van Middelkoop & Schilder, 2017, p.12). For middle-income households, it is difficult to find housing in the cities of the Randstad. Their income is too high for social housing and too low for private rental housing and homeownership (van der Vegt, 2018). The housing shortage in the Randstad results in issues for companies that are depending on these households. They have vacancies that cannot be filled within a reasonable time frame (Van der Vegt, 2018). It becomes a larger issue for the city if the vacancies for key workers cannot be filled. A starting high school teacher, for example, has an annual income of €38.040 by the collective labour agreement (in Dutch: CAO) of 2019 (Rijksoverheid, n.d. d). To compare, the social housing limit of that

year was €38.035 (Ginsberg & Hamers, 2018), which means that these key workers earn a middle-income. Therefore, they depend on private rental housing as well.

This research elaborates on the preferences of middle-income households, which is severely affected by the housing shortage. This research is relevant for cities and regions that deal with this type of housing shortage, and thus it aims to give an understanding of exactly what type of housing is missing in the housing supply of urban areas.

The Dutch government uses several instruments to steer into a balanced housing market, but the housing market still contains a lot of bottlenecks. This research aims to find a solution concerning these. It thereby aims to find a solution on how the housing market can become reshaped in such a way that it becomes easier for middle-income households to find appropriate and affordable housing.

Since the second quarter of 2020, the Netherlands has to deal with a pandemic. This pandemic has consequences for the Dutch housing market. The homeownership market is still balanced at the moment due to a tremendous shortage (De Voogt, 2020). The rental market has to deal with some changes at the moment as well. There are fewer people at viewings, and most viewings take place digitally. Initially, rental housing prices did not drop. However, due to COVID-19, foremost in the largest cities, the rental housing prices have dropped (NOS, 2020 b). Still, it cannot be known for sure what will happen with the rental housing prices when the crisis is over.

Also, due to COVID-19 new constructions concede. Bokeloh (2020) states that housing prices will decline because investors will hold back on the housing market, meaning that the housing shortage in private rental housing will increase. Meanwhile, rental housing prices have already declined, and in Amsterdam, the population has decreased for the first time in years (Ligtenberg, 2020 b). Because of the conceding constructions, the expectation is the housing shortage, and the pressure on the housing market will increase. Experts cannot estimate what the corona crisis will do with the housing market. Therefore, one could say it's currently hard to predict the future of the housing market. If the shortage of private rental housing increases, this research becomes even more relevant since finding affordable housing will become even more challenging.

2.9.2 Scientific relevance

When one wants to cope with a housing shortage in a specific area, one needs to have insight into the behavioural tendencies of different actors. To acquire this insight, one needs to understand the motives behind specific behaviour. This research tends to give insight into what steering instruments cause specific behaviour from certain actors. In doing so, it will provide insight into the housing market mechanisms.

Another scientific relevance of this research is in objectifying the subjective housing preferences. In the first part of this research, namely the quantitative study, the subjective housing preferences are objectified. This is done by comparing them to determined housing standards, which can be observed in section 2.3.

3. Methodology

This chapter elaborates on the main- and sub-questions introduced in section 2.8 by means of introducing the research method. It is discussed what methodology and instruments are used and how they will answer the research questions. Section 3.1 addresses the type of study, and section 3.2 the study design. The later sections discuss the research methods used in more detail. This chapter concludes in section 3.4, with a description of the main research output.

3.1 Type of study

This research is mixed-method research. Mixed-method research consists of quantitative and qualitative research (Bryman, 2016, p. 635). By using quantitative analysis, social reality is quantified. Qualitative research is useful to emphasise how individuals interpret their social world (Bryman, 2016, p.32-33).

For this research, the embedded design is used. The quantitative data will be the primary source of data. Quantitative data is used to understand better the phenomenon discussed in this research (Bryman, 2016, p.640). However, the quantitative data will be insufficient to answer the research question. Subsidiary research questions will be addressed best by qualitative data. The qualitative data is used to search for possible policy changes and other solutions that cannot be derived through the quantitative data. Qualitative data is needed to understand why particular housing preferences can or cannot be implemented in the Randstad. Besides that, qualitative data is used to validate the outcomes of quantitative research.

3.2 Study design

This study consists of three phases, namely literature study, quantitative study and qualitative study. The literature study is used to research rental housing in the Netherlands and other related concepts. The literature study can be observed in section 2 of this research. Phase 2 of this research is a quantitative study, and phase 3 a qualitative one, which is further explained below. Table 3.1 shows a short overview of what kind of research method will answer the research questions.

The quantitative research consists of three main concepts: housing preferences, spatial standards, and affordability. Middle-income households' housing preferences are derived, after which it is determined whether the housing preferences indicate a desired option that is affordable. Certain household types' housing preferences might be affordable, whereas other household types' might not. For household types for whom the housing preference is not affordable, it is determined whether the affordable housing supply is according to the spatial standards. Mainly, this is due to affordable housing having to meet the spatial standards when it cannot meet the household's preferences.

The qualitative research consists of semi-structured interviews and validation by the use of an expert panel. The qualitative research focuses on governmental instrumental steering and the results of using specific types of instruments. Also, qualitative research studies why a particular instrument causes a particular result.

The following sections describe what the different research methods entail in more detail.

	Research question	Research method	What is needed to answer the question?
Housing affordability and housing preferences in relation to rental housing supply	1. Which types of middle-income households can be distinguished? 2. What is the maximum affordable base rent for middle-income households? 3. What housing characteristics does the mid-segment rental housing supply in Groot-Amsterdam have? 4. In what kind of rental housing do Groot-Amsterdam's middle-income households currently live and does this housing meet the affordability and space standards? 5. What housing preferences do Groot-Amsterdam's middle-income households have and do these preferences meet the affordability and space standards? 6. What housing preferences of middle-income households are not sufficiently affordably facilitated in the mid-segment rental housing supply of Groot-Amsterdam?	Desk-research and quantitative research	- Data on frequencies of different household compositions; - Desk research on expenses related to housing; - Calculating the maximum affordable base rent of different types of households; - Information on the total housing supply and rental housing prices; - Compare housing supply with norm derived from the standard norm on the number of rooms and norm on housing affordability; - Comparing housing supply with norm derived from housing preferences and maximum affordable base rent; - Revealed: WoON 2018: in this case, analysis of the current living situation; - Stated: WoON 2018: analysis preference from the moving wish perspective; - Compare the difference between stated and revealed preferences; - Compare preferences to the standard norm;
Possible measures	7. What policy instrument(s) can be used to steer the market into increasing affordable housing, for middle-income households fitting their preferences? 8. How can the increased affordable housing supply fitting preferences of middle-income households, be preserved in the Randstad?	Desk-research, quantitative research and qualitative research	- Research on different measures to steer the market actors and other parties into the increase and preserve of mid-segment rental housing; - Semi-structured interview with actors to discuss what measures are needed for the increase and preservation of mid-segment rental housing; - Validate research outcomes.

Table 3.1: Research method and data collection (own table)

3.2.1 Quantitative study

This research has a cross-sectional design. The used data is collected through surveys. Cambridge Dictionary (n.d. a) defines a survey as: "an examination of opinions, behaviour, etc., made by asking people questions". Through a survey, quantitative data can be collected, which can be used for a cross-sectional analysis (Bryman, 2016, p.53).

The quantitative data is analysed to detect patterns of association between different variables (Bryman, 2016, p.53). The cross-sectional design aims to track down what occurs in the world when

there is no manipulation (Field, 2018, p.54). It is used as such. In this research, the stated (before relocation) housing preferences and revealed (2 years after relocation) housing preferences will be examined. This cross-sectional design aims to determine if there is a difference between stated and revealed housing preferences and how they relate to housing supply and housing affordability. The quantitative analysis is used as a starting point of the qualitative analysis.

This research uses the dataset of WoON 2018. The data is abstracted from a survey with participants aged 18 and up in the Netherlands (Het Ministerie van Binnenlandse Zaken en Koninkrijkrelaties, 2019, p.19). Approximately 70.000 people joined this research. The dataset of the year 2018 will be used since this is the newest available dataset of WoON. The data is analysed by the use of SPSS. With SPSS, the frequencies of different variables can be derived. For each analysis, only a selection of respondents is used.

3.2.1.1 Region of study
First, it must be stressed that this research only focusses on rental housing and the preferences concerning rental housing. From the dataset of WoON 2018, the housing rental supply from different regions in the Netherlands can be derived. An analysis on the level of municipalities is by the use of WoON 2018 not possible. Therefore, the analysis is done on the corop level. The Randstad contains eight different corop areas. Studying all eight different corop areas separately within this research's quantitative study is too much of a task. Studying the housing market of the Randstad at once is not possible since each area of the Randstad contains a different housing market (Pararius, 2016). Therefore, quantitative research focuses on the Groot-Amsterdam corop level. It must be stressed that the analysis that is performed for Groot-Amsterdam can be performed for all eight different corop areas in the Randstad. Groot-Amsterdam is selected for this research since the pressure on the housing market is the highest in Groot-Amsterdam, as discussed in section 2.5. Also, for the corop level Groot-Amsterdam, more information is available compared to other regions in the Randstad. For the studied area, the supply of private rental housing is obtained together with this supply's monthly rental fee.

Secondly, the housing preferences of households were derived from the data. The analysis only takes the current inhabitants of Groot-Amsterdam into account, which means that no account has been taken of immigration within the data-analysis. No account has been taken of immigration because the used dataset did not allow research based on immigration. The housing preferences of different household types differ probably because of the size and composition of the household. Therefore, different household types will be distinguished first. After that, the maximum affordable base rent for each household type is calculated. For the calculation of the maximum affordable base rent, the residual income approach is used.

3.2.1.2 Type of analysis
As discussed shortly in the introduction of section 3.2, the data-analysis focuses on the relation between housing preferences, space standards and affordability. First, an overview of the rental housing supply is derived from the data, after which the revealed housing preferences (the current situation) are derived. Finally, the stated housing preferences are derived. In this case, using only the revealed preferences, two years after relocation, caused too few respondents to study this subject. The current situation of all middle-income households is studied instead. The stated housing preferences are a combination of the households' revealed housing preferences with no desire to relocate and the households' stated housing preferences with a desire to relocate. A more detailed explanation of this can be found in section 2.1. For both the revealed and the stated housing preferences is studied if the preferences are affordable and following the space standard determined in section 2.3. If the housing preferences are affordable for a specific household type, then the housing supply consists of sufficient affordable housing for this household type. If the housing

preferences are not affordable for a particular household type, then the affordable housing must at least be liveable. Therefore, the affordable housing supply is compared to spatial standards. Suppose the affordable housing supply does not contain housing following the space standard for a specific household type, then the housing supply does not consist of sufficient affordable housing for this household type. Each section of the data-analysis concludes with an overview. From the overviews can be concluded whether the current situation or the housing preferences meet the affordability and space standards.

3.2.1.1 Respondents
The number of respondents for each analysis can be viewed in table 3.2. Table 3.2 shows that the number of respondents is relatively low for the analysis selection of the 5th and the last category. Therefore, this analysis's outcomes could paint a picture of the housing preferences that differ from what they are like. However, since this study compares housing preferences to spatial standards and affordability, the housing preferences of different household types should be provided. Despite the low number of respondents, the analysis of different households' preferences is included to make comparisons with spatial and affordability standards.

Type of respondent	The number of respondents used in the analysis of this study
Respondents living in Groot-Amsterdam	2968
Respondents living the rental housing supply in Groot-Amsterdam	1379
Respondents with a middle-income and living in the rental housing supply in Groot-Amsterdam.	177
Respondents with no desire to relocate that live in the rental housing supply of Groot-Amsterdam	717
Respondents with a middle-income and no desire to relocate that live in the rental housing supply of Groot-Amsterdam	94
Respondents with wish to relocate that live in the rental housing supply of Groot-Amsterdam	250
Respondents with a middle-income and a desire to relocate that live in the rental housing supply of Groot-Amsterdam	21

Table 3.2: The number of cases used in the different quantitative analysis (WoON, 2018) (own table)

Firstly, in chapter 4, the topic of affordability of different household types is covered. In chapter 5, the rental housing supply of Groot-Amsterdam is discussed. Chapter 6 discusses the current living situation of varying household types earning middle-income. Chapter 7 discusses the housing preferences of the different household types earning middle-income. Chapter 8 goes into detail regarding what housing preferences of middle-income households are not sufficiently affordably facilitated in Groot-Amsterdam.

3.2.2 Qualitative study

Next to quantitative data, qualitative data is used in this research. The latter is collected by the use of semi-structured interviews and an expert panel.

3.2.2.1 Semi-structured interviews

This section addresses the interview technique of semi-structured interviews. With this interview technique, the researcher can keep an open mind about what should be known so that theories can emerge from the data (Bryman, 2016, p. 10). This technique is designed to encourage engagement in a conversation with the participants regarding their frame of mind about the topic, used for in-depth research on the instruments presented in this research.

In order to know whether the researched instruments could increase the rental housing supply for middle-income households, they are discussed with different actors. During the interviews, the current policy instruments, which can be observed in section 9.1, are addressed with regard to the successes and failures of these policies. Thereafter, it is discussed what the different market actors expect from other actors (section 9.2). The interviews are concluded by discussing various measures that could be taken to increase the rental housing supply for middle-income households (section 9.3).

Also, the semi-structured interviews aim to overtake the willingness and possibilities to implement specific measures. The affordability of newly constructed housing results from the land value, the building costs and the risk factors, all related to market circumstances. The affordability of new constructions plays a part in the affordability of housing. The interviews elaborate on how reasonable housing preferences could be implemented in urban areas. To implement housing preferences of middle-income households, the understanding of municipalities' housing policies may be needed since municipal policies can cause affordability gain of new constructions. The interview with the municipality should give an insight into the possible policies and the willingness to implement the possible policies to gain housing affordability concerning insufficient affordable housing types for middle-income households in urban areas.

To understand what regulations and policies are implemented concerning private rental housing for middle-income households in the Randstad, one should understand these cities' municipal policies. Section 9.1 will elaborate upon the G4, the four largest municipalities of the Netherlands, located in the Randstad concerning private rental housing for middle-income households. The qualitative analysis focuses on the G4 instead of concentrating only on Groot-Amsterdam since the housing shortage is a regional issue. In the semi-structured interviews, instruments are discussed that benefit the Randstad in general. Therefore, the qualitative study does not focus on Groot-Amsterdam only, but the whole Randstad area.

The semi-structured interviews are held to confront municipalities and private parties with the research results with respect to the regulations. In this way, the interviews provide insight into what means they should employ to steer the market into providing affordable housing for middle-income households. Amongst the different organisations are real estate developers, real estate investors, municipalities, and housing associations.

3.2.2.2 Validation

To validate the outcomes of the qualitative study, an expert panel is held. For validation, the expert panel has the preference above different interviews since the expert panel causes cross-pollination by using a discussion element. By using an expert panel, the outcomes of the study can be questioned by different parties simultaneously. The different parties participating in the expert panel are: one municipality, one developer, one investor, one housing association, and one consultancy.

Upon drawing conclusions from the data analysis, this research elaborates on measures that could be implemented to increase and preserve the rental housing supply for middle-income households in the Randstad. Chapter 9 discusses the municipal policies of the four large cities of the Randstad, which are Amsterdam, Rotterdam, The Hague and Utrecht. Also, the preferred policy, as stated by investors, is

discussed. Thereafter, in chapter 10, the outcomes of the semi-structured interviews are discussed. These outcomes are discussed with regard to aiming to compose a set of instruments to steer the rental housing market in increase and preserve the rental housing supply for middle-income households. Chapter 11 discusses the expert panel outcomes used to validate the set of instruments proposed in chapter 10.

3.3 Data management & ethical consideration

At TU Delft, all research and the fabricated data needs to be following the principles of FAIR (Findable, Accessible, Interoperable and Reusable) for at least ten years (Dunning, Van der Kuil, De Smaele, Teperek, and Versteeg, 2018, p.9). In this research, the principle findable will be performed by referring by using APA 6th referencing style for used literature. After finishing the research, the report and collected data will be published in the TU Delft repository. Thereby, the research itself will be findable and accessible to others. The use of the English language will make this research interoperable and reusable for others as well. The semi-structured interviews and the expert panel are summarised and validated by the interviewee. However, the summarised interviews are not added to the appendix since parts of the semi-structured interviews include the interviewee's opinion, which they would prefer to remain confidential. Furthermore, the data analysis outcomes will be added to the appendix of the research.

Furthermore, this research needs to be viewed from an ethical perspective. For this interview, semi-structured interviews are performed. Therefore, all interviewees are adequately informed and gave free consent. In this research, the interviewees' names and functions are presented; this is all done in accordance with them. Thus, this research will consist of personal information which is validated and in accordance with the people who performed a role within this research. Because of that, this forms a minimum risk regarding ethical consideration. Thus, a data-management plan or consent of the ethical committee is not necessary.

3.4 Research output

This section discusses all the essential deliverables of this research. In the first section, the main goals of this research are discussed. The section on main deliverables will elaborate on what deliverables are needed to achieve these goals and objectives. The section dissemination and audiences address for whom the research can be useful.

3.4.1 Goals and objectives

This research's main objective is to gain insight into: for which middle-income household types there is affordable rental housing in the Randstad and if the affordable rental housing meets their housing preferences. In the first place, this research grants insight into what rental housing price is affordable for a specific household type. Also, into what the housing supply consists of, where the different household types live and what their housing preferences are. Furthermore, this research explains what housing characteristics are not sufficiently affordable facilitated in the Randstad.

Another objective of this research is to gain insight into what is needed to acquire housing affordability for middle-income households, following their reasonable housing preferences, and how the affordable housing supply can be increased. Therefore, it is essential to know what instruments can be used by different actors to increase affordability.

This research aims to translate the outcomes of this research into usable insights for municipalities and organisations, working in housing, regarding housing preferences of middle-income households

given their ability to afford the preferred dwelling. Therefore, these parties become knowledgeable on how they can attract middle-income households to urban areas.

3.4.2 Main deliverables

This research aims to understand how the Randstad's housing supply for middle-income households can be increased following their preferences. Therefore, one of the main deliverables derived from the analysis of WoON 2018 is an overview of types of households with their main preferences and monthly maximum affordable base rent.

Another primary delivery is a simplified overview of the supply of private rental housing in Groot-Amsterdam, within range of the possibilities provided by WoON 2018. The overview should contain frequencies of different housing types, monthly rental prices, characteristics of housing and the surroundings. A comparison between the supply and the preferences of the subgroups will be made. From the comparison, an overview will be delivered on the housing preferences of middle-income households not sufficiently facilitated in the Randstad.

An analysis will be made using semi-structured interviews, which will serve to validate the outcomes of this research. From these interviews, an overview will be made of possible governmental instruments that can be used to reshape the housing market. The governmental policy instruments can be used to steer the market into increasing the affordable housing supply for middle-income households, which is following their preferences. Lastly, this overview is validated by an expert panel.

3.4.3 Dissemination and audiences

Next to contributing to the academic literature of households' preferences and housing affordability, this research aims to give other actors valuable insights. For governmental bodies, this research will grant insight into how to reshape the housing market and increase affordable housing for middle-income households while taking their preferences into account. For some municipalities, this research will provide an insight for municipalities on what middle-income household's housing preferences regarding private rental housing are not sufficiently present in their city.

4. The affordability of rental housing for middle-income households

This part, chapter 4, is the first one where the quantitative analysis findings are discussed. Therefore, the first two research questions, discussed in section 2.8, are addressed in this chapter. The objective of this chapter is to answer the following research questions:

1. *"Which types of middle-income households can be distinguished?"*
2. *"What is the maximum affordable base rent for middle-income households?"*

As mentioned in section 2.5 and 3.2.1, the quantitative analysis is limited to Groot-Amsterdam. To determine what housing preferences are not sufficiently facilitated in the rental housing supply of Groot-Amsterdam, the affordability of housing first needs to be determined. This chapter discusses the affordability of rental housing for different types of middle-income households. Firstly, some distinctions need to be made as a means of categorising different household types.

Section 4.1 delves into middle-income households in comparison with other income groups in Groot-Amsterdam, and nationwide. The various middle-income household types and their characteristics are discussed in section 4.2. Section 4.3 discusses the affordability of housing. Section 4.4 covers income changes, consumption budget, and policy over time. In section 4.5, the accessibility of mid-segment rental housing to middle-income households is discussed. All the used tables that are not presented in this chapter can be found in appendix III.

4.1 Middle-income households in Groot-Amsterdam and the Netherlands

First, the middle-income households' income is reviewed, defined in section 2.4. A middle-income household has a gross annual income between €36,798 and €51,750. The low-income is defined as a gross annual income below the lower limit (€36,798) of the middle-income range, and a high-income is defined as a gross annual income above the upper limit (€51,750) of the middle-income range.

Before the middle-income group is divided into different sub-groups, the middle-income group is compared to other income groups in Groot-Amsterdam and the middle-income group in the Netherlands in general. In table 4.1, it can be observed that, in the Netherlands, 18% of households have a middle-income, and in Groot-Amsterdam, this is 16% of households. Both in the Netherlands and Groot-Amsterdam, the middle-income group is the smallest. However, in Groot-Amsterdam, the share of the middle-income group is even smaller than in the Netherlands in general.

	Low-income households (Income below €36,798)	Middle-income households (Income €36,798 through €51,750)	High-income households (Income above €51,750)	Total
Groot-Amsterdam	51%	16%	33%	100% (676,031)
The Netherlands	47%	18%	35%	100% (7,738,667)

Table 4.1: The division of different income groups in Groot-Amsterdam and the Netherlands (WoON, 2018) (own table)

4.2 Different household types with a middle-income in Groot-Amsterdam

Because distinguishing different household types is needed to determine housing affordability, this section answers the question: *"Which types of middle-income households can be distinguished?"*

In section 2.1, it is discussed that housing adjustments are generated by a shift in the family composition that accompanies life- and working career changes. These housing adjustments lead to housing pathways that fit the lifecycle and working career of a household. Thus, the household composition is a determining factor when relocating. Constraints limit the freedom of choice regarding housing. One constraint can be the household's income and consumption, and another one can be the housing supply in the subject area. Household composition determines the consumption of a household (Haffner & Heylen, 2010). Also, as asserted in section 2.2, housing affordability depends on the income and consumption level of households. Therefore, the first step in quantitative research is to differentiate the different households using income and the different consumption levels to come to a distinction.

Disposable income, also known as net income, needs to be used to determine housing affordability. Thus, gross income needs to be transformed. How net income is transformed is discussed in appendix III. In table 4.2, the net income of different household types with a middle-income can be observed; in this table, the numbers are rounded up. The net income observable in table 4.2 is based on the defined income limit of the middle-income range and not on actual incomes. The net income of one-person households and couples is equal. Also, there is no difference in net incomes between the households: couple with children, one-parent with children. Net income only differs after child allowance has been added. Therefore, the only difference that can be determined is a difference caused by the number of children per household. Thus, observing the household's income gives us four distinguished household types.

The Netherlands' 'Institute for Social Research' (in Dutch: Sociaal en Cultureel Planbureau) has set two minimum budgets for non-housing expenses for different incomes (Goderis, Van Hulst, Schut, & Ras, 2018, p.5). These budgets are used by the Nibud and are defined using the CBS budget of 2015 (Van Gemen, 2018, p.107). The first budget only consists of fundamental expenses. Next to the fundamental expenses, the second budget includes expenses for relaxation and social participation. Concerning the second budget, it must be stressed that it consists not of much but of enough regarding relaxation and social participation (Goderis et al., 2018, p.5). Though on average, most households with a middle-income spend more money on this type of expenses (Van Gemen, 2018). Assuming that most middle-income households choose to have expenses on relaxation and social participation, the basic budget, including social participation, is used to calculate the maximum affordable base rent in this research.

For every year, a different budget is defined. This research makes use of 2018's minimum budget since the data used in this research is from the same year. The basic budget contains expenses such as energy, water, food, clothing, insurance, etc. (Van Gemen, 2018.) Van Gemen made a distinction in the budget between different household types. To end up with a more accurate outcome, the distinction between different household types is used in this research. The structure of the used budget for each household type can be found in appendix III, table III.3. The total basic budget for each household type can be observed in table 4.2. This table shows that the higher number of people a household contains, the higher the basic budget is. When looking at the minimum budget, eight different household types can be distinguished, as shown in table 4.2.

	One-person (1)	Couple (2)	Couple-one-child (3)	Couple-two-children (4)	Couple-three-children (5)	One-parent-one-child (2)	One-parent-two-children (3)	One-parent-three-children (4)
Basic budget	€906	€1,483	€1,637	€1,913	€2,254	€1,162	€1,453	€1,760
Net income of households with a gross income of €36.798	€2,271	€2,271	€2,338	€2,419	€2,486	€2,338	€2,419	€2,486
Net income of households with a gross income of €51.750	€2,904	€2,904	€2,971	€3,053	€3,120	€2,971	€3,053	€3,120

Table 4.2: Number of people a household contains, basic budget of expenses excluding the base rent, the monthly net income of both a gross income of €36,798 and €51,750, divided by household type (Van Gemen, 2018) (own table)

In table 4.3, the different Groot-Amsterdam household types with a middle-income are presented. Table 4.4 displays these middle-income household types nationwide. In Groot-Amsterdam, most of the middle-income households are formed by one-person households and couples. However, one-person households are underrepresented in the general division of Groot-Amsterdam's household types. As to the Netherlands in general, the one-person household with a middle-income in Groot-Amsterdam is overrepresented (table 4.4). However, compared to the Netherlands, couples and couples with children with a middle-income are underrepresented in Groot-Amsterdam (table 4.3 and 4.4). Thus, as addressed in section 4.1, the middle-income group is underrepresented in Groot-Amsterdam. In addition, from table 4.3, it can be concluded that the household types *one-person*, *couple-two-children*, *couple-three-children*, and *one-parent-three-children* are underrepresented in Groot-Amsterdam's middle-income group, which becomes apparent when comparing them to other income groups. Also, these middle-income households are underrepresented compared to middle-income households nationwide. The only exception to this is the *one-parent-one-child* household.

As discussed, different household composition types are defined by the number of adults and/or parents and the number of children. In the data of WoON 2018, another distinguished household type is added, namely: nonfamily household. The nonfamily household consists of people without a lasting relationship. For this household type, a straightforward spending budget cannot be determined. Therefore, the nonfamily household is outside of the scope of this research.

	One-person (1)	Couple (2)	Couple-one-child (3)	Couple-two-children (4)	Couple-three-children (5)	One-parent-one-child (2)	One-parent-two-children (3)	One-parent-three-children (4)	Total
Low-income (Below €36,798)	72%	10%	2%	3%	3%	7%	3%	2%	100% (344,267)
Middle-income (€36,798 through €51,750)	44%	27%	8%	6%	3%	7%	4%	0%	100% (104,986)
High-income (Above €51,750)	15%	37%	17%	18%	7%	3%	2%	0%	100% (226,778)
Division of different household types in Groot-Amsterdam	49%	22%	8%	8%	4%	6%	3%	1%	100% (676,031)

Table 4.3: Households of a different income group in Groot-Amsterdam, divided by household types (WoON, 2018) (own table)

	One-person (1)	Couple (2)	Couple-one-child (3)	Couple-two-children (4)	Couple-three-children (5)	One-parent-one-child (2)	One-parent-two-children (3)	One-parent-three-children (4)	Total
Low-income (Below €36,798)	63%	19%	3%	3%	2%	6%	3%	1%	100% (3,663,646)
Middle-income (€36,798 through €51,750)	28%	38%	10%	11%	4%	5%	2%	0.4%	100% (1,371,586)
High-income (Above €51,750)	9%	38%	17%	23%	9%	2%	1%	0.2%	100% (2,703,435)
Division of different household types in the Netherlands	38%	29%	9%	11%	5%	4%	2%	1%	100% (7,738,667)

Table 4.4: Households of a different income group in the Netherlands, divided by household types (WoON, 2018) (own table)

4.3 Middle-income households' maximum affordable base rent

In order to determine what rent level these households can afford, it is necessary to understand whether middle-income households' housing preferences are sufficiently facilitated in the Randstad, or more specifically, in Groot-Amsterdam. Therefore, this section answers the question: *"What is the maximum affordable base rent for middle-income households?"*

In the following part of this section, each household type's maximum affordable base rent (in Dutch: kale huur) is discussed. The residual income method is used to study the housing affordability of middle-income households. In section 2.2, the residual income method is explained. The maximum affordable base rent is calculated using the residual income formula, which can be observed in figure 4.1.

Figure 4.1: Formula for the residual income method (own figure)

Figure 4.2: Formula for the maximum affordable base rent by using the residual income method (own figure)

The formula needs to be rearranged to calculate the maximum affordable base rent. The new formula can be observed in figure 4.2. Here the residual income is another term for non-housing expenses. The

maximum affordable base rent stated in this formula only consists of the rent level without other housing expenses. The additional housing expenses, such as water and energy, are included in the non-housing expenses. The income and the budget of non-housing expenses of table 4.3 are used to calculate the maximum affordable base rent of the different middle-income household types.

In table 4.5, the maximum affordable base rent for the lower limit and the upper limit of the middle-income range can be observed. Thereby, housing affordability can be split into three categories: not affordable, perhaps affordable and affordable. Housing is affordable when the base rent level is below the lower limit of the maximum affordable base rent for the middle-income range. Perhaps affordable means that the base rent level of housing lies between the lower- and upper limit of the maximum affordable base rent for the middle-income range. Housing is not affordable when the base rent level is above the upper limit of the maximum affordable base rent for the middle-income range. Within the perhaps affordable category, it cannot be stated with certainty whether a base rent is affordable or not since for the different incomes within the middle-income range the maximum affordable rent is not determined. Thus, perhaps affordable means that the base rent might be affordable or might not.

	Lower limit of the middle-income range (€36.798)	Upper limit of the middle-income range (€51.750)
One-person (1)	€1,365	€1,998
Couple (2)	€788	€1,421
Couple-one-child (3)	€701	€1,334
Couple-two-children (4)	€506	€1,140
Couple-three-children (5)	€232	€866
One-parent-one-child (2)	€1,176	€1,809
One-parent-two-children (3)	€966	€1,600
One-parent-three-children (4)	€726	€1,360

Table 4.5: The calculated maximum affordable base rent of the lower limit and the upper limit of the middle-income range for each different type of middle-income household using the basic consumption budget (own table)

As explored in this chapter, each household's consumption budget can differ as to the number of people, and the income fluctuates (e.g. by children being born or moving out). A one-person household and a couple have the same income, but a couple household has higher expenses. The same applies to the couple- and one-parent households that have children. This means that if the household contains a couple, the maximum affordable base rent automatically becomes lower than of the household types that do not include a couple. The paradox here is that the household types with a couple often have the ability to make their household income increase (CBS, 2019). Thus, the maximum affordable base rent of the different household types differs widely. This is because each household's income range is the same since the income limit for each household type has to comply with the definition of middle-income as provided in section 2.4, but the consumption budget differs per household.

As already introduced in section 2.7.1, for Groot-Amsterdam, mid-segment rental housing is defined as rental housing with a monthly rent between €710,68 and €1.000. As discussed, the range of the maximum affordable base rent for different household types with a middle-income can be observed in table 4.4. For most household types, the lower limit of the range of maximum affordable base rent levels is sufficient to provide for mid-segment rental housing. Moreover, to some household types with a low middle-income, not all mid-segment rental housing is accessible. For the one-person and one-parent-one-child households, all mid-segment rental housing is affordable.

For the couple, one-parent-two-children, and one-parent-three-children households only a small part of mid-segment rental housing is affordable when the household has an income near €36,798. For the couple-one-child, couple-two-children, and couple-three-children households, mid-segment rental housing is not affordable when the household earns an income near €36,798. Still, mid-segment rental

housing is affordable for these household types with a gross annual income near €51,750. The only exception is the couple-three-children household. Even with a gross annual income near €51,750, the total mid-segment rental housing supply is not affordable.

In the former section, it is debated that the household types one-person, couple-two-children, couple-three-children, and one-parent-three-children are underrepresented in Groot-Amsterdam's middle-income group. Also, for the couple-two-children, couple-three-children, and one-parent-three-children households in €36,798, mid-segment rental housing is not affordable. The one-person household is an exception to this.

4.4 The change of consumption budget, income and policies over time

In section 4.2, housing affordability is discussed using a set income and the Nibud's consumption budget including expenses on relaxation and social participation of 2018. Remarkable is that the affordability of two household types is quite good. But affordability for some household types changes when taking an extra time aspect into account. Firstly, household type couple is able to increase household income with time (CBS, 2019). Secondly, the aspect of gaining equity over time has not been taken into account. And thirdly, the aspect of changing policies has not been taken into account. The first aspect may be obvious; the latter two aspects are discussed in this section.

In addition, the Nibud advises that each household save 10% of their net income for unexpected expenses (Nibud, n.d). The given budget that can be observed in table 4.5 consists of too little reservation costs. Therefore, a second budget can be defined that contains 10% of the income above the expenses for savings using Nibud's budget of 2018. With the new budget, a new maximum affordable base rent can be calculated.

	Lower limit of the middle-income range (€36,798)	Upper limit of the middle-income range (€51,750)
One-person (1)	€1,138	€1,708
Couple (2)	€561	€1,131
Couple-one-child (3)	€467	€1,037
Couple-two-children (4)	€264	€835
Couple-three-children (5)	-€17	€554
One-parent-one-child (2)	€942	€1,512
One-parent-two-children (3)	€724	€1,295
One-parent-three-children (4)	€477	€1,048

Table 4.6: The calculated maximum affordable base rent of the lower limit and the upper limit of the middle-income range for each different type of middle-income household using the basic consumption budget including savings (own table)

When including costs on savings in the basic consumption budget, housing affordability diminishes for all households. Looking at the maximum affordable rent taking savings into account (table 4.6), one can see that for couples with a gross annual income near €36,798, mid-segment rental housing is not affordable. Concerning the couple-with-one-or-more-children- and one-parent-three-children households earning low middle-income, the mid-segment already was unaffordable; for them, affordability of the mid-segment just decreased further. Contrary to the former maximum affordable rent (table 4.5), couple-two-children household types with a gross annual income near €51,750 cannot afford the mid-segment rental housing. Thus, couple, couple-one-child, one-parent-two-children, and one-parent-three-children households can only afford mid-segment rental housing if they decide not to save for unforeseen expenses.

As asserted in this section, governmental policies can change over time. In the year 2020, the Dutch government has decided to introduce a new social housing limit. The new social housing limits are household type-dependent, and the Dutch government has made a distinction between one-person

households and more person households. However, in 2018 there was no mention of the changed social housing limits as there was in 2020. Therefore, the respondents of the WoON 2018 could not take this into account, so that the current affordability situation of 2018 influences the housing preferences and not that of the new situation created by the changes in 2020. The analysis concerning the maximum affordable rent that takes the new policy into account can be observed in Appendix III.2.

4.5 Accessibility of mid-segment rental housing

Section 4.3 discussed the maximum affordable base rent of different types within middle-income households. When looking at the maximum affordable base rent, it can be concluded that some household types can afford mid-segment rental housing, but this does not mean that mid-segment rental housing is accessible for these household types. This section elaborates on the accessibility of mid-segment rental housing.

In the Netherlands, the Nibud advises landlords to demand a monthly income of three times the gross income (table 4.7). By using the income demand that is stated by the Nibud, middle-income households can easily access mid-segment rental housing. However, the accessibility of the mid-segment rental housing depends on the income demands stated by the landlord of the particular housing. In the Netherlands, it is common to demand a gross income of around four times the monthly rent (Holle, 2018). Therefore, the household cannot access rental housing that is more expensive than 25% of their gross income. In some cases, there is an exception for more-person households, as for them they demand a gross income until six times the monthly rent. Although this does not count for all landlords; some landlords do not request higher income for a more-person household. Since a general income demand for more-person households cannot be stated, this research uses the same income demand for all household types.

	Under limit of mid-segment rental housing	Upper limit of mid-segment rental housing
The minimum demanded gross income for mid-segment rental housing by using the Nibud norm	€2,132	€3,000
The maximum accessible monthly rental housing price by the use of the norm stated by using the Nibud norm	€1,022	€1,437

Table 4.7: The income demand for the mid-segment rental housing segment (own table)

Upon viewing table 4.8, it can be noted that the minimum demanded monthly gross income for the mid-segment is €2,843. This income lies below €36,798. However, in most cases, for households with a gross annual income near €36,798, only a monthly rental housing price of €766 is accessible (table 4.8), which is very low. This differs from Nibud's advice concerning income demand, which can be observed in table 4.7. Considering the 2018 Nibud consumption budget including social participation and relaxation; in table 4.5, it can be observed that the one-person, one-parent-one-child, and one-parent-two-children households can easily afford a rental housing price that is much higher than the accessible rental housing price. Thus, these household types can afford mid-segment rental housing but cannot access mid-segment rental housing.

In addition, Dutch mid-segment rental housing prices start mostly from €850 to €900 a month (Van Den Bos, 2020, p.V). Therefore, only households with an annual gross income of €40,800 to €43,200 are able to access mid-segment rental housing. Thus, many households with a middle-income who can afford mid-segment rental housing cannot get access to this supply. If landlords used the Nibud advice

for the demand income, the accessibility issue concerning mid-segment rental housing for middle-income households could easily be solved.

	Lower limit of mid-segment rental housing	Upper limit of mid-segment rental housing
The minimum demanded gross income for mid-segment rental housing by using the norm stated by landlords in the Netherlands	€2,843	€4,000
The maximum accessible monthly rental housing price by using the norm stated by landlords in the Netherlands	€766	€1,078

Table 4.8: The income demand for the mid-segment rental housing segment (own table)

Thus, even though only some household types can afford mid-segment rental housing, all middle-income households with a gross annual income near €36,798 cannot access this mid-segment.

In this research, the originally provided maximum affordable base rent is used. It can be found in table 4.5. Although in practice using this budget means that households cannot save up, and housing might be affordable but not accessible to some households.

4.6 Conclusion

The main conclusions from this chapter are summarised here and are based on the research questions, as addressed in this chapter's introduction. These being the following:

1. *"Which types of middle-income households can be distinguished?"*
2. *"What is the maximum affordable base rent for middle-income households?"*

Eight different household types can be distinguished, which can be observed in table 4.9. In Groot-Amsterdam, 16% of inhabitants earn a middle-income. Thereby, the middle-income group is underrepresented in Groot-Amsterdam compared to the Netherlands as a whole. The one-person and couple households are the most common types. However, one-person, couple-two-children, couple-three-children, and one-parent-three-children households are underrepresented in the middle-income group in Groot-Amsterdam compared to other income groups. Also, these middle-income households are underrepresented compared to the middle-income households in the Netherlands in general. The only exception to this is the one-parent-one-child household.

The affordability of housing is dependent on a household's income and level of consumption. Using the income and the basic consumption budget, the maximum affordable base rent is calculated. The income and minimum consumption budget are set. On the other hand, the budget is in part determined by the number of people in the household that need to be provided for. Therefore, for each household type, the maximum affordable base rent differs. An overview of the maximum affordable base rent using the basic consumption budget can be observed in table 4.9. From this table, it can be concluded that for the couple, couple-one-child, couple-two-children, couple three-children, and one-parent-three-children households with a gross annual income near €36,798, mid-segment rental housing is not affordable. Thus, this also applies to the couple-two-children, the couple-three-children, and the one-parent-three-children households with a gross annual income near €36,798, most of the underrepresented households types. The mid-segment is affordable only for the one-person household.

However, concerning the landlord's income demands, only rental housing with a price of €766 through €1,078 is accessible for middle-income households. From table 4.9, it can be concluded that for the middle-income household types, the one-person, one-parent-one-child, and one-parent-two-children, all mid-segment rental housing is affordable. But the largest part of mid-segment rental housing is not accessible for these household types due to the landlord's income demand. Since mid-segment rental housing mostly consists of housing with a rental housing price ranging from €850 to €900 a month, only households with an annual gross income of €40,800 to €43,200 have access to mid-segment rental housing.

For couples- couple-with-children-, and one-parent-three-children households with a gross annual income near €36,798, mid-segment rental housing is not accessible and affordable.

	Lower limit of the middle-income range (€36.798)	Upper limit of the middle-income range (€51.750)
One-person (1)	€1,365	€1,998
Couple (2)	€788	€1,421
Couple-one-child (3)	€701	€1,334
Couple-two-children (4)	€506	€1,140
Couple-three-children (5)	€232	€866
One-parent-one-child (2)	€1,176	€1,809
One-parent-two-children (3)	€966	€1,600
One-parent-three-children (4)	€726	€1,360

Table 4.9: The calculated maximum affordable base rent of the lower limit and the upper limit of the middle-income range for each different type of middle-income household using the basic consumption budget (own table)

5. Mid-segment rental housing in Groot-Amsterdam

Chapter 4 addressed what rental housing prices are affordable for the middle-income group. It is essential to know what housing characteristics the rental housing supply in Groot-Amsterdam displays to understand what housing preferences are not sufficiently facilitated in the Randstad's rental housing supply. The rental housing supply of Groot-Amsterdam is in many ways similar to the housing supply of other regions in the Randstad. Understanding whether characteristics are common in a specific area is needed to compare with the housing preferences. Without comparing the rental housing supply to the housing preferences, it cannot be known what housing characteristics are insufficiently facilitated in a specific area. Thereafter, using the affordability study, it can be determined whether these housing preferences are affordable. The mid-segment is the designated rental housing supply for middle-income households. Therefore, this study focusses on this segment. This section will elaborate on the question: *"What housing characteristics does the mid-segment rental housing supply in Groot-Amsterdam have?"*

In section 5.1, the total rental housing supply of Groot-Amsterdam and its properties are discussed. Section 5.2 addresses what income groups live in mid-segment rental housing in Groot-Amsterdam. Section 5.3 is the conclusion. All the used tables that are not presented in this chapter can be found in appendix IV.

5.1 The rental housing supply of Groot-Amsterdam

As stated above, this section forms a study of the rental housing supply of Groot-Amsterdam of the year 2018. Three different rental housing segments are compared. The social housing segment consists of housing with a monthly rental price below €710.68. The second segment, mid-segment rental housing, has a monthly rent between €710.68 and €1,000, as addressed in section 2.7.1. The third segment, high-segment rental housing, has a monthly rent of more than €1,000. Here it must be stressed that these are 2018's rental housing segments.

Before analysing the rental housing supply of Groot-Amsterdam, one needs to put the rental housing supply within the context of the total housing supply of Groot-Amsterdam. As displayed in table 5.1, of the total housing supply in Groot-Amsterdam, 60% is rental housing. The share of Groot-Amsterdam's rental housing is much larger than the total national share. As discussed in section 2.5, the pressure on the housing market in the Netherlands is the highest in Groot-Amsterdam. The great demand for housing in Groot-Amsterdam makes it an interesting case for investors, which has led to a large share of rental housing in Groot-Amsterdam (Hanff, 2020).

	Owner-occupied housing	Rental housing	Total amount of individual housing
Groot-Amsterdam	40%	60%	100% (687,683)
The Netherlands	58%	42%	100% (7,858,244)

Table 5.1: Distribution of ownership status in Groot-Amsterdam and the Netherlands (WoON, 2018) (own table)

	Social housing (below €710,68 a month)	Mid-segment rental housing (from €710,69 up to €1,000 a month)	High-segment rental housing (above €1,000 a month)	Total amount of individual housing
Groot-Amsterdam	75%	15%	10%	100% (381,529)
The Netherlands	84%	13%	3%	100% (3,006,533)

Table 5.2: Distribution of the rental housing supply over the different rental housing segments in Groot-Amsterdam in the Netherlands (WoON, 2018) (own table)

In Groot-Amsterdam, the total rental housing supply consisted of 381,529 dwellings. In table 5.2, it can be seen that 15% of the rental housing supply consists of mid-segment rental housing. In 2018,

16% of Groot-Amsterdam's population earned a middle-income. Thus, a minimum of 1% of middle-income households lives in housing meant for income groups that are not part of the middle-income group. Where middle-income households currently reside is discussed in chapter 6.

	Social housing (below €710,68 a month)	Mid-segment rental housing (from €710,69 up to €1,000 a month)	High-segment rental housing (above €1,000 a month)	Division of housing type by all rental housing segments
Multi-family housing	85%	72%	86%	83%
Single-family housing	15%	28%	13%	17%
Other	0%	0%	1%	0%
Total amount of housing	100% (286,502)	100% (56,045)	100% (38,984)	100% (381,531)

Table 5.3: Distribution of housing type in the rental housing supply in Groot-Amsterdam, distributed over different rental housing segments (WoON, 2018) (own table)

In table 5.3, it can be observed that the housing supply mainly consists of multi-family housing. The share of multi-family housing in the social housing segment and high-segment rental housing is approximately the same. Still, mid-segment rental housing consists of a larger share of single-family housing. Thus, single-family housing is overrepresented in the mid-segment compared to the other segments.

In table 5.4, it can be observed what surface areas exist in the rental housing supply of Groot-Amsterdam. The social housing supply consists of more small housing than the other two segments. Also, high-segment rental housing consists of more housing with a larger surface than mid-segment rental housing. The mid-segment rental housing supply mostly consists of housing with a surface area between 48 and 96 square metres. Thus, the mid-segment rental housing supply in Groot-Amsterdam is quite generic concerning the surface area.

	Social housing (below €710,68 a month)	Mid-segment rental housing (from €710,69 up to €1,000 a month)	High-segment rental housing (above €1,000 a month)	Division surface area by all rental housing segments
0-48 m2	27%	12%	12%	23%
48-96 m2	65%	62%	54%	63%
96-120 m2	6%	18%	22%	10%
120 m2 or more	2%	8%	12%	4%
Total	100% (286,502)	100% (56,045)	100% (38,984)	100% (381,531)

Table 5.4: Distribution of surface area in the rental housing supply in Groot-Amsterdam, distributed over different rental housing segments (WoON, 2018) (own table)

	Social housing (below €710,68 a month)	Mid-segment rental housing (from €710,69 up to €1,000 a month)	High-segment rental housing (above €1,000 a month)	Division number of rooms by all rental housing segments
1 room	9%	3%	1%	7%
2 rooms	25%	14%	20%	23%
3 rooms	37%	35%	39%	37%
4 rooms	22%	36%	23%	24%
5 rooms or more	7%	12%	17%	9%
Total	100% (286,502)	100% (56,045)	100% (38,984)	100% (381,531)

Table 5.5: Distribution of number of rooms in the rental housing supply in Groot-Amsterdam, distributed over different rental housing segments (WoON, 2018) (own table)

In table 5.5, the division of the number of rooms of the total rental housing supply in Groot-Amsterdam is displayed. It is remarkable that as housing becomes more expensive, the number of rooms accrues. The same goes for the surface area. Most mid-segment housing contains three or four rooms, making the rental housing supply quite generic.

Upon inspection of table 5.6, it can be noticed that most rental housing has an outdoor space. This means that this housing contains one or more of the following outdoor spaces: balcony, garden, patio, inner courtyard or yard. Remarkably, mid-segment rental housing more often has an outdoor space than high-segment rental housing.

From table 5.7 can be noted that 70% of the mid-segment rental housing supply is located within 500 metres of daily life necessities. The social housing segment is located a bit closer to daily life necessities, and the high-segment rental housing supply is located even closer to daily life necessities.

	Social housing (below €710,68 a month)	Mid-segment rental housing (from €710,69 up to €1,000 a month)	High-segment rental housing (above €1,000 a month)	Division outdoor space by all rental housing segments
Housing with outdoor space	85%	91%	87%	86%
Housing without outdoor space	15%	9%	13%	14%
Total	100% (286,502)	100% (56,045)	100% (38,984)	100% (381,531)

Table 5.6: Distribution of housing with or without outdoor space in the rental housing supply in Groot-Amsterdam, distributed over different rental housing segments (WoON, 2018) (own table)

	Social housing (below €710,68 a month)	Mid-segment rental housing (from €710,69 up to €1,000 a month)	High-segment rental housing (above €1,000 a month)	Division distance to daily necessities by all rental housing segments
Until 500 m	75%	70%	80%	74%
Until 5 km	25%	30%	20%	26%
Total	100% (277,629)	100% (54,478)	100% (34,937)	100% (367,044)

Table 5.7: Distribution of distance to daily life necessities in the rental housing supply in Groot-Amsterdam, distributed over different rental housing segments (WoON, 2018) (own table).

5.2 Inhabitants of mid-segment rental housing

This section elaborates upon the division of income groups that reside in mid-segment rental housing. In table 5.8, it can be observed that the middle-income group inhabits 32% of the mid-segment rental housing supply, the low-income group inhabits 26%, and the high-income group inhabits 41%. Thus, other income groups inhabit quite a large part of the mid-segment rental housing supply, while it is intended for the middle-income group by municipal policy.

This paragraph discusses the division of income groups concerning housing characteristics of the mid-segment rental housing supply in Groot-Amsterdam. In the mid-segment rental housing supply, middle-income households live more often in single-family housing than low-income households, but far less often than high-income households (Appendix IV, table IV.1). For both the low-income group as the high-income group, it goes that their housing in the mid-segment is larger than that of middle-income households (Appendix IV, table (IV.2). Also, the housing of low-income households and high-income households often has a smaller number of rooms than middle-income households have (Appendix IV, table IV.3). The higher a household's income, the more likely it is that there is an outdoor space when living in mid-segment rental housing (Appendix IV, table IV.4). Concerning the distance to daily life necessities, the higher the income, the more often households live within 500 metres of them (Appendix IV, table IV.5).

	Low-income households (income below €36,798)	Middle-income households (income from €36,798 up to €51,750)	High-income (income above €51,750)	Total amount of households

Social housing segment (below €710,68 a month)	81%	11%	8%	100% (278,994)
Mid-segment rental housing (from €710,69 up to €1,000 a month)	26%	32%	41%	100% (55,672)
High-segment rental housing (above €1,000 a month)	25%	15%	60%	100% (38,924)
Division of income groups in total	67%	15%	19%	100% (373,590)

Table 5.8: All types of rental housing segments in Groot-Amsterdam, divided by income group (WoON, 2018) (own table)

5.3 Conclusion

Following the introduction of this chapter, this section answers the research question: *"What housing characteristics does the mid-segment rental housing supply in Groot-Amsterdam have?"*

The rental housing supply of Groot-Amsterdam contains 381,529 dwellings; this is 60% of the housing supply total. The mid-segment rental housing supply makes up 15% of the total rental housing supply of Groot-Amsterdam.

As discussed, the mid-segment rental housing supply consists of much of the same, with most of it being multi-family housing. However, there is still a higher percentage of single-family housing compared to the social- and high-segment. Most mid-segment housing has a surface between 48 and 96 square metres. The social housing segment contains more housing with a smaller surface area, and the high segment contains more housing with a larger surface area. In the mid-segment most housing contains three or four rooms. In the social housing segment, housing with two or three rooms can be found more often than in the mid-segment, and housing in the high-segment more often has two, three, five or more rooms. Most mid-segment rental housing has an outdoor space. Over 70% of mid-segment rental housing is located within 500 metres of daily life necessities. Moreover, housing in the social-segment and high-segment is more often located within 500 metres to daily necessities than housing in the mid-segment. Thus, the mid-segment rental housing supply seems to be more generic than other rental housing segments.

The mid-segment rental housing supply is designated for middle-income households by municipal policy (section 9.1). Therefore, it is remarkable that middle-income households inhabit only 32% of the housing in the segment. 41% of mid-segment rental housing supply is inhabited by high-income households, and 26% by low-income households.

6. Middle-income households living in rental housing supply

To understand what middle-income households' housing preferences are as opposed to other household types, one needs to look into the two different types of housing preferences. This section will elaborate on the revealed housing preferences of middle-income households. As discussed in section 2.1, revealed housing preferences are preferences that correspond to where the households reside, the first two years after relocating. The current living situation is caused by former household choices within the current limitations of the housing market. A household's current housing situation does not necessarily correspond to its current housing preferences. And studying the revealed housing preferences of middle-income households living in rental housing in Groot-Amsterdam is not possible with WoON 2018 since the analysis would consist of too little respondents. Therefore, this chapter answers the question: *"In what kind of rental housing do Groot-Amsterdam's middle-income households currently live and does this housing meet the affordability and spatial standards?"*

In section 6.1, the current housing situation of middle-income households will be compared to other household types. In section 6.2, the current housing situation of different household types with middle-income are discussed. In section 6.3, the current housing situation is compared to the affordability and spatial standard determined in section 2.3. Section 6.4 finishes with a conclusion that can be subtracted from this chapter. All the used tables that are not presented in this chapter can be found in Appendix V.

6.1 Current living situation of middle-income households in the rental housing supply

The following section elaborates upon the current housing situation of middle-income households that live in Groot-Amsterdam's rental housing. Before analysing middle-income tenants' current living situation in Groot-Amsterdam, one needs to put them into the context of middle-income households in general.

In Groot-Amsterdam, 56% of middle-income households inhabit rental housing. Thereby, the share of middle-income households that live in rental housing makes for slightly less than the share of low-income households and slightly more than high-income households in rental housing. Also, the frequency of middle-income households that live in rental housing is slightly below the general average frequency. For the division of rental housing versus homeownership, the same applies nationwide. From table 6.1, it can be concluded that the higher the income earned, the more likely households are to live in owner-occupied housing.

		Low-income households (income below €36,798)	Middle-income households (income from €36,798 up to €51,750)	High-income (income above €51,750)	Division ownership status by all income groups
Groot-Amsterdam	Owner-occupied housing	20%	44%	69%	40%
	Rental housing	80%	56%	31%	60%
	Total	100% (344,267)	100% (104,987)	100% (226,778)	100% (676,032)
The Netherlands	Owner-occupied housing	34%	69%	85%	58%
	Rental housing	66%	31%	15%	42%
	Total	100% (3,663,645)	100% (1,371,587)	100% (2,703,435)	100% (7,738,667)

Table 6.1: Division of ownership status in Groot-Amsterdam and the Netherlands, divided by different income groups (WoON, 2018) (own table)

The following part of this section only focusses on the total rental housing supply in Groot-Amsterdam. In table 6.2, it is displayed that many middle-income households (56%) live in the social housing segment. Of the mid-segment, only 33% is inhabited by middle-income households, while

municipal policy states that this segment is their designated one. Still, 33% of middle-income households are above the average rate of households living in the mid-segment.

Upon viewing table 6.3, it can be noticed that 75% of middle-income households live in rental housing and that they inhabit mostly multi-family housing, with only 23% occupying single-family housing. Remarkably, middle-income households and high-income households live with approximately the same frequency in multi-family housing and single-family housing. Middle-income households more often live in single-family housing than low-income households, with middle-income households' rate also being above the general average rate. Low-income households more often live in multi-family housing than other income groups.

	Low-income households (income below €36,798)	Middle-income households (income from €36,798 up to €51,750)	High-income (income above €51,750)	Division housing segment by all income groups
Social housing segment (below €710,68 a month)	90%	56%	34%	75%
Mid-segment rental housing (from €710,69 up to €1,000 a month)	6%	33%	33%	15%
High-segment rental housing (above €1,000 a month)	4%	11%	33%	10%
Total	100% (249,749)	100% (54,451)	100% (69,390)	100% (373,590)

Table 6.2: Division of rental housing segments of the current living situation of households in Groot-Amsterdam, divided by different income groups (WoON, 2018) (own table).

	Low-income households (income below €36,798)	Middle-income households (income from €36,798 up to €51,750)	High-income (income above €51,750)	Division housing type by all income groups
Multi-family housing	84%	75%	76%	81%
Single-family housing	13%	23%	23%	16%
Other	3%	2%	1%	3%
Total	100% (268,833)	100% (56,053)	100% (70,254)	100% (395,140)

Table 6.3: Division of rental housing types of the current living situation of households in Groot-Amsterdam, divided by different income groups (WoON, 2018) (own table).

Upon viewing table 6.4, it can be noted that most middle-income households live in housing with a surface between 48 and 96 square metres. Only 15% of middle-income households live in housing with a surface up to 48 square metres, and only 21% of them has a surface above 96 square metres. Middle-income households frequently inhabit housing with a surface above 96 square metres. This is above the general average. Low-income households turn out to frequently have a smaller surface area when compared to the other income groups. Also, middle-income and high-income households have very similar rates for surface area. However, middle-income households are more likely to live in housing with a smaller surface area than high-income households.

Concerning the number of rooms of housing, a difference exists between middle-income and high-income households. Table 6.5 displays that middle-income households usually inhabit housing with three or four rooms. With only 15% of them in housing with five rooms or more. However, the frequency with which they live in housing with five or more than five rooms is above the general average frequency. Low-income households usually inhabit housing with fewer rooms than middle- and high-income households, which seems evident since low-income households' surface area on

average is smaller than that of middle- and high-income households. High-income households' rental housing only slightly more often contains more rooms than middle-income households' housing.

	Low-income households (income below €36,798)	Middle-income households (income from €36,798 up to €51,750)	High-income (income above €51,750)	Division surface area by all income groups
0-48 m2	27%	15%	12%	22%
48-96 m2	65%	63%	61%	64%
96-120 m2	6%	16%	18%	9%
120 m2 or more	3%	5%	9%	4%
Total	100% (274,871)	100% (59,368)	100% (71,247)	100% (405,486)

Table 6.4: Division of housing with different surface areas of the current living situation of households in Groot-Amsterdam, divided by different income groups (WoON, 2018) (own table).

	Low-income households (income below €36,798)	Middle-income households (income from €36,798 up to €51,750)	High-income (income above €51,750)	Division number of rooms by all income groups
1 room	12%	4%	1%	9%
2 rooms	26%	20%	14%	23%
3 rooms	37%	31%	37%	36%
4 rooms	20%	30%	32%	23%
5 rooms or more	5%	15%	16%	9%
Total	100% (268,833)	100% (56,053)	100% (70,255)	100% (395,141)

Table 6.5: Division of housing with a different number of rooms of the current living situation of households in Groot-Amsterdam, divided by different income groups (WoON, 2018) (own table).

Table 6.6 attests to 87% of the middle-income households living in housing with an outdoor space. Therefore, they more frequently inhabit housing with an outdoor space. Low-income households less frequently live in housing with an outdoor space, and high-income households live in housing with an outdoor space more regularly than middle-income households.

Table 6.7 shows that more than 74%, which equals the average, of middle-income households live in housing within 500 metres of daily necessities. Low-income households slightly more frequently live far from daily life necessities and high-income households slightly more often live closer to them than middle-income households.

	Low-income households (income below €36,798)	Middle-income households (income from €36,798 up to €51,750)	High-income (income above €51,750)	Division outdoor space by all income groups
Housing with outdoor space	80%	87%	89%	82%
Housing without outdoor space	20%	13%	11%	18%
Total	100% (274,871)	100% (59,368)	100% (71,246)	100% (405,485)

Table 6.6: Division of housing with or without outdoor space of the current living situation of households in Groot-Amsterdam, divided per income group (WoON, 2018) (own table)

	Low-income households (income below €36,798)	Middle-income households (income from €36,798 up to €51,750)	High-income (income above €51,750)	Division distance to daily necessities by all income groups
Until 500 m	73%	74%	77%	74%
Until 5 km	27%	26%	23%	26%
Total	100% (262,717)	100% (58,180)	100% (68,031)	100% (388,928)

Table 6.7: Division of housing by distance to daily life necessities of the current living situation of households in Groot-Amsterdam, divided per income group (WoON, 2018) (own table).

6.2 Current housing situation of the different middle-income household types

In the coming section, the current housing situation of different household types with a middle-income living in the rental housing supply of Groot-Amsterdam is discussed.

In table 6.8 can be observed which rental housing segment different household types with a middle-income inhabit. The former section states that many middle-income households live in social housing. In particular, the couple-two-children, couple–three-children, one-parent-two-children, and one-parent-three-children households live in the social housing segment. One-person, couple, and couple-one-child households frequently live in mid-segment rental housing.

	Social housing segment (below €710,68 a month)	Mid-segment rental housing (from €710,69 up to €1,000 a month)	High-segment rental housing (above €1,000 a month)	Total
One-person (1)	57%	40%	2%	100% (25,364)
Couple (2)	59%	37%	4%	100% (14,281)
Couple-one-child (3)	43%	48%	9%	100% (2,688)
Couple-two-children (4)	71%	29%	0%	100% (2,809)
Couple-three-children (5)	80%	20%	0%	100% (1,844)
One-parent-one-child (2)	65%	23%	12%	100% (4,511)
One-parent-two-children (3)	76%	19%	6%	100% (1,909)
One-parent-three-children (4)	100%	0%	0%	100% (398)
Division rental housing segments by all household types	56%	34%	10%	100% (53,804)

Table 6.8: Division of rental housing segments of the current living situation of middle-income households in Groot-Amsterdam, divided by different middle-income household types (WoON, 2018) (own table).

	Multi-family housing	Single-family housing	Other	Total
One-person (1)	82%	15%	3%	100% (26,650)
Couple (2)	65%	34%	1%	100% (14,283)
Couple-one-child (3)	47%	44%	10%	100% (2,972)
Couple-two-children (4)	62%	38%	0%	100% (2,808)
Couple-three-children (5)	83%	17%	0%	100% (1,844)
One-parent-one-child (2)	87%	13%	0%	100% (4,512)
One-parent-two-children (3)	55%	45%	0%	100% (1,910)
One-parent-three-children (4)	100%	0%	0%	100% (398)
Division housing type by all household types	75%	23%	2%	100% (55,377)

Table 6.9: Division of different rental housing types of the current living situation of middle-income households in Groot-Amsterdam, divided per middle-income household type (WoON, 2018) (own table).

In table 6.3, it can be observed that most middle-income households in Groot-Amsterdam live in multi-family housing. From table 6.9, it can be concluded that the one-person, couple-three-children, one-parent-one-child, and one-parent-three-children households more frequently live in multi-family housing, and couple, couple-one-child, couple-two-children, and one-parent-two-children households inhabit single-family housing more often.

Middle-income households in Groot-Amsterdam more frequently inhabit housing with a larger surface area than low-income households and less regularly than high-income households. Most middle-income households (63%) occupy housing with a surface between 48 and 96 square metres. Mainly, the one-person, couple-three-children households more frequently live in housing with a surface smaller than 48 square metres. The couple, couple-one-child, and one-parent-two-children households more frequently inhabit housing with a surface larger than 96 square metres. The exact numbers can be observed in table 6.10.

	0-48 m2	48-96 m2	96-120 m2	120 m2 or more	Total
One-person (1)	22%	62%	11%	4%	100% (29,136)
Couple (2)	7%	63%	23%	7%	100% (14,495)
Couple-one-child (3)	10%	44%	46%	0%	100% (2,972)
Couple-two-children (4)	11%	80%	0%	9%	100% (2,809)
Couple-three-children (5)	21%	62%	17%	0%	100% (1,844)
One-parent-one-child (2)	10%	74%	16%	0%	100% (4,512)
One-parent-two-children (3)	0%	54%	27%	19%	100% (2,525)
One-parent-three-children (4)	0%	100%	0%	0%	100% (398)
Division surface area by all household types	15%	63%	17%	5%	100% (58,691)

Table 6.10: Division of rental housing per surface of the current living situation of middle-income households in Groot-Amsterdam, divided per middle-income household type, Amsterdam (WoON, 2018) (own table).

	1 room	2 rooms	3 rooms	4 rooms	5 rooms or more	Total
One-person (1)	6%	29%	33%	21%	11%	100% (26,649)
Couple (2)	3%	9%	36%	31%	21%	100% (14,282)
Couple-one-child (3)	0%	0%	16%	71%	13%	100% (2,972)
Couple-two-children (4)	0%	11%	30%	47%	12%	100% (2,808)
Couple-three-children (5)	0%	21%	22%	40%	17%	100% (1,844)
One-parent-one-child (2)	0%	28%	19%	31%	22%	100% (4,513)
One-parent-two-children (3)	0%	19%	20%	61%	0%	100% (1,910)
One-parent-three-children (4)	0%	0%	0%	0%	100%	100% (398)
Division number of rooms by all household types	4%	20%	31%	30%	15%	100% (55,376)

Table 6.11: Division of rental housing by number of rooms of the current living situation of middle-income households in Groot-Amsterdam, divided per middle-income household type, Amsterdam (WoON, 2018) (own table).

Middle-income households more frequently inhabit housing with a greater number of rooms than low-income households and slightly fewer rooms than high-income households. The most common number of rooms for middle-income households is three and four rooms (table 6.5). In table 6.11, it can be seen that the one-person and the one-parent-one-child households more often live in housing with a smaller number of rooms. The couple, couple-three-children, and one-parent-three-children households are more likely to live in housing with a higher number of rooms.

The previous section asserted that 87% of middle-income households live in housing with an outdoor space. Upon viewing table 6.12, it can be noted that the couple, couple-with-children, one-parent-one-child, and one-parent-three-children households more frequently live in housing with an outdoor space than the other household types.

	Housing with outdoor space	Housing without outdoor space	Total
One-person (1)	80%	21%	100% (29,137)
Couple (2)	94%	6%	100% (14,494)
Couple-one-child (3)	100%	0%	100% (2,972)
Couple-two-children (4)	100%	0%	100% (2,808)
Couple-three-children (5)	100%	0%	100% (1,844)
One-parent-one-child (2)	100%	0%	100% (4,512)
One-parent-two-children (3)	76%	24%	100% (2,525)
One-parent-three-children (4)	100%	0%	100% (398)
Division outdoor space by all household types	87%	13%	100% (58,690)

Table 6.12: Division of rental housing by outdoor space of the current living situation of middle-income households in Groot-Amsterdam, divided per middle-income household type, Amsterdam (WoON, 2018) (own table)

	Until 500 metres	Until 5 kilometres	Total
One-person (1)	78%	22%	100% (28,492)
Couple (2)	67%	33%	100% (13,968)
Couple-one-child (3)	47%	53%	100% (2,972)
Couple-two-children (4)	62%	38%	100% (2,808)
Couple-three-children (5)	100%	0%	100% (1,844)
One-parent-one-child (2)	79%	21%	100% (4,512)
One-parent-two-children (3)	76%	24%	100% (2,525)
One-parent-three-children (4)	100%	0%	100% (398)
Division outdoor space by all household types	74%	26%	100% (57,519)

Table 6.13: Division of rental housing concerning distance to daily necessities, in the current living situation of middle-income households in Groot-Amsterdam, divided per middle-income household type, Amsterdam (WoON, 2018) (own table).

In Groot-Amsterdam, over 74% of middle-income households inhabit housing within 500 metres of daily life necessities. Table 6.13 shows that the one-person, couple-three-children, and all one-parent households more frequently than average live within a radius of 500 metres of daily life necessities. The couple, couple-one-child, and couple-two-children households more frequently live further away from daily necessities than other groups.

6.3 The current living situation of middle-income households in relation to the affordability and spatial standards

This section looks into the affordability and spatial standards of the current living situation of middle-income households inhabiting rental housing in Groot-Amsterdam. This is done by looking at the maximum affordable base rent of middle-income households in relation to their current base rent level. Also, the spatial standards concerning the surface area and the number of rooms, as addressed in section 2.3, are compared to the current living situation of middle-income households living in rental housing in Groot-Amsterdam.

Section 6.3.1 discusses the affordability of the current living situation. Section 6.3.2 addresses the current living situation in relation to the spatial standards. Section 6.3.3 explores the rental housing segmentation in relation to the current situation concerning spatial standards of different household types.

6.3.1 The current living situation of middle-income households in relation to affordability

This section discusses the current living situation of a household living in the rental housing supply in Groot-Amsterdam, in relation to housing affordability. To understand whether the different household types live affordably, another distinction of housing types is needed that uses the categories 'affordable'. 'perhaps affordable' and 'not affordable'. Section 4.2 explained what these categories entail. Still, the 'perhaps affordable' category may remain vaguely defined; and so, it is re-discussed here. It cannot be stated within the perhaps affordable category with certainty whether base rent is affordable or not since for the different incomes within the middle-income range, the maximum affordable rent is not determined. Thus, perhaps affordable means that the base rent might or might not be affordable. The maximum affordable base rent that is used can be observed in table 4.5.

In table 6.7, it can be observed what share of households inhabits affordable housing, perhaps affordable housing or not affordable housing. Here, it can be concluded that many households live in affordable housing. None of the household types falls in the category not affordable, but a large share of households falls in the category perhaps affordable. As discussed, it is not certain if housing is affordable for the group that is stated in this category. Foremost, a large part of the couple, couple-two-children and couple-three-children household types are stated in the perhaps affordable

category. Many of these household types live below affordable when they have an income near €36,798.

	Not affordable	Perhaps affordable	Affordable	Total
One-person	0%	2%	98%	100% (25,363)
Couple	0%	41%	59%	100% (14,282)
Couple-one-child	0%	41%	59%	100% (2,688)
Couple-two-children	0%	60%	40%	100% (2,808)
Couple-three-children	0%	100%	0%	100% (1,844)
One-parent-one-child	0%	0%	100%	100% (4,512)
One-parent-two-children	0%	20%	80%	100% (1,910)
One-parent-three-children	0%	0%	100%	100% (398)
Division of affordability by all household types	0%	33%	67%	100% (53,805)

Table 6.7: Housing affordability of the current living situation of middle-income households living in rental housing in Groot-Amsterdam, divided per middle-income household type (WoON, 2018) (own table).

6.3.2 The current living situation of middle-income households in relation to liveability

This section discusses the current housing situation of different household types, living in rental housing in Groot-Amsterdam, in relation to spatial standards. In section 2.3, the spatial standards concerning the surface area and the number of rooms are defined. These spatial standards are used for the analysis in this section.

	Below spatial standard	Upon spatial standard	Above spatial standard	Total
One-person (1)	4%	14%	82%	100% (29,137)
Couple (2)	7%	17%	76%	100% (14,495)
Couple-one-child (3)	10%	40%	50%	100% (2,972)
Couple-two-children (4)	42%	48%	10%	100% (2,808)
Couple-three-children (5)	65%	35%	0%	100% (1,844)
One-parent-one-child (2)	0%	33%	67%	100% (4,512)
One-parent-two-children (3)	0%	39%	61%	100% (2,525)
One-parent-three-children (4)	0%	100%	0%	100% (398)
Division of liveability concerning surface area by all household types	16%	41%	43%	100% (58,691)

Table 6.8: Housing liveability concerning the surface area of the current living situation of middle-income households living in rental housing in Groot-Amsterdam, divided per middle-income household type (WoON, 2018) (own table).

	Below spatial standard	Upon spatial standard	Above spatial standard	Total
One-person (1)	6%	29%	65%	100% (25,041)
Couple (2)	3%	9%	88%	100% (13,797)
Couple-one-child (3)	0%	16%	84%	100% (2,971)
Couple-two-children (4)	41%	47%	12%	100% (2,808)
Couple-three-children (5)	83%	17%	0%	100% (1,844)
One-parent-one-child (2)	28%	19%	53%	100% (4,513)
One-parent-two-children (3)	39%	61%	0%	100% (1,909)
One-parent-three-children (4)	0%	100%	0%	100% (398)
Division of liveability concerning number of rooms by all household types	25%	37%	38%	100% (53,281)

Table 6.9: Housing liveability concerning number of rooms of the current living situation of middle-income households living in rental housing in Groot-Amsterdam, divided per middle-income household type (WoON, 2018) (own table).

In table 6.8, it can be observed how the different household types live in relation to spatial standards concerning the surface area. Foremost, small household types live above the spatial standard, and large household types live below the spatial standard. Especially the household types couple-two-children and couple-three-children live more often below the spatial standard, and the one-person,

couple, couple-one-child, one-parent-two-children, and one-parent-three-children household types live above the spatial standard.

From table 6.9, one can get an impression of what household types, living in rental housing in Groot-Amsterdam, live according to the spatial standard. Smaller households such as one-person, couple-one-child and one-parent-one-child frequently live above the spatial standard. The couple-two-children, couple-three-children, one-parent-one-child, and one-parent-two-children households frequently live below the spatial standard.

6.3.3 The current housing situation relation to liveability by housing segment

One question that arises when looking at spatial standards is: *'does the outcome concerning spatial standards of the current situation of middle-income households differ per housing segment?'* In this way, it can be determined whether the mid-segment rental housing contains housing following the spatial standard.

This current housing situation can only be determined for each household type separately. For simplicity, the spatial standards per housing segment are discussed for all household types together. In appendix V, the discussed tables of this chapter can be found.

In the case of living below the spatial standard, for each household type, it goes that if the household lives below the spatial standard, it lives in the social housing segment. Also, for most household types, it applies that if they are more likely to live in accordance with the spatial standards, they frequently inhabit housing in the middle- and high-segment.

6.4 Conclusion

This section discusses the main findings of this chapter by answering the following question: *"In what kind of rental housing do Groot-Amsterdam's middle-income households currently live and does this housing meet the affordability and spatial standards?"*

Table 6.10 summarises the main findings of this chapter. In Groot-Amsterdam, most middle-income households (56%) live in the social housing segment, and a smaller part (33%) lives in the mid-segment. In particular, the couple-two-children, couple-three-children, one-parent-two-children and one-parent-three-children live in the social housing segment. The one-person, couple, and couple-one-child households more frequently live in mid-segment rental housing. Next to that, 75% of middle-income households live in multi-family housing. However, middle-income households frequently live in single-family housing, with a rate above the general average of Groot-Amsterdam. The one-person, couple-three-children, one-parent-one-child, one-parent-two-children, and one-parent-three-children households more frequently live in multi-family housing and the couple, couple-one-child, couple-two-children, and one-parent-two-children households more frequently live in single-family housing.

Middle-income households mostly inhabit housing with a surface between 48 and 96 square metres (63%), and their housing mostly has three (31%) or four (30%) rooms. Looking at the surface area, mainly, the one-person and couple-three-children households often live in housing with a surface area of less than 48 square metres. The couple, couple-one-child, and one-parent-two-children households more often live in housing with a surface area larger than 96 square metres. With regard to the number of rooms, the one-person and one-parent-one-child household types more frequently live in housing with a smaller number of rooms. In contrast, the couple, couple-three-children, one-parent-one-child and one-parent-three-children frequently inhabit housing with a greater number of rooms.

Also, 87% of middle-income households live in housing with outdoor spacing, and 74% occupies housing located within 500 metres distance of daily life necessities. Speaking of housing with an outdoor space, the couples with children, one-parent-one-child and one-parent-three-children households more often live in housing with an outdoor space than the other household types. Also, the one-person-, couple-three-children- and all one-parent households live within 500 metres of daily life necessities more often than average. The couple, couple-one-child, and couple-two-children households more frequently live far away from daily life necessities than others.

Many middle-income households live in affordable housing. None of the household types is found in the category not affordable, but many households are situated in the category perhaps affordable. The household types stated to be mainly in the perhaps affordable category are the couple, couple-two-children and couple-three-children.

Looking at the spatial standard concerning surface area, foremost, the smaller household types live above the spatial standard, whereas the larger household types live below the spatial standard. The household types that more often live below the spatial standard are the household types couple-two-children and couple-three-children. The one-person, couple, couple-one-child, one-parent-two-children and one-parent-three-children more frequently live above the spatial standard.

Observing the spatial standard pertaining to the number of rooms, it can be concluded that smaller households such as the one-person, couple, couple-one-child and one-parent-one-child more often live above the spatial standard. The couple-two-children, couple-three-children, one-parent-one-child and one-parent-two-children households more frequently live below the spatial standard.

	Affordability	Rental housing segment	Housing type	Surface area	Number of rooms	Outdoor space	Distance to daily life necessities
One-person (1)	Affordable (98%)	Social housing (57%) and mid-segment rental housing (40%)	Multi-family housing (82%)	Above spatial standard (82%)	Above spatial standard (65%)	Yes (80%)	Until 500 metres (78%)
Couple (2)	Perhaps affordable (41%) until affordable (59%)	Social housing (59%) and mid-segment rental housing (37%)	Multi-family housing (65%)	Above spatial standard (76%)	Above spatial standard (88%)	Yes (94%)	Until 500 metres (67%)
Couple-one-child (3)	Perhaps affordable (41%) until affordable (59%)	Social housing (43%) and mid-segment rental housing (48%)	Multi-family housing (47%) / Single-family housing (44%)	Upon (40%) and above spatial standard (50%)	Above spatial standard (84%)	Yes (100%)	Until 500 metres (47%) / Until 5 kilometres (53%)
Couple-two-children (4)	Perhaps affordable (60%)	Social housing (71%)	Multi-family housing (62%)	Upon (48%) and under spatial standard (42%)	Upon (47%) and under spatial standard (41%)	Yes (100%)	Until 500 metres (62%) / Until 5 kilometres (38%)
Couple-three-children (5)	Perhaps affordable (100%)	Social housing (80%)	Multi-family housing (83%)	Under spatial standard (65%)	Under spatial standard (83%)	Yes (100%)	Until 500 metres (100%)
One-parent-one-child (2)	Affordable (100%)	Social housing (65%)	Multi-family housing (87%)	Above spatial standard (67%)	Above spatial standard (53%)	Yes (100%)	Until 500 metres (79%)
One-parent-two-children (3)	Affordable (80%)	Social housing (76%)	Multi-family housing (55%) / Single-family housing (45%)	Upon (39%) and above spatial standard (61%)	Upon (61%) and under spatial standard (39%)	Yes (76%)	Until 500 metres (76%)
One-parent-three-children (4)	Affordable (100%)	Social housing (100%)	Multi-family housing 100%)	Upon spatial standard (100%)	Upon spatial standard (100%)	Yes (100%)	Until 500 metres (100%)

Table 6.10: Most common current living situation per middle-income household type, living in rental housing in Groot-Amsterdam (WoON, 2018) (own table)

7. Rental housing preferences of middle-income households

Next to the revealed housing preferences, there are stated housing preferences that are related to the household's aspiration image, as discussed in section 2.1. The stated housing preferences are the preferences households have before relocation and give direction to their housing choices. Thus, looking at the stated housing preferences, the housing market restrictions are less of a determining factor. This section answers the research question: *"What housing preferences do Groot-Amsterdam's middle-income households have and do these preferences meet the affordability and spatial standards?"*

Section 7.1 discusses the housing preferences of middle-income households compared to other income groups' housing preferences. After this, in section 7.2, the housing preferences of different middle-income household types are considered. In section 7.3, the different household types' housing preferences are compared to the affordability and spatial standards, as stated in section 4.2 and section 2.3. Finishing with section 7.4, which is concerned with the main findings of this chapter.

Preferences of households with a desire to relocate are combined with the current situation of households that do not have this desire. This is in order to determine the stated preferences. By combining these two, the stated preferences can be compared to the rental housing supply to illustrate whether housing preferences are sufficiently facilitated in Groot-Amsterdam.

For the revealed preferences, the categories 'no desire to relocate' and 'I have already found a different dwelling' are combined with the stated preferences of the households in the categories 'perhaps want to relocate', 'I want to relocate, but I cannot find anything' and 'yes' combined. The two new categories can be observed in table 7.1, which form the stated preferences when combined.

	Low-income households (income below €36,798)	Middle-income households (income from €36,798 up to €51,750)	High-income (income above €51,750)	Division of desire to relocate over all income groups
Combined categories: No desire to relocate, and I already found a different dwelling	56%	55%	62%	58%
Combined categories: Perhaps want to relocate, I want to relocate, but I cannot find anything and yes	44%%	45%	38%	42%
Total	100% (344,266)	100% (104,986)	100% (226,778)	100% (676,030)

Table 7.1: Desire to relocate in the coming two years of households living both rental housing and owner-occupied housing in Groot-Amsterdam, divided per income group (WoON, 2018) (own table)

7.1 Rental housing preferences of middle-income households living in Groot-Amsterdam

This section discusses the housing preferences of Groot-Amsterdam's middle-income households and their rental housing desires. They are compared to preferences of low- and high-income households. Before analysing the housing preferences of households in Groot-Amsterdam that desire to live in rental housing, one first needs to determine what part of these households desire to live in rental housing. Table 7.2 shows that only 47% of middle-income households prefer to live in rental housing, which is slightly below average rates. Low-income households are more likely to prefer rental housing, and high-income households are less likely to prefer rental housing. Thus, the rates of preference for living in rental housing decrease when a household's income increases. The rest of this chapter contains assertions based on the stated preferences concerning rental housing.

	Low-income households (income below €36,798)	Middle-income households (income from €36,798 up to €51,750)	High-income (income above €51,750)	Division of housing status over all income groups
Owner-occupied housing	26%	53%	73%	50%
Rental housing	74%	47%	27%	50%
Total	100% (258,134)	100% (76,484)	100% (185,660)	100% (520,278)

Table 7.2: Stated preference of ownership status of housing in Groot-Amsterdam of households living in Groot-Amsterdam, divided per income group (WoON, 2018) (own table)

Considering the contents of table 7.3, one can notice that 69% of middle-income households prefer social housing. Although many middle-income households prefer social housing, the frequency with which they do so is below the average frequency in Groot-Amsterdam. Only 18% of middle-income households prefer mid-segment rental housing, which is also less than average. Middle-income households have an above-average preference for high-segment rental housing. Mainly, high-income households prefer to live in mid-segment rental housing. Upon viewing table 7.3, it can be noted that when the household's income increases, preference for a higher rental housing segment increases as well.

	Low-income households (income below €36,798)	Middle-income households (income from €36,798 up to €51,750)	High-income (income above €51,750)	Division of housing segment over all income groups
Social housing segment (below €710,68 a month)	91%	69%	50%	70%
Mid-segment rental housing (from €710,69 up to €1,000 a month)	7%	18%	32%	19%
High-segment rental housing (above €1,000 a month)	2%	13%	18%	11%
Total	100% (183,316)	100% (33,407)	100% (49,038)	100% (265,761)

Table 7.3: Stated preference concerning rental housing segment in Groot-Amsterdam of households living in Groot-Amsterdam, divided per income group (WoON, 2018) (own table)

	Low-income households (income below €36,798)	Middle-income households (income from €36,798 up to €51,750)	High-income (income above €51,750)	Division of housing type over all income groups
Multi-family housing	80%	75%	66%	74%
Single-family housing	18%	22%	31%	23%
Other	2%	3%	3%	3%
Total	100% (189,769)	100% (34,109)	100% (49,429)	100% (273,307)

Table 7.4: Stated preference concerning rental housing type in Groot-Amsterdam of households living in Groot-Amsterdam, divided per income group (WoON, 2018) (own table)

75% of middle-income households have a preference for multi-family housing (table 7.4). Their preference for multi-family housing is just slightly higher than the average of Groot-Amsterdam. Only 22% of middle-income households prefer to live in single-family housing. Low-income households are more likely to prefer multi-family housing, and high-income households are slightly less likely to prefer multi-family housing.

Other than for a certain housing type, households can also have specific preferences concerning the surface area. Table 7.5 provides that 68% of middle-income households prefer to live in housing with a surface area between 48 and 96 square metres. Their preference for this surface area is higher than the average in Groot-Amsterdam. Only 7% prefers to live in housing with a surface area below 48 square metres, for which their preference is below average. Another 17% prefers to live in housing with a surface area between 96 and 120 square metres, and another 9% prefers to live in housing with a surface area over 120 square metres. Their preference for housing with a surface between 96 and

120 square metres is above average in rate, while their preference for 120 square metres or more is below average in rate. A larger surface area preference is infrequent amongst low-income households and quite frequent amongst high-income households.

	Low-income households (income below €36,798)	Middle-income households (income from €36,798 up to €51,750)	High-income (income above €51,750)	Division of surface area over all income groups
0-48 m2	18%	7%	7%	11%
48-96 m2	66%	68%	53%	62%
96-120 m2	9%	17%	21%	15%
120 m2 or more	8%	9%	19%	12%
Total	100% (185,529)	100% (35,462)	100% (47,643)	100% (268,634)

Table 7.5: Stated preference of surface area for rental housing in Groot-Amsterdam of households living in Groot-Amsterdam, divided per income group (WoON, 2018) (own table)

	Low-income households (income below €36,798)	Middle-income households (income from €36,798 up to €51,750)	High-income (income above €51,750)	Division of number of rooms over all income groups
1 room	5%	2%	1%	3%
2 rooms	24%	13%	10%	16%
3 rooms	43%	38%	35%	39%
4 rooms	22%	32%	37%	30%
5 rooms or more	6%	15%	17%	12%
Total	100% (183,133)	100% (33,052)	100% (46,388)	100% (262,573)

Table 7.6: Stated preference of number of rooms for rental housing in Groot-Amsterdam of households living in Groot-Amsterdam, divided per income group (WoON, 2018) (own table)

Besides preferences concerning specific surface area sizes, a household can have preferences concerning the number of rooms. From table 7.6, it can be concluded that the most commonly preferred number of rooms by middle-income households is three (38%). Only 2% of middle-income households prefer one room, 13% of two rooms and 32% of four rooms. Another 15% has a preference for housing with five or more rooms. A preference for four rooms and five or more rooms is more frequent than average. Middle-income households' preference for a greater number of rooms is more frequent than for low-income households and less frequent than for high-income households.

	Low-income households (income below €36,798)	Middle-income households (income from €36,798 up to €51,750)	High-income (income above €51,750)	Division of distance to daily necessities for life over all income groups
Until 500 m	65%	65%	47%	70%
Until 5 km	35%	35%	53%	30%
Total	100% (148,505)	100% (29,209)	100% (32,874)	100% (210,588)

Table 7.7: Stated preference of distance to daily necessities for life for rental housing in Groot-Amsterdam of households living in Groot-Amsterdam, divided per income group (WoON, 2018) (own table)

Concerning the current living situation of middle -income households, two other characteristics were discussed: housing with an outdoor space and distance to daily life necessities. Concerning outdoor space, no housing preferences can be extracted from the WoON 2018 data. For distance to daily life necessities, a housing preference could be derived from the data. 65% of middle-income households prefer to live within 500 metres of daily life necessities (table 7.7). Remarkably, the preference pertaining to the distance to daily necessities is equal for low- and middle-income households. Moreover, there is a higher frequency for there being a distance up to 5 kilometres to daily life necessities amongst high-income households than amongst low- and middle-income households.

7.2 Rental housing preferences of different middle-income household types living in Groot-Amsterdam

This section focusses on the housing preferences of different household types with a middle-income who prefer rental housing and live in Groot-Amsterdam. Since the used data for this analysis contains too few one-parent households with three children, this household type has been disregarded in this analysis.

Before analysing the housing preferences of different middle-income households that live in Groot-Amsterdam with a desire to live in rental housing, one needs to determine which household types most frequently have this desire. As discussed, 53% of the middle-income households in Groot-Amsterdam has a preference for rental housing. Not all household types are likely to have a preference for rental housing. There is a higher frequency of preference for rental housing for the one-person and all one-parent households than for the average middle-income households in Groot-Amsterdam (table 7.8). There is a higher-than-average frequency of preference for owner-occupied housing for the couple and the couple with children household types. Although the household types with a preference for owner-occupied housing are not irrelevant for this research since most of these household types do not have access to owner-occupied housing in Groot-Amsterdam, the following analyses in this chapter only include households preferring rental housing.

	Owner-occupied housing	Rental housing	Total
One-person (1)	31%	69%	100% (234,998)
Couple (2)	61%	39%	100% (106,134)
Couple-one-child (3)	69%	31%	100% (40,718)
Couple-two-children (4)	79%	21%	100% (46,612)
Couple-three-children (5)	64%	36%	100% (22,489)
One-parent-one-child (2)	35%	65%	100% (30,070)
One-parent-two-children (3)	33%	67%	100% (14,154)
One-parent-three-children (4)	23%	77%	100% (4,973)
Division ownership status over all household types	49%	51%	100% (500,148)

Table 7.8: Stated preference of ownership status of housing in Groot-Amsterdam of middle-income households living in Groot-Amsterdam, divided per middle-income household type (WoON, 2018) (own table)

Most middle-income households have a preference for the social housing segment. In table 7.9, it can be observed that all except the couple and one-parent-two-children households are more likely to prefer social housing, being above the average of middle-income households in Groot-Amsterdam. The couple, couple-three-children and one-parent-two-children households prefer the mid-segment more often than average. The couple-one-child, couple-two-children and one-parent-one-child households prefer the high-segment more often than average.

	Social housing segment (below €710,68 a month)	Mid-segment rental housing (from €710,69 up to €1,000 a month)	High-segment rental housing (above €1,000 a month)	Total
One-person (1)	79%	15%	6%	100% (13,389)
Couple (2)	45%	34%	21%	100% (7,294)
Couple-one-child (3)	66%	0%	34%	100% (1,089)
Couple-two-children (4)	65%	19%	16%	100% (2,487)
Couple-three-children (5)	73%	27%	0%	100% (1,459)
One-parent-one-child (2)	84%	0%	16%	100% (3,709)
One-parent-two-children (3)	44%	56%	0%	100% (881)
Division rental housing segment over all household types	65%	22%	13%	100% (30,938)

Table 7.9: Stated preference concerning rental housing segment in Groot-Amsterdam of middle-income households living in Groot-Amsterdam divided per middle-income household type (WoON, 2018) (own table)

	Multi-family housing	Single-family housing	Other	Total
One-person (1)	85%	12%	3%	100% (13,791)
Couple (2)	68%	32%	0%	100% (7,924)

Couple-one-child (3)	72%	7%	21%	100% (1,373)
Couple-two-children (4)	42%	58%	0%	100% (2,486)
Couple-three-children (5)	78%	22%	0%	100% (1,459)
One-parent-one-child (2)	77%	23%	0%	100% (3,708)
One-parent-two-children (3)	36%	64%	0%	100% (1,076)
Division housing type over all household types	66%	31%	3%	100% (31,817)

Table 7.10: Stated preference for rental housing type in Groot-Amsterdam of middle-income households living in Groot-Amsterdam, divided per middle-income household type, Amsterdam (WoON, 2018) (own table)

The previous section addressed that 75% of middle-income households prefer multi-family housing. Preferences of some middle-income household types deviate from the average, which can be noticed in table 7.10. The one-person, couple, couple-one-child, couple-three-children and one-parent-one-child households are more likely to prefer multi-family housing than the average of middle-income households in Groot-Amsterdam. The couple, couple-two-children and one-parent-two-children households are more likely to prefer single-family housing than the average.

68% of all middle-income households prefer a surface area between 48 and 96 square metres. The couple-two-children, couple-three-children, and one-parent-two-children households prefer a surface area between 48 and 96 square metres more frequently than the average of middle-income households in Groot-Amsterdam. Looking at middle-income households individually, in table 7.11, one can see that some household types deviate from the average. The one-person and couple-one-child households are more likely to prefer a surface area between 0 and 48 square metres. The one-person, couple, couple-one-child, couple-two-children, one-parent-one-child and one-parent-two-children households are more likely to prefer a surface area between 96 and 120 square metres compared to the average. The one-person, couple and one-parent-two-children households are more likely to prefer a surface area of 120 square metres or more. Thus, the one-person and couple-one-child households are more likely to prefer housing with a smaller surface area than the average. The one-person, couple, couple-one-child, couple-two-children, one-parent-one-child and one-parent-two-children households are above average in their preference for housing with a larger surface.

	0-48 m2	48-96 m2	96-120 m2	120 m2 or more	Total
One-person (1)	13%	58%	23%	6%	100% (15,310)
Couple (2)	2%	59%	30%	10%	100% (7,924)
Couple-one-child (3)	21%	33%	47%	0%	100% (1,373)
Couple-two-children (4)	0%	80%	20%	0%	100% (2,298)
Couple-three-children (5)	0%	100%	0%	0%	100% (1,459)
One-parent-one-child (2)	0%	82%	11%	7%	100% (3,709)
One-parent-two-children (3)	0%	60%	12%	29%	100% (1,691)
Division surface area over all household types	5%	67%	7%	7%	100% (33,764)

Table 7.11: Stated preference for surface area in Groot-Amsterdam of middle-income households living rental housing in Groot-Amsterdam, divided per middle-income household type, Amsterdam (WoON, 2018) (own table)

On average, Groot-Amsterdam's middle-income households with a desire for rental housing prefer housing with three rooms (38%). From table 7.12, it can be noticed that for the one-person, couple, couple-one-child and one-parent-one-child households, there is a frequency of preference for three rooms higher than the average value for Groot-Amsterdam's middle-income households. A one-person household is more likely to prefer housing with one and two rooms than the average. The couple-one-child, couple-three-children and one-parent-two-children are more likely to prefer four rooms compared to the average. The couple, couple-two-children, couple-three-children, and one-parent-one-child households are more likely to prefer five rooms or more than the average of middle-income households. Thus, a one-person household slightly more often prefers housing with under three rooms, while the other household types slightly more often prefer housing with more than three rooms.

In Groot-Amsterdam, 65% of middle-income households prefer to live within 500 metres distance to daily life necessities. In table 7.13, it can be observed that the one-person, couple-three-children, and one-parent-one-child households are more likely to prefer living within 500 metres distance of daily life necessities than the average of middle-income households in Groot-Amsterdam. The couple, couple-one-child and couple-two-children households are more likely to prefer living within 5 kilometres from daily necessities.

	1 room	2 rooms	3 rooms	4 rooms	5 rooms or more	Total
One-person (1)	2%	29%	39%	22%	8%	100% (13,790)
Couple (2)	0%	0%	42%	37%	21%	100% (7,923)
Couple-one-child (3)	0%	0%	34%	66%	0%	100% (1,374)
Couple-two-children (4)	0%	0%	23%	29%	48%	100% (2,298)
Couple-three-children (5)	0%	0%	27%	51%	22%	100% (1,459)
One-parent-one-child (2)	0%	5%	31%	29%	34%	100% (3,708)
One-parent-two-children (3)	0%	0%	0%	100%	0%	100% (1,076)
Division number of rooms over all household types	0%	5%	28%	48%	19%	100% (31,628)

Table 7.12: Stated preference for number of rooms in Groot-Amsterdam of middle-income households living rental housing in Groot-Amsterdam, divided per middle-income household type, Amsterdam (WoON, 2018) (own table)

	Until 500 metres	Until 5 kilometres	Total
One-person (1)	75%	25%	100% (13,077)
Couple (2)	67%	33%	100% (6,893)
Couple-one-child (3)	44%	56%	100% (1,373)
Couple-two-children (4)	59%	41%	100% (990)
Couple-three-children (5)	100%	0%	100% (1,138)
One-parent-one-child (2)	72%	0%	100% (3,446)
One-parent-two-children (3)	59%	0%	100% (1,497)
Division distance to daily life necessities over all household types	68%	32%	100% (28,414)

Table 7.13: Stated preference for distance to daily life necessities in Groot-Amsterdam of middle-income households living rental housing in Groot-Amsterdam, divided per middle-income household type, Amsterdam (WoON, 2018) (own table)

7.3 Rental housing preferences of middle-income households living in Groot-Amsterdam in relation to affordability and spatial standards

In this section, the housing preferences of different household types with a middle-income of Groot-Amsterdam are compared to the affordability and spatial standards set in section 4.2 and section 2.3. For the comparison in this section, the same method is used for the comparison in section 6.3. Firstly, this section elaborates upon the housing preferences in relation to affordability. Next, this section delves into the housing preferences in relation to spatial standards.

7.3.1 Rental housing preferences of middle-income households living in Groot-Amsterdam in relation to affordability

Whether a middle-income household's preferred rental housing price is affordable can be determined using the maximum affordable base rent, presented in table 4.5. Another housing segmentation is needed to use the categories 'affordable' and 'not affordable' to understand whether the different household types live affordably. Section 4.2 explained what these categories entail. Still, the 'perhaps affordable' category may be vaguely defined, so it is re-discussed here. Within the perhaps affordable category, it cannot be stated with certainty whether a base rent is affordable or not since for the different incomes within the middle-income range, the maximum affordable rent is not determined. Thus, perhaps affordable means that the base rent might be affordable, or it might not be.

From table 7.14, it can be derived what middle-income household types prefer in terms of rental housing pricing affordability. Reiterated, the categories are: affordable, perhaps affordable, not affordable. Most of Groot-Amsterdam's middle-income households preferring rental housing have a preference for affordable housing, except for the couple, couple-one-child, couple-two-children and couple-three-children households, which more frequently prefer rental housing in the category perhaps affordable.

	Not affordable	Perhaps affordable	Affordable	Total
One-person (1)	0%	3%	97%	100% (13,049)
Couple (2)	0%	33%	67%	100% (7,605)
Couple-one-child (3)	0%	34%	66%	100% (1,089)
Couple-two-children (4)	0%	52%	48%	100% (2,487)
Couple-three-children (5)	0%	100%	0%	100% (1,459)
One-parent-one-child (2)	0%	0%	100%	100% (3,709)
One-parent-two-children (3)	0%	0%	100%	100% (881)
Division of affordability over all household types	0%	32%	68%	100% (30,938)

Table 7.14: Stated housing preference in relation to affordability of middle-income households who desire to live in rental housing and currently live in Groot-Amsterdam, divided per middle-income household type (WoON, 2018) (own table).

7.3.1 Rental housing preferences of middle-income households living in Groot-Amsterdam in relation to spatial standards

A discourse on the preferences concerning housing and spatial standards of Groot-Amsterdam's middle-income households with a desire for rental housing marks this section. In section 2.3, the spatial standards concerning the surface area and the number of rooms are defined. These spatial standards are used for the analysis discussed in this section.

Table 7.15 shows how the preference for surface area relates to its spatial standard. For the one-person, couple and one-parent-one-child households, there is a higher frequency of preference for housing with a surface size above the spatial standard's size, compared to the average rates that indicate Groot-Amsterdam's middle-income households that prefer to rent. The couple-two-children and the one-parent-two-children households more frequently prefer housing that meets the spatial standard than the general average middle-income household. The couple-one-child, the couple-two-children and the couple-three-children households are more likely than average to prefer housing with a surface below the spatial standard. Foremost, the couple-three-children household has a preference for housing with a surface below the spatial standard.

Table 7.16 provides the housing preferences with regard to the number of rooms put up against the spatial standard. Most middle-income households that desire rental housing and live in Groot-Amsterdam prefer housing above the spatial standard. The one-person, couple, couple-one-child and one-parent-one-child households are more likely to prefer housing with a number of rooms above the spatial standard than the average of middle-income households in Groot-Amsterdam. The one-parent-two-children household is more likely than average to prefer housing with a number of rooms upon the spatial standard. The couple-two-children and couple-three-children households are more likely to prefer housing with a number of rooms below the spatial standard than the average. Regarding the couple-three-children households, the preference for housing with a number of rooms below the spatial standard contains the highest percentage.

	Below spatial standard	Upon spatial standard	Above spatial standard	Total
One-person (1)	4%	11%	84%	100% (14,965)
Couple (2)	0%	11%	89%	100% (7,924)
Couple-one-child (3)	21%	24%	55%	100% (1,373)

Couple-two-children (4)	31%	47%	21%	100% (2,485)
Couple-three-children (5)	55%	23%	22%	100% (1,459)
One-parent-one-child (2)	0%	28%	72%	100% (3,709)
One-parent-two-children (3)	0%	55%	45%	100% (2,670)
Division of liveability concerning surface area over all household types	16%	29%	55%	100% (34,585)

Table 7.15: Groot-Amsterdam's stated housing preferences concerning the surface area in relation to liveability, for middle-income households that prefer rental housing, divided per middle-income household type (WoON, 2018) (own table).

	Below spatial standard	Upon spatial standard	Above spatial standard	Total
One-person (1)	2%	29%	69%	100% (13,790)
Couple (2)	0%	0%	100%	100% (7,923)
Couple-one-child (3)	0%	34%	66%	100% (1,374)
Couple-two-children (4)	23%	29%	48%	100% (2,298)
Couple-three-children (5)	78%	22%	0%	100% (1,459)
One-parent-one-child (2)	5%	31%	64%	100% (3,708)
One-parent-two-children (3)	0%	100%	0%	100% (1,076)
Division of liveability concerning the number of rooms over all household types	15%	35%	50%	100% (31,628)

Table 7.16: Stated housing preference in relation to liveability concerning the number of rooms of Groot-Amsterdam's middle-income households that desire to live in rental housing, divided per middle-income household type (WoON, 2018) (own table).

7.4 Conclusion

This section answers the following research question: *"What housing preferences do Groot-Amsterdam's middle-income households have and do these preferences meet the affordability and spatial standards?"*

Table 7.17 shows the most common housing preferences of Groot-Amsterdam's different middle-income households with a desire for rental housing. 69% of middle-income households have a preference for social housing. However, the couple, couple-three-children and one-parent-two-children households are more frequent to prefer mid-segment rental housing than average. Also, the couple- one-child, couple-two-children and one-parent-one-child households are more likely to prefer high-segment rental housing. Concerning housing type, 75% of these households prefer to live in multi-family housing. All household types except for the couple-two-children and one-parent-two-children households are more likely to prefer multi-family housing than the average. There is a higher frequency of single-family housing for the couple, couple-two-children and one-parent-two-children households than average.

Most middle-income households prefer housing with a surface between 48 and 96 square metres. The one-person and couple-one-child household are more likely to prefer housing with a smaller surface area than the average, and the one-person, couple, couple-one-child, couple-two-children, one-parent-one-child and one-parent-two-children households are more likely to prefer housing with a larger surface than the average. The most frequently preferred number of rooms is three (38%), followed by four (32%). The one-person household wants to live slightly more often in housing with less than three rooms, while the other household types slightly more frequently prefer housing with more than three rooms.

Most middle-income households prefer to reside within a distance of 500 metres of daily life necessities. There is an above-average preference for living within 500 metres of daily life necessities for the one-person, couple-three-children and one-parent-one-child households. The couple, couple-one-child and couple-two-children households are more likely to prefer living within 5 kilometres to daily life necessities.

Looking at the affordability of housing, most middle-income households prefer affordable housing except for the couple, couple-one-child, couple-two-children and couple three-children households. They are more likely to prefer housing with a rental housing price in the category perhaps affordable.

Regarding the spatial standard concerning the surface area in relation to the household's preferences, most household types prefer to live above the spatial standard. The couple-one-child, the couple-two-children and the couple-three-children households are more likely to prefer housing with a surface below the spatial standard. Foremost, the couple-three-children household has a preference for housing with a surface below the spatial standard.

Concerning the spatial standard pertaining to the number of rooms in relation to the household's preferences, most household types prefer to live above the spatial standard. The couple-two-children and couple-three-children household types are more likely than average to prefer housing with a number of rooms below the spatial standard. For the couple-three-children household, the preference for housing with a number of rooms below the spatial standard contains the highest percentage.

	Affordability	Rental housing segment	Housing type	Surface area	Number of rooms	Distance to daily life necessities
One-person (1)	Affordable (97%)	Social housing (79%)	Multi-family housing (85%)	Above spatial standard (84%)	Above spatial standard (69%)	Until 500 metres (75%)
Couple (2)	Affordable (67%)	Mid-segment rental housing (34%)	Multi-family housing (68%)	Above spatial standard (89%)	Above spatial standard (100%)	Until 500 metres (67%) / Until 5 kilometres (33%)
Couple-one-child (3)	Affordable (66%)	Social housing (66%)	Multi-family housing (72%)	Above spatial standard (55%)	Above spatial standard (66%)	Until 5 kilometres (56%)
Couple-two-children (4)	Perhaps affordable (52%) until affordable (48%)	Social housing (65%)	Single-family housing (58%)	Upon (47%) and below spatial standard (31%)	Above spatial standard (48%)	Until 500 metres (59%) / Until 5 kilometres (41%)
Couple-three-children (5)	Perhaps affordable (100%)	Social housing (73%)	Multi-family housing (78%)	Below spatial standard (55%)	Below spatial standard (78%)	Until 500 metres (100%)
One-parent-one-child (2)	Affordable (100%)	Social housing (84%)	Multi-family housing (77%)	Above spatial standard (72%)	Above spatial standard (64%)	Until 5 kilometres (72%)
One-parent-two-children (3)	Affordable (100%)	Mid-segment rental housing (56%)	Single-family housing (64%)	Upon (55%) and above spatial standard (45%)	Upon spatial standard (100%)	Until 500 metres (59%) / Until 5 kilometres (41%)

Table 7.17: Groot-Amsterdam's most common housing preferences of those that have a desire for rental housing, per middle-income household type, Amsterdam (WoON, 2018) (own table)

8. Sufficiently affordably facilitated middle-income households' housing preferences in Groot-Amsterdam

To understand what middle-income households' housing preferences need to be represented more in the rental housing supply of a specific area, one needs to know what housing preferences are not sufficiently facilitated in this area, what is affordable for different types of middle-income households, and what the different household types' preferences are. These topics have been discussed in previous chapters. In this chapter, the following question is answered: *"What housing preferences of middle-income households are not sufficiently affordably facilitated in the mid-segment rental housing supply of Groot-Amsterdam?"*

This chapter will look into affordability in relation to the spatial standards and the housing preferences of the different household types, rather than into the actual shortage of the studied rental housing supply. It must be stressed that the studied data only consists of data of the housing supply from before 2018. If the housing supply for a specific household type must be increased, then first, it is important that this housing is affordable. Thereafter, the housing preferences of these households must be taken into account. Section 2.2 addresses that housing preferences are subjective. Therefore, spatial standards were established. Firstly, housing must be affordable. Thereafter, the housing preferences of the different household types must be met. Whenever it turns out to be impossible to meet the preferences of a certain household type affordably, the affordable housing supply should at least be following the spatial standards. For any scenario in which these conditions are not met, a certain housing characteristic is insufficiently facilitated in Groot-Amsterdam. For now, it will be looked into which housing preferences are affordable and/or in accordance with the spatial standards.

In section 8.1 is addressed whether the rental housing supply saturates the middle-income households' preferences. In section 8.2, the affordability of mid-segment rental housing is discussed for each household type. Furthermore, section 8.3 is explained if the rental housing supply sufficiently meets the spatial standards. Section 8.4 finalises with a conclusion by answering the main question concerned within this chapter.

8.1 Middle-income households' rental housing preferences in relation to the rental housing supply in Groot-Amsterdam

In this section, the housing preferences of different middle-income household types are compared to the rental housing supply of Groot-Amsterdam. This comparison is made to determine whether housing preferences of different middle-income household types can be met in Groot-Amsterdam. To compare the rental housing supply and the housing preferences, the outcomes of chapter 4, 5, 6 and 7 are used.

Section 8.1.1 discusses the middle-income households' rental housing preferences in relation to the rental housing supply in Groot-Amsterdam for all middle-income households in general. In section 8.1.2, the middle-income households' preferences are compared to their current living situation. Section 8.1.3 debates their housing preferences in relation to the total rental housing supply. Thereafter, in section 8.1.4, their housing preferences are viewed in relation to the mid-segment rental housing supply. Finally, in section 8.1.5, the conclusions are described.

8.1.1 Middle-income households' rental housing preferences in relation to the rental housing supply in Groot-Amsterdam in general

In Groot-Amsterdam, on average, 69% of middle-income households prefer social housing. Concerning housing type, 75% of these households prefer to live in multi-family housing. Most middle-income households (68%) prefer housing with a surface between 48 and 96 square metres. In Groot-Amsterdam, the most preferred number of rooms is three rooms (38%), followed by four rooms (32%). The largest part of the middle-income households (65%) prefers to live within 500 metres to daily life necessities.

In Groot-Amsterdam, most middle-income households (56%) inhabit housing in the social housing segment, and a smaller part (33%) lives in mid-segment rental housing. Next to that, 75% of middle-income households live in multi-family housing. Middle-income households mostly inhabit housing with a surface between 48 and 96 square metres (63%), and their housing mostly has three (31%) or four (30%) rooms. Also, 74% inhabits housing located within 500 metres distance of daily life necessities.

8.1.2 Middle-income household's rental housing preferences in relation to their current living situation

Comparing the percentage differences of the current living situation to the preferred living situation, one can conclude that middle-income households live less often in the social housing segment than preferred, which can have several causes. Currently, for middle-income households, it is not possible to access the social housing segment anymore. Thus, most middle-income households relocated to the social housing segment when circumstances allowed them to do so.

Middle-income households' preferences concerning housing type, which is multi-family housing, is equal to the percentage of middle-income households that live in multi-family housing. Looking at the percentage difference concerning surface area, it can be concluded that middle-income households are more frequent to live in housing with a smaller surface area than preferred. The latter means that middle-income households are more frequent to live in housing with a surface between 0 and 96 square metres preferred, while they more frequently prefer to live in housing with a surface area above 96 square metres. Next to that, middle-income households are less likely to live in housing with three and four rooms than they prefer. Also, middle-income households are more likely to live in housing with fewer rooms than preferred. Concerning distance to daily life necessities, middle-income households live more often within 500 metres to daily life necessities than preferred.

Thus, regarding housing segment, surface area, number of rooms and distance to daily life necessities, the current living situation of middle-income households with a desire to live in rental housing in Groot Amsterdam does not meet their housing preferences. Despite many middle-income households already live in social housing, even more middle-income households prefer to live in this segment. Also, they prefer to live in larger housing than they currently live in. Thus, housing with higher quality. To conclude, middle-income households would like to have higher quality housing for a lower price than is the case in their current living situation.

8.1.3 Middle-income household's rental housing preferences in relation to the current housing supply

In this section, the percentage differences are discussed between the total rental housing supply and the housing preferences of middle-income households that desire rental housing and currently live in Groot-Amsterdam.

The rental housing supply in Groot-Amsterdam consists of 75% social housing and 15% mid-segment rental housing. The total rental housing supply consists of 83% of multi-family housing. Also, the entire rental housing supply contains 62% housing with a surface between 48 and 96 square metres. Concerning the number of rooms most rental housing has, the most common number of rooms is three (37%) and four (24%) rooms. The rental housing supply is 70% located within 500 metres distance to daily life necessities.

Looking at the division of the housing segments, it can be concluded that a larger part of the middle-income households prefers mid-segment rental housing. In comparison, a smaller portion of the rental housing supply consists of mid-segment rental housing. The same applies to the high-segment rental housing supply. However, middle-income households have a higher preference for these segments than the average. Still, the social housing segment is the most often preferred segment by middle-income households. For all income groups, the percentage for the preferences of the mid-segment is higher than the supply consists of. Thus, from the middle-income households' perspective, mid-segment rental housing is not sufficiently facilitated in Groot-Amsterdam. The opposite applies to the social housing segment and the high-segment. However, no conclusions can be drawn from this analysis regarding the total shortage/surplus of a specific rental housing segment in Groot-Amsterdam.

Concerning housing type preference, middle-income households are more likely to prefer multi-family housing than the average, but the difference is naught. Observing the percentage differences, it can be concluded that single-family housing is not sufficiently facilitated in Groot-Amsterdam.

Studying the preference for surface area, it can be noted that middle-income households are more likely to prefer housing with a surface between 48 and 96, or 96 and 120 square metres than the average. Next to that, middle-income households are more likely to prefer housing with a surface between 48 and 96, 96 and 120, or more than 120 square metres. Observing the percentage differences, housing with a surface between 96 and 120 and over 120 square metres is not sufficiently facilitated in the Groot-Amsterdam.

Middle-income households are likely to prefer four and five room housing, the preference being above average in terms of rates. Also, middle-income households more frequently prefer housing with three, four and five rooms. Looking at the percentage differences, the rental housing supply in Groot-Amsterdam does not consist of sufficient rental housing with three and four rooms.

Considering the distance to daily life necessities, middle-income households are more likely to prefer a distance until 5 kilometres than the average in Groot-Amsterdam. Also, they are more likely to prefer housing with a distance until 5 kilometres than the total rental housing supply consists of. However, the remaining part of the housing supply is located within 500 metres of daily life necessities. Therefore, the total rental housing supply meets the middle-income households' preferences regarding distance to daily life necessities.

Thus, observing the current rental housing supply in relation to middle-income household's preferences, this supply lacks single-family housing, housing with a surface of over 96 square metres, and housing with three- and four rooms.

8.1.4 Middle-income household's rental housing preferences in relation to current mid-segment rental housing supply

Since the mid-segment rental housing supply is designated by the municipal policy for middle-income households, their preferences are compared to this supply. In this section, the percentage differences are discussed between this segment and the housing preferences of middle-income households who desire rental housing and currently live in Groot-Amsterdam.

The mid-segment rental housing supply encloses 15% of the total rental housing supply in Groot-Amsterdam. The mid-segment rental housing supply consists of 72% multi-family housing. The most common surface area in the mid-segment is a surface area between 48 and 96 square metres (63%). Most mid-segment rental housing has three (35%) or four (36%) rooms and is located for 74% within 500 metres of daily life necessities.

The mid-segment consists of a fairly large portion of single-family housing compared to the total rental housing supply. Looking at the percentage differences, the mid-segment is short on multi-family housing. However, a large part of the total rental housing supply consists of multi-family housing. Therefore, the preferred housing types of middle-income households are sufficiently facilitated in the mid-segment.

Viewing the housing preferences concerning surface area, the mid-segment consists of many housing with a surface between 96 and 120 square metres. Thereby, it exceeds the preferences of middle-income households regarding this specific surface area. Looking at the percentage differences, the mid-segment lacks housing with a surface above 120 square metres, but the difference is nil. Therefore, the lack of a specific surface area is not taken into account.

Observing the housing preferences regarding the number of rooms, the mid-segment consists of many housing with four rooms. Looking at the percentage differences, the mid-segment lacks housing with three and five rooms.

With regard to distance to daily life necessities, the same applies to the mid-segment as for the total rental housing supply.

Thus, the mid-segment rental housing supply lacks housing with three- and five rooms.

8.1.5 Conclusion

Assuming that middle-income households make use of the total rental housing supply, concerning the middle-income households' preferences, it can be concluded that it lacks mid-segment rental housing. The rental housing supply does not consist of sufficient single-family housing, housing with a surface between 96 and 120 and over 120 square metres and housing with three or four rooms.

Assuming that middle-income households would live in their designated rental housing supply, the mid-segment, it can be concluded that it lacks housing with three and five rooms. All the other housing characteristics are sufficiently facilitated in the mid-segment rental housing supply.

8.2 The affordability and accessibility of rental housing in Groot-Amsterdam

In determining whether housing preferences are affordably facilitated for different middle-income household types in a specific housing supply, one step is to determine the affordability of this housing supply. Therefore, section 8.2.1 discusses the affordability of mid-segment rental housing. Housing

affordability differs per household. Therefore, affordability is concerned for each household separately. Here it must be stressed; if housing is affordable for a specific household type, it is not necessarily accessible for them. Therefore, section 8.2.2 focuses on the accessibility of the mid-segment.

8.2.1 Affordability of rental housing in Groot-Amsterdam

In table 8.1 can be observed what part of the mid-segment rental housing supply is affordable for each household separately. From table 8.1 can be concluded that for the one-person, one-parent-one-child, and one-parent-two-children households a large part of the mid-segment rental housing is affordable. For the couple, couple-one-child, couple-two-children, and couple-three-children households a large part of the mid-segment is perhaps affordable. Thus, in this research, it is not certain if these household types are able to get affordable mid-segment rental housing. Therefore, these household types could easily have issues with finding affordable housing. For the couple-three-children household a large part of the mid-segment rental housing supply is perhaps affordable, and the other part is not affordable. For this household type, finding affordable housing would even be a bigger issue since there is no certainty that a part of the mid-segment rental housing supply is affordable.

It becomes evident that many middle-income households inhabit social housing when one takes the maximum affordable base rent into account, as described in chapter 4. There it was determined that middle-income households with a gross annual income near €36,798 could not afford mid-segment rental housing. This goes especially for the couple, couple-one-child, couple-two-children, couple-three-children households, and one-parent-one-child households. Thus, it becomes understandable that such a high share of middle-income households prefers to live in social housing. Thus, the middle-income households that inhabit social housing will probably not switch to mid-segment rental housing since they cannot afford to make such a switch. Contrary to the mid-segment rental housing supply, the total rental housing does contain a larger share of affordable housing. Still, this part of the housing supply might not be accessible to them. Since, currently, the social housing segment is not accessible for middle-income households.

In addition, as discussed in chapter 4, the one-person, couple-two-children, couple-three-children, and one-parent-three-children are underrepresented in Groot-Amsterdam's middle-income group, which becomes apparent when compared to other income groups. Also, these middle-income households are underrepresented compared to middle-income households nationwide. The only exception to this is the one-parent-one-child household. Remarkably, for many underrepresented household types, such as the couple-two-children, couple-three-children, and one-parent-three-children households, the mid-segment rental housing supply in Groot-Amsterdam is not affordable when earning an income near €36,798.

	Not affordable	Perhaps affordable	Affordable	Total
One-person (1)	0%	0%	100%	100% (56,044)
Couple (2)	0%	61%	39%	100% (56,044)
Couple-one-child (3)	0%	100%	0%	100% (56,044)
Couple-two-children (4)	0%	100%	0%	100% (56,044)
Couple-three-children (5)	36%	64%	0%	100% (56,044)
One-parent-one-child (2)	0%	0%	100%	100% (56,044)
One-parent-two-children (3)	0%	11%	89%	100% (56,044)

Table: 8.1: Affordability of the mid-segment rental housing supply in Groot-Amsterdam per household composition type (WoON, 2018) (own table).

8.2.1 The accessibility of rental housing in Groot-Amsterdam

Middle-income households do not have access to the social housing segment, but they may not have access to mid-segment rental housing either. Section 4.5 discusses the accessibility of the mid-segment rental housing supply for middle-income households. This section noted that middle-income households with a gross annual income near €36,798 only had access to housing with monthly rent starting at €766. According to Van Den Bos (2020, p.V), mid-segment rental housing mostly starts with housing prices somewhere between €850 and €900 a month. The monthly rental housing price of €850 is accessible for households with an annual gross income starting at €40,800, and the monthly rental housing price of €900 is accessible for households with an annual gross income starting at €43,200.

8.3 Spatial standards in relation to the housing supply in Groot-Amsterdam

Section 7.3 gave us some insight into the value that middle-income households ascribe to meeting the spatial standard in relation to surface area and number of rooms (through data on their preferences). For some household types, the whole mid-segment is affordable, but for others, it is the contrary. Therefore, this section discusses whether the affordable part of the housing supply is following the spatial standards for household types for whom the mid-segment is partly affordable. Section 8.2 concludes that for the couple, couple-one-child, couple-two-children, and couple-three-children households, with a gross annual income near €36,798, mid-segment rental housing is not affordable. In addition, it can be questioned whether the housing supply in Groot-Amsterdam is following the spatial standards for a specific household type.

If the couple lives according to the spatial standard, it inhabits housing with a surface between 40 and 65 square metres and two rooms. Viewing the mid-segment rental housing supply, it only lacks sufficient housing with two rooms. However, the largest part of the housing supply contains housing with a greater number of rooms. Therefore, the housing supply meets the spatial standards of the couple.

The couple with one child lives according to the spatial standard when their housing has a surface area between 52 and 87 square metres and three rooms. When looking at the mid-segment rental housing supply of Groot-Amsterdam (section 5.1), one can conclude that quite a large part of the mid-segment rental housing supply complies with the spatial standard of the couple-one-child household.

The couple with two children lives according to the spatial standard when their housing has a surface area between 64 and 109 square metres and four rooms. In accordance with section 5.1, the mid-segment rental housing supply in Groot-Amsterdam consists of sufficient housing with these characteristics. Therefore, living following the spatial standards for this household type is not an issue.

The couple with three children lives according to the spatial standard when their housing has a surface area between 76 and 131 square metres and has five rooms. When looking at the mid-segment rental housing supply in Groot-Amsterdam, one can conclude that only a small part of this supply meets the requirements for the spatial standards for this household type.

An assertion on why some household types live above the spatial standard and others below is the following: the largest part of the housing supply consists of housing with generic characteristics. Another hypothesis is that some household types do not have the monetary means to meet the spatial standard. Section 6.3 shows that foremost the couple-two-children and couple-three-children households live in housing that does not meet the spatial standard. Also, in section 7.3 is determined that these households are more likely to prefer housing below the household's spatial standard. Also,

these household types are the household types that cannot afford anything in the mid-segment rental housing supply. Thus, if the mid-segment rental housing supply meets the spatial standards, living in accordance with the spatial standards for these household types comes in jeopardy when housing is not affordable.

In concluding, for all these household types except for the couple-three-children household, the mid-segment meets the spatial standards, which means that housing with five rooms is not sufficiently facilitated in this supply.

8.4 Conclusion

In the introduction of this chapter, it was stated that this chapter would answer the following research question: *"What housing preferences of middle-income households are not sufficiently affordably facilitated in the mid-segment rental housing supply of Groot-Amsterdam?"*

When looking at the current situation of different household types, it can be concluded that most of the different household types do not live in accordance with their housing preferences (table 8.3). The main reason why most households do not live following their housing preferences is that they have a preference toward single-family housing, or they live in housing with a smaller surface area or the number of rooms than they prefer.

When middle-income households would make use of the total rental housing supply, concerning their preferences, it could be concluded that it lacks mid-segment rental housing. The rental housing supply does not consist of sufficient single-family housing; housing with a surface between 96 and 120 and over 120 square metres, and housing with three or four rooms. If middle-income households would live in their designated rental housing supply, the mid-segment, it could be concluded that it lacks housing with three and five rooms. All the other housing characteristics are sufficiently facilitated in the mid-segment rental housing supply. Since middle-income households do not have access to the social housing segment, it is assumed in this study that middle-income households depend on mid-segment rental housing. This means that the mid-segment rental supply lacks housing for the household types that mostly prefer housing with three or five rooms.

Next to the housing characteristics that are not sufficiently facilitated, affordability could be an issue. Especially for the couple, couple-one-child, couple-two-children, couple-three-children, and one-parent-three-children households this is the case. If they have an income near €36,798, mid-segment rental housing is not affordable. Concerning the couple-three-children household, this is also the case for an income near €51,750. Next to the affordability of housing, the accessibility of mid-segment rental housing is an issue as well. For all middle-income households with an annual gross income below €43,200, the mid-segment housing supply is barely accessible.

When looking at the spatial standards, it can be concluded that a part of the different household types does not live in accordance with the spatial standard, namely the couple-two-children, couple-three-children, and one-parent-two-children households. The housing supply consists of housing in accordance with one spatial standard for each household type except for the couple-three-children. This is because the mid-segment rental housing supply does not contain plenty of housing with five rooms. Therefore, housing with five rooms is not sufficiently facilitated in Groot-Amsterdam. The other household types not meeting the spatial standards may have to do with the household's affordability.

Following the different household types' housing preferences, it can be concluded that mid-segment rental housing with three and five rooms is not sufficiently facilitated in Groot-Amsterdam. When

looking at the spatial standards, only housing with five rooms is not sufficiently facilitated in Groot-Amsterdam. The primary spatial standards define what surface area and number of rooms are needed for housing to be a 'merit good'. A merit good can be defined as a good from which a household benefits upon consumption but from which society gains as well (Economicsonline, n.d.). Therefore, in case of the increase of mid-segment rental housing, the focus should meet the spatial standards affordably, rather than meet the housing preferences affordably of middle-income households.

	Affordability	Housing supply contains sufficient housing according to housing preferences	Housing supply contains sufficient housing according to the spatial standard	Households live according to their housing preferences	Households live according to the household's specific spatial standards
One-person (1)	Affordable	No	Yes	Yes	Yes
Couple (2)	Not affordable until affordable	No	Yes	Yes	Yes
Couple-one-child (3)	Not affordable until perhaps affordable	Yes	Yes	No	Yes
Couple-two-children (4)	Not affordable until perhaps affordable	No	Yes	No	No
Couple-three-children (5)	Not affordable	No	No	Yes	No
One-parent-one-child (2)	Affordable	No	Yes	No	Yes
One-parent-two-children (3)	Affordable	Yes	Yes	No	No

Table 8.3: Overview affordability, housing preferences and liveability of the mid-segment rental housing supply in Groot-Amsterdam, divided per middle-income household type (WoON, 2018) (own table)

9. Policies to increase and preserve mid-segment rental housing

This chapter discusses background information needed for the qualitative study. As discussed in chapter 3, the qualitative study does not just take into account Groot-Amsterdam, but the whole Randstad since the policy instruments discussed in the qualitative study are not only applicable to Groot-Amsterdam but to all large cities in the Randstad. Moreover, for the execution of different instruments they need to be customised to the concerning municipality. Since the qualitative study answers the following research questions, answers to these questions are discussed in this chapter:

- *"What policy instrument can be used to steer the market into increasing housing, which is affordable for middle-income households and following their preferences?"*
- *"How can the increased housing supply for middle-income households, which is affordable and following their preferences be preserved in the Randstad?"*

The outcomes from this chapter are used as a starting point for the semi-structured interviews, discussed in chapter 10.

Section 9.1 discusses the municipal policies of Amsterdam, Rotterdam, The Hague and Utrecht. Thereafter, section 9.2 discusses the vision of investors on the housing market. This chapter concludes with section 9.3, which discusses different policy instruments that could steer the housing supply into increase and preservation.

9.1 Municipalities and their used instruments

Section 2.6 and 2.7 discusses the different instruments that governmental bodies can use to steer the housing market. Also, the central government's instruments and some general municipal instruments are discussed in that chapter. Next to the general instruments that are used by municipalities, each municipality has their own housing policy. To understand how the mid-segment rental housing can be increased in specific municipalities, some background information of the policy of these municipalities is necessary. Therefore, this chapter will elaborate on the municipal instruments that are used specifically in Amsterdam, Rotterdam, The Hague and Utrecht. For each municipality the current situation, current policy, utilised new construction instruments, used instruments regarding the current housing supply, the newly built housing supply, and the performance of the housing policy will be discussed.

9.1.1 Amsterdam

In 2016, the municipality of Amsterdam counted 840.000 inhabitants (Gemeenteraad van Amsterdam, 2017, p.5). Probably, this number will increase to 900.000 in the year 2025. Between 2015 and 2017, new construction has increased tremendously. Although there is a lot of new construction, the housing shortage still exists, and housing prices in Amsterdam have risen significantly. Therefore, the municipality of Amsterdam is using different instruments to steer the market into having the total housing supply be increased.

In 2015 the total housing supply of Amsterdam counted approximately 420.000. 12% of the housing supply is private rental housing, from which only 5,6% is affordable for middle-income households (Gemeenteraad van Amsterdam, 2017, p.14). Approximately 16% of the households of Amsterdam earns a middle-income. From the total amount of middle-income households, only 10% lives in private rental housing meant for middle-income households (figure 9.1). Only 23% of the middle-income households own housing intended for middle-income households, which means, most of the middle-income housing is not allocated to middle-income households.
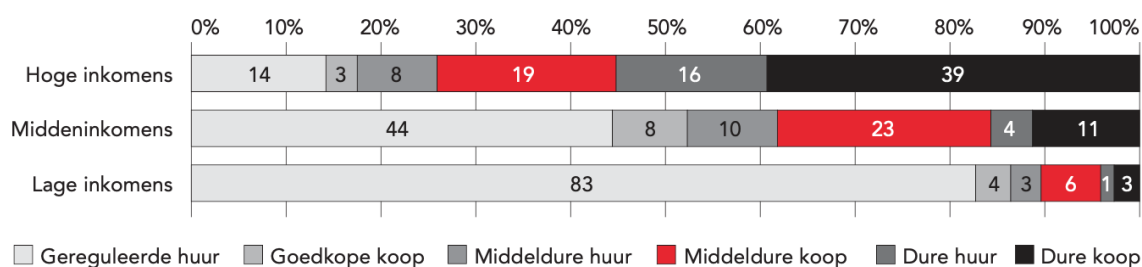
Figure 9.1: division of income groups by housing segment in 2015 (Gemeenteraad van Amsterdam, 2017, p. 16).

Presumably, in 2025, the total private rental housing supply for middle-income households will grow to 9% of the total housing supply (Gemeenteraad van Amsterdam, 2017, p.30). In 2019, 7% of the total housing supply existed as private rental housing for middle-income households (Gemeente Amsterdam, 2020, p.7). In 2019, the average rent level of private rental housing was €1.286 a month. This is low in comparison to the average monthly rent level after mutation, which is about €1.397 a month (Gemeente Amsterdam, 2020, p.1).

Private rental housing has a vital role in the housing market in Amsterdam. Although this part of the market plays an important role, in this sector, households have an above-average desire to move (Dignum, 2020, p.8). The percentage of households that would like to move is 43% for households living in private rental housing in Amsterdam. There is only a small number of households in Amsterdam that is interested in private rental housing with the rent being above €1.000 a month (Dignum, 2020, p.19). Furthermore, 8% of the total amount of households that want to move and live in Amsterdam, want to move
into other housing in Amsterdam. Although 8% of the households with a desire to move would like to stay in Amsterdam, households, mostly families with young children, who prefer ground bounded dwellings move more often to other municipalities (Dignum, 2020, p.20).

The overarching municipal policy steers into providing sufficient and affordable housing of good quality for now, for the future for all inhabitants of Amsterdam (Gemeenteraad van Amsterdam, 2017, p.6). The municipality has the ambition to steer the market into new construction of 1.500 private rental dwellings for middle-income households per year (Gemeenteraad van Amsterdam, 2017, p.35). To convey their ambitions, the municipality of Amsterdam has created a plan of action concerning mid-segment rental housing. A private rental dwelling for middle-income households can only have a maximum rent between €710 and €971 a month. Also, the average rent of a project needs to be €850 a month. To prevent rental pricing of newly constructed private rental housing from rising, the municipality has set conditions for investors in the land lease (in Dutch: erfpacht) and by the use of the tender procedure (Gemeente Amsterdam, n.d.). The investors are not allowed to raise the monthly rent, besides correcting for inflation, during the first 25 years and this is also the case after mutation (Gemeenteraad van Amsterdam, 2017, p.39). Also, they are prohibited to sell individually for at least 25 years regarding the newly constructed mid-segment rental housing, and investors get lower land prices in return. The municipality stresses the importance of new construction of private rental housing for middle-income families. The municipality aims that a significant part of the newly constructed housing for middle-income households has to be larger than 70 square metres (Gemeenteraard van Amsterdam, 2017, p.42).

In order to agree on certain regulation, the municipality of Amsterdam participates in collaboration together with investors, developers and housing associations. Next to the collaboration table, private parties have developed a platform called 'Platform Middenhuur Amsterdam' (PAM). PAM is a platform for housing associations and investors to make arrangements with the municipality of Amsterdam.

Next to procedures and regulations the municipality of Amsterdam uses to steer the market actors into new development, the municipality also regulates to preserve the mid-segment rental housing. Therefore, the municipality demands a residential programme including mid-segment rental housing in their zoning plan (Gemeente Amsterdam, n.d.). The zoning plan consist of housing ordinance (in Dutch: huisvestingsverordening). By the use of the housing ordinance in combination with a housing permit (in Dutch: huisvestingsvergunning), housing can be allocated to middle-income households with income until 1,5 times the gross average income (Gemeenteraad van Amsterdam, 2017, p. 52; Gemeente Amsterdam, n.d.). Also, the housing permit gives key workers and households who move up (or down) from social housing precedence to mid-segment rental housing in Amsterdam. Furthermore, households with a child under 12 years old, or a child over 12 years old, get precedence for dwellings with three rooms (Gemeente Amsterdam, n.d.).

Although the ambitions concerning mid-segment rental housing of the municipality of Amsterdam are high, they are currently behind on them, as they stated in their action plan (B&W, 2019, p. 18-19). Some of the causes were the increased building costs, and the decreased availability of building capacity. Also, the pressure on the Amsterdam housing market has increased since the introduction of the action plan. Therefore, investors are no longer able to meet all the desires of the municipality and are no longer able to take part in tender procedures regarding mid-segment rental housing in Amsterdam. The reason for this is that with the current restrictions concerning rental increase, investors are no longer able to meet their requirement interests on investment (B&W, 2019, p.19). The housing supply of mid-segment rental housing has decreased by more than 1.000 dwellings (Paling, 2020 a).

Since the ambition of the municipality of Amsterdam had not been caught up upon, new agreements had to be made. For new construction counts that the rent needs to be between €727,14 and €1.027,37 for the first 25 years. In the first 20 years rent increase can only be CPI indexation plus 1%. After 20 years, for new tenants counts a rental price that is discussed between the tenant and renter. Individual sales are not allowed in the first 25 years after construction (Paling, 2020 a).

9.1.2 Rotterdam

In 2016, the municipality of Rotterdam counted approximately 630.000 inhabitants (Gemeenteraad van Rotterdam, 2016, p.9). 13% of the inhabitants in Rotterdam earns a middle-income (Sijbers, Postma, de Bruin & Wijbrands, 2019, p.7). Presumably, the population will grow during the coming years with 4300 inhabitants a year (Gemeenteraad van Rotterdam, 2016, p.50). Remarkable for this growth is that it is a growing of the young population (20-35 years). In 2015 the number of households in Rotterdam was 321.000. Of these households, an outstanding part of the households consists of one-person households. Annually, 75.000 people move from or to Rotterdam, which means that 6% of the population has changed within only one year. Most people who move from Rotterdam to other municipalities are people above the age of 30 years (Gemeenteraad van Rotterdam, 2016, p.54). Within Rotterdam 24.000 people move in a year.

In Rotterdam, there is a big shortage of private rental housing (Gemeenteraad van Rotterdam, 2016, p.10). In 2014 the category private rental housing counted approximately 28.300 dwellings, which is 9% of the total amount of dwellings in Rotterdam (Sijbers, Postma, De Bruin & Wijbrands, 2019, p.6). Of these dwellings, 50% has a surface exceeding 100m2. Around 35% of these dwellings are ground bounded dwellings, and 26% are apartments. Rotterdam is in need of 2.900 until 4.000 more liberalised rental dwellings in the market (Gemeenteraad van Rotterdam, 2016, p.63).

The municipality of Rotterdam aims for Rotterdam being and becoming a place for inhabitants of all layers of the population. Therefore, the city needs to provide housing for all residential environment-

types. The current situation in Rotterdam is that there is a lot of housing for low-income households (56% the housing stock) and not so much for different income groups. The municipality of Rotterdam aims towards a new balance with more housing for middle- and high-income groups in comparison with the current situation.

The municipality of Rotterdam aims to increase its supply by 36.000 dwellings for middle- and high-income households before 2030 (Gemeenteraad van Rotterdam, 2016, p.14). For new construction, the municipality prefers dwellings above €180.000 for homeownership and dwellings with a monthly rent between €711 and €1000 for private rental housing. The municipality of Rotterdam aims to construct 8.000 dwellings for middle-income households before 2030. Of these 8.000 rental dwellings, two thirds will be rental housing (Sijbers et al., 2019, p.9). Furthermore, the housing stock of private rental housing will increase by revaluing rents within the current housing stock. At this moment, the municipality of Rotterdam would have the focus on housing for young households who just have graduated from university or in university of applied sciences (Gemeenteraad van Rotterdam, 2016, p.34).

For the increase of mid-segment rental housing, the municipality of Rotterdam has made an action plan. The action plan consists of objectives and regulations of new constructions and current housing stock. The municipality presents their objectives through tender procedures as well and regulates them by the 'land lease agreement'. In the land lease agreement is stated that mid-segment rental housing needs to have a monthly rent between €710 and €1000 for at least 15 years (Sijbers et al., 2019, p.9). The annual price indexation cannot be over CPI indexation plus 1,25% for at least 15 years. Also, individual sales are not allowed within the first 15 years following construction. All newly constructed dwellings need to have an average surface and an average initial rent, which will be stated for each project separately. To attain these aims, the municipality of Rotterdam grants a discount on the land price, by the use of the residual value method.

Furthermore, the municipality of Rotterdam would like to stimulate a couple of initiatives. They stimulate innovative living concepts. Furthermore, they stimulate the expansion of the social housing supply of housing associations they can flow through mid-segment rental housing after 10 years (Sijbers et al., 2019, p.9). The municipality of Rotterdam would like to employ housing associations for the increase of mid-segment rental housing directly as well. Therefore, the municipality is discussing the expandability of construction of housing associations in Rotterdam. Next to stimulation of newly constructed social housing, the municipality aims for the transformation of social housing to mid-segment rental housing. Moreover, the municipality of Rotterdam is considering using the emergency instrument that the central government has introduced.

For mid-segment rental housing the municipality gives precedence to middle-income households and key workers to enter mid-segment rental housing. They grant this precedence by the use of the housing ordinance and the housing permit.

To reach agreement on certain regulation, the municipality of Rotterdam participates in the collaboration table together with investors, developers and housing associations. To keep an eye on the progress of the action plan and the agreements they made, the municipality monitors the housing market frequently (Sijbers et al., 2019, p.9).

Regarding successes of the current housing policy concerning mid-segment rental housing, no documentation can be found. Although no specific reports on the progress of the current housing policy have been published, recently a lot of new construction including mid-segment rental housing has been announced. Whether all these projects together meet the objectives of the municipality is not known.

9.1.3 The Hague

The municipality of The Hague counts approximately 540.000 inhabitants. Presumably, The Hague will grow with 4.000 until 5.000 inhabitants by 2023 (Gemeente Den Haag, 2019, p.5). Private rental housing covers 22% of the total housing stock in The Hague, which is a total of 54.000 dwellings. Institutional investors own 37% of the 54.000 private rental dwellings in The Hague. In the past year, the supply for middle-income households has decreased. Therefore, the monthly rent of dwellings has increased in the past year as well (Gemeente Den Haag, 2019, p.6). The municipality aims to turn this development around.

For the municipal policy of The Hague increasing the supply of housing for low- and middle-income households has a high priority. This part will elaborate upon the policy concerning mid-segment rental housing. The municipality of The Hague aims for a minimum production of 20% of mid-segment housing. Of this 20%, 50% should have a rent between €700 and €850 a month, and 50% should have a rent between €850 and €950 a month (Gemeente Den Haag, 2019, p.11). For new construction, the rent increase for the coming 20 years can be no higher than the CPI index rate and individual sales are only possible after the 20-year period. Moreover, the municipality aims to regulate the minimum surface of newly constructed dwellings. Also, to make new construction future proof, the municipality has put a hold on the construction of small housing. Such construction is only permitted for housing with certain target groups (Gemeente Den Haag, 2019, p.21). The municipality stimulates buy-to-let for newly constructed dwellings as well. In the municipality of The Hague, each tender procedure includes a part of mid-segment rental housing. Also, the residential programme will be demanded by use of the zoning plan and regulated by use of the land lease. Furthermore, the municipality is looking to ease the regulations for housing associations on the construction of mid-segment rental housing. In exchange for abiding by these regulations, the municipality grants a discount on the land price, by use of the residual value method.

One of the measures taken by the municipality involves keeping private rental housing available for middle-income households, by raising the limit for a housing permit (in Dutch: huisvestingsvergunning) to €950 for the next four years. The housing permit has an income limit of €55.000 a year for one-person households and of €65.000 for more-person households. Because of the housing permit, it is not possible with an income above €55.000 for one-person households and an income of €65.000 for more-person households to rent dwelling with a monthly rent below €950.

In order to agree on certain regulation, the municipality of Rotterdam participates in the collaboration table together with investors, developers and housing associations. To keep an eye on the progress of the action plan and the agreements made, the municipality monitors the housing market frequently (Gemeente Den Haag, 2019).

Likewise, on the municipality of The Hague's no documents can be found regarding success of the current housing policy concerning mid-segment rental housing. Although no specific reports on the progress of the current housing policy have been published, a lot of new construction including mid-segment rental housing has recently been announced. Whether all these projects may together accomplish the objectives of the municipality is unknown.

9.1.4 Utrecht

In 2018 the municipality of Utrecht counted approximately 350.000 inhabitants and 180.000 households. Following the prognosis, the number of inhabitants will grow to 450.000 in 2040 (Schuurmans & Krijnen, 2019, p.40). Approximately, 50% of the households in Utrecht are one-person households, 25% are families, and 25% are two-person households. Because of young one- and two-

person households moving to Utrecht, there is a settlement surplus of 1.500 households a year. Nonetheless, the residential growth is mainly accounted for by a significant birth surplus. Added to that, there are issues concerning a lack of vacancies in certain segments of the job market (Schuurmans & Krijnen, 2019, p.12).

The total amount of dwellings in Utrecht is 150.000. By 2040, approximately 60.000 more dwellings are needed (Schuurmans & Krijnen, 2019, p.40). Of this total housing supply, approximately 9-13% is private rental housing, liberalised housing of housing associations not included. Schuurmans and Krijnen (2019, p.43) state that new construction on itself will be insufficient to bring balance to the demand of private rental housing for middle-income households in Utrecht. Because of the shortage of mid-segment rental housing, the housing prices in this segment have been rising, which has been leading to a gap between social housing and liberalised rental housing.

Utrecht aims for healthy urban livelihood for all residents (Schuurman & Krijnen, 2019, p.7). Therefore, the municipality aims for balancing housing prices in every neighbourhood. Utrecht aims to be a city for all households regardless of income and age (Schuurman & Krijnen, 2019, p.10). According to the municipality, the housing supply consists for 25% of housing for middle-income households. Utrecht has an annual shortage in housing for middle-income households of 500 to 1.500. The former housing policy of Utrecht has resulted in newly constructed dwellings that are quite small in relation to the rental price (Gemeente Utrecht, 2017, p.10). Keeping owner-occupied housing affordable for middle-income households is difficult. Therefore, the municipality focuses on mid-segment rental housing (Schuurmans & Krijnen, 2019, p.20).

By the use of tender procedures and the land lease, the municipality of Utrecht attempts to regulate new construction. In the tender procedure, for mid-segment rental housing, there is much demand for housing with a rent between €710 and €950 a month with an indexation of CPI, plus 1% for at least 20 years (Gemeente Utrecht, 2019). All individual sales are only allowed after 20 years after construction. Also, a minimum surface of housing is set in combination with a monthly rental price. In return, the municipality grants a discount on the land value by use of the residual value method.

To ensure that the housing for middle-income households will be let to middle-income households, Utrecht has a precedence system (Schuurman & Krijnen, 2019, p.30). The precedence system is implemented by the use of Woningnet. The precedence system is linked to a housing permit system. Also, this system is the checking system that is used to make sure that households are eligible for private rental housing for middle-income households. The new precedence system is enforced since January 2020. The rules regarding precedence are as following; from most to least important (Gemeente Utrecht, 2019, p.16):
1. Households that move from social housing toward private rental housing for middle-income households with an income €55.000 or less a year for one-person households and an income of €65.000 or less a year for two-person households;
2. Households with an income €55.000 or less a year for one-person households and an income of €65.000 or less a year for two-person households.

In order to agree on certain regulation, the municipality of Rotterdam participates in the collaboration table together with investors, developers and housing associations (Gemeente Utrecht, 2019). Also, the municipality of Utrecht handed out an award for the most innovative project of the past years concerning mid-segment rental housing (Stadszaken, 2020 a).

Just one year after the introduction of the action plan concerning mid-segment rental housing, 540 mid-segment rental dwellings have been constructed (Vastgoedmarkt, 2020). And another 810 mid-segment rental dwellings are being constructed. For the future another 4.000 until 5.000 dwellings are scheduled, but this does not exceed the 7.000 necessary mid-segment rental dwellings in Utrecht.

9.1.5 Analysis of used instruments of municipalities

This section discusses the similarities between policy by Amsterdam, Rotterdam, The Hague and Utrecht, as well as the differences. A summary of the municipal policies and other measures can be found in table 9.1. Remarkably, most municipalities have combined a set of similar instruments to steer market actors into construction and preservation of mid-segment rental housing. There are only minor differences between the different municipal policies and the execution of the policies.

First of all, municipalities use their zoning plan to allocate rental housing with a specific rental price for property that is not their own. Also, the municipality steers market actors by issuing tender procedures that contain certain rules concerning rental housing price, surface, price indexation, individual sales, etc. These regulations are enforced through the land lease. Thereafter, the municipality uses the housing ordinance in combination with the housing permit to allocate housing to households that is intended for their target group. All these measures combined are meant for increasing and preserving housing for middle-income households and allocating this housing to the target group. When allotting municipal land for new development, the land value is determined by the use of the residual value method taking the measures and policies into account. The outlines of the municipal policies are similar.

Most differences between the housing policies and measures can be found in the details of the policies and measures. For all cities, the mid-segment rental housing starts with a rental price of €710 a month. The upper limit of mid-segment rental housing can differ slightly per municipality. For Amsterdam and Rotterdam, the upper limit of the rent is approximately €1000 a month and for The Hague and Utrecht approximately €950 a month. Only Rotterdam deviates in the number of years CPI indexation is prohibited, the number being 5 years shorter than in other municipalities. Also, the number of years whereafter individual sales are possible differs per municipality. In the Hague and Utrecht individual sales are enabled after 20 years, in Amsterdam after 25 years, and in Rotterdam after 15 years.

All municipalities have made use of the collaboration table except for Rotterdam. Although Rotterdam has not made use of the collaboration table, they increased their stimulus instruments a lot in comparison to the other municipalities. Also, the municipality of Rotterdam is more focussed on stimulus instruments for housing associations in comparison to the others; the reason being that the rental housing supply of Rotterdam contains a high share of social housing. The municipality of Rotterdam has been trying to increase higher rental housing supply segments for some time.

Type of instrument	Instrument			
	Amsterdam	Rotterdam	The Hague	Utrecht
Shaping instruments	- Municipal housing vision to steer the market to new construction of mid-segment rental housing 1.500 a year; - Action plan mid-segment housing;	- Housing vision; - Action plan mid-segment housing;	- Housing vision;	- Housing vision; - Action plan mid-segment housing;
Regulatory instruments	- Tender procedure with project specific demand concerning surface area and quality; - Conditions in land lease contract such as minimum allowed rent level of €737,14 a month, maximum allowed rent level of €1027,37 a month and no more than the CPI indexation plus 1% for at least 20 years; - Demanding composition of residential program by the zoning plan; - Allocating precedence for middle-income households and household who flow through form social housing with a maximum income of 1,5 times the gross average income by using the housing ordinance and housing permit; - Allocating precedence of dwellings with 3 rooms to a household with 1 child younger than 12 years and 1 child older than 12 years by using the housing ordinance and housing permit; - Individual sales are not allowed within the first 25 years;	- Tender procedure; - Condition in land lease agreement such as initial monthly rent for at least 15 years in mid-segment (between €710 and €1000 a month), annual price indexation by CPI plus 1,25% and individual sale will not be possible during this period; - Demanding composition of residential program by the zoning plan; - Housing ordinance in combination with the housing permit for example for precedence for middle-income households and key workers in mid-segment rental housing; Emergency instrument. - Average surface and average initial rent within each mid-segment rental housing project; - Individual sales are not allowed within the first 15 years;	- Tender procedure always includes a fixed part of housing for middle-income households; - Conditions in land lease contract such as minimum allow rent level of €710 a month, maximum allowed rent level of €971 a month and no more than CPI indexation for at least 20 years; - Demanding composition of residential program by the zoning plan; - Housing ordinance in combination with the housing permit precedence of middle-income households for mid-segment rental housing until a monthly rent of €950; - Regulating surface area; - Individual sales are not allowed within the first 20 years; - Making it impossible for newly constructed dwellings to sell for buy-to-let;	- Tender procedure; - Conditions in land lease contract such as minimum allow rent level of €710 a month, maximum allowed rent level of €950 a month and no more than CPI plus 1% indexation for at least 20 years; - Housing ordinance precedence of middle-income households for mid-segment rental housing until a monthly rent of €950; - Zoning plan including maximum rent price; - Housing ordinance in combination with the housing permit for example for precedence for middle-income households and key workers in mid-segment rental housing; - Conditions in land lease of a minimum surface for each rental price; - Individual sales are not allowed within the first 20 years;
Stimulus instruments	- Discount on land prices of larger middle-income housing by using residual value;	- Stimulating innovative living concepts; - Stimulate expending social housing of housing associations, so that residents can flow through to the mid-	- Discount on land prices of larger middle-income housing by using residual value;	- Discount on land prices of larger middle-income housing by using residual value;

	Amsterdam	Rotterdam	The Hague	Utrecht
	segment housing after 10 years; - Transform social housing to mid-segment rental housing; - Discount on land prices of larger middle-income housing by using residual value;			
Capacity-Building instruments	- Collaboration table with private actors; - Discussion with private parties and housing associations to stimulate collaboration; - Platform Amsterdam Middenhuur (PAM): PAM is a platform for housing associations and investors to organize arrangements with the municipality of Amsterdam.	- Private tailor-made agreements; - Asking central government for increasing building capacity for mid-segment rental housing of housing associations; - Monitoring rental housing prices;	- Collaboration table with private actors; - Asking central government for widening building capacity for mid-segment rental housing of housing associations;	- Collaboration table with private actors; - The use of WoningNet for precedence system; - Award innovative projects concerning mid-segment housing.

Table 9.1: Overview of used instruments concerning mid-segment rental housing in Amsterdam, Rotterdam, The Hague and Utrecht (Gemeente Amsterdam, n.d.) (own table)

9.2 Investors' vision for the housing market, as derived from literature

Not only governmental bodies have a vision for the housing market. Investors do as well. To have a complete overview of policies and visions concerning the housing market, investors' vision needs to be taken into account. This section discusses the investors' vision for the housing market, derived from literature.

Investment in residential housing is popular amongst investors; 90% of the residential investors choose residential real estate above other real estate. Investors are mostly interested in rental housing with a monthly rental price in between €711 and €900 a month (Arts, Geuting & Van Geffen, 2017, p.3). Almost all institutional investors charge a rental price of up to €1.000 a month and for large cities up to €1.200 a month (IVBN, 2018, p.1). Also, most of the investors have precedence for the Randstad, but other regions become more attractive.

Although investors reserve lots of capital for the Dutch residential market, their targets are usually not achieved. There are three important reasons why investing in mid-segment rental housing is difficult for investors. Firstly, the land prices are high; therefore, a mid-segment rental housing business case is mostly not achievable. Secondly, the policies by most municipalities concerning mid-segment rental housing are unclear to investors. Thirdly, municipalities often have cold feet for working together with investors (Arts, Geuting & Van Geffen, 2017, p.3). Although land prices are a bottleneck in some regions when developing mid-segment rental housing, in regions where the pressure on the housing market is less of an occurrence, investors can easily develop mid-segment rental housing (IVBN, 2018, p.1).

Cooperation between municipalities and investors could stimulate the increase of the mid-segment rental housing market. Although 90% of the investors express that they would like to work regularly with municipalities, only 13% of the investors maintain contact with them on a regular basis (Arts, Geuting & Van Geffen, 2017, p.3). The most important topic that investors want to discuss with

municipalities is the number of dwellings, land prices, and the length of the term after which individual sales are allowed for. Investors are also willing to discuss other topics such as initial rent price and yearly price indexation (Arts, Geuting & Van Geffen, 2017, p.10). Also, they would like to work together with housing associations more often.

Investors also have precedence for a certain type of housing. Investors have precedence of investing in apartments with a surface between 70 and 90 square metres and single-family housing with a surface between 100 and 120 square metres (Arts, Geuting & Van Geffen, 2017, p.3). The most favoured target group of investors are one-person households and couples. One of the least favoured investment products are apartments with a surface smaller than 50 square metres. When looking at the housing preferences of middle-income households, it is quite similar to the investors' preference.

9.3 Possible instruments to increase and preserve the housing supply

What follows is a discussion of several measures/instruments that aim to increase the affordable rental housing supply for middle-income households in urban areas, taking their preferences into account. Thus, this section is a preliminary study for the qualitative study discussed in chapter 10. Therefore, this chapter discusses possible answers to the research questions:

- *"What policy instrument can be used to steer the market into increasing housing, affordable for middle-income households and following their preferences?"*
- *"How can the increased housing supply for middle-income households, which is affordable and following their preferences be preserved in the Randstad?"*

Section 9.3.1 discusses housing systems. Section 9.3.2 addresses high land prices. Section 9.3.3 finalises with a conclusion. For this chapter, a broad study has been performed. The instruments addressed in qualitative research are discussed in this chapter. The other instruments can be found in appendix VI.

9.3.1 Housing systems

This section discusses different aspects of housing systems. By the use of different housing systems, some parties such as housing associations are regulated.

9.3.1.1 Market test
In section 9.1, municipal policies are discussed. Some of the municipalities would like to see the market test eased so that housing associations are able to develop mid-segment rental housing. Observing the quantitative study, there is no reason those housing associations should not be able to develop mid-segment rental housing. Therefore, abolishing the market test completely is considered to be an instrument that could be used to increase the mid-segment rental housing supply and is discussed in this section.

As has been gone over in section 2.7.1, for recent development of non-SGEI housing, housing associations needed to perform a market test to prove that no market parties are interested in developing non-SGEI housing in that area. The prohibition of the construction of non-SGEI housing was caused by the obligated separation of SGEI and non-SGEI tasks. Therefore, the SGEI and non-SGEI tasks were categorised as either 'juridically' or 'administratively'. For non-SGEI tasks, it states that it cannot be financed by the SGEI branch (Van De Kuilen & Rosens, 2020, p.98). Also, non-SGEI tasks cannot be financed with the same benefits as SGEI tasks. Therefore, non-SGEI tasks should be financed under the same conditions as market actors. Thus, developing non-SGEI housing by housing associations happens on an equal level playing field as market parties in the case of no market test. In

the past year, the market test for housing associations has been eased (Aedes, 2019). For housing associations, it means that in the situation of land lease and land sale between housing associations in certain criteria, a market test will no longer be necessary. But the market test could also completely be abolished. Potentially, completely abolishing the market test for housing associations could enormously speed up new construction of mid-segment housing.

9.3.1.2 Landlord levy

If housing associations would play a significant role in the increase of affordable housing, they need to have capital. However, because of the landlord levy, housing associations have less capital to invest in new housing. The landlord levy was introduced a couple of years ago. Thereby, housing associations and other institutions/landlords need to pay a fee when they are letting more than 50 dwellings below the liberalisation limit. The landlord levy has caused the stagnation of social housing construction (Penders, 2019). The production of newly constructed houses has been diminished by 50%, relative to before introducing the landlord levy (Kraak, 2020). The stagnation of the social housing supply's construction could lead to increased pressure on the privately owned rental housing supply. Therefore, although the landlord levy still exists, the Dutch government has announced a discount on the landlord levy for 2021 when housing associations invest in new construction (Paling, 2020 d). Still, since there is a shortage of rental housing, the landlord levy should be completely abolished. Thereby, housing associations would have more capital to invest in new construction, which would decrease the pressure on the private rental housing segment.

9.3.1.3 Housing evaluation system

In chapter 8, the affordability of housing is addressed. It turns out that for many middle-income households with a gross annual income near €36,798, mid-segment rental housing is not affordable. Still, it is important that middle-income households able to afford the mid-segment should be able the live affordably following the spatial standards. Thus for some household types, larger housing with a greater number of rooms should be accessible in the mid-segment. A system that takes both rental housing price and quality into perspective is the housing evaluation system, which is discussed in this section.

As mentioned in section 2.7.1, the housing evaluation system is used to determine housing associations' housing rental price. Although the housing evaluation system is only used for social housing, the value system is also applicable to liberalised rental housing. The housing evaluation system consists of different types of qualities of housing. Also, the property value (in Dutch: woz-waarde) is included in the housing evaluation system. Therefore, the housing evaluation system takes market value into account as well. The housing evaluation system can be used to determine initial rental housing prices when entering the rental agreement. By rent regulation of mid-segment rental housing with the housing evaluation system, the mid-segment rental housing supply would increase with approximately 10% (Gerlag, 2020, p.4). Thereby, higher-quality housing would become regulated as well. When the rental price is determined by the housing evaluation system, the rental price is preserved. Suppose the rental price determined using the evaluation system exceeds the liberalisation limit. In that case, the landlord can decide the rental price except when agreements are made concerning rental housing price with a governmental body.

9.3.2 Lowered development costs

This section discusses an instrument that diminishes development costs. For investors, the high land prices are a large bottleneck when they are looking to invest in mid-segment rental housing (Arts, Geuting & Van Geffen, 2017, p.8). From section 9.2, it can be concluded that investors are willing to invest in mid-segment rental housing when the investment is financially feasible.

In the case of municipal land, agreements must be made regarding the land value that matches the development demands (IVBN, 2018, p.2). In most tenders, the land value is one of the criteria for which points can be earned. The land value price should be proposed by the residual land value approach. In most municipalities, land value prices are not determined completely by the residual land value approach. Therefore, investments in certain segments, including mid-segment rental housing, are not financially feasible (Paling, 2020 b). After all, the winning bid for the land value is the one that is the highest (Ballegeer, 2020). Getting points for the highest bid is conflicting with housing quality.

Diminishing the land value increases housing feasibility with a specific quality or housing price that would otherwise not be financially feasible. Also, by diminishing the land value, more developments are financially feasible and thereby will be constructed. Diminishing development costs can increase the housing supply by speeding up the development process and preserving affordable housing by demanding a rental housing price for a specific period.

Diminishing the land value could be an instrument if a need is to steer into a specific housing quality or housing price. Instruments to diminish housing costs are usually accompanied by conditions of the party that uses the cost decreasing instrument to assure their demands. The demands of municipalities are addressed in part on the different municipal policies found in section 9.1. It can be combined with a lower land price. The developer and the municipality need to come to an agreement to assure higher quality and a lower rent for a specific period. Using this agreement, a higher quality of housing and a lower rent price is guaranteed when this is included in the agreement.

9.3.3   Conclusion

From this preliminary study, the measures/instruments that are discussed during semi-structured interviews to answer the following question: *"What policy instrument can be used to steer the market into increasing housing, affordable for middle-income households and following their preferences?"* could be: lowering land prices, and complete abolishment of the market test.

In this preliminary study, measures/instruments are discussed in the semi-structured interviews in order to answer the following question: *"How can the increased housing supply for middle-income households, which is affordable and following their preferences be preserved in the Randstad?"* Some options could be: enforcing the housing evaluation system, abolishing the landlord levy and lowering high land prices.

The instruments can be categorised per type. Diminishing high land prices, abolishing the landlord levy, and abolishing the market test are stimulus instruments since they could steer certain market parties' behaviour using positive means. Rent regulation is a regulatory instrument since it prohibits landlords from charging a higher rental housing price than is determined by the housing evaluation system.

Type of instrument	Instrument	To increase or preserve
Stimulus instruments	- Diminishing high land prices; - Abolish market test completely; - Abolish landlord levy.	- To increase and preserve - To increase - To increase
Regulatory instruments	- Rent regulation by the use of the housing evaluation system.	- To preserve

Table 9.2: Overview of instruments and possible solutions to steer the housing market into the increase or preservation of housing for middle-income households in urban areas in the Netherlands, which are discussed in the qualitative research (own table)

10. The increase and preservation of affordable rental housing for middle-income households in the Randstad

This chapter elaborates on the outcomes of qualitative research. As discussed, qualitative research was used to solve the problem presented in the introduction: the shortage of fitting affordable middle-income rental housing. Two questions are essential to answer the research question: with what type of housing the supply should be increased and how the affordable mid-segment rental housing supply can be preserved. Therefore, qualitative research focusses on answering the following sub-questions:

1. *"What policy instrument(s) can be used to steer the market into increasing affordable housing, for middle-income households fitting their preferences?"*
2. *"How can the increased affordable housing supply fitting preferences of middle-income households, be preserved in the Randstad?"*

Section 10.1 discusses quantitative research outcomes, which is used as a starting point for qualitative research. Section 10.2 addresses the interviewees that participated in qualitative research. Section 10.3 is concerned with different parties' views. Finally, section 10.4 concludes with recommendations derived from qualitative research.

10.1 Insufficiently facilitated middle-income rental housing preferences

In addition to the problem statement discussed in chapter 1, quantitative research is involved with issues concerning middle-income households in the rental housing market. The quantitative study outcomes addressed in this section are used as a starting point to answer this chapter's research questions.

From chapter 1 onwards, the conclusion can be made that middle-income households in the Randstad rely on mid-segment rental housing. In Groot-Amsterdam, the mid-segment rental housing supply lacks housing with three and five rooms. All alternative housing characteristics are sufficiently facilitated.

Next to the housing characteristics that are not sufficiently facilitated, affordability is an issue. This is especially the case for the couple, couple-one-child, couple-two-children, and couple-three-children households. If they have a gross annual income near €36,798, mid-segment rental housing is not affordable. Concerning the couple-three-children household, this is also the case for an income near €51,750. In addition to the affordability of housing, the accessibility of mid-segment rental housing is also an issue. For all middle-income households with a gross annual income below €43,200, mid-segment rental housing is barely accessible.

In terms of spatial standards, one can assert that certain household types are not housed in compliance with the spatial standards: these types being the couple-two-children, couple-three-children, and one-parent-two-children households. The housing supply consists of housing that is following the spatial standards for each household type, except for the couple-three-children household. Since the mid-segment rental housing supply does not contain enough dwellings with five rooms, it can be asserted that the five room dwellings are not sufficiently facilitated in Groot-Amsterdam. For other household types, the lacking components in terms of spatial standards seem to be due to (lack of) housing affordability.

Since housing preferences can be rather subjective, one should question whether it is a right of individual households that the mid-segment rental housing supply foresees in the target group's preferences. Still, as addressed in section 2.3, housing is a merit good; households should be able to live according to the spatial standard. Also, it is essential to containing a balanced mixture of household types (Financieel Dagblad, 2017). In order to have a mixed household-city, a city needs to accommodate the housing preferences of different household types. Especially for households that have already had a long housing career, the characteristics of potential new dwellings are quite important (Boelhouwer, Boumeester & Vlak, 2019). For translating the subjective housing preferences into objective preferences, spatial standards are used. Thus, the housing supply should consist of housing conforming to the spatial standards of each household type. Therefore, the mid-segment rental housing supply should increase with five room dwellings, which could meet all households' spatial standards. However, if the municipality chooses to steer towards the increase of specific household types, this is usually considered a political choice.

10.2 Interviewed parties and their view on the housing market

In this section, the different interviewed parties are briefly introduced. As was covered in chapter 3, semi-structured interviews were conducted with a municipality, a housing association, an investor and a developer. For this study also an additional party was interviewed, namely an interviewee of an umbrella organisation. In table 10.1, an overview of the interviewed organisations, the interviewees and their job descriptions can be found. Additional information about the interviewees and the companies they represent can be found in appendix VII.

Type of organisation	Organisation	Interviewee	Function
Municipality	Municipality of Amsterdam	Michiel Mulder	Housing planning consultant
	Municipality of The Hague	Hens Zoet	Senior policy consultant at the department of urban development
Housing association	De Alliantie	Jeroen Lebbink	Asset manager of the portfolio in Almere and asset manager of the residential fund company-wide
	Portaal	Ben Schouten	Consultant public housing
		Monique Kampinga	Senior asset manager
Investor	CBRE GI	Wouter Terhorst	head of asset management residential
		Micheal Hesp	director head of strategy
Umbrella organisation	IVBN	Elisa Bontrop	Policy consultant residential market and care real estate market
Developer/investor	Wonam	Robert Kohsiek	Partner

Table 10.1: Overview of interviewees that cooperated in qualitative study (own table)

10.3 Interviewees' views on how to increase and preserve the affordable rental housing supply for middle-income households in the Randstad

Where the former sections briefly summarised the background information needed to answer the research questions, including instruments (section 9.3), this section addresses interviewees' views on and suggestions for these instruments. The different types of instruments are reviewed in section 2.6. All instruments mentioned can be found in appendix IX. Tables with the views of the different interviewees are included for all instrument types. In the table column 'lesson learned,' the pros are indicated with the colour green, the cons with the colour red, and the neutral views with the colour

orange. Section 10.3.1 addresses shaping instruments, section 10.3.2 discusses regulatory instruments, section 10.3.3 reviews stimulus instruments, and section 10.3.4 debates capacity-building instruments.

10.3.1 Shaping instruments

Shaping instruments are instruments implemented by the government that shape the decision environment by setting a broad market action context. Shaping instruments aim to clarify what type of buildings/places a governmental body would like to see developed and aim to restructure the institutional environment to deliver strategic market transformation. In this section, shaping instruments are discussed.

10.3.1.1 A more active & steering role for the central government

Upon viewing table 10.2, one may notice that many of the interviewed parties refer to (a more active and steering) role of the central government. This more active role in the increase and preservation of affordable rental housing can be considered a shaping instrument. By taking on this active role, the government can shape the decision environment. All organisations interviewed suggest a more steering of the central government, regarding the increase of affordable rental housing in general and the allocation of construction land. Also, all organisations mentioned the Ministry of Housing should be (re)elected. Their opinion is that the central government should play a more active part in the designation of building plots since only two-third of the initiated development plans make it to the construction phase. Another market party adds to this that the central government should have a clear vision towards the future of the housing market: something they do not have at the moment. One of the market parties and one of the municipalities think that the central government should have a more integrative approach to problems in the housing market. A more active role for the government should include using different types of instruments, which are discussed in the following sections. By taking a more active role, the government can both increase the affordable mid-income housing supply and help preserve it.

10.3.1.2 Developing policy frameworks with specific housing programmes per area

Another instrument that was addressed by different parties to increase and preserve the rental housing supply is creating a policy framework, including a detailed housing programme for a specific area by municipalities. Currently, most municipalities already have policy frameworks such as the housing vision discussed in section 9.1. Still, according to market parties, these frameworks are not sufficiently explicit for market parties to anticipate. However, one municipality states that market parties often do not know what the municipal plans are for a specific area. Mainly, market parties buy land, whereafter they conclude that the land was too expensive to serve the municipal goals or plans for the area. More clarity in advantage is needed.

10.3.1.3 Give housing associations back the right to develop mid-segment rental housing

In addition to shaping the decision environment by creating frameworks, the central government can shape the decision environment by giving housing associations back the opportunities to operate in other housing segments. In the past years, Dutch housing associations could not develop mid-segment rental housing due to enforced housing ordinances, as addressed in section 2.7. These housing ordinances included using the market test, which was recently abolished for the coming three years. When the housing associations are able to take on a more active role in the increase and preservation of the affordable rental housing supply, the institutional environment will automatically end up being restructured.

10.3.1.4 Abolish the market test

Abolishing the market test is one of the proposed instruments addressed in section 9.3. Enabling housing associations to assume a more active role regarding the mid-segment increase can only be achieved by abolishing the market test. According to the housing associations, taking on this more active role helps preserve the mid-segment rental housing supply. This instrument would give housing associations the ability to create a more permanent mid-segment since they would only annually increase the rental price by inflation. According to several parties, having housing associations develop mid-segment rental housing is interesting since they are able to get a higher return from this segment compared to the social segment. They can use this higher return to invest in yet more housing.

The housing associations and municipality also state that, since housing associations can develop in market contrary (in Dutch: markt contrair), they can develop larger housing. Moreover, like market parties, housing associations are unable to develop large family housing for the mid-segment. According to the housing associations and one of the municipalities goes that: if the municipality prefers bigger mid-segment rental dwellings, they should lower the land prices. However, according to market parties and the municipality, market parties can still develop mid-segment rental housing as long as they make concessions on the size of the surface area.

Furthermore, according to the housing associations, the investor and the municipality; the development of mid-segment rental housing is more feasible for housing associations than for market parties since they can develop market contrary. The housing association states that they can afford to work with lower returns than market parties can. Thereby, they are more likely to accept a municipal demand on the land lease contract for a lasting mid-segment supply. In this case, the only condition would have to be that they have a long-term vision for the provision of mid-segment rental housing.

According to the housing association, if they could take on a more active role in the increase of the mid-segment rental housing, this would be at the expense of the social housing segment. Moreover, in some regions, middle-income households are not able to access the housing market. Therefore, there must be parties to provide housing for this income group. However, if housing associations develop mid-segment rental housing, they cannot make use of the same financial benefits as when developing social housing. Thus, in order to develop mid-segment rental housing, they need to attract investors to finance their projects. One of the market parties states that housing associations first need to gain knowledge on how to attract investors to finance their projects. In addition to that, according to the housing association, when housing associations develop mid-segment rental housing on their own land, they have to pay an added value contribution on top of the land lease. Thereby, the feasibility of the development ends up lower.

10.3.1.5 Liberalise social housing

Besides a more active role for housing associations in the increase of mid-segment rental housing, from which more new rental housing developments could find their way towards realisation; it could also be an option to increase the segment by liberalising social housing. According to the housing association, the social housing segment's current target group consists of one- or two-person households, and the supply consists of many large family housing. According to the housing associations and the municipality, housing that otherwise would be sold could be liberalised. Therefore, the mid-segment rental housing supply would increase. The housing associations and the umbrella organisation state that if social housing is liberalised, they no longer need to pay landlord levy on this housing.

According to the housing association and a market party, to access the mid-segment rental housing supply, a minimum income is mandatory to secure the tenant. One of the housing associations stated that the social housing income limit should be broadened on the condition that housing associations

would get the means to increase the social housing segment. Also, a large percentage of middle-income households already live in the social housing segment. The quantitative study's results have confirmed this (chapter 6).

Instrument	Lessons learned	Mentioned by interviewee
A more active role for the central government concerning the increase and preservation of the rental housing supply	- The central government should adopt a more active role in the housing market in general; - The central government should adopt a more active role in the allocation of construction land; - The central government should initiate a ministry of housing again.	Portaal, Wonam, IVBN, Municipality of The Hague
	- The central government together with the municipality should have a clear vision on the future of the housing market.	Wonam
	- The Dutch government is trying to solve the problems in the housing market by separate regulation, while they should tackle the problems with an integral approach.	CBRE GI, Municipality of The Hague
Police framework	- If the central government and/or municipality would create a clear framework for what they would like to see being built, then a market party can easily decide whether they are willing to develop something accordingly or not.	Wonam, IVBN
	- Market parties often do not know what the municipality has in mind before buying land. Often after buying land they come to the conclusion that the land price was too high for what is possible with this land;	Municipality of The Hague
A more active role for housing associations regarding the increase of mid-segment rental housing	- A housing association accepts a lower return. Also, they can develop market-contrary. Therefore, it is possible for them to develop mid-segment rental housing when it is hard or impossible for market parties to develop.	De Alliantie, Portaal, CBRE GI
	- A housing association accepts a lower return. Therefore, a housing association is in some circumstances willing to accept perennial mid-segment rental housing in the land lease contract. - The housing association accepts perennial mid-segment rental housing in the land lease contract if the housing association has a long-term vision in this segment; - Thereby, a housing association is able to create a permanent mid-segment rental housing basis; - Perennial mid-segment rental housing is attractive since it comes with a lower land price.	De Alliantie
	- A housing association is often capable to develop mid-segment rental housing with a larger surface area compared to market parties; - Although a housing association is often capable of developing some larger housing, they are still unable to develop large family housing anymore without acting market contrary; - If the municipality prefers larger housing, the municipality should lower the land prices.	De Alliantie, Portaal, Municipality of The Hague
	- It is still possible to develop mid-segment rental housing, but only by making concessions on, for example, the size of the surface area.	Wonam, IVBN, Municipality of Amsterdam
	- If a housing association densifies on their own ground or sell mid-segment rental housing they have to pay an added value contribution to the municipality. By abolishing this added value contribution in favour of the housing association, they are able to invest more in housing; - When choosing to construct/develop more mid-segment rental housing, there will be less capacity to construct/develop social housing.	Portaal
	- Housing associations should operate in accordance with a level playing field, meaning that they should operate without competitive precedence and financial help, compared to market parties with similar ambitions.	CBRE GI, IVBN, Municipality of Amsterdam

	- If housing associations are looking to construct/develop mid-segment rental housing, they need to increase their knowledge of how they can effectively attract investors.	Wonam
	- In some regions middle-income households have no place to live. There must be parties to provide for housing for them. Housing associations can play a significant role in providing housing for households of this income group; - A large part of social housing tenants earns a middle-income. In some cases you ought to prefer to see them flow through the mid-segment rental housing.	Portaal
	- Housing associations should carry more responsibility for increasing the mid-segment rental housing in the supply.	Portaal, Municipality of Amsterdam
	- When the market test was in effect, it was not possible for a housing association to develop mid-segment rental housing by the use of the permitted institution (toegelaten instelling); - Abolishing the market test will make it possible for housing associations to develop mid-segment rental housing by the use of the permitted institution; - With the abolishment of the market test housing associations can play a substantial role within the increase of the mid-segment rental housing; - Housing in the middle rental housing segment is interesting for housing associations because it comes with a higher interest. This higher interest provides for more monetary means to develop social housing.	De Alliantie, Portaal, CBRE GI, Wonam, IVBN, Municipality of The Hague, Municipality of Amsterdam
	- To increase the middle rental housing segment social housing can be liberalised; - By liberalising social housing the landlord levy expires; - Housing that will be liberalised would otherwise be sold.	De Alliantie, Portaal, Municipality of Amsterdam
Liberalisation of social housing	- Larger housing that will be liberalised is mostly not suitable for the target group of social housing since the target group of social housing nowadays include mostly one- and two-person households; - Often larger housing does fit the target group for mid-segment rental housing; - It is possible to liberalise housing with a certain rental price when the dwelling is inhabited. Nothing changes for the rental housing contract of the tenant. But the housing association will no longer have to pay the landlord levy in this particular dwelling.	Portaal
	- A large part of social housing tenants earns a middle-income. In some cases you ought to prefer to see them flow through the mid-segment rental housing.	Portaal
Changing the income limit for the social housing segment	- The target group aimed for by housing associations should be bigger (/broader) than it currently is. Thereby, a housing association should have a larger portfolio and more building capacity to allocate to the broader target group.	Portaal, Municipality of Amsterdam
	- The landlord levy diminishes the overall investing capital of a housing association.	Portaal, IVBN
	- For the middle rental housing segment, a minimum income is mandatory. The reason for this is risk reduction for the letter. Also, this is a security for the tenant, making it unlikely that they become unable to pay their rent.	De Alliantie, CBRE GI

Table 10.2: Interviewees' opinions on shaping instruments that increase and/or preserve the affordable rental housing supply for middle-income households in the Randstad (own table)

10.3.2 Regulatory instruments

This section addresses regulatory instruments that increase and/or preserve the affordable rental housing supply for middle-income households, taking their preferences into account. As discussed in section 2.6, regulatory instruments could constrain the decision environment by regulating and/or

controlling market actions. Regulatory instruments are mostly used to preserve and for handling excesses in the housing market. Table 10.3 provides an overview of the opinions of the interviewees.

10.3.2.1 Rent regulation

The first regulatory instrument is rent regulation: regulating a maximum rent level. For several parties, rent regulation is a sensitive subject. All types of parties declared that rent regulation of the current housing supply would lead to many side effects since this regulation tends to change the feasibility of former investments. According to the market parties, the recently introduced regulation concerning the housing market only focuses on small excesses and affects investors that did not cause these excesses. And generally, investors are exclusively interested in the non-regulated part of the housing market. Next to that, investors would like to be able to look forward to higher feasibility of their investments. With changing regulations, this is not likely to be the case. Thereby, rent regulation causes avoidance behaviour of market parties to other housing segments or markets.

Moreover, according to market parties, if rent regulation is known upfront, it is not a problem. Observing the four municipal policies displayed in section 9.1, it must be noted that they already include rent regulation concerning rental price for a specific period, price indexation, and a specific residential programme. Knowing these demands upfront, market parties are willing to consider them when determining the feasibility of investment. Still, if a development is not financially feasible, then market parties will not invest. One municipality declares that the housing evaluation system is a useful instrument that could be used to preserve the affordable housing supply. Moreover, the housing associations state that the rental price exceeds the liberalisation limit for new mid-segment rental housing developments when using the housing evaluation system. Although, several parties assert that when municipalities, or other governmental bodies, use rent regulation, they should lower the land price to increase the development's feasibility. The topic of land pricing is discussed in depth in section 10.3.3.

10.3.2.2 Rental price indexation

In addition to rent regulation of rental prices, regulation concerning rental price indexation is in place. The regulation concerning price indexation differs from general regulation since price indexation only regulates the rent increase when a lease contract is in effect. According to section 9.1, price indexation is demanded for newly constructed housing within every different municipal policy addressed. Also, the Dutch government announced that the rent increase would be maximised by CPI + 1% starting in 2021 (Rijksoverheid, 2020). All parties stated that the rental price indexation should be executed by inflation plus a set percentage; otherwise tenants could be made to deal with a sudden substantial rent increase. Moreover, one of the market parties declares that a set percentage for the rent indexation causes a shortage of capital for extensive maintenance and sustainability improvements. Thereby, these improvements will no longer be possible.

10.3.2.3 Housing allowance systems

As introduced in section 9.1, in the four major cities, Amsterdam, Rotterdam, The Hague and Utrecht, a housing allocation system is in effect by use of housing ordinance (in Dutch: huisvestingsverordening) and a housing permit. A housing allocation system assigns housing to the designated target group and aims to prevent competition from other groups. According to housing associations and the municipality, a municipality should keep watch on housing allocation, and if necessary, together with a housing association. However, according to a housing association and one market party; regulation regarding allocation increases the risk of investment since the group of potential tenants gets smaller.

Instrument	Lessons learned	Mentioned by interviewee
Rent regulation (by the use of the housing evaluation system)	- Regulation in the housing market is only able to deal with small excesses. Thereby, the regulation affects everyone operating in the housing market and not only the ones who cause the excesses. The Dutch government should focus on fighting these excesses without affecting the rest of the housing market; - Investors are interested in the part of the market that is known to have few regulations; - Introduction of rent regulation drives investors away to other segments of the market; - It is important that the investor sees prospect of feasibility for a future-oriented investment.	CBRE GI, IVBN
	- The market segments that are under the highest pressure are the ones that are most heavily regulated, which has a negative effect on the amount of new dwellings.	CBRE GI
	- Rent regulation to solve the problems in the housing market should be temporary; - Rent regulation should be location specific; - Determining an initial rental housing price for the first tenants is ok, but after a mutation takes place one must determine the rental price themselves. The same goes for the buyer's market in the Netherlands.	Wonam
	- The effect on rent regulation in the middle rental housing segment, is that you will get a lot of side effects; - When introducing rent regulation in the current housing supply this will lead to a change in the feasibility of past investments. These investments are calculated with the use of the legislation that was in force at the moment of the investment.	De Alliantie, CBRE GI, IVBN, Municipality of The Hague
	- Rent regulation for new construction will give clarity in the investment climate. For new construction rent regulation by the property value system could be interesting.	De Alliantie
	- Increasing the limit of the property value system will not help to increase the mid-segment rental housing. Most mid-segment rental housing is already above the maximum number of points that fit this rental price.	Portaal
	- Using the property value system for rent regulation will be a good solution to keep the rental housing supply affordable for households. This would be a great deal for both the current housing supply as for the future housing supply.	Municipality of Amsterdam
	- Rent regulation should be known up front. After someone buys the land, municipalities should not determine what should be developed on this ground. Otherwise, they should have created a framework up front. By determining what should be developed on land after the land has been bought the development becomes unfinancially feasible.	Wonam, IVBN
Price indexation for all rental housing while a contract is in effect	- The rental housing price of the mid-segment rental housing of housing associations will be annually increased with the CPI. When dealing with private parties, this is sometimes not the case. This can make it hard to predict with what (range of) rates the rent will increase.	Portaal, Wonam, Municipality of The Hague
	- A stated rental price indexation are causing that investment for maintenance and sustainability will not be possible within a certain period since an investor cannot earn the investment on maintenance and sustainability by increasing the rent.	CBRE GI
Housing allocation	- For the municipal government it is good to pay attention to allocating housing; - Housing associations make a good partner in keeping an eye on allocation processes together.	De Alliantie, Portaal, Municipality of The Hague
	- It is probably good to wait to see what type of households would like to live in a certain housing segment before allocating a housing segment to a certain target group; - By the use of housing allocation, the housing market becomes less transparent, making it unclear what housing is meant for which target group.	De Alliantie, CBRE GI

- Regulation on the allocation of housing according to housing ordinance comes with a risk; the group to which housing can be allocated becomes smaller, which increases risk concerning investments.	De Alliantie, IVBN

Table 10.3: Interviewees' opinion on regulatory instruments that increase and/or preserve the affordable rental housing supply for middle-income households in the Randstad (own table)

10.3.3 Stimulus instruments

This section looks into stimulus instruments. According to section 2.6, stimulus instruments are instruments that expand the decision environment. They stimulate development in places that would otherwise be avoided. Examples of stimulus instruments are price-adjusting instruments and risk-reducing instruments. Stimulus instruments both serve to increase and preserve a housing supply and can be used for both at the same time. In table 10.4, an overview can be observed on the views of the interviewees on this topic.

10.3.3.1 Disbalance municipal development programme and land prices

One of the main concerns of different parties is the disbalance between municipal demands regarding the development's programme in combination with land prices. In accordance with all types of parties, municipalities often have high demands regarding the development's housing programme. Currently, in some municipalities, these high demands come together with high land prices. Therefore, it becomes increasingly harder to meet the municipality's demands when taking feasibility into account. If the municipality has specific demands, they should lower the land prices. Otherwise, the combination of high demands and high land prices will have an oppressive effect on the increase of the mid-segment, or the housing prices will increase tremendously after the fixed period during which the initiated fixed rental housing prices are enforced. The municipality states that by using the residual value approach, the land price should be balanced with the municipality's demands. Thereby, a fair land price is demanded. Moreover, the housing associations and market parties declare that stacking demands, also known as gold-plating, has a cost-increasing affect. Thus, according to housing associations and one municipality; if a municipality would like to have larger housing (amongst other things), then they should lower the land price by calculating it using the residual value method. Of course, this is only possible if the municipality demands a specific housing programme on their own land. The housing association states that a municipality can easily steer into their achievements if they use an active land policy. However, the housing associations and one of the market parties state that developments often do not make it to the construction phase because of high demands in tender procedures. Therefore, the market parties declare that municipalities should take the possibilities within the involved parties' framework as a starting point in a project.

10.3.3.2 Building capacity

Next to the current building capacity, different parties declare that more capacity is needed to deal with the housing shortage. One market party and one municipality asserted that the government should create additional building capacity in case of a housing shortage. In line with the housing associations and the market parties, if the availability of building land increases, then the increase of a specific housing segment would not be at the expense of other housing segments. They also stated that the government would do better to increase the building capacity in the city's outskirts as well. Also, as reported by a market party, governmental bodies should invest in the infrastructure of to be developed areas upfront.

10.3.3.3 Tender procedures

When dealing with municipal land, the municipality uses a tender procedure to sell or lease the land to another party. Thereby, they can demand a specific development programme. The four municipalities, as addressed in section 9.1, use tender procedures to demand their housing policy.

Moreover, in consonance with a housing association and a market party, tender procedures are costly and time-consuming. Several parties argued that to increase the development speed, tender procedures should be simplified. Furthermore, as reported by one market party; biddings in tender procedures produce a cost-increasing effect, which can cause a lack of feasibility. The lack of feasibility causes the diminishing of quality aspects such as surface area in the specific development.

10.3.3.4 Landlord levy

In the case of a development, subsidies could be provided to different parties to increase the feasibility of a development or speed up the development process. Currently, the central government already provides subsidies using the development impulse. Within development, some costs cannot easily be lowered. Conforming to a market party, building costs have been rising due to the bankruptcy of building contractors during the financial crisis. However, subsidising housing leads to skewed living (in Dutch: scheefhuurders). According to one market party, housing associations do not have sufficient financial means to increase their rental housing supply tremendously. As stated by one market party and one housing association; amongst other things, the lack of monetary means is caused by the landlord levy, as gone over in section 9.3. According to market parties; amongst other things, the landlord levy causes market parties to avoid investing in social housing or liberalised housing near the liberalisation limit.

Instrument	Lessons learned	Mentioned by interviewee
Unbalance between municipal demands regarding the development's programme and land prices	- The demands of the municipality of Amsterdam are included in the land price. By the use of the residual value approach the land price that is charged should be a fitting land price.	Municipality of Amsterdam
	- High demands has a cost increasing effect.	De Alliantie, Portaal, CBRE GI
	- If the municipality has an active land policy, they can easily steer on what they want to achieve.	De Alliantie
	- At the moment municipalities have high demands for new developments. These high demands often come with high land prices. And so it becomes increasingly harder to meet the demands of the municipalities; - When having high demands and high land prices, the housing prices of the developed housing will increase tremendously after the fixed period that the prices are in force. The reason for this is that rising the rental housing prices will be the only way to have an interest on the investment; - The high demands in combination with the high land prices will have an oppressive effect on the increase of the middle rental housing supply; - If the municipality has specific demand, they should lower the land price.	De Alliantie, Portaal, Wonam, IVBN, Municipality of The Hague
	- The municipality of The Hague is willing to lower land prices for certain demands they have; - Market parties often do not know what the municipality has in mind before buying land. Often after buying land they come to the conclusion that the land price was too high for what is possible with this land.	Municipality of The Hague
	- If the municipality prefers larger housing, the municipality should lower the land prices.	De Alliantie, Portaal, Municipality of The Hague
	- Tender procedures with high demands and a high land price that have been won by a developer, are often difficult to find investors for in the market; - Because of the high demands and the high land prices in tender procedures, many new developments are jammed before construction takes place.	De Alliantie, Portaal, Wonam
	- With regard to housing development one should start with the possibilities and not with the impossibilities .	IVBN

Building capacity	- The government should create extra plan capacity when there is a shortage in the housing market. Thereby, they should invest in infrastructure for these places upfront.	Wonam, Municipality of The Hague
	- More land capacity is needed to increase the housing supply; - If the plan capacity and thereby the availability of building land would increase, then the increase of a specific housing segment would not be at the expense of another housing segment; - It is desirable to increase building capacity by allocating building in the outskirts of a city as well.	Portaal, CBRE GI, Wonam, IVBN
	- Since the financial crisis of 2008 which has led to bankruptcy of contractors and developers, these companies have less building capacity.	CBRE GI
Tender procedure	- Tenders are very costly and time-consuming. Therefore, the municipality should change this system to increase the speed of the process and reduce costs.	Portaal, Wonam
	- Biddings within a tender procedure have a cost increasing effect.	CBRE GI
Monetary means	- In the Dutch housing system social housing is subsidised. Subsidising of housing instead of subsidising the household leads to skewed living (in Dutch: scheefwonen); - Subsidising homeownership for all income groups is not a social act; (not in favour of preserving a balanced society).	CBRE GI
	- The landlord levy diminishes the overall investing capital of a housing association.	Portaal, IVBN
	- Housing associations do not have the financial means to increase their housing supply; - Amongst other things, the landlord levy causes market parties to avoid investing in social housing or liberalised rental housing near the liberalisation limit.	IVBN

Table 10.4: Interviewees' opinion on stimulus instruments that increase and/or preserve the affordable rental housing supply for middle-income households in the Randstad supply (own table)

10.3.4 Capacity-building instruments

This section delves into instrument capacity-building. In section 2.6 can be read that capacity-building enables actors to operate more effectively by gaining knowledge and competences. Thereby, they facilitate the operation of other policy instruments. Examples of capacity-building instruments are creating market-shaping cultures, the creation and maintenance of market-rooted networks, the learning of market rich information and market-relevant skills. In table 10.5, an overview can be noticed on the views of the interviewees.

Section 9.1 shows what communication instruments some municipalities presently use concerning the increase of communication between them and market parties. According to section 9.1, all municipalities except for Rotterdam participate in the collaboration table. Next to that, the municipality of Amsterdam has introduced the platform PAM to collaborate with different actors. Following the opinion of market parties and one municipality, it is vital for market parties and municipalities to come to agreements concerning the development programme. Still, as declared by the market parties, the development programme must be financially feasible. According to one market party, some municipalities do not want to engage in transparent communication despite anticipating the collaboration table.

Instrument	Lessons learned	Mentioned by interviewee
Better communication between the central government and municipality and market parties	- It is important to come to agreements with municipalities, but these agreements must be financially feasible; - To come to these agreements, communication should occur between market parties and municipalities.	CBRE GI, Wonam, IVBN, Municipality of Amsterdam
	- Some municipalities are not always open for communication. One municipality was not open to communication about a collaboration between them, a housing association and a market party.	CBRE GI
	- Creating a platform that represents the institutional investors in the Netherlands. Their task is to communicate with the Dutch governments on legislation they propose and to come to agreements on certain topics.	IVBN

Table 10.5: Interviewees' views on capacity-building instruments that increase and/or preserve the affordable rental housing supply for middle-income households in the Randstad (own table)

10.3.5 Other findings

Another topic that was often mentioned is the focus on housing for the elderly. This section is added since this topic could not be stated as one of the four instruments. The interviewees' views on this topic are displayed in table 10.6. As reported by a housing association, the group of elderly is increasing rapidly, and most elderly live in large family housing. Following all types of parties, more suitable and affordable housing should be developed for the elderly. Thereby, they have the incentive to move through other housing and leave large housing behind. This will allow the current housing supply to be utilised (better).

Instrument	Lessons learned	Mentioned by interviewee
More focus on development of housing for elderly	- When looking at the market flow of households, one should look at the housing segment especially for the elderly, as they often move to smaller housing, making some larger housing become available for other household types, i.e. larger families; - When housing market flow improves, the housing supply can be utilized better.	Portaal, IVBN, Municipality of Amsterdam

Table 10.6: Interviewees' opinion on other aspects in the housing market that increase and/or preserve the affordable rental housing supply for middle-income households in the Randstad (own table)

10.4 Recommendations on how to increase and preserve Randstad's affordable rental housing supply for middle-income households

This section discusses the main findings of chapter 10, which are looked into by answering the following research questions:

1. "What policy instrument(s) can be used to steer the market into increasing affordable housing, for middle-income households fitting their preferences?"
2. "How can the increased affordable housing supply fitting preferences of middle-income households, be preserved in the Randstad?"

Both the interviewees' views and the outcomes of the quantitative study are used to answer these questions.

The former sections discuss the different instruments per type. However, in order to obtain the desired result, different type of instruments needs to be combined. Thus, in this section, the recommended instruments are not discussed per type of instrument but per overarching subject. Section 10.4.1 discusses central government steering. Section 10.4.2 addresses rent regulation.

Section 10.4.3 debates the balance between land prices and municipal demands. Finally, section 10.4.4 reviews some different recommendations.

10.4.1 Central Government steering

The first shaping instrument discussed in section 10.3.1 is the central government's role regarding the increase and preservation of affordable rental housing. Regarding the central government's role, all parties argued that the central government should assume a more active role, respecting the increase and preservation of the Randstad's affordable rental housing for middle-income households. The more active role of the central government could contain different aspects such as steering into a certain direction, providing building land, the increase of housing association's abilities, and providing financial means if necessary. Thereby, the central government can steer into affordable housing for middle-income households.

In chapter 8, the affordability of housing for middle-income households is addressed. From this chapter, it can be concluded that for some household types, such as couple, couple-one-child, couple-two-children, couple-three-children and one-parent three children, the mid-segment is not affordable when earning an income near €36,798. Next to that, concerning the landlord's income demands, households with an income below a €40,800 to €43,200-range only have access to housing with a monthly rent below an €850 to €900-range. According to the housing association and one market party, to access the mid-segment rental housing supply, a minimum income is mandatory for the securement of the tenant. Observing the outcomes of the quantitative study, as reviewed in chapter 8, it can be declared that the mid-segment is not affordable or accessible for some household types with a gross annual income near €36,798. Therefore, the central government should increase the social housing income limit, which is also in line with the opinion of one of the housing associations, to make affordable housing accessible.

Currently, housing associations are being taxed with the landlord levy if they have over fifty social dwellings. This landlord levy diminishes their available capital to invest. In section 9.3, it is stated that the landlord levy has caused stagnation of new construction at the housing associations' end. By abolishing it, the investment capital of housing associations increases. Furthermore, amongst other things, the landlord levy causes market parties to avoid investing in social housing or liberalised housing near the liberalisation limit. Thus, abolishing the landlord levy possibly stimulates market parties to invest in housing with a lower rental housing price than they currently do. Thus, the central government should abolish the landlord levy since it increases the opportunity to increase the affordable housing supply. When abolishing the landlord levy, agreements should be made with housing associations in order to stimulate them to invest this capital into new construction.

Spatial planning	↑	Social housing income limit	↑
Infrastructure	↑	Housing allowance	↑
Providing monetary means	↑	Landlord levy	↓
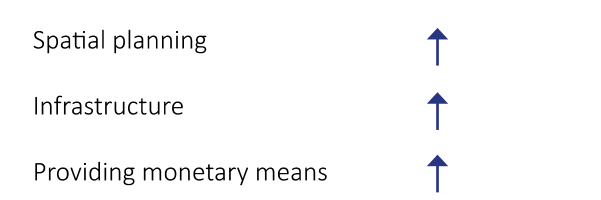
Figure 10.1: The aspects in which the central government should assume a more active role and that they should steer towards.
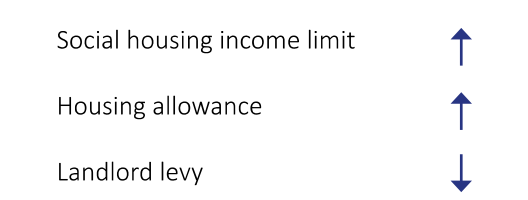
Figure 10.2: The aspects for which the central government should reconsider regulation and which they should steer towards.

Another topic discussed in chapter 8 is Groot-Amsterdam's insufficient affordably facilitated housing characteristics. In chapter 8, it is concluded that, in order to meet the spatial standards of the household type couple-three-children, the mid-segment does not contain sufficient housing with five

rooms. In order to meet these spatial standards, housing associations should be able to take on a more active role regarding the increase of mid-segment rental housing since they can develop market contrary. This makes them able to develop housing with a larger surface area.

Several things have been mentioned in favour of housing associations assuming a more active role. One being that when housing associations have a long-term vision regarding the provision of mid-segment rental housing, they might assure a more permanent mid-segment supply. Next to that, housing associations only increase the annual rent to correct for inflation. Also, contrary to market parties, the returns of housing associations do not have to be paid to shareholders. Therefore, this return can be invested in other housing directly. Thus, the central government should abolish the market test altogether. Thereby, housing associations should assume a more active role in the increase of mid-segment rental housing. And when they do so, they ought to put their primary focus on housing with a monthly rent below the €850-€900 range, which the mid-segment is currently lacking; so that market parties can assume a more active role concerning mid-segment housing with a monthly rent exceeding the €850-€900 range.
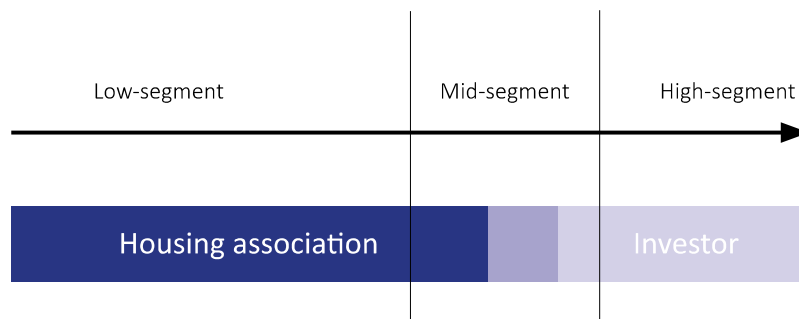
Figure 10.3: The proposed scope of housing associations and market parties concerning the increase and preservation of the mid-segment rental housing supply in the Randstad.

Housing associations could enlarge the mid-segment rental housing supply by liberalising social housing. In section 9.1.2, it is addressed that Rotterdam's municipality stimulates the development of social housing by housing associations. Thereby, this social housing can be liberalised after ten years and thereby become mid-segment rental housing. Concerning qualitative study, housing associations could increase the mid-segment by liberalising large family housing. However, the household types that need this larger housing cannot afford the mid-segment. Therefore, it is debatable if housing associations should liberalise this housing. In the case of raising the income limit of the social housing segment, this housing should not be liberalised. If the social housing segment's income limit is not raised, then this housing should be liberalised.

10.4.2 Rent regulation

Section 9.3 delved into rent regulation; whether or not to accomplish this by using the housing evaluation system. In that section, it was stated that in the case of applying the housing evaluation system, the mid-segment would increase by 10%. However, different parties think that such rent regulation, next to the preservation of affordable housing, has many side effects impacting the housing market; especially affecting the current housing supply. Also, rent regulation of the current and future housing supply generates avoidance behaviour concerning the regulated housing segments and markets. Thereby, due to regulations, the rental housing supply would not increase but decrease.

Without regulation, eventually, by increasing the rental housing supply, when the demand and supply are balanced, housing prices will be balanced concerning the housing quality as well. Considering the quantitative research, households with affordability issues cannot afford mid-segment rental housing even if it were to be regulated. Thus, regulation for the current housing supply must be avoided since it does not solve the problems addressed. It could lead to avoidance behaviour. Despite that, several market parties are willing to comply with rent regulation in a specific project on the condition that these regulations are communicated to them upfront. And obviously, the development must be sufficiently feasible.

10.4.3 Balance high land prices and municipal demands

As discussed at length in previous sections, the housing affordability for several middle-income household types earning an income near €36,798 makes for a large issue. Next to that, it is difficult for couple-three-children households to meet spatial standards. The former section statesd that imposing rent regulation on the mid-segment rental housing supply is not advisable. However, rent regulation concerning new developments could be applied. Bearing in mind the comment that the development should be feasible after taking the revealed regulation into account.

Section 9.1 argued that all municipalities apply rent regulation for new construction of mid-segment rental housing. This regulation includes a set rental price for several years, a set annual price indexation, a specified residential programme including surface area and the number of rooms and an enforced housing allocation system for the mid-segment.

The different market parties are in favour of the set rental price indexation and the housing allocation system. However, the way they are applied should be changed slightly. Regulation regarding a set percentage for the annual increase of the rental price indexation during the period of a lease contract should contain an exception in the case of extensive maintenance and sustainability improvement. Concerning the housing allocation system, this system should be based on precedence rather than exclusion of the target group, which is currently not always the case.

Section 9.2 addresses the visions of market parties concerning housing. The section states that market parties are mostly interested in investing in mid-segment rental housing with a surface area between 70 and 90 square metres. This corresponds with the desires of the reviewed municipalities. Still, this does not necessarily mean that the, by municipality desired housing segment will be developed. In 2020, in Amsterdam, only 78 mid-segment rental dwellings made it to construction (Couzy, 2020). Concerning the municipal demand for a specific development programme, there is an unbalance between the municipal demands and the land price. This unbalance causes that developments are no longer financially feasible

In this case, the municipality can use stimulus instruments to steer market parties into developing in conformity with the municipal demands. Stimulus instruments, amongst other things, can be used to increase the financial feasibility of developments where municipalities enforce certain regulation concerning the development programme. In the case of municipal-owned land, one of these instruments can lower the land price in case of high demands, by balancing the high demands and the land price using the residual value method. In the case of privately owned land, another instrument can be formed by providing subsidies to increase the investment capital. Suppose rent regulations are enforced regarding new developments. In that case, the municipality should, in case of lack of financial feasibility, use one of these monetary means to stimulate market parties to invest in rental housing. Suppose the municipality lowers land prices or provides subsidies in return for their demands; they would obtain a private agreement, including all the agreed settlements, to ensure that these market parties meet the municipal demands.

10.4.4 Other recommendations

Another instrument that was mentioned is the policy framework. Considering the different parties' arguments, it can be declared that improved communication between market parties and governmental bodies is needed rather than a policy framework. For development plans to succeed, improved communication may be needed between the central government, municipalities, housing associations and market parties. All municipalities addressed in section 9.1 are already taking action for the benefit of the improvement of communication between them and actors. Thereby, the amount of communication between these parties has increased in the past couple of years. Still, for an increase of the feasibility of development plans, the communication should increase more and improve in terms of transparency. Thus, governmental bodies such as municipalities should steer towards an even more substantial increase in transparent communication.

11. Validation

As discussed in chapter 3, to validate the qualitative study outcomes, an expert panel was held by setting up a debate in which cross-pollination could occur. As a starting point, the expert panel received information on both the quantitative and qualitative research findings, which can be observed in appendix X. Using the findings of the qualitative study, five statements are formulated to be touched upon during the panel. The statements are presented and discussed in section 11.2. Section 11.1 describes the panel set up.

11.1 Panel set-up

As discussed, the expert panel's set-up has participants from the same types of organisations as the qualitative research, which included a municipality worker, a housing association employee, a real estate investor, and a real estate developer. In table 11.1, the participants are displayed. They are to be further introduced in appendix XI.

Type of organisation	Organisation	Interviewee	Function
Very large municipality	Municipality of Almere	Erwin Daalhuisen	Strategic financial manager of land matters
Housing association	Havensteder	Willem Apperloo	Consultant programme and innovation and financial analyst
Investor	a.s.r. real estate	Kim Rimmelzwaan	Property manager residential
Developer / housing association	&Straks Wonen	Bart Moesbergen	Managing Director
Consultancy	Fakton	Wim Rust	Founder
	Fakton Capital	Robert van Ieperen	Partner

Table 11.1: Participants of the expert panel (own table)

11.2 Propositions

During the expert panel, five different propositions were presented; they were formulated using the main findings of the quantitative and qualitative study and some open conversations with different market parties and municipalities. Thereafter, propositions in need of validation and/or more deepening were presented in the expert panel, which made for the following:

1. The central government (in Dutch: Rijksoverheid) needs to assume a more active role in steering the housing market.
2. The social housing limit should be broadened household-specific.
3. Currently, there is a disbalance between governmental housing demands concerning the development programme and the land price; not passing by of possibilities/changes should get priority at the municipalities.
4. Housing associations need to have a more active role in the establishment of the mid-segment rental housing supply.
5. The central government (in Dutch: Rijksoverheid) needs to provide more monetary means to stimulate the increase of the housing supply.

The discussions of all propositions are transcribed. The main findings of each proposition are discussed in this chapter. Section 11.2.1 addresses the first proposition on the role of the central government. Thereafter, section 11.2.2 discusses the second proposition about the social housing limit. The third proposition is considered in section 11.2.3, which is about the lack of balance between municipal demands concerning the development programme and the land price. After that, in section 11.2.4,

the fourth proposition is concerned with the role of housing associations regarding the mid-segment. The last proposition, the fifth, is debated in section 11.2.5 and is about the stimulation of the increase of the housing market by providing monetary means. Thereafter, in section 11.2.6, other findings are discussed. Section 11.3 concludes and puts the findings into a larger perspective, especially taking chapter 10's findings into account.

11.2.1 The central government should assume a more active role

This section discusses the following proposition: *"The central government (in Dutch: Rijksoverheid) needs to assume a more active role concerning steering the housing market*." This statement is derived from the findings addressed in section 10.4.1.

The municipality and one market party declare that it is barely possible for municipalities to steer towards greater affordability regarding the current rental housing supply. On average, the housing supply only increases by 0.5 per cent every year. This increase is too small; thus, it will not sufficiently influence housing prices to bring about a shift. According to them, the central government should employ more means to steer towards a larger rental housing supply. Both the municipality and housing associations believe that the central government should make additional effort to regulate the current housing supply. However, the investor added that investors and housing associations carry a responsibility to influence housing affordability, for example, by decreasing costs on energy.

According to the participating housing association, the local government has taken the central government's former task by steering an increase in the housing supply. They may need time to refine the execution of this task. The market parties and the housing associations think that the central government should play a more active part in increasing the housing supply. However, they think that the government's role should be limited to spatial planning, including building capacity and infrastructure. One of the market parties added that their task should include providing monetary means to municipalities. Eventually, in accordance with the housing association, if the central government would pursue having a more active role regarding spatial planning and infrastructure, this would effectively stimulate the increase of the housing supply.

11.2.2 The social housing income limit should be household-specific

This section discusses the following proposition: *"The social housing limit should be broadened household-specific."* This statement is derived from the findings addressed in section 10.4.1.

According to the housing associations and the municipality, the social housing income limit should be raised. Formerly, housing associations had the responsibility to provide housing for a larger target group. The target group of housing associations is currently limited to very low-income households, which often struggle with specific issues and are declared special cases (bewoners met een rugzakje). Therefore, in neighbourhoods with a large part of the housing supply belonging to the social segment, segregation occurs rapidly. Also, only renting to households with low-income reduces the risk for the housing associations.

The market party and the housing associations think it is rather odd that the social segment limit is determined by fixed limits rather than region and housing characteristic specific limits. For example, the social housing limit should be higher in regions with high pressure on the housing market since, in general, housing prices are higher in these regions. Also, they should be lower in other regions where the housing prices are lower since households with a lower income can access the housing market there.

The market parties and the housing associations state that housing is a merit good rather than a consumer good. Therefore, they declare that the rental housing price should be maximised accordingly to the household's disposable income. Thus, if a large household cannot afford specific housing, the rental price should be lowered to the level at which housing is affordable. When the household composition changes, disposable income should be recalculated. Thereafter, the rental housing price should be adapted according to the new disposable income.

Housing associations and investors could charge a certain market price for housing. Thereby, part of the returns should flow back to households with a low disposable income. Also, subsidies should be provided for the household rather than for the building itself. The housing associations and the municipality declare that the 'income-politics,' as recently delved into, should be a responsibility of the central government instead of one of housing associations. Therefore, they spoke in favour of looking for solutions to increase the household's affordability by looking at household-specific subsidies such as child allowance.

One of the market parties and the municipality together believe that housing providers should be able to measure the income of a household, not solely by contract agreements but also after a certain period has passed. Thereafter, the rental housing price should be re-evaluated. One other market party shares this opinion. In addition, he states that households engaged in inapposite inhabiting of inexpensive housing (Dutch: scheefwonen) should be considered as if they were receiving pay-in-kind (Dutch: betaling in natura) and perhaps could be treated as such.

11.2.3 There is an insufficient balance between demands and land value

This section addresses the following proposition: *"Currently, there is an unbalance between governmental housing demands concerning the development programme and the land price; not passing by of possibilities/changes should get priority at the municipalities."* This statement is derived from the findings reviewed in section 10.4.3.

According to the entire expert panel, for some regions, this proposition is true. Also, all parties recognise the phenomenon of gold-plating. According to one of the market parties, all parties should be transparent concerning their demands and possibilities concerning a specific project. According to the municipality, all their demands can be considered in the land price by using the residual value method. Both the housing associations and the municipality declare that in most cases when the municipality does not own the land, a discussion takes place about the demands and the land value, which is a very time-consuming process. By only agreeing to certain demands without determining the land price, some time can be won. According to all type of parties, an independent third party should calculate the residual land price. Thereby, the process becomes transparent, and the time span decreases. Also, according to the housing associations and the market party, the feasibility of the development increases because of the shorter time frame.

Next to that, the municipality could only determine a minimum set of demands concerning the development programme. According to the market parties and the housing associations, the market parties can determine themselves whether they just abide by the bare minimum of demands or do additional things. Regarding the latter, the housing associations stated that one could expect that market parties will meet municipalities' initial demands because of factors such as maintenance costs.

11.2.4 Housing associations assuming a more active role regarding the mid-segment

This section discusses the following proposition: *"Housing associations need to assume a more active role regarding the establishment of the mid-segment rental housing supply."* This statement is derived from the findings debated in section 10.4.1.

According to the housing association, they themselves could have a significant role in increasing the mid-segment rental housing supply. However, their main focus should go to social housing. Therefore, a housing association should play a part in the increase of the mid-segment dependent on the housing challenges in an area. The other housing association states that parties should only have a more active role regarding the mid-segment increase if they would like to have this role since these parties cannot be forcefully made to develop mid-segment rental housing. However, developing mid-segment rental housing could increase the investment capital of a housing association. Besides, the mid-segment rental housing product makes for the same product as the social housing product.

The market parties think that housing associations and investors together should assume a more active role in the increase of the mid-segment rental housing supply. They both have a long-term vision for the housing market. Also, in a couple of years, both parties' working methods will end up being similar.

11.2.5 More monetary means from the central government

This section discusses the following proposition: *"The central government (in Dutch: Rijksoverheid) needs to provide more monetary means to stimulate the increase of the housing supply."* This statement is derived from the findings addressed in section 10.4.1.

According to the market parties and the municipality, the central government should invest in infrastructural measures. Indirectly, this will stimulate the increase of the housing supply. The housing association shared this opinion; which is likewise the vision of Eckart Wintzen: one should not put any strain on segments they would like to stimulate, but instead put a strain on segments that they would like to de-stimulate. The other housing association added that abolishing the landlord levy could help by the increase of the housing supply. However, he stated that the presence of building land and infrastructure is highly significant for accomplishing this increase.

11.2.6 Other findings

This section discusses other instruments that were not included in the propositions but were discussed during the expert panel. Two different topics were commonly discussed: rent regulation and communication between governmental bodies and other parties.

One topic that was commonly addressed while holding the panel was rent regulation. According to the municipality and the housing association, to increase the affordability of housing rent, the regulation regarding the current housing supply is needed. As reported by the investor, the housing providers are responsible for the increase of housing affordability, which should happen without the central government's interference. In consonance with the housing association and the market party, rent regulation should be determined with regard to the rental housing supply's regional aspects such as housing prices, surface area, etc. Thus, the liberalisation limit should be imposed and determined separately per region.

The municipality and the housing association stated that some municipalities are hesitant to collaborate with market parties. This hesitancy leads to the delay of new construction. According to

the market party, trust should be built up between governmental bodies and market parties. And communication should become more transparent. The investor added to this that governmental bodies should stimulate more communication between them and market parties since the investors are willing to participate in the creation of spatial planning.

A topic that was often addressed during the expert panel is households' moving through the housing supply. According to all parties, moving through the housing supply of households deserves more focus. According to the market party, the focus must be on the location and the products, which will stimulate the elderly to move through the housing supply. Following a market party and a housing association; if the elderly move through the housing supply, large family housing will become available.

11.3 Additional recommendations on how to increase and preserve the Randstad's affordable rental housing supply for middle-income households

This section addresses the main findings of the expert panel. By using the expert panel, most in chapter 10 addressed, instruments can be more specified. Here, all reframed instruments are briefly talked over separately per subject.

11.3.1 Central Government steering

During the expert panel, it was declared that the central government's more active role concerning the increase of the rental housing supply should be limited to spatial planning, infrastructure and providing monetary means for municipalities. However, some parties believed that they should also regulate the rental housing supply's rental price. Still, by regulating these rental prices, market parties will show avoidant behaviour to other housing segments or markets. Thus, the first proposition should be reframed to: *"The central government should assume a more active role, which is limited to spatial planning, infrastructure and providing monetary means."* However, when municipalities assume a more active role in steering towards increasing their rental housing supply, they tend to lack the capital. Thus, the central government must provide monetary means that is needed to provide for infrastructure to municipalities.

In the Netherlands, the central government is responsible for regulating the social housing segment's income limit. Concerning the second statement, it can be asserted that the social housing income limit should be increased; allowing more different household types to have access to affordable housing. This should not necessarily be household-specific. However, other subsidies should be used to increase the affordability of the couple-one-child, couple-two-children, and couple-three-children households, which would otherwise have severe affordability issues. Thus, not only the social housing income limit should be household-specific. Also, the housing allowance income limit should be household-specific. In addition to that, housing allowance for specific household types should be available for mid-segment rental housing as well. Thereby, middle-income households can inhabit their designated rental housing segment. The households are subsidised instead of the building. By increasing the income limit for housing allowance household-specific, the allowance is based on the disposable income instead of the actual income. Thus, when the household composition changes (leading to a change in disposable income), the housing allowance changes as well. Thereby, households only receive subsidies when they need them. This makes that the subsidy stays in effect temporarily rather than permanently, the latter of which would occur when they would live in the social housing segment. Still, the large middle-income households' affordability issue is not permanent.

11.3.2 Balance high land prices and municipal demands

Regarding the third statement on the unbalance between the municipal's development demands and land prices, the involved parties should discuss their demands and possibilities transparently. They should agree on the development programme only. Thereafter, an independent third party should calculate a residual land value to match the demands. In the case of municipal-owned land, the municipality should charge the residual value price. In the case of privately owned land, the municipality could compensate the extras costs for their demands by subsidising the development.
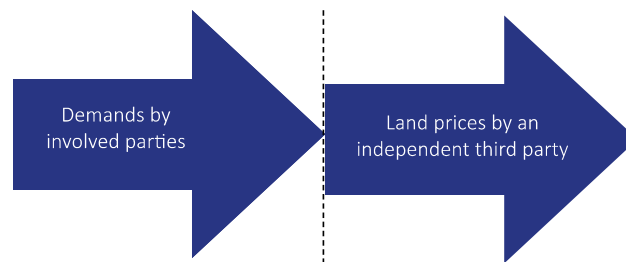
Figure 11.1: The proposed subdivision of parties for determining the development programme demand and the residual land value

11.3.3 Other recommendations

Discussing the fourth proposition, the different parties discussed the housing association's involvement concerning the increase of the affordable rental housing supply. Also, they addressed the involvement of the market parties regarding this increase. Next to the housing associations, market parties could play a significant role in this increase as well. Therefore, the proposition should be rephrased to: *"Both housing associations and investors could assume a more active role in the increase of the mid-segment rental housing supply."*

As discussed in section 10.3.4, the increase of housing for the elderly should be stimulated by governmental bodies. However, by stimulating the increase of housing for the elderly, one should pay attention to where this housing should be located and what product should be developed. If the right product is developed for this target group, they are stimulated to move through the housing supply leaving large family housing behind. The accessibility of large family housing with five rooms, which the mid-segment rental housing supply lacks, will increase for some groups.

12. Conclusion

In recent years, housing prices have been rising in the Randstad. Therefore, households with a gross income until 1.5 times the gross average are locked out of the Randstad homeownership market. This is why they depend on the rental housing segment. However, households with an income above €36,798 cannot be granted access to the social housing segment by law. Thus, these households depend on private rental housing. These households are defined as the middle-income group, having a 2018 gross annual income between €36,798 and €51,750.

Middle-income households depend on private rental housing. Moreover, there is a shortage of private rental housing in the Randstad. Therefore, rental housing prices increase, but the households' income does not increase to the same extent. Hence, it becomes increasingly challenging for middle-income households to find suitable housing according to their housing preferences.

Each household has an ideal housing image, containing the household's housing preferences in the case of no constraints concerning the housing market. Next to the ideal image, the aspiration image exists, containing the household's housing preferences taking the housing market's constraints into account. Two primary housing market constraints can be a lack of affordability and a lack of housing with certain housing characteristics available in the supply.

Taking all this into account, the following main question arises: *"How can the rental housing supply in urban areas in the Netherlands, that is affordable for middle-income households, be increased following their preferences?"* This section answers this main research question. For answering the main research question, each sub-question is responded to in this section as well. Section 12.1 goes into detail concerning which housing preferences of middle-income households are not sufficiently affordable facilitated in Groot-Amsterdam. In section 12.2, possible instruments that increase and/or preserve the affordable rental housing supply for middle-income households are addressed.

12.1 Groot-Amsterdam's insufficiently affordably facilitated middle-income housing preferences

This section delves into what housing preferences of Groot-Amsterdam's middle-income households are not sufficiently affordably facilitated by answering the first six research questions, as presented in section 2.8.

Within this research, affordability of housing has been a determining factor for distinguishing the different household types. By looking at the household types' consumption and income, eight different household types have been categorised. The maximum affordable base rent is calculated for each household type separately. The different household types and the maximum affordable base rent for each household type can be observed in table 12.1.

In Groot-Amsterdam, 16% of the inhabitants earn middle-income. Thereby, the middle-income group is underrepresented in Groot-Amsterdam as to the Netherlands. The one-person and couple households are the most common types. However, the one-person, couple-two-children, couple-three-children, and one-parent-three-children households are underrepresented in the middle-income group in Groot-Amsterdam compared to other income groups. Also, these middle-income households are underrepresented compared to the middle-income households in the Netherlands in general. The only exception to this is the one-parent-one-child household.

	Lower limit of the middle-income range (€36.798)	Upper limit of the middle-income range (€51.750)
One-person (1)	€1,365	€1,998
Couple (2)	€788	€1,421
Couple-one-child (3)	€701	€1,334
Couple-two-children (4)	€506	€1,140
Couple-three-children (5)	€232	€866
One-parent-one-child (2)	€1,176	€1,809
One-parent-two-children (3)	€966	€1,600
One-parent-three-children (4)	€726	€1,360

Table 12.1: Calculated maximum affordable base rent for the lower limit and the upper limit of the middle-income range, per middle-income household type, using the basic consumption budget (own table)

First, one needs to know what housing the Groot-Amsterdam rental housing supply consists of. Only 15% of the rental segment consists of mid-segment rental housing. For the year 2018, local governments defined the mid-segment as all rental housing with a monthly rental price between €710 and €1,000. This rental housing segment is what this research is mainly concerned with. In Groot-Amsterdam, the mid-segment rental housing supply is quite generic. It consists foremost of multi-family housing with a surface area of between 48 and 96 square metres, counting three or four rooms. In Groot-Amsterdam, only 33% of the mid-segment rental housing supply is inhabited by middle-income households. Which begs the question: where *do* the rest of them live?

In Groot-Amsterdam, most middle-income households (56%) live in the social housing segment, and a smaller part (33%) lives in the mid-segment. Next to that, 75% of middle-income households live in multi-family housing. However, middle-income households frequently live in single-family housing, with a rate above the general average in Groot-Amsterdam. They mostly inhabit housing with a surface of between 48 and 96 square metres (63%), and their housing mostly has three rooms (31%) or four rooms (30%). Many middle-income households live in affordable housing. None of the household types is found in the category not affordable, but many households are situated in the category perhaps affordable. Observing the spatial standard concerning surface area, one can see that especially the smaller household types rank above the spatial standard, and the larger household types rank below it. Considering the spatial standard concerning the number of rooms, smaller households are more frequent to live above the spatial standard than larger households.

This might make one wonder what housing characteristics these households prefer. In Groot-Amsterdam, 69% of middle-income households have a preference for social housing. 75% of these households prefer to live in multi-family housing. Most middle-income households prefer housing with a surface of between 48 and 96 square metres. The most frequently preferred number of rooms is three (38%), followed by four rooms (32%). Most middle-income households have a preference for affordable housing. Next to that, respecting the housing preferences' liveability concerning surface area, most household types prefer to live above the spatial standard. Pertaining to the liveability of housing preference with regard to the number of rooms, most household types prefer to live above the spatial standard.

When comparing the middle-income households' preferences to the mid-segment rental housing supply in Groot-Amsterdam, it could be concluded that it lacks housing with three and five rooms. All the other housing characteristics are sufficiently facilitated in this segment. The housing supply consists of housing that is in accordance with one spatial standard for each household type except for couple-three-children. This is because the mid-segment rental housing supply does not contain plenty of housing with five rooms. Since the spatial standard objectifies the households' housing preferences, it is used to determine what housing characteristics the housing supply lacks. Therefore, housing with five rooms is not sufficiently facilitated in Groot-Amsterdam. For the other household types, not being

able to meet the spatial standards might have something to do with the housing affordability for the household.

Apart from housing with certain characteristics not being sufficiently facilitated, affordability can be an issue. Especially for the couple, couple-one-child, couple-two-children, and couple-three-children households, this turns out to be the case. If they have an income near €36,798, the mid-segment rental housing supply is not affordable. The same is true for the couple-three-children household type if their income is near €51,750. Thus, this also goes for the couple-two-children, the couple-three-children, and the one-parent-three-children households with a lower limit of the middle-income range, which are most of the underrepresented household types. From the underrepresented household types, the mid-segment is affordable only for the one-person household. Next to the affordability of housing, the accessibility of the mid-segment rental housing supply is also an issue. For all middle-income households with an annual gross income below €43,200, the mid-segment housing supply is barely accessible.

12.2 Recommendations on how to increase and preserve the Randstad's affordable rental housing supply for middle-income households

This section delves into which instruments can be used to increase and preserve the affordable rental housing supply in the Randstad. Thereby, the latter two research questions, as presented in section 2.8, are answered.

12.2.1 Central Government steering

First, the central government should assume a more active role, respecting the increase and preservation of the Randstad's affordable rental housing for middle-income households. Their role should be limited to spatial planning, infrastructure and providing monetary means for municipalities. Besides that, the role of the central government should focus on paving the way for housing associations.

It can be asserted that the mid-segment is not affordable or accessible for some household types with a gross annual income near €36,798. Therefore, the central government should increase the social housing income limit, which is also in line with the opinion of one of the housing associations, to make affordable housing accessible. This should not be necessarily household-specific. However, other subsidies should be used to increase the affordability of the couple-one-child, couple-two-children, and couple-three-children households that would otherwise have severe affordability issues. Thus, not only the social housing income limit should be household-specific. Also, the housing allowance income limit should be household-specific. In addition to that, housing allowance for specific household types should be available for mid-segment rental housing as well. This makes for the subsidy to be temporarily in effect rather than permanently. The latter is the case for the social housing segment. Still, large middle-income households' affordability issue is not permanent.

Currently, housing associations are being taxed with the landlord levy whenever they own over fifty social dwellings. This landlord levy diminishes their available capital to invest. Furthermore, amongst other things, the landlord levy causes market parties to avoid investing in social housing or liberalised housing near the liberalisation limit. Thus, the central government should abolish the landlord levy. When abolishing the landlord levy, agreements should be made with housing associations in order to stimulate them to invest this capital in new construction.

Spatial planning	↑	Social housing income limit	↑
Infrastructure	↑	Housing allowance	↑
Providing monetary means	↑	Landlord levy	↓

Figure 12.1: The aspects in which the central government should assume a more active role and that they should steer towards.

Figure 12.2: The aspects for which the central government should reconsider regulation and which they should steer towards.

To meet these spatial standards, housing associations should be able to assume a more active role regarding the increase of mid-segment rental housing since they can develop market contrary. This makes them able to develop with, for example, a larger surface area. Also, when housing associations have a long-term vision regarding the provision of mid-segment rental housing, they might assure a more permanent mid-segment supply. Besides that, housing associations only increase the annual rent in order to correct inflation. Also, contrary to market parties, the returns of housing associations do not have to be paid to shareholders. Therefore, this return can be invested in other housing directly. Thus, the central government should abolish the market test altogether. Thereby, housing associations become able to assume a more active role in the increase of mid-segment rental housing. And when they do so, they ought to put their main focus on housing with a monthly rent below the €850-€900 range, which the mid-segment is currently lacking; so that market parties can assume a more active role concerning mid-segment housing with a monthly rent exceeding the €850-€900 range.
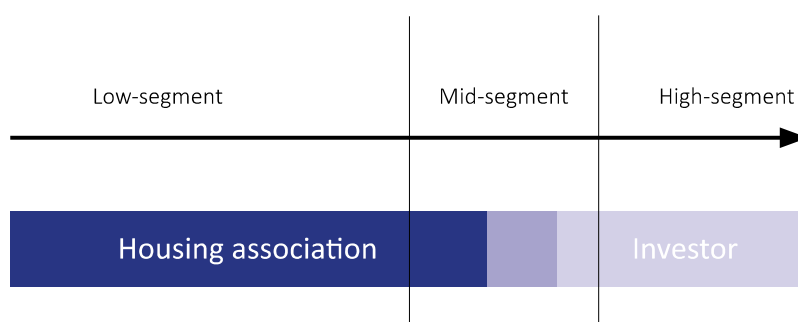
Figure 12.3: The proposed scope of housing associations and market parties concerning the increase and preservation of the mid-segment rental housing supply in the Randstad.

12.2.2 Balance high land prices and municipal demands

As discussed at length in previous sections, the housing affordability for several middle-income household types earning a gross annual income near €36,798 makes for a large issue. Next to that, it is difficult for couple-three-children households to meet spatial standards. In chapter 10, it is stated that imposing rent regulation on the mid-segment rental housing supply is not advisable. However, rent regulation concerning new developments could be applied. Upon considering this, one should bear in mind that the development should be feasible after taking the revealed regulation into account.

In section 9.1, it was argued that all municipalities apply rent regulation for new construction of mid-segment rental housing. This regulation includes a set rental price for several years, a set annual price indexation, a specified residential programme including surface area and the number of rooms, and an enforced housing allocation system for the mid-segment.

Regulation regarding a set percentage for the annual increase of the rental price indexation, while a lease contract is in effect, should make an exception in the case of extensive maintenance and sustainability improvement. Concerning the housing allocation system, this system should be based on precedence rather than exclusion of the target group, which is currently not always the case.

Section 9.2 addresses the visions of market parties concerning housing. The section states that market parties are mostly interested in investing in mid-segment rental housing with a surface area between 70 and 90 square metres. This corresponds to the desires of the participating municipalities. Still, this does not necessarily mean that the housing segment that is desired by the municipality will be developed. Concerning the municipal demand for a specific development programme, there is an unbalance between the municipal demands and the land price. This unbalance causes that developments are no longer financially feasible.

In this case, the municipality can use stimulus instruments to steer market parties into developing according to the municipal demands. First, the different parties, including the municipality, need to reach an agreement on the development programme by itself. Thereafter, an independent third party should calculate a residual land value to match the demands. In the case of municipal-owned land, the municipality should charge the residual value price determined by the third party. In the case of privately owned land, the municipality could compensate for the extra costs of their demands by subsidising the development to fit with the residual value calculated by a third party. Suppose the municipality lowers land prices or provides subsidies in return for their demands; they would obtain a private agreement, including all the agreed settlements, to ensure that these market parties meet the municipal demands.
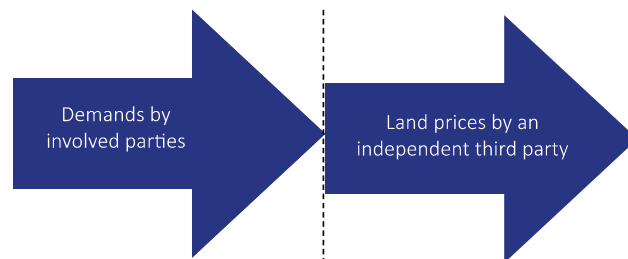
Figure 12.4: The proposed subdivision of parties for determining the development programme demand and the residual land value

13. Discussion, limitations & recommendations

This chapter discusses the findings of this study, within section 13.1, the main discussion. Additionally, section 13.2 on limitations addresses the limitations of this research. Section 13.3 consults the recommendations for further research.

13.1 Discussion

This section discusses the outcomes of this research. Thereby, first, it addresses whether the theoretical framework was operable. Thereafter, this section noticed the workability of the used method.

13.1.1 Workability theoretical framework

Section 2.4 addresses the social housing income limit. However, it does not discuss the 2020's household-specific income limit of this segment. Therefore, the household-specific income limit has been taken into account in the data analysis. Using the household-specific income limit should have provided more accurate findings on housing affordability. Therefore, using the household-specific income limit was preferred for this research. However, the households' preferences within WoON 2018 are determined to take the initial social housing income limit that was enforced in 2018 into account.

Concerning the maximum affordable base rents, this determined rent contains a pervasive part of some households' income. It could be questioned whether it is desirable if households spend approximately 50% of their income on rent. Therefore, a distinction should have been made between what rent level is affordable and what is desirable. However, the theoretical framework does not provide information on what a desirable rent is for each household type.

Next to that, section 2.2 concerns the affordability of housings. It has been asserted that the residual income method was preferred for this study to calculate the maximum affordable rent. In section 4.2 is stated that the household type nonfamily households are disregarded in this research since the income and consumption budget of this household type could not be determined. However, nonfamily households make for a large part of the mid-segment rental housing supply. Thus, it is doubtful whether these household types should have been studied in this research. If the rent-to-income ratio was used, then the nonfamily households' analysis could have been included in this research.

The main points of focus in this research are the households' preferences in relation to housing affordability. Moreover, housing preferences are subjective. Thus, it must be questioned if it is a right to accommodate these households' preferences in terms of affordability. The element 'spatial standard' is added. Still, the main focus in this research is the housing preferences. However, it is crucial for the city's liveability that the city contains different household types (Financieel Dagblad, 2017). For acquiring a mixed city that includes sufficient key workers, the city needs accommodate the housing preferences of different household types. Especially for older household types who already have had a housing career, a possible new dwelling's characteristics are fairly important (Boelhouwer, Boumeester & Vlak, 2019). However, this study does not take into account what specific household types include key workers. Thus, nothing can be revealed concerning what different household types should be increased to have a mixed city. Therefore, this research only determines what middle-income household's preferences are not sufficiently affordably facilitated in Groot-Amsterdam using the current household type division. However, it does not say anything about which housing preferences are not sufficiently affordable facilitated in Groot-Amsterdam in the case of stimulating a

mixed city, including sufficient key workers. Information on what type of households include key workers should have been added to the theoretical framework. Thereby, one would know what housing types should be increased in Groot-Amsterdam in order to have sufficient key workers, which could be used to determine what middle-income households' preferences are not sufficiently affordably facilitated in Groot-Amsterdam.

Next to that, the scientific relevance of this research is to objectify subjective housing preferences. In the first part of this research, namely the quantitative study, the subjective housing preferences are objectified using a spatial standard concerning surface area and number of rooms, which are determined in section 2.3. However, these spatial standards are determined by a statistical rate and the building law. Therefore, these standards are not really spatial standards. Thus, it cannot be known if these spatial standards are stated on the right level, too low or too high for housing to be a merit good. Hence, the theoretical framework lacks a real spatial standard.

13.1.2 Workability methodology

Regarding the quantitative study, a provided data set, WoON 2018, has been used. Using the data set of WoON 2018, this research is limited to the housing preferences included in this data set. Thus, different housing preferences, such as green environment, water, an architectural style, etc., could not be studied. A method that is not limited to different housing preferences and could have been used is to provide one's own survey. However, in the case of providing a survey by oneself, there could have been a change in that there would not be sufficient respondents.

For the second part of this research, qualitative research, semi-structured interviews were done. However, using the case study method, this research could have more accurate outcomes.
When looking at the semi-structured interviews' outcomes, one can conclude that their interests bias the different parties' recommendations. This biased view can affect the outcome of the research. Next to that, the interview with the municipality of Amsterdam has led to fewer findings than hoped. Thereby, municipalities were underrepresented, which made it hard to weigh the different views accurately. This research is partly executed by using semi-structured interviews with different actors such as municipalities, housing associations, institutional investors, and real estate developers. However, it lacks the views of private investors. Private investors own a large part of the liberalised rental housing supply in the Randstad. Therefore, it can be said that the views of a fairly important market actor have not been taken into account. Through applying a case study method, one can study different development projects. From the specific projects incorporated in the study, the development bottlenecks could be determined. Also, it could be determined why these bottleneck issues occur. Thereafter, one can determine what the appropriate instruments could be to solve them. Using the case study method would have gotten a more accurate view of instruments and whether they should be used to increase and preserve the affordable housing supply according to middle-income households. Therefore, regarding the qualitative study, a case study method should have been applied rather than qualitative research.

13.2 Limitations

This section concerns the limitations of this study. First, the utilisation of this study is discussed. Thereafter, the scope of this study is addressed.

13.2.1 Utilisation of the research

In chapter 4, the calculation of the maximum affordable base rent by using the residual income method is addressed. For this calculation, the basic Nibud budget, including not many but sufficient

relaxation and social participation costs, have been used. Moreover, this budget only contains the bare minimum costs of a household. Therefore, the used budget is not representative of most middle-income households since the expenses are quite low. Above all, the budget assumed a fairly low consumption of energy. Energy will become more and more expensive (Middelkoop, Van Polen, Holtkamp & Bonnerman, 2018). Thus, it will become an influential factor concerning the affordability of housing. When living in rental housing that is not sustainable, the tenant cannot increase the dwelling's sustainability. Therefore, there will be inequality between tenants of sustainable and unsustainable housing. For the precision of the maximum affordable base rent, another budget should have been used. Unfortunately, a more appropriate budget was not within arm's reach.

Using the maximum affordable base rent by determining the housing affordability, three categories are established; not affordable, perhaps affordable and affordable. Hence, handling these categories, no accurate findings on housing affordability could be stated. Therefore, a rental price that fits the category perhaps affordable, does not provide certainty on whether it is actually affordable. Within this research, housing affordability should have been determined for each income within the middle-income range to achieve more accurate outcomes. However, identifying each individual maximum affordable base rent within the middle-income range was too much of a task within this study's timeframe.

13.2.2 Scope of the research

As discussed, this research is performed with the use of the dataset WoON 2018. The data set is collected in the years before 2018. Therefore, changing factors since 2018 have not been taken into account. For accurate outcomes of the qualitative study, information on the housing supply from 2018 and up should have been added. However, this data was not accessible during this research.

For this research, the data set of WoON 2018 is used. However, this data set has some limitations. First, the lowest level that can be studied is the corop level. Thus, with WoON 2018, no research can be done on the municipal or neighbourhood level. Moreover, differences regarding rental price and other characteristics exist in the housing supply between a municipal and a neighbourhood level. Thus, executing the research on a corop level is less accurate. However, if WoON 2018 would have had the possibility to study the housing supply on a municipal level or smaller, then the number of respondents would probably have been too low to end up with accurate outcomes.

The quantitative study of this research spanned the region of Groot-Amsterdam, while the qualitative study focused on the whole Randstad region. Because the quantitative study only focused on Groot-Amsterdam, nothing can be concluded regarding which housing preferences are not affordably facilitated in the other areas. To determine which instruments should be used to increase and preserve the affordable housing supply in the Randstad, the outcomes of the quantitative study on Groot-Amsterdam have been used. However, in practice, a difference exists between the different corop areas in the Randstad. Therefore, for an accurate outcome of the quantitative study, all corop areas should have been studied in the quantitative study. However, research in all these areas was too much of a task within this study's timeframe.

This research focusses on middle-income households. However, middle-income households are the smallest income group in the Netherlands. Therefore, the data does not consist of sufficient respondents to determine the revealed housing preferences. Instead, the current living situation is studied. However, only by studying the revealed and the stated housing preferences, the housing preferences can be determined accurately. Next to that, concerning the current living situation and the housing preferences of individual households, only 94 and 21 respondents were included in the analysis. This amount turned out to be too low to come up with accurate outcomes since all studied

unweighted categories should have at least contained three respondents. However, most likely, this was not the case. Still, to determine whether the current living situation and housing preferences meet the spatial standard, each individual household type's housing preferences should have been determined. Thus, studying only Groot-Amsterdam has caused a lack of respondents in some analyses. While analysing the Randstad in its totality, these analyses turned out to have sufficient respondents. This would have made the outcomes more accurate. Thus, the study would rather have had the scope of the total Randstad instead of Groot-Amsterdam. Thereby, the differences between housing markets should have been accepted.

In Groot-Amsterdam, immigration is one of the main causes of the housing shortage. This research does not take immigration into account since it could not be subtracted from the data. However, immigration is of such a significant influence on Groot-Amsterdam's housing market that the rental housing prices have decreased since the COVID-19 outbreak, caused by the absence of expats in Groot-Amsterdam (Paling, 2021). However, by using the data of WoON 2018, these households could not have been taken into account.

From the year 2020, the Netherlands were confronted with COVID-19. Because of COVID-19, much has changed. For one year now, people have been advised to work from home; schools have been closed for a certain period; restaurants and hotels have been closed; sporting facilities have been closed; even shops have been closed down. Thus, during this period, households became dependent on their home environment. It is to be expected that housing preferences have changed due to COVID-19. However, data that includes the situation after COVID-19 has not been provided yet.

Within the problem statement, the accessibility of middle-income households in the housing market is addressed. Amongst other things, it is stated that middle-income households do not have access to owner-occupied housing. Therefore, they depend on rental housing. Due to the rental housing shortage, rental housing prices have increased tremendously, while the income has not been increasing to the same extent. However, if an investor would like to get a return on the investment, the rental housing price should always be higher than what a household would pay in a mortgage. Thus, renting private housing is always more expensive than owner-occupied housing. In the case of housing affordability for middle-income households in general, the affordability of owner-occupied housing should also have been taken into account. Moreover, in that case, the research field would have been too extensive, taken the timeframe of this study into account.

13.3 Recommendations for further research

This section discussed the recommendations for further research.

In section 13.1.1 is noticed that the spatial standards used in this research are determined by the building law and a statistical outcome concerning overcrowding. However, it cannot be determined whether the used standards cause housing to be a merit good. Also, this study only takes two types of standards into account. Therefore, additional research is needed on what housing characteristics a standard should be defined to determine whether households live according to these standards. Also, additional research is needed to demonstrate from what level onward these characteristics result in housing as a merit good.

As discussed, a more accurate consumption budget should be used to determine housing affordability. Moreover, differences exist between the spending budget of households living in the city and those living in rural areas. This study's main focus was housing affordability of households in urban areas. Next to that, a sustainable solution for the affordability problem of housing does not necessarily have to be sought in actual housing costs in relation to income; but perhaps in the cost of a basic housing

standard, in relation to the household's consumption (Lerman & Reeder, 1987; Thalman, 1999; 2003; Stone, 2006, p.155). Research is needed on the consumption of households living in urban areas in the Netherlands. Next to that, additional research is needed on how households' consumption budgets can be decreased to increase housing affordability.

Section 13.1.1 it has been stated that the nonfamily household has not been included in this research. However, to include this household type, using the residual income method to determine housing affordability, additional research is needed on the household type's income and consumption. Also, additional research is needed on the composition of nonfamily households before their housing preferences can be determined. Following section 2.1, a household's housing preferences are determined from its housing path and working career. The study on nonfamily households could be combined with a study on house sharing concepts' effectiveness since the study on nonfamily households is needed for that study.

In section 13.1, the household-specific social housing limit is addressed. However, this income limit has not been used in the quantitative study since the household's housing preferences take 2018's not household-specific social housing income limit into account. In 2021, a new WoON data set will become available. The households' preferences in this data set take the household-specific social housing income limit into account. Next to that, the data set of WoON 2021 is collected during the COVID-19 pandemic. Therefore, this data set includes pandemic households' housing preferences from after the pandemic. Thus, by using the household-specific social housing income limit, this research could be repeated using WoON 2021. Thereby, an overview of the genuine rental housing supply could be determined. Also, a more accurate outcome on the affordability of the current housing supply can be determined using the household-specific social housing income limit. Furthermore, after-pandemic housing preferences could be derived.

One of the findings of qualitative research is that, amongst other things, the policy for the social housing income limit should be increased. Also, the housing allowance limit should be raised. Additional research is required before one can determine what these new limits should be.

During the execution of the qualitative study, the focus on middle-income households was discussed. This research focusses on middle-income households only. However, by focusing only on these households, the affordability and accessibility of the rental housing supply for middle-income households would increase. Thereby, the accessibility of affordable housing could decrease for other income groups. Also, the shortage of rental housing, and thus, the affordability problem in the rental housing market is not only a rental housing problem. Amongst other things, the demand for rental housing is caused by a lack of affordable owner-occupied housing. However, amongst other things, the lack of owner-occupied housing is caused by the investment into buy-to-let. Still, the investment into buy-to-let increases the size of the rental housing supply. Whereby, eventually, housing affordability can increase. This vicious circle and the alignment of these different housing segments such as rental housing, owner-occupied housing and social housing should be studied.

This research mainly focuses on policy instruments that steer the housing market. Moreover, other measures can be taken to increase and preserve the affordability of housing. Some of these measures are discussed in appendix VI, but some more could be added. Additional research is needed on measures such as increasing the transport speed towards a city, the dissemination policy regarding working, the influence of Airbnb on the rental housing market, the 'living as a service' concept and the decrease of building costs and other measures that could be taken other than policy instruments, to have a complete view on how to increase and preserve the affordable housing supply.

When performing this study, several times within the qualitative research, it came up that different Dutch political systems are not aligned with each other. For example, in the Netherlands, the land

value and the municipality's housing programme are not determined by the same department. These different departments represent different interests. The Dutch political system is also a voting system in which the authorities only have a short period before they have to be re-elected. In some cases, this influences the political agenda of, for example, an Alderman. All these different aspects of the Dutch political system influence what instruments are used to steer the housing supply. Therefore, elaborative research is needed on the influence of these different and other aspects of the Dutch political system. Next to that, the Dutch job market system and the housing market system do not align. This non-alignment, amongst other things, is causing the inaccessibility and unaffordability of owner-occupied housing. Additional research is needed on how to align these different systems.

14. Reflection

This research had to be performed within a certain time frame. Since the beginning, a lot has been changed. Some of the changes have ended up influencing the relevance of this research. This chapter will reflect on these changes in relation to their relevance. When performing this research, some difficulties arose. Therefore, this section will also reflect on the methodology of this research.

14.1 Relevance of the research

A couple of months after giving shape to the definitive research plan, there was the outbreak of COVID-19, which caused many changes in the home situations of many households. For the first time in years, the demand for rental housing in several cities in the Randstad decreased. Amsterdam, for example, is a shrinkage region (Paling, 2020 c). Thereby, the level of rental housing prices has decreased as well (Paling, 2021). Therefore, it seems irrelevant to study how to increase the housing supply where the population is shrinking. However, it cannot yet be stated what will happen inside the housing market when the pandemic is no longer imminent.

14.2 Research methodology

This research consists of three phases, namely, theoretical research, quantitative research and qualitative research. The theoretical research has been performed within the first phase of this research, some concepts were defined, and background information was added to the report. Most feedback during this phase had to do with missing information within the framework of this research. This feedback was required by me in order to gain a better understanding of things that were missing.

In the second phase of this research, quantitative research was performed. First, the maximum affordable base rent for individual household types is determined using the residual income method. Next to that, this research consists of a data-analysis using WoON 2018 to determine the middle-income household's housing preferences. Through using data from WoON 2018, a lot of information about the households' preferences could be subtracted. Before starting the quantitative phase, I already received a lot of feedback regarding the research field. However, the research field for quantitative research was too extensive. Therefore, the size of this research field needed to be trimmed during the process. Still, by tightening the research field, the data-analysis lacked sufficient respondents. Therefore, some of the results are not accurate, and the analysis of the revealed preferences could not have been performed. In retrospect, the qualitative study should have been performed using the total housing supply in the Randstad. Then the data-analysis would have consisted of plenty of respondents. Still, the analysis would have consisted of different housing markets, which should have been accepted. Next to that, the data lacks the bearing capacity of new and innovative concepts since this cannot be determined by using data of a period where these concepts did not yet exist.

For quantitative research, semi-structured interviews were held. However, as addressed in the discussion, some of the semi-structured interviews' outcomes are biased by the interviewee's interests. Next to that, using semi-structured interviews, the success of an instrument cannot be measured. A method that excludes both downsides of the semi-structured interviews is the case study method. By performing a case study method, one could study different comparable development projects. Thereby, the bottlenecks in these projects could be determined. Thereafter, instruments could be determined that deal with the most common bottlenecks. Using the case study method would have given a more accurate view of instruments that should or should not be used to increase and preserve the affordable housing supply according to middle-income households. However, when

shaping the research plan, the case study method's option did not occur to me. Thus, I should have performed more in-depth research on what research methods could and should have been used for this research.

14.3 Ethical consideration

Before I performed the qualitative study, I wanted to anonymise the interviewees. During this research, I discovered that presenting the interviewee's name and function strengthens the credibility of the information derived from the interview. Also, I discovered that consent to an interview does not automatically means that all the information collected by the interview can be used for research right away. First, consent is needed from the interviewee on what information can and cannot be used in the research. Therefore, interviewees are asked to give permission for using their name and function within the research. Also, interviewees are asked to validate the outcomes of both the qualitative study and the expert panel.

14.4 Personal graduation process

During this graduation process, I often got feedback saying that I should work in a more precise fashion and get to the point more. However, at the beginning of this process, I did not precisely know what sharper and more precise meant. Still, it did not occur to me to ask what this could mean. Next to this example, there are several examples in which I did not ask for an explanation of the feedback when I could have. This was caused by two main things, which I also stated as learning goals at the beginning of this study.

Firstly, I wanted to improve my English writing skills. However, if someone would like to improve his/her English, it would be helpful to ask people for help. In any event, to accelerate the learning process. Thereby, the second learning goal is addressed. One of my learning goals was to ask more frequently for help and learn to understand that feedback is given to help and not to criticise. In the last period of this research, I learned, amongst other things, that my English writing skills have been improving from occasionally asking for suggestions on how to shape clear sentences and have plenty of variation in terms of word-options, i.e. usage of synonyms. Still, there is much room for improvement in my English writing skills. I am also starting to learn how to deal with frequent feedback. And especially in being able to use feedback for improvement, there is room for improvement.

Another learning goal was to improve in being able to add structure to my writing. Next to the feedback I got from my mentors, I asked some others in my direct environment for help. Thereby, the structure of my writing improved. Still, I need to learn more about writing in a more structured and cohesive manner.

One subject that was not one of my learning goals, which I should have been stating as a learning goal, is being more precise in my use of words. First, it is difficult for me to be precise when using English words since there is a linguistic barrier. However, even in my mother tongue, I occasionally find it difficult to find the right words. I tend to think that my general background regarding language is one of the main reasons why these things remain an issue. Before this process, I did not realise I was struggling with these aspects. I try to pay attention to how I can better formulate what I am trying to communicate from now on.

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Appendix I – Degree of urbanity the Randstad

Municipalities in the Randstad including the degree of urbanity (CBS, 2020)

Regions	COROP-areas	Inhabitants	Degree of urbanity
Zaanstad	Zaanstreek	150 000 until 250 000	2
Wormerland	Zaanstreek	10 000 until 20 000	3
Utrecht (gemeente)	Utrecht	250 000 or more	1
Amersfoort	Utrecht	150 000 until 250 000	2
Baarn	Utrecht	20 000 until 50 000	2
Houten	Utrecht	20 000 until 50 000	2
IJsselstein	Utrecht	20 000 until 50 000	2
Nieuwegein	Utrecht	50 000 until 100 000	2
Veenendaal	Utrecht	50 000 until 100 000	2
Zeist	Utrecht	50 000 until 100 000	2
De Bilt	Utrecht	20 000 until 50 000	3
Bunschoten	Utrecht	20 000 until 50 000	3
Leusden	Utrecht	20 000 until 50 000	3
Soest	Utrecht	20 000 until 50 000	3
Stichtse Vecht	Utrecht	50 000 until 100 000	3
Wijk bij Duurstede	Utrecht	20 000 until 50 000	3
Woerden	Utrecht	50 000 until 100 000	3
Bunnik	Utrecht	10 000 until 20 000	4
Eemnes	Utrecht	5 000 until 10 000	4
Montfoort	Utrecht	10 000 until 20 000	4
Oudewater	Utrecht	10 000 until 20 000	4
Rhenen	Utrecht	20 000 until 50 000	4
De Ronde Venen	Utrecht	20 000 until 50 000	4
Utrechtse Heuvelrug	Utrecht	20 000 until 50 000	4
Vijfheerenlanden	Utrecht	50 000 until 100 000	4
Woudenberg	Utrecht	10 000 until 20 000	4
Lopik	Utrecht	10 000 until 20 000	5
Renswoude	Utrecht	5 000 until 10 000	5
Gouda	Oost-Zuid-Holland	50 000 until 100 000	1
Alphen aan den Rijn	Oost-Zuid-Holland	100 000 until 150 000	2
Waddinxveen	Oost-Zuid-Holland	20 000 until 50 000	2
Bodegraven-Reeuwijk	Oost-Zuid-Holland	20 000 until 50 000	3
Krimpenerwaard	Oost-Zuid-Holland	50 000 until 100 000	4
Nieuwkoop	Oost-Zuid-Holland	20 000 until 50 000	4
Beverwijk	IJmond	20 000 until 50 000	1
Heemskerk	IJmond	20 000 until 50 000	2
Velsen	IJmond	50 000 until 100 000	2
Castricum	IJmond	20 000 until 50 000	3
Uitgeest	IJmond	10 000 until 20 000	3
Hilversum	Het Gooi en Vechtstreek	50 000 until 100 000	1
Gooise Meren	Het Gooi en Vechtstreek	50 000 until 100 000	2
Huizen	Het Gooi en Vechtstreek	20 000 until 50 000	2
Weesp	Het Gooi en Vechtstreek	10 000 until 20 000	2
Blaricum	Het Gooi en Vechtstreek	10 000 until 20 000	3
Laren (NH.)	Het Gooi en Vechtstreek	10 000 until 20 000	3
Wijdemeren	Het Gooi en Vechtstreek	20 000 until 50 000	4
Rotterdam	Groot-Rijnmond	250 000 or more	1
Schiedam	Groot-Rijnmond	50 000 until 100 000	1
Vlaardingen	Groot-Rijnmond	50 000 until 100 000	1
Barendrecht	Groot-Rijnmond	20 000 until 50 000	2
Capelle aan den IJssel	Groot-Rijnmond	50 000 until 100 000	2
Hellevoetsluis	Groot-Rijnmond	20 000 until 50 000	2
Krimpen aan den IJssel	Groot-Rijnmond	20 000 until 50 000	2
Maassluis	Groot-Rijnmond	20 000 until 50 000	2
Nissewaard	Groot-Rijnmond	50 000 until 100 000	2
Ridderkerk	Groot-Rijnmond	20 000 until 50 000	2
Albrandswaard	Groot-Rijnmond	20 000 until 50 000	3
Lansingerland	Groot-Rijnmond	50 000 until 100 000	3
Zuidplas	Groot-Rijnmond	20 000 until 50 000	3
Brielle	Groot-Rijnmond	10 000 until 20 000	4
Goeree-Overflakkee	Groot-Rijnmond	20 000 until 50 000	4
Hoeksche Waard	Groot-Rijnmond	50 000 until 100 000	4
Westvoorne	Groot-Rijnmond	10 000 until 20 000	4
Amsterdam	Groot-Amsterdam	250 000 or more	1
Diemen	Groot-Amsterdam	20 000 until 50 000	1
Amstelveen	Groot-Amsterdam	50 000 until 100 000	2
Haarlemmermeer	Groot-Amsterdam	150 000 until 250 000	2
Purmerend	Groot-Amsterdam	50 000 until 100 000	2

Edam-Volendam	Groot-Amsterdam	20 000 until 50 000	3
Landsmeer	Groot-Amsterdam	10 000 until 20 000	3
Oostzaan	Groot-Amsterdam	5 000 until 10 000	3
Ouder-Amstel	Groot-Amsterdam	10 000 until 20 000	3
Uithoorn	Groot-Amsterdam	20 000 until 50 000	3
Aalsmeer	Groot-Amsterdam	20 000 until 50 000	4
Beemster	Groot-Amsterdam	5 000 until 10 000	4
Waterland	Groot-Amsterdam	10 000 until 20 000	4
Delft	Delft en Westland	100 000 until 150 000	1
Midden-Delfland	Delft en Westland	10 000 until 20 000	3
Westland	Delft en Westland	100 000 until 150 000	3
Leiden	Agglomeratie Leiden en Bollenstreek	100 000 until 150 000	1
Hillegom	Agglomeratie Leiden en Bollenstreek	20 000 until 50 000	2
Katwijk	Agglomeratie Leiden en Bollenstreek	50 000 until 100 000	2
Leiderdorp	Agglomeratie Leiden en Bollenstreek	20 000 until 50 000	2
Lisse	Agglomeratie Leiden en Bollenstreek	20 000 until 50 000	2
Oegstgeest	Agglomeratie Leiden en Bollenstreek	20 000 until 50 000	2
Voorschoten	Agglomeratie Leiden en Bollenstreek	20 000 until 50 000	2
Noordwijk	Agglomeratie Leiden en Bollenstreek	20 000 until 50 000	3
Teylingen	Agglomeratie Leiden en Bollenstreek	20 000 until 50 000	3
Kaag en Braassem	Agglomeratie Leiden en Bollenstreek	20 000 until 50 000	4
Zoeterwoude	Agglomeratie Leiden en Bollenstreek	5 000 until 10 000	4
Haarlem	Agglomeratie Haarlem	150 000 until 250 000	1
Heemstede	Agglomeratie Haarlem	20 000 until 50 000	2
Zandvoort	Agglomeratie Haarlem	10 000 until 20 000	2
Bloemendaal	Agglomeratie Haarlem	20 000 until 50 000	3
's-Gravenhage (gemeente)	Agglomeratie 's-Gravenhage	250 000 or more	1
Leidschendam-Voorburg	Agglomeratie 's-Gravenhage	50 000 until 100 000	1
Rijswijk (ZH.)	Agglomeratie 's-Gravenhage	50 000 until 100 000	1
Zoetermeer	Agglomeratie 's-Gravenhage	100 000 until 150 000	1
Pijnacker-Nootdorp	Agglomeratie 's-Gravenhage	50 000 until 100 000	3
Wassenaar	Agglomeratie 's-Gravenhage	20 000 until 50 000	3

Appendix II – Basic analysis scheme

Vraag	Definities	Tabellen	Uitkomsten
Which types of middle-income households can be distinguished		Hhtype x huishouden samenstelling Hhtype x besteedbaa rinkomen Hhtype x leeftijd	Type huishoudens op basis van inkomen
What is the maximum affordable base rent of middle-income households		Hhtype x maximaal betaalbare huur (segmenten van onder de ondergrens betaalbaar – reeks betaalbaar – boven de reeks betaalbaarheid)	Besteedbaar inkomen Maximaal besteedbare huur
What is the supply of private rental housing for middle-income households in urban areas in the Netherlands		Segmentatie (social housing, mid-segment rental housing, high-segment rental housing) x woningtype/oppervlak/aantal kamers/afstand tot dagelijkse levensbehoefte/afstand tot overstap station	Overzicht woningvoorraad
What housing preferences do the different subgroups have	Affordability: Is de huur betaalbaar voor het type huishouden wat er woont Zijn de betaalbare woningen ook leefbaar? Livability: Is er voldoende ruimte (aantal kamers) binnen de woning voor een bepaald type huishouden om er te wonen	Waar wonen de middeninkomens? Revealed: Inkomens x woningtype/oppervlak/aantal kamers/afstand tot dagelijkse levensbehoefte/afstand tot overstap station/ Betaalbaarheidssegmentatie/segmentatie Hhtype middenInkomens x woningtype/oppervlak/aantal kamers/afstand tot dagelijkse levensbehoefte/afstand tot overstap station/ Betaalbaarheidssegmentatie/segmentatie Waar willen de middeninkomens wonen? Stated: Inkomens x woningtype/oppervlak/aantal kamers/afstand tot dagelijkse levensbehoefte/afstand tot overstap station/ Betaalbaarheidssegmentatie/segmentatie Hhtype middenInkomens x woningtype/oppervlak/aantal kamers/afstand tot dagelijkse levensbehoefte/afstand tot overstap station/ Betaalbaarheidssegmentatie/segmentatie	Overzicht: waar wonen middeninkomens In welk huursegment wonen de middeninkomens? Wonen de middeninkomens betaalbaar? Wonen de middeninkomens leefbaar?
What housing preferences of middle-income households are not sufficiently affordable facilitated in the Randstad		Betaalbaarheidssegmentatie x woningtype/leefbaarheidoppervlak/leefbaarheidaantal kamers/afstand tot dagelijkse levensbehoefte	Welke type woningen en woningkenmerken zijn betaalbaar en welke zijn minder betaalbaar?

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Appendix III – Determine housing affordability (chapter 4)

III.1 Basic consumption budget and calculating the net income

To calculate the maximum affordable base rent, the income needs to be transformed from the gross income to the disposable income, also known as net income. The gross income consists of, amongst other things of the holiday bonus (Intermediair, 2012). Van Gemen (2018) takes the holiday bonus (in Dutch: vakantiegeld) into account for their monthly budget. The holiday bonus consists of a minimum of 8% of the gross income and should be paid to each employee at least once a year (Rijksoverheid, n.d. p). Since the budget of Van Gemen (2018) includes a monthly reservation for, amongst other things, spare time, the holiday bonus will be included in the monthly income by the calculation of the maximum affordable base rent. Thus, the annual gross income can directly be used to calculate the net income. The following gross incomes are recalculated using an online tool available on BerekenHet.nl (2018): €36,798 and €51,750. The lower net income of the middle-income range is €27,249, and the upper net income amounts to €34,851. To get to a monthly income, the net income needs to be divided by 12. The lower limit's monthly net income amounts to €2,270.75, and for the upper limit to €2,904.25. Within the monthly net income, some budgets given by the government are not included. These budgets should be included to determine disposable income (Van Gemen, 2018, p.100). The budgets that should be included are children's bounded budget (in Dutch: kind gebonden budget) and child allowance (in Dutch: kinderbijslag).

First, households receive a children's bounded budget. The amounts of the children's bounded budgets are listed in table III.1. With a gross income of above €20,451, there is a discount on the budget of 6.75 cents for every euro above €20,451. Therefore, a middle-income household does not receive the children's budget (Van Gemen, 2018, p.159).

Number of children	Budget (per month)
One child	€96.00
Two children	€177.41
Three children	€201.42
Four or more children	€24.00 extra per extra child

Table III.1: Children's bounded budget (Van Gemen, 2018, p.159)

Although not every household receives children's bounded budget, all households do receive child allowance. The child allowance, which is the second type of benefit that needs to be taken into account when calculating the net income, is dependent on the age of the child and the number of children in a household. The child allowance can be found in table III.2. Normally, the child allowance is paid every quarter, but it is translated into a monthly budget for this research.

Age of the child	Child allowance (per month)
0 until 5 years	€67.01
6 until 11 years	€81.37
12 until 17 years	€95.73

Table III.2: Child allowance budget per month (Van Gemen, 2018, p.159)

As already introduced, in the Netherlands, a housing allowance exists for rental housing for a gross income below €22,400 of one-person households and €30,000 of more person households a year. Since middle-income households' defined income starts above this limit, middle-income households do not receive housing allowance.

Because of the child allowance and children's bounded budget, some households' income increases a bit. The net income of each household type can be observed in table III.3 and III.4. For calculating the maximum affordable base rent, the Nibud's consumption budget of not much but enough including

costs on social participation and relaxation is used. The budget of each household type can be observed in table III.5.

Both in table III.3 and III.4 can be observed that the net income of the one-person household and the couple are the same. Also, there is no difference in the net income between the household couple with children and the one-parent household with children. The only difference that can be determined, which is caused by the child allowance, is the difference that is caused by the number of children a household consists of.

	One-person	Couple	Couple-one-child	Couple-two-children	Couple-three-children	One-parent-one-child	One-parent-two-children	One-parent-three-children
Monthly net income	€2,270.75	€2,270.75	€2,270.75	€2,270.75	€2,270.75	€2,270.75	€2,270.75	€,2270.75
Housing allowance	€0	€0	€0	€0	€0	€0	€0	€0
Children bounded budget	€0	€0	€0	€0	€0	€0	€0	€0
Child allowance	€0	€0	€67.01	€148.38	€215.39	€67.01	€148.38	€215.39
Total net income	€2,270.75	€2,270.75	€2,337.76	€2,419.13	€2,486.14	€2,337.76	€2,419.13	€2,486.14

Table III.3: Net income including allowances per month based on an annual gross income of €36,798 of different middle-income household types (Van Gemen, 2018, p.108-143) (own table)

	One-person	Couple	Couple-one-child	Couple-two-children	Couple-three-children	One-parent-one-child	One-parent-two-children	One-parent-three-children
Income	€2,904.25	€2,904.25	€2,904.25	€2,904.25	€2,904.25	€2,904.25	€2,904.25	€2,904.25
Housing allowance	€0	€0	€0	€0	€0	€0	€0	€0
Children bounded budget (in Dutch:kind geboden budget)	€0	€0	€0	€0	€0	€0	€0	€0
Child allowance	€0	€0	€67,01	€148,38	€215,39	€67,01	€148,38	€215,39
Total net income	€2,904.25	€2,904.25	€2,971.26	€3,052.63	€3,119.64	€2,971.26	€3,052.63	€3,119.64

Table III.4: Net income including allowances per month based on an annual gross income of €51,750 of different middle-income household types (Van Gemen, 2018, p.108-143) (own table)

In table III.6, the basic consumption budget can be observed. They consist of fixed costs such as gas, electricity and transport costs. Also, the budgets consist of reserved costs for, amongst other things, clothing and costs on spare time.

	One-person	Couple	Couple-one-child	Couple-two-children	Couple-three-children	One-parent-one-child	One-parent-two-children	One-parent-three-children
Fixed costs								
Gas	€68	€68	€86	€86	€86	€86	€86	€86
Electricity	€24	€41	€51	€60	€63	€41	€51	€60
Water	€9	€13	€17	€19	€21	€13	€17	€19
Local costs	€43	€59	€59	€59	€59	€59	€59	€59
Telephone, television and internet	€57	€69	€69	€73	€77	€57	€61	€65
Insurance	€164	€317	€318	€318	€318	€167	€167	€167
Education	€0	€0	€5	€35	€65	€5	€35	€65
Childcare	€0	€0	€0	€0	€0	€0	€0	€0
Subscriptions	€21	€40	€52	€69	€86	€33	€50	€67
Transport	€23	€46	€59	€80	€107	€36	€57	€84
Reserved costs								
Clothing	€57	€114	€144	€179	€209	€87	€128	€163
Inventory	€73	€87	€95	€111	€125	€82	€96	€112
Maintenance house and garden	€22	€22	€22	€22	€22	€22	€22	€22
Not insured health care costs	€38	€74	€74	€74	€74	€38	€38	€38
Spare time	€40	€57	€74	€91	€108	€57	€74	€91
Household expenses								
Food	€206	€374	€378	€462	€618	€286	€378	€487
Other household expenses	€61	€102	€134	€175	€216	€93	€134	€175
Total	**€906**	**€1,483**	**€1,637**	**€1,913**	**€2,254**	**€1,162**	**€1,453**	**€1,760**

Table III.5: Basic consumption budgets, which is called not much but enough, including expenses on social participation and relaxation for all household types (Van Gemen, 2018, p.108-143) (own table)

III.2 Calculation of other maximum affordable base rents

Section 4.4 discusses the maximum affordable base rent, including reservation costs on savings. The basic consumption budget of not much but enough, including costs on relaxation, social participation and savings, can be observed in table III.6.

In 2020, a household-specific social housing income limit was enforced. Section 4.4 discusses that a maximum affordable base rent for 2018 can be calculated with the household-specific social housing income limit of 2020 to understand to what extent the housing affordability increases using this limit. The social housing income limit of 2020 is recalculated to the year 2018 to make it comparable (table III.7). In table III.8, the 'new' social housing income limits calculated can be observed. The gross income needs to be translated to the net income to calculate the maximum affordable base rent, shown in table III.9. In table III.10, the monthly net income can be observed; this income is used to calculate the household-specific maximum affordable base rent. The household-specific maximum affordable base rent is calculated using the same formula and the same basic consumption budget as described in this appendix.

	One-person	Couple	Couple-one-child	Couple-two-children	Couple-three-children	One-parent-one-child	One-parent-two-children	One-parent-three-children
Basic budget	€906	€1,483	€1,637	€1,913	€2,254	€1,162	€1,453	€1,760
Basic budget plus reservation for savings €36.798	€1,133	€1,710	€1,871	€2,155	€2,503	€1,396	€1,695	€2,009
Basic budget plus reservation for savings €51.750	€1,196	€1,773	€1,934	€2,218	€2,566	€1,459	€1,758	€2,072

Table III.6: Basic consumption budget, which is called not much but enough, including costs on social participation, relaxation and savings of different middle-income household types with an income upon the lower and the upper limit of the middle-income range (Van Gemen, 2018) (own table)

Year	Social housing limit	Factor
2018	€36,798	-
2019	€38,035	1.0336
2020	€39,055	1.0268

Table III.7: Factor to recalculate the 2020's social housing income limit to the income limit of 2018 and the income social housing income limit of 2018, 2019 and 2020 (Rijksoverheid, n.d. a) (own table)

Year	Household type	Social housing limit
2018	One-person household	€32,978
	More person household	€39,574
2019	One-person household	€34,086
	More person household	€40,904
2020	One-person household	€35,000
	More person household	€42,000

Table III.8: Household specific recalculated social housing income limit, which is used as the 'new' lower limit of the middle-income range concerning a household-specific social housing income limit (Rijksoverheid, n.d. a) (own table)

Household type	Under limit net income	Upper limit net income
One-person household	€25,305	€34,851
More person household	€28,672	€34,851

Table III.9: Annual net income of middle-income households using the household's specific income limit of the social housing segment of different household types (own table)

Household type	Under limit net income	Upper limit net income
One-person household	€2,108.75	€2,904.25
More person household	€2,389.33	€2,904.25

Table III.10: Monthly net income of middle-income households using the household's specific income limit of the social housing segment of different household types (own table)

The new social housing limit is calculated for the year 2018 to determine the affordability of these new mid-segment housing categories. By the use of these new social housing limits also a new middle-income range can be determined of €32,978 through €51,750 for one-person households and €39,574 through €51,750 for more-person households. This new range is used to determine a new maximum affordable base rent for each household type, which is calculated the same way as the other maximum affordable base rents. The maximum affordable base rent, according to the new social housing limits for the year 2018, can be found in table III.12.

Using the new maximum affordable base rent, the affordability of mid-segment rental housing increases a lot for most household types. For the one-person household, the one-parent household with one child, and the one-parent household with two children, mid-segment rental housing was

already (quite) affordable—the affordability for these household types increases except for that of the one-person household. For the couple, the couple with one child and the one-parent household with three children, mid-segment rental housing becomes more affordable, but for €36,798, not all mid-segment rental housing is affordable. For the couple with two children and the couple with three children, mid-segment rental housing is still not affordable with an income of €36,798.

In the former, Alinea is discussed that housing affordability increases. In this case, it is not per se that the housing affordability itself increases. Here it is the case that more households who cannot afford mid-segment rental housing can appeal to the social housing segment. With the former social housing income limits, this was not possible.

	One-person	Couple	Couple-one-child	Couple-two-children	Couple-three-children	One-parent-one-child	One-parent-two-children	One-parent-three-children
Monthly net income	€2,108.75	€2,389.33	€2,389.33	€2,389.33	€2,389.33	€2,389.33	€2,389.33	€2,389.33
Housing allowance	€0	€0	€0	€0	€0	€0	€0	€0
Children bounded budget	€0	€0	€0	€0	€0	€0	€0	€0
Child allowance	€0	€0	€67.01	€148.38	€215.39	€67.01	€148.38	€215.39
Total net income	€2,108.75	€2,389.33	€2,456.34	€2,537.71	€2,604.72	€2,456.34	€2,537.71	€2,604.72

Table III.11: Net income including allowances per month, based on an annual gross income of €32,978 for one-person households and €39,574 for more-person households (the household-specific social housing income limit), of different middle-income household types (Van Gemen, 2018, p.108-143) (own table)

	Lower limit of middle-income range	Upper limit of middle-income range
One-person	€1,203	€1,998
Couple	€906	€1,421
Couple-one-child	€819	€1,334
Couple-two-children	€625	€1,140
Couple-three-children	€351	€866
One-parent-one-child	€1,294	€1,809
One-parent-two-children	€1,085	€1,600
One-parent-three-children	€845	€1,360

Table III.12: Maximum affordable base rent using the basic consumption budget and the household-specific under limit of the middle-income range according to 2020's recalculated household-specific social housing limit for different middle-income household types (own table)

Appendix IV – The mid-segment rental housing supply in Groot-Amsterdam

	Low-income households (income below €36,798)	Middle-income households (income from €36,798 up to €51,750)	High-income (income above €51,750)	Total amount of households
Multi-family housing	29%	34%	37%	100% (39,971)
Single-family housing	20%	28%	52%	100% (15,700)
Division of income groups in total	26%	33%	41%	100% (55,671)

Table IV.1: All housing types of the rental housing supply in Groot-Amsterdam, divided by income group (WoON, 2018) (own table)

	Low-income households (income below €36,798)	Middle-income households (income from €36,798 up to €51,750)	High-income (income above €51,750)	Total amount of households
0-48 m2	31%	39%	30%	100% (6,722)
48-96 m2	28%	33%	39%	100% (35,054)
96-120 m2	13%	28%	59%	100% (9,695)
120 m2 or more	34%	33%	33%	100% (4,191)
Division of income groups in total	26%	33%	41%	100% (55,673)

Table IV.2: All surface areas of the rental housing supply in Groot-Amsterdam, divided by income group (WoON, 2018) (own table)

	Low-income households (income below €36,798)	Middle-income households (income from €36,798 up to €51,750)	High-income (income above €51,750)	Total amount of households
1 room	42%	22%	36%	100% (1,675)
2 rooms	38%	31%	31%	100% (8,093)
3 rooms	29%	34%	37%	100% (19,610)
4 rooms	22%	34%	44%	100% (20,111)
5 rooms or more	0%	0%	100%	100% (6,183)
Division of income groups in total	26%	33%	41%	100% (55,672)

Table IV.3: All number of rooms of the rental housing supply in Groot-Amsterdam, divided by income group (WoON, 2018) (own table)

	Low-income households (income below €36,798)	Middle-income households (income from €36,798 up to €51,750)	High-income (income above €51,750)	Total amount of households
Housing with outdoor space	26%	34%	41%	100% (50,673)
Housing without outdoor space	34%	23%	43%	100% (5,000)
Division of income groups in total	26%	33%	41%	100% (55,673)

Table IV.4: All housing with or without an outdoor space of the rental housing supply in Groot-Amsterdam, divided by income group (WoON, 2018) (own table)

	Low-income households (income below €36,798)	Middle-income households (income from €36,798 up to €51,750)	High-income (income above €51,750)	Total amount of households
Until 500 m	22%	36%	42%	100% (37,411)
Until 5 km	33%	27%	40%	100% (16,696)
Division of income groups in total Total	25%	33%	41%	100% (54,107)

Table IV.5: All distances to daily life necessities of the rental housing supply in Groot-Amsterdam, divided by income group (WoON, 2018) (own table) §

Appendix V – Middle-income households living in rental housing supply

		Below spatial standard	Upon spatial standard	Above spatial standard	Total
Liveability concerning surface area	Social housing segment (monthly rent below €710,68)	100%	94%	89%	91%
	Mid-segment housing (monthly rent between €710,69 and €1,000)	0%	4%	6%	5%
	High-segment housing (monthly rent above €1,000)	0%	2%	5%	4%
	Division of liveability in all rental housing segments	100% (15,373)	100% (34,746)	100% (129,483)	100% (179,602)
Liveability concerning n number of rooms	Social housing segment (monthly rent below €710,68)	-	94%	88%	90%
	Mid-segment housing (monthly rent between €710,69 and €1,000)	-	4%	7%	6%
	High-segment housing (monthly rent above €1,000)	-	2%	5%	4%
	Division of liveability in all rental housing segments	-	100% (58,512)	100% (98,744)	100% (157,256)

Table V.1: The liveability concerning surface area and number of rooms of the one-person household with a middle-income living in rental housing in Groot-Amsterdam, divided by rental housing segment (WoON, 2018) (own table)

		Below spatial standard	Upon spatial standard	Above spatial standard	Total
Liveability concerning surface area	Social housing segment (monthly rent below €710,68)	100%	62%	83%	78%
	Mid-segment housing (monthly rent between €710,69 and €1,000)	0%	23%	10%	14%
	High-segment housing (monthly rent above €1,000)	0%	16%	7%	9%
	Division of liveability in all rental housing segments	100% (7,395)	100% (14,674)	100% (23,506)	100% (23,506)
Liveability concerning n number of rooms	Social housing segment (monthly rent below €710,68)	-	63%	80%	77%
	Mid-segment housing (monthly rent between €710,69 and €1,000)	-	24%	12%	14%
	High-segment housing (monthly rent above €1,000)	-	13%	8%	9%
	Division of liveability in all rental housing segments		100% (4,067)	100% (18,864)	100% (22,931)

Table V.2: The liveability concerning surface area and number of rooms of the couple with a middle-income living in rental housing in Groot-Amsterdam, divided by rental housing segment (WoON, 2018) (own table)

		Below spatial standard	Upon spatial standard	Above spatial standard	Total
Liveability concerning surface area	Social housing segment (monthly rent below €710,68)	-	100%	55%	95%
	Mid-segment housing (monthly rent between €710,69 and €1,000)	-	0%	45%	5%
	High-segment housing (monthly rent above €1,000)	-	-	-	-
	Division of liveability in all rental housing segments	-	100% (4,387)	100% (547)	100% (4,934)
Liveability concerning n number of rooms	Social housing segment (monthly rent below €710,68)	100%	100%	89%	95%
	Mid-segment housing (monthly rent between €710,69 and €1,000)	0%	0%	11%	5%
	High-segment housing (monthly rent above €1,000)	-	-	-	-
	Division of liveability in all rental housing segments	100% (723)	100% (1,988)	100% (2,222)	100% (4,933)

Table V.3: The liveability concerning surface area and number of rooms of the couple with one child with a middle-income living in rental housing in Groot-Amsterdam, divided by rental housing segment (WoON, 2018) (own table)

		Below spatial standard	Upon spatial standard	Above spatial standard	Total
Liveability concerning surface area	Social housing segment (monthly rent below €710,68)	100%	81%	100%	89%
	Mid-segment housing (monthly rent between €710,69 and €1,000)	0%	6%	0%	4%
	High-segment housing (monthly rent above €1,000)	0%	12%	0%	7%
	Division of liveability in all rental housing segments	100% (1,839)	100% (3,029)	100% (294)	100% (5,162)
Liveability concerning n number of rooms	Social housing segment (monthly rent below €710,68)	95%	26%	100%	89%
	Mid-segment housing (monthly rent between €710,69 and €1,000)	5%	0%	0%	4%
	High-segment housing (monthly rent above €1,000)	0%	74%	0%	7%
	Division of liveability in all rental housing segments	100% (3,713)	100% (507)	100% (942)	100% (5,162)

Table V.4: The liveability concerning surface area and number of rooms of the couple with two children with a middle-income living in rental housing in Groot-Amsterdam, divided by rental housing segment (WoON, 2018) (own table)

		Below spatial standard	Upon spatial standard	Above spatial standard	Total
Liveability concerning surface area	Social housing segment (monthly rent below €710,68)	100%	78%	-	89%
	Mid-segment housing (monthly rent between €710,69 and €1,000)	0%	22%	-	11%
	High-segment housing (monthly rent above €1,000)	-	-	-	-
	Division of liveability in all rental housing segments	100% (2,027)	100% (2,104)	-	100% (4,131)
Liveability concerning n number of rooms	Social housing segment (monthly rent below €710,68)	100%	55%	-	89%
	Mid-segment housing (monthly rent between €710,69 and €1,000)	0%	45%	-	11%
	High-segment housing (monthly rent above €1,000)	-	-	-	-
	Division of liveability in all rental housing segments	100% (3,115)	100% (1,017)	-	100% (4,132)

Table V.5: The liveability concerning surface area and number of rooms of the couple with three children with a middle-income living in rental housing in Groot-Amsterdam, divided by rental housing segment (WoON, 2018) (own table)

		Below spatial standard	Upon spatial standard	Above spatial standard	Total
Liveability concerning surface area	Social housing segment (monthly rent below €710,68)	-	100%	96%	98%
	Mid-segment housing (monthly rent between €710,69 and €1,000)	-	0%	4%	2%
	High-segment housing (monthly rent above €1,000)	-	-	-	-
	Division of liveability in all rental housing segments	-	100% (6,984)	100% (11,323)	100% (18,307)
Liveability concerning n number of rooms	Social housing segment (monthly rent below €710,68)	100%	96%	100%	98%
	Mid-segment housing (monthly rent between €710,69 and €1,000)	0%	4%	0%	2%
	High-segment housing (monthly rent above €1,000)	-	-	-	-
	Division of liveability in all rental housing segments	100% (1,695)	100% (9,757)	100% (6,854)	100% (18,306)

Table V.6: The liveability concerning surface area and number of rooms of the one-parent household with one child with a middle-income living in rental housing in Groot-Amsterdam, divided by rental housing segment (WoON, 2018) (own table)

		Below spatial standard	Upon spatial standard	Above spatial standard	Total
Liveability concerning surface area	Social housing segment (monthly rent below €710,68)	100%	90%	100%	94%
	Mid-segment housing (monthly rent between €710,69 and €1,000)	0%	10%	0%	6%
	High-segment housing (monthly rent above €1,000)	-	-	-	-
	Division of liveability in all rental housing segments	100% (894)	100% (4,628)	100% (1,903)	100% (7,425)
Liveability concerning n number of rooms	Social housing segment (monthly rent below €710,68)	100%	100%	94%	94%
	Mid-segment housing (monthly rent between €710,69 and €1,000)	0%	0%	6%	6%
	High-segment housing (monthly rent above €1,000)	-	-	-	-
	Division of liveability in all rental housing segments	100% (3,302)	100% (3,313)	100% (810)	100% (7,425)

Table V.7: The liveability concerning surface area and number of rooms of the one-parent household with two children with a middle-income living in rental housing in Groot-Amsterdam, divided by rental housing segment (WoON, 2018) (own table)

		Below spatial standard	Upon spatial standard	Above spatial standard	Total
Liveability concerning surface area	Social housing segment (monthly rent below €710,68)	100%	95%	100%	96%
	Mid-segment housing (monthly rent between €710,69 and €1,000)	0%	5%	0%	4%
	High-segment housing (monthly rent above €1,000)	-	-	-	-
	Division of liveability in all rental housing segments	100% (836)	100% (4,056)	100% (383)	100% (5,275)
Liveability concerning n number of rooms	Social housing segment (monthly rent below €710,68)	100%	86%	-	96%
	Mid-segment housing (monthly rent between €710,69 and €1,000)	0%	14%	-	4%
	High-segment housing (monthly rent above €1,000)	-	-	-	-
	Division of liveability in all rental housing segments	100% (3,738)	100% (1,537)	-	100% (5,275)

Table V.8: The liveability concerning surface area and number of rooms of the one-parent household with three with a middle-income living in rental housing in Groot-Amsterdam, divided by rental housing segment (WoON, 2018) (own table)

Appendix VI - Possible instruments to increase and preserve the housing supply

Chapter 9 noticed that a broad study had been done on instruments that can steer the increase or preservation of housing for middle-income households. In this appendix, the instruments that are not discussed in chapter 9 can be observed.

VI.1 Housing Systems

Section 2.7.1 discusses briefly what SGEI stands for, namely Services of General Economic Interest. Currently, the government sees mid-segment rental housing as non-SGEI and is therefore not the core business of housing associations. Also, middle-income households are not seen as the target group of SGEI and thereby not the target group of housing associations. The target group of housing associations is discussed in section 9.3.2.1. This section discusses that mid-segment rental housing is seen by the government as non-SGEI. Although mid-segment rental housing is not seen as SGEI, in the current situation of the housing market, it can be considered as SGEI the market does not foresee in this part of the housing market (Van Den Bos, 2020, p.V). Thus, housing associations should be able to develop housing for the mid-segment rental housing market.

In the Netherlands, the income limit for social housing is very strict. From the affordability study discussed in chapter 4, it can be concluded that mid-segment rental housing is not affordable for some household types with a gross annual income near €36,798. As discussed in section 4.5, the Dutch government has introduced a household-specific income limit for 2020, but this income limit does not overcome all household types' affordability issues. Therefore, to overcome all household types' affordability issues, the social housing income limit should be broadened and more precise. This measure not only increases the affordability of different household types by becoming the target group of the social housing segment, but their affordability is also preserved.

One measure could be to completely liberalise the housing market. If the housing market were liberalised entirely, there would be no housing shortage anymore (Bilic, 2020). Regulation causes a diminishing of construction since regulation burdens investors' interest (Bockxmeer & Trappenburg, 2019). Housing would be constructed anywhere possible, and a new balance would be attained in the housing market. Housing prices would indeed rise at first, and housing would not be accessible for specific labour groups. Due to a shortage of labour groups, their income would rise, and housing will be accessible for them again. Only for a little part of the population, housing would be too expensive. As discussed in this section, liberalising the housing market would only work in an ideal world without any regulation. Different systems in the Netherlands are regulated, and an utterly liberalised housing market does not fit in with the other systems. Also, when the housing market is totally liberalised there will be no minimum demands for issues such as housing quality. It can be assumed that there is a reason why the Dutch law contains minimum requirements for the housing quality of, amongst other things, new construction. Since steering into housing preferences and affordability is one of the main concepts of this research, liberalising the housing market entirely is too short of this research mark. Therefore, this measure is not taken into account within the semi-structured interviews but needed to be discussed to understand why this measure will be not taken into account.

VI.2 House sharing

In the Netherlands, a lot of housing could be better utilised (Crutzen & Hagen, 2020). According to Crutzen & Hagen (2020), remarkably much empty nesters, and the elderly live very spaciously. There is enough space for another 3 million people in this housing supply in the Netherlands; new construction

not included (gebiedsontwikkeling.nu, 2020). When utilising the space in individual housing better, the pressure on the housing market, in general, would diminish. Moreover, next to housing availability as guiding households' choices concerning housing, personal preferences are also guiding these choices (Boumeester, 2004, p. 8).

One condition for house-sharing to be an instrument that confirms middle-income households' housing preferences is that they do not prefer a large surface area. However, this is debatable since the shared housing does contain shared space and private space that can be added together to a larger surface area. Another condition for housing sharing to be an instrument that confirms middle-income households' housing preferences is when these households indicate that they would like to live in shared housing. From the data of WoON 2018, this is not easy to determine since the preference of living in shared housing could be very location-specific since house-sharing gives household the possibility to live in expensive areas that they could not afford by themselves (Corfe, 2019, p.6). Thus, further research is needed to determine if house sharing is following middle-income households' housing preferences. Therefore, since house-sharing exceeds this research scope, house sharing is clarified but is not taken into account within qualitative research.

When looking at the housing preferences of middle-income households, only 1% of the middle-income households prefer shared housing. Therefore, it can be concluded that middle-income households do not prefer to share housing. For the one-person households with a middle-income applies that 31% prefers housing with one or two rooms and a rental price in the social housing category. The preference for one or two rooms is also following the spatial standard. For middle-income households, social housing is mostly not accessible. For these households with a gross annual income near €36,798, mid-segment rental housing is not accessible either. In addition, only 17% of the mid-segment rental housing supply consists of housing with one or two rooms versus housing with three rooms which contains a share of 35% of the supply. Assuming that a trade-off takes places between affordability/accessibility and housing preferences, house-sharing could be a good alternative to individual housing for one-person households. The only condition for house-sharing is that it should not use the housing supply of housing with five rooms or more since there is a shortage of this housing characteristic.

One of the ways of house sharing is subletting. In the Netherlands, subletting is only allowed in certain circumstances. Subletting a dwelling is only allowed when the dwelling is owned by a private party, and the dwelling is not used as collateral for a mortgage. If the dwelling is collateral for a mortgage, the lender needs to agree to sublet the dwelling; otherwise, subletting is not allowed (Hypotheker, 2020 a). Also, for rental housing counts that a landlord needs to allow subletting a room in the dwelling (Rijksoverheid, n.d. o).

Another way of house sharing is house sharing by the use of a friends-lease agreement. When renting following a friends-lease agreement, different (one-person) households can rent a house together. The different households form one household and get a lease agreement together. Together the household needs to meet the income requirement and is responsible for the rent (Eigen Haard, n.d). A friends-lease agreement makes it possible to rent a dwelling when otherwise renting is not affordable or accessible. One of the disadvantages of a friends-lease agreement is that in some cases, the owner's association (in Dutch: vereniging van eigenaren) can make a judicial objection against it (De Bie, 2020). While renting to a family household is allowed, renting to a nonfamily household could be prohibited by the owner's association. By renting housing together with other people, it will become possible for the household to rent a dwelling at a higher price (Baas, 2017). This lightens the pressure on the mid-segment rental market, which causes an indirect increase in the accessibility of mid-segment rental housing.

Another way of house sharing is house dividing with two different houses as a result. In the Netherlands, house dividing is only allowed with a municipality permit (Gemeente Leiden, n.d.). By house dividing, a second house or apartment could be developed within a house that is too big for the owner. When it would be easier for households to divide their house, it could also be possible to divide the house before buying it and take the initial rent income as an extra income for their mortgage. Such mortgages are already applied in, for example, Vancouver (VPRO, 2020). Housing dividing could increase the rental housing supply in certain areas (Schreuder, 2020). To comply with middle-income households' housing preferences, it is essential to set a minimum surface of housing after it has been divided.

VI.3 Location-specific measures

One measure to release the pressure in one area is to increase the transport speed to another housing area with a surplus of housing. By increasing transport speed and thereby releasing pressure on the large cities, high rental housing prices decrease (Rundle, 2017). When searching for a dwelling, one of the primary household's criteria is to travel time to work (Pararius, 2018). For high educated household, 45 minutes of travel time is acceptable. For low educated households, acceptable travel time is only 37 minutes. Most households are willing to give up the surface area to live closer to work. Therefore, decreasing travel time from areas with lots of employment opportunities to other areas could increase the attractiveness to settle in these areas (Schreuder, 2020). Thereby, the pressure on the housing market closer to employment opportunities could diminish. Also, Dutch investors would be interested in investing in other parts of large cities and other regions, then the Randstad if transport speed would be increased (IVBN, 2018, p.2). Although the increase in transport speed could be a measure to decrease the pressure on the housing market, the measure does not solve the problem concerning mid-segment rental housing. It thereby goes beyond the scope of this research.

As discussed in chapter 1, in the Netherlands, the pressure on the housing market has a strong relation to employment in this area (Visser & Van Dam, 2006, p.7). Therefore, another measure could be a new dissemination policy concerning employment for the Netherlands. The dissemination policy could include the stimulation of working from home, a trend that has already started since the corona measures were announced. Currently, housing markets in regions a little further away from the Randstad are already becoming more attractive to households because many people are working from home (NOS, 2020 a). When working from home, the distance from home to work becomes more irrelevant. A new dissemination policy concerning employment, including stimulating working from home, would decrease the pressure on the housing market in the Randstad. Because of this policy, housing prices and rental housing prices would diminish as well (Ligtenberg, 2020 a). Also, the overall parts of the Netherlands, where the housing market is not under pressure, have a low until no urbanity (CBS, 2020). Therefore, there is a lot of space to condense with new construction. Although the dissemination policy concerning employment could be a measure to decrease the pressure on the housing market, the measure does not solve the problem concerning mid-segment rental housing. Therefore, it goes beyond the scope of this research.

VI.4 Other measures

For a short period, the Dutch government has introduced the scheme housing development impulse (in Dutch: woningbouwimpuls). The housing development impulse is meant to speed up the development of housing (Rijksdienst voor ondernemend Nederland, n.d.). The housing development impulse is particularly meant for affordable housing in urban areas, which include housing for middle-income households. It can be used for the preservation of affordability as well. Each municipality can request a new project regarding affordable housing where there is a shortage of capital. Also, the

housing development impulse cannot be used to cover the risk of development. The housing development impulse is a subsidy that is currently served out, but other subsidies are imaginable.

One measure that could diminish high rental prices in large cities is banning services such as Airbnb (Rundle, 2017). The research of Minderman (2017, p.1) stated that Airbnb causes an increase in Amsterdam's housing prices regarding the buyer's market. Likely, when housing prices increase in the buyer's market, rental housing prices increase as well. Also, Koster's research states a correlation between Airbnb and rental housing prices in Los Angeles (De Voogt, 2019). He proved that Airbnb in areas with no or little restrictions has led to increased housing and rental housing prices compared to areas with lots of restrictions or the necessity of a permit concerning Airbnb. Areas that had no or little restrictions on Airbnb, where the restrictions increased, showed that rental housing prices decreased by approximately 3% (De Voogt, 2019). Although this research cannot be translated directly to Amsterdam, since Amsterdam has issues regarding nuisance, Koster states that in Amsterdam, the effect of increasing rental housing prices could be plausible (De Voogt, 2019). Also, when applying regulations regarding Airbnb, the effect of decreasing housing prices in these areas is notified. Therefore, diminishing Airbnb could have a positive effect on rental housing prices in urban areas and could increase affordability but restricting Airbnb does only affect the mid-segment rental housing market in areas that contain a lot of Airbnb. Thus, restricting Airbnb is not a measure that solves problems concerning mid-segment rental housing in general and will not be taken into account in this research.

A trend that is becoming more common in the Netherlands is 'living as a service' (Verveen, 2019). The 'living as a service' concept takes the sharing economy as a starting point. The basic idea is that a tenant pays for rent, utilities and additional services. The housing complex consists of different services such as a gym, sauna, guest bedroom, theatre, offices and other facilities. The housing complex may include a service for furniture and other necessities, internet and television. Investors do not invest for the real estate value but for the additional services' long-lasting cash flow (Verveen, 2019). The apartments are often smaller but can be expended with the additional services within the building. Also, the additional services are tailored to the tenant of the building (Change = networked living, n.d.; Sentel, 2020). In a world where corona exists, and lots of measures change every couple of months, the need for an additional office or other services in the building where someone lives become more accurate. This concept's condition is that it should be more affordable to rent housing with additional services than to arrange the additional services yourself. Although the rent price of housing concepts such as living as a service is often mid-segment, this housing comes with an additional cost of €150-€200 a month. In these extra service costs extra, added service is not included. Since the 'living as a service' concept is new, not much could be said about households' preferences concerning this concept. Also, there is no proof that the 'living as a service' concept increases housing affordability; further research is needed to determine that. Therefore, the 'living as a service' concept exceeds this research scope and will not be discussed in the qualitative study.

Appendix VII – Interviewees qualitative study

VII.1 Municipality's interviewees

The municipality of Amsterdam and The Hague are local governmental bodies, who can steer the housing market within the municipality's boundaries. More on their municipal policies are discussed in section 9.1.

Michiel Mulder is a housing planning consultant at the municipality of Amsterdam. Being a VU Amsterdam graduate, he worked for several companies such as Ecorys and Economic Institution for Building (in Dutch: Economisch Instituut voor de Bouw).

Hens Zoet is a senior policy consultant at the department of urban development at The Hague municipality. At The Hague municipality, he mainly works on municipal policies concerning social housing and municipal policies on housing in general. He studied architecture at TU Delft. Thereafter, he worked a couple of years for the section housing (also at TU Delft).

VII.2 Housing association's interviewees

As discussed in section 2.7, a housing association aims to supply sufficient housing for households who cannot provide housing with the current market conditions. They have to assign at least eighty per cent of their housing supply to be suited for low-income- or vulnerable households. Housing associations can only take up activities (non-SGEI) when there are no market parties that want to perform these activities. Therefore, the portfolio of housing associations contains mainly social housing but also liberalised housing. The interviewed housing associations, De Alliantie and Portaal, both have a fairly large housing portfolio.

Jeroen Lebbink of De Alliantie focusses on the municipality of Almere with regard to social housing and all areas where De Alliantie operates, with regard to housing above the liberalisation limit. He studied Urban Planning & Public Administration at the University of Amsterdam. After his studies, he started working for De Alliantie as a trainee.

Ben Schouten from Portaal is a consultant public housing, and Monique Kampinga is a Senior Asset Manager, both in the region of Utrecht. Ben Schouten has been working for Portaal for 13 years and has performed several practical functions. He studied Social & Economic Geography at the University of Groningen. Monique Kampinga started working for Portaal one year ago. Before that, she worked in the real estate education sector. She did her bachelors in the Faculty of Architecture at TU Delft. Following up, she studied Management in the Built Environment (master's degree) at TU Delft.

VII.3 Investor's interviewees

As discussed in section 2.7, an investor can invest in both social housing and liberalised rental housing. Most investors focus on liberalised rental housing. Two property managers have been interviewed. Wouter Terhorst is head of Asset Management Residential for CBRE GI, and Micheal Hesp is the Director Head of Strategy at CBRE GI. Terhost is a University of Amsterdam Real Estate graduate. Upon graduating, he worked for companies such as ING Real Estate Development and a.s.r. real estate. Micheal Hesp is a Real Estate Management & Development graduate from the University of Eindhoven. After his education, he worked for companies such as Fakton and JLL. On occasion, an investor will be referred to as 'market party'.

VII.4 The umbrella organisation's interviewee

In the Netherlands, there is a representative for the group of investors. Their main task is to discuss new housing ordinances and the effects on these regulations with governmental bodies. An interview with Elisa Bontrop of the IVBN is held. At the IVBN, she is a policy consultant with regard to the residential market and the care real estate market. Elisa Bontrop studied the Egyptian language at the University of Leiden, after which she worked for the Dutch House of Representatives (de Tweede Kamer) and Sweco Real Estate Management. Occasionally in this chapter, the umbrella organisation is referred to as 'market party'.

VII.5 Developer's interviewee

Developers are responsible for the development phase of a building. This phase contains the plan forming, the design and the construction phase of the building. Wonam is both a developer and an investor, which focuses on the mid-segment in Amsterdam and Utrecht. Robert Kohsiek is one of the partners at Wonam. He studied Social Geography at the University of Groningen, since which he has been working for Ping Properties and Wonan. Next to his work at Wonam, he is a commissioner at a housing association. On occasion, in this chapter, the developer is referred to as 'market party'.

Appendix VIII – Interview protocol

Interview protocol gemeente Den Haag – Hens Zoet

Algemene Informatie

Datum: 26 oktober 2020
Naam geïnterviewde: Hens Zoet
Functie geïnterviewde: Beleidsadviseur afdeling wonen
Naam interviewer: Anne Koesen
Functie interviewer: Master student 'Management in the Built Environment' – TU Delft

Als eerste zou ik u willen vragen of u bezwaar heeft tegen een van de volgende punten:
-   Het opnemen van het interview;
-   Transcriberen of samenvatten van het interview;
-   Het gebruiken van het interview voor mijn onderzoek;
-   Het gebruiken van uw naam en functie in mijn onderzoek;

Vervolgens is er nog een vraag:
-   Wilt u het transcript/de samenvatting goedkeuren voor gebruik in het onderzoek?

Introductie

Ik ben Anne Koesen en momenteel ben ik aan het afstuderen voor de master Management in the Built Environment aan de TU Delft. Voor mijn afstudeeronderzoek houd ik me bezig met het vraagstuk: *"Hoe kan de huurwoningvoorraad voor middeninkomens vergroot worden in de Randstad, die betaalbaar is voor middeninkomens en aansluit bij hun woonwensen?"*

Binnen de 1^e fase binnen de uitvoering van mijn onderzoek heb ik dataonderzoek verricht naar de woonpreferenties van middeninkomens en de betaalcapaciteit van middeninkomens. Binnen de 2^e fase van mijn onderzoek zal ik mij bezighouden met het uitvoeren van empirisch onderzoek. Het empirisch onderzoek is gericht op het beantwoorden van de volgende vragen:
-   *"Welke beleidsinstrumenten kunnen er gebruikt worden om de markt te sturen naar de vergroting van de woningvoorraad die betaalbaar is voor middeninkomens en aansluit bij hun woonwensen?"*
-   *"Hoe kan de vergrootte woningvoorraad voor middeninkomens behouden blijven?"*

Dit interview tezamen met literatuuronderzoek zal dienen in de beantwoording van deze vragen.

Inhoud
1. Huidig beleid
2. Verwachting
3. Voorgestelde maatregelingen

Huidig beleid

1. Hoe zien jullie je eigen rol ten opzichte van de vergroting van de woningvoorraad van middenhuur?
2. Momenteel bevat het programma in iedere tender procedure 20% middenhuur. Aan de middenhuur zijn voorwaarden gesteld. De voorwaardes zijn als volgt:
   - De aanvangshuur moet tussen de €700 en €950 euro liggen;
   - De huur mag alleen geïndexeerd worden met CPI voor minimaal 20 jaar;
   - Uitponden is niet mogelijk binnen de eerste 20 jaar;
   - In ruil voor deze eisen krijgen de beleggers korting op de grondprijs door middel van gebruik van de residuele waarde berekening;
   - Huurwoningen worden toegewezen aan de doelgroep door middel van de huisvestingsverordening in combinatie met een huisvestingsvergunning.

Wat zijn momenteel de verdiensten van dit beleid?
3. Welke onderdelen van het beleid zijn minder succesvol en waarom is dat?
4. Hoe zou dit beleid aangepast kunnen worden naar een succesvoller beleid?
5. Volgens beleggers vormen hoge grondprijzen ondanks de korting een belemmering voor het mogelijk maken van middenhuur. Is dit verandert de afgelopen tijd? En zo ja, hoe?

Verwachting
1. Hoe zien jullie de rol van de centrale overheid voor de uitbreiding van middenhuur?
2. Hoe zien jullie de rol van investeerders voor de uitbreiding van middenhuur?
3. Hoe zien jullie de rol van woningcorporaties voor de uitbreiding van middenhuur?
4. Hebben jullie nog verwachtingen van andere partijen betreft de uitbreiding van middenhuur? Zo ja, welke en waarom?

Maatregelingen
1. Hoe staan jullie tegenover living as a service/woningsplitsing/reguleren van huren in middensegment met gebruik van wws om de betaalbaarheid van wonen voor middeninkomens te vergroten?
2. Welke positieve effecten zal living as a service/woningsplitsing/ reguleren van huren in middensegment met gebruik van wws veroorzaken?
3. Welk negatieve effecten zal living as a service/ woningsplitsing/ reguleren van huren in middensegment met gebruik van wws veroorzaken?
4. Hoe kunnen nieuwe middenhuurwoningen binnen het middensegment worden gehouden?

Interview protocol gemeente Amsterdam – [naam]

Algemene Informatie
Datum:
Naam geïnterviewde:
Functie geïnterviewde:
Naam interviewer: Anne Koesen
Functie interviewer: Master student 'Management in the Built Environment' – TU
Delft

Als eerste zou ik u willen vragen of u bezwaar heeft tegen een van de volgende punten:
-   Het opnemen van het interview;
-   Transcriberen of samenvatten van het interview;
-   Het gebruiken van het interview voor mijn onderzoek;
-   Het gebruiken van uw naam en functie in mijn onderzoek;
Vervolgens is er nog een vraag:
-   Wilt u het transcript/de samenvatting goedkeuren voor gebruik in het onderzoek?

Introductie
Ik ben Anne Koesen en momenteel ben ik aan het afstuderen voor de master Management in the Built Environment aan de TU Delft. Voor mijn afstudeeronderzoek houd ik me bezig met het vraagstuk: *"Hoe kan de huurwoningvoorraad voor middeninkomens vergroot worden in de Randstad, die betaalbaar is voor middeninkomens en aansluit bij hun woonwensen?"*

Binnen de 1^e fase binnen de uitvoering van mijn onderzoek heb ik dataonderzoek verricht naar de woonpreferenties van middeninkomens en de betaalcapaciteit van middeninkomens. Binnen de 2^e fase van mijn onderzoek zal ik mij bezighouden met het uitvoeren van empirisch onderzoek. Het empirisch onderzoek is gericht op het beantwoorden van de volgende vragen:
-   *"Welke beleidsinstrumenten kunnen er gebruikt worden om de markt te sturen naar de vergroting van de woningvoorraad die betaalbaar is voor middeninkomens en aansluit bij hun woonwensen?"*
-   *"Hoe kan de vergrootte woningvoorraad voor middeninkomens behouden blijven?"*
Dit interview tezamen met literatuuronderzoek zal dienen in de beantwoording van deze vragen.

Inhoud
1. Huidig beleid
2. Verwachting
3. Voorgestelde maatregelingen

Huidig beleid
1. Hoe zien jullie je eigen rol ten opzichte van de vergroting van de woningvoorraad van middenhuur?

2. Momenteel bevat het programma in iedere tender procedure een onderdeel voor middenhuur. Aan de middenhuur zijn voorwaarden gesteld. De voorwaardes zijn als volgt:
- De aanvangshuur moet tussen de €737 en €1.027 euro liggen;
- De huur mag alleen geïndexeerd worden met CPI plus 1% voor minimaal 20 jaar;
- Uitponden is niet mogelijk binnen de eerste 25 jaar;
- In ruil voor deze eisen krijgen de beleggers korting op de grondprijs door middel van gebruik van de residuele waarde berekening;
- Huurwoningen worden toegewezen aan de doelgroep door middel van de huisvestingsverordening in combinatie met een huisvestingsvergunning.
Wat zijn momenteel de verdiensten van dit beleid?
3. Welke onderdelen van het beleid zijn minder succesvol en waarom is dat?
4. Hoe zou dit beleid aangepast kunnen worden naar een succesvoller beleid?
5. Volgens beleggers vormen hoge grondprijzen ondanks de korting een belemmering voor het mogelijk maken van middenhuur. Is dit verandert de afgelopen tijd? En zo ja, hoe?

Verwachting

1. Hoe zien jullie de rol van de centrale overheid voor de uitbreiding van middenhuur?
2. Hoe zien jullie de rol van investeerders voor de uitbreiding van middenhuur?
3. Hoe zien jullie de rol van woningcorporaties voor de uitbreiding van middenhuur?
4. Hebben jullie nog verwachtingen van andere partijen betreft de uitbreiding van middenhuur? Zo ja, welke en waarom?

Maatregelingen
1. Hoe staan jullie tegenover living as a service/woningsplitsing/reguleren van huren in middensegment met gebruik van wws om de betaalbaarheid van wonen voor middeninkomens te vergroten?
2. Welke positieve effecten zal living as a service/woningsplitsing/ reguleren van huren in middensegment met gebruik van wws veroorzaken?
3. Welk negatieve effecten zal living as a service/ woningsplitsing/ reguleren van huren in middensegment met gebruik van wws veroorzaken?
4. Hoe kunnen nieuwe middenhuurwoningen binnen het middensegment worden gehouden?

Interview protocol belegger – [naam]

Algemene Informatie
Datum:
Naam geïnterviewde:
Functie geïnterviewde:
Naam interviewer: Anne Koesen
Functie interviewer: Master student 'Management in the Built Environment' – TU Delft

Als eerste zou ik u willen vragen of u bezwaar heeft tegen een van de volgende punten:
- Het opnemen van het interview;
- Transcriberen of samenvatten van het interview;
- Het gebruiken van het interview voor mijn onderzoek;
- Het gebruiken van uw naam en functie in mijn onderzoek;

Vervolgens is er nog een vraag:
- Wilt u het transcript/de samenvatting goedkeuren voor gebruik in het onderzoek?

Introductie
Ik ben Anne Koesen en momenteel ben ik aan het afstuderen voor de master Management in the Built Environment aan de TU Delft. Voor mijn afstudeeronderzoek houd ik me bezig met het vraagstuk: *"Hoe kan de huurwoningvoorraad voor middeninkomens vergroot worden in de Randstad, die betaalbaar is voor middeninkomens en aansluit bij hun woonwensen?"*

Binnen de 1^e fase binnen de uitvoering van mijn onderzoek heb ik dataonderzoek verricht naar de woonpreferenties van middeninkomens en de betaalcapaciteit van middeninkomens. Binnen de 2^e fase van mijn onderzoek zal ik mij bezighouden met het uitvoeren van empirisch onderzoek. Het empirisch onderzoek is gericht op het beantwoorden van de volgende vragen:
- *"Welke beleidsinstrumenten kunnen er gebruikt worden om de markt te sturen naar de vergroting van de woningvoorraad die betaalbaar is voor middeninkomens en aansluit bij hun woonwensen?"*
- *"Hoe kan de vergrootte woningvoorraad voor middeninkomens behouden blijven?"*

Dit interview tezamen met literatuuronderzoek zal dienen in de beantwoording van deze vragen.

Inhoud
1. Huidig beleid
2. Verwachting
3. Wens
4. Voorgestelde maatregelingen

Huidig beleid
1. Hoe zien jullie je eigen rol ten opzichte van de vergroting van de woningvoorraad van middenhuur?

2. Uit onderzoek blijkt dat voornamelijk het ontbreken van de communicatie tussen beleggers met de gemeente wordt gezien als een van de bottlenecks voor investering in middenhuur, hoe zit het daar nu mee?
3. Ook blijkt dat vooral de grondwaarde een bottleneck is bij investeringen in middenhuur, hoe komt dat? En zien jullie hier inmiddels vooruitgang in?
4. Hoe zou het beleid van gemeentes veranderd moeten/kunnen worden zodat het aantal investeringen in middenhuur vergroot kan worden?

Verwachting
1. Hoe zien jullie de rol van de centrale overheid voor de uitbreiding van middenhuur?
2. Hoe zien jullie de rol van gemeentes voor de uitbreiding van middenhuur?
3. Hoe zien jullie de rol van woningcorporaties voor de uitbreiding van middenhuur?
4. Hebben jullie nog verwachtingen van andere partijen betreft de uitbreiding van middenhuur? Zo ja, welke en waarom?

Maatregelingen
1. Hoe staan jullie tegenover volledig afschaffen van de markttoets/reguleren van huren in middensegment met gebruik van wws om de betaalbaarheid van wonen voor middeninkomens te vergroten?
2. Welke positieve effecten zal volledig afschaffen van de markttoets/reguleren van huren in middensegment met gebruik van wws veroorzaken?
3. Welk negatieve effecten zal volledig afschaffen van de markttoets/reguleren van huren in middensegment met gebruik van wws veroorzaken?
4. Hoe kunnen nieuwe middenhuurwoningen binnen het middensegment worden gehouden?

Interview protocol IVBN – [naam]

Algemene Informatie
Datum:
Naam geïnterviewde:
Functie geïnterviewde:
Naam interviewer: Anne Koesen
Functie interviewer: Master student 'Management in the Built Environment' – TU
Delft

Als eerste zou ik u willen vragen of u bezwaar heeft tegen een van de volgende punten:
- Het opnemen van het interview;
- Transcriberen of samenvatten van het interview;
- Het gebruiken van het interview voor mijn onderzoek;
- Het gebruiken van uw naam en functie in mijn onderzoek;

Vervolgens is er nog een vraag:
- Wilt u het transcript/de samenvatting goedkeuren voor gebruik in het onderzoek?

Introductie
Ik ben Anne Koesen en momenteel ben ik aan het afstuderen voor de master Management
in the Built Environment aan de TU Delft. Voor mijn afstudeeronderzoek houd ik me bezig
met het vraagstuk: *"Hoe kan de huurwoningvoorraad voor middeninkomens vergroot
worden in de Randstad, die betaalbaar is voor middeninkomens en aansluit bij hun
woonwensen?"*

Binnen de 1^e fase binnen de uitvoering van mijn onderzoek heb ik dataonderzoek verricht
naar de woonpreferenties van middeninkomens en de betaalcapaciteit van
middeninkomens. Binnen de 2^e fase van mijn onderzoek zal ik mij bezighouden met het
uitvoeren van empirisch onderzoek. Het empirisch onderzoek is gericht op het
beantwoorden van de volgende vragen:
- *"Welke beleidsinstrumenten kunnen er gebruikt worden om de markt te sturen naar
de vergroting van de woningvoorraad die betaalbaar is voor middeninkomens en
aansluit bij hun woonwensen?"*
- *"Hoe kan de vergrootte woningvoorraad voor middeninkomens behouden blijven?"*

Dit interview tezamen met literatuuronderzoek zal dienen in de beantwoording van deze
vragen.

Inhoud
1. Huidig beleid
2. Verwachting
3. Wens
4. Voorgestelde maatregelingen

Huidig beleid
1. Hoe zien jullie je eigen rol als belangenorganisatie voor institutionele beleggers ten
opzichte van de vergroting van de woningvoorraad van middenhuur?

2. Uit jullie onderzoek blijkt dat het breekpunt voor investeerders met name ligt bij de inflexibele huurprijzen en de uitpondtermijn, bent u tevreden met de aanpassingen die gemeentes hebben gedaan na het overleg met jullie?
3. Ontstaat er door de verandering van het gemeentelijk beleid een ander breekpunt voor investeringen?
4. Hoe zou het beleid van gemeentes verder verbeterd kunnen worden?

Verwachting
1. Hoe zien jullie de rol van de centrale overheid voor de uitbreiding van middenhuur?
2. Hoe zien jullie de rol van gemeentes voor de uitbreiding van middenhuur?
3. Hoe zien jullie de rol van woningcorporaties voor de uitbreiding van middenhuur?
4. Hoe zien jullie de rol van beleggers voor de uitbreiding van middenhuur?
5. Hebben jullie nog verwachtingen van andere partijen betreft de uitbreiding van middenhuur? Zo ja, welke en waarom?

Maatregelingen
1. Hoe staan jullie tegenover volledig afschaffen van de markttoets/reguleren van huren in middensegment met gebruik van wws om de betaalbaarheid van wonen voor middeninkomens te vergroten?
2. Welke positieve effecten zal volledig afschaffen van de markttoets/reguleren van huren in middensegment met gebruik van wws veroorzaken?
3. Welk negatieve effecten zal volledig afschaffen van de markttoets/reguleren van huren in middensegment met gebruik van wws veroorzaken?
4. Hoe kunnen nieuwe middenhuurwoningen binnen het middensegment worden gehouden?

Interview protocol woningcorporatie – [naam]

Algemene Informatie
Datum:
Naam geïnterviewde:
Functie geïnterviewde: Assetmanager
Naam interviewer: Anne Koesen
Functie interviewer: Master student 'Management in the Built Environment' – TU
Delft

Als eerste zou ik u willen vragen of u bezwaar heeft tegen een van de volgende punten:
- Het opnemen van het interview;
- Transcriberen of samenvatten van het interview;
- Het gebruiken van het interview voor mijn onderzoek;
- Het gebruiken van uw naam en functie in mijn onderzoek;

Vervolgens is er nog een vraag:
- Wilt u hat transcript/de samenvatting goedkeuren voor gebruik in het onderzoek?

Introductie
Ik ben Anne Koesen en momenteel ben ik aan het afstuderen voor de master Management in the Built Environment aan de TU Delft. Voor mijn afstudeeronderzoek houd ik me bezig met het vraagstuk: *"Hoe kan de huurwoningvoorraad voor middeninkomens vergroot worden in de Randstad, die betaalbaar is voor middeninkomens en aansluit bij hun woonwensen?"*

Binnen de 1e fase binnen de uitvoering van mijn onderzoek heb ik dataonderzoek verricht naar de woonpreferenties van middeninkomens en de betaalcapaciteit van middeninkomens. Binnen de 2e fase van mijn onderzoek zal ik mij bezighouden met het uitvoeren van empirisch onderzoek. Het empirisch onderzoek is gericht op het beantwoorden van de volgende vragen:
- *"Welke beleidsinstrumenten kunnen er gebruikt worden om de markt te sturen naar de vergroting van de woningvoorraad die betaalbaar is voor middeninkomens en aansluit bij hun woonwensen?"*
- *"Hoe kan de vergrootte woningvoorraad voor middeninkomens behouden blijven?"*

Dit interview tezamen met literatuuronderzoek zal dienen in de beantwoording van deze vragen.

Inhoud
1. Huidig beleid
2. Verwachting
3. Voorgestelde maatregelingen

Huidig beleid
1. Hoe zien jullie je eigen rol ten opzichte van de vergroting van de woningvoorraad van middenhuur?
2. Binnen het huidige beleid is er een markttoets nodig voor woningcorporaties om te middenhuur te mogen ontwikkelen, wat vinden jullie hiervan?

3. Wat vinden jullie van het feit, dat een aantal gemeentes de mogelijkheid tot ontwikkelen van woningcorporaties willen verruimen naar middenhuur?
4. Hoe zou een woningcorporatie kunnen bijdragen aan het verruimen van de woningvoorraad middenhuur?
5. Wat is er volgens jullie nodig om de middenhuur te behouden?

Verwachting
1. Hoe zien jullie de rol van de centrale overheid voor de uitbreiding van middenhuur?
2. Hoe zien jullie de rol van gemeentes voor de uitbreiding van middenhuur?
3. Hoe zien jullie de rol van beleggers voor de uitbreiding van middenhuur?
4. Hebben jullie nog verwachtingen van andere partijen betreft de uitbreiding van middenhuur? Zo ja, welke en waarom?

Maatregelingen
1. Hoe staan jullie tegenover volledig afschaffen van de markttoets/reguleren van huren in middensegment met gebruik van wws om de betaalbaarheid van wonen voor middeninkomens te vergroten?
2. Welke positieve effecten zal volledig afschaffen van de markttoets/reguleren van huren in middensegment met gebruik van wws veroorzaken?
3. Welk negatieve effecten zal volledig afschaffen van de markttoets/reguleren van huren in middensegment met gebruik van wws veroorzaken?
4. Hoe kunnen nieuwe middenhuurwoningen binnen het middensegment worden gehouden?

Appendix IX – Summary of the interview findings

Type of instrument	Theme	Lessons learned	Mentioned by interviewee	Type of organisation
Shaping instruments	Central government	- The central government should adopt a more active role in the housing market in general; - The central government should adopt a more active role in the allocation of construction land; - The central government should initiate a ministry of housing again;	Portaal, Wonam, IVBN, Municipality of The Hague	Housing association, Developer, Representative investors, Municipality
	Government	- The central government together with the municipality should have a clear vision on the future of the housing market.;	Wonam	Developer
	Low interests on savings	- The low interests on savings has led to increased demand for housing;	CBRE GI	Investor
	Mixed residential programme	- Mid-segment rental housing is very important to preserve the mixed city;	De Alliantie	Housing association
	Liveability	- For the liveability of a neighbourhood, the neighbourhood needs to provide a mixed residential programme; - Selling a part of the portfolio or liberalising a part of the portfolio can help to provide a mixed residential area; - For the liveability of an area, a housing association can take income differences into account when allocating housing. Thereby, housing is sometimes allocated to a middle-income household in a certain area to get a mixed composition of households; - Sometimes you do not want households in social housing to move up on the housing ladder when they earn a higher income, since having them stay in their social housing can improve the liveability of a neighbourhood. But you would like them to pay a little more rent;	Portaal, Municipality of The Hague	Housing association, Municipality
	Abolishment market test	- When the market test was in effect, it was not possible for a housing association to develop mid-segment rental housing by the use of the permitted institution (toegelaten instelling); - Abolishing the market test will make it possible for housing associations to develop mid-segment rental housing by the use of the permitted institution; - With the abolishment of the market test housing associations can play a substantial role within the increase of the mid-segment rental housing; - Housing in the middle rental housing segment is interesting for housing associations because it comes with a higher interest. This higher interest provides for more monetary means to develop social housing;	De Alliantie, Portaal, CBRE GI, Wonam, IVBN, Municipality of The Hague, Municipality of Amsterdam	Housing association, Investors, Developer, Representative investors, Municipality
	Scarcity allocation	- When choosing to construct/develop more mid-segment rental housing, there will be less capacity to construct/develop social housing; - In some regions middle-income households have no place to live. There must be parties to provide for housing for them. Housing associations can play a significant role in providing housing for households of this income group;	Portaal	Housing association

		- A large part of social housing tenants earns a middle-income. In some cases you ought to prefer to see them flow through the mid-segment rental housing;		
	Households flow through market	- When looking at the market flow of households, one should look at the housing segment especially for the elderly, as they often move to smaller housing, making some larger housing become available for other household types, i.e. larger families; - When housing market flow improves, the housing supply can be utilized better;	Portaal, IVBN, Municipality of Amsterdam	Housing association, Representative investors, Municipality
	Households flow through market	- Actively approaching household to flow through the housing market could be interesting. Thereby, it will be easier to steer the allocation of housing;	Portaal, CBRE GI	Housing association, investor
	Households flow through market	- Pushing households to flow through the housing market is a difficult topic in the case of no existing alternative;	Portaal	Housing association
	Sustainability	- Looking at the bigger picture with regard to sustainability. Not all sustainability issues should be attempted to be solved within the inner-city. If the sustainability problem could be solved outside the city, the sustainability solution could be better utilized;	Portaal, Wonam	Housing association, Developer
	Housing associations	- Housing associations should carry more responsibility for increasing the mid-segment rental housing in the supply; - The target group aimed for by housing associations should be bigger (/broader) than it currently is. Thereby, a housing association should have a larger portfolio and more building capacity to allocate to the broader target group;	Portaal, Municipality of Amsterdam	Housing association, Municipality
	Housing associations	- Housing associations should operate in accordance with a level playing field, meaning that they should operate without competitive precedence and financial help, compared to market parties with similar ambitions;	CBRE GI, IVBN, Municipality of Amsterdam	Investor, Representative investors, municipality
	Housing associations	- If housing associations are looking to construct/develop mid-segment rental housing, they need to increase their knowledge of how they can effectively attract investors;	Wonam	Developer
	Rising rent prices	- The high rent prices are not caused by high land prices. They are caused by the willingness of people to pay a high rent price. This has the result that municipalities ask a higher land price in accordance with market conform prices;	CBRE GI	Investor
	Intergrality	- The Dutch government is trying to solve the problems in the housing market by separate regulation, while they should tackle the problems with an integral approach;	CBRE GI, Municipality of The Hague	Investor, Municipality
	Project specific regulation	- The municipality together with the investor/developer should determine on a project-to-project-basis what they would like, and what is financially feasible;	IVBN	Representative investors
Regulatory instruments	Housing ordinance (in Dutch: huisvestingsverordening)	- Regulation on the allocation of housing according to housing ordinance comes with a risk; the group to which housing can be allocated becomes smaller, which increases risk concerning investments;	De Alliantie, IVBN	Housing association, Representative investors
	Regulation	- Dutch regulation can be convoluted. This difficult regulation causes delay in the development stage, and it leads to higher costs;	De Alliantie	Housing association
	Terms and conditions of the rental housing contract	- If households live in government-controlled facilities such as social housing, extra terms and conditions can be added to the rental contract. This could be conditions such as the obligation to flow through the housing market after the household composition is diminished for a certain time or period;	Portaal	Housing association

	Rent regulation	- Investors are interested in the part of the market that is known to have few regulations; - Introduction of rent regulation drives investors away to other segments of the market; - It is important that the investor sees prospect of feasibility for a future-oriented investment;	CBRE GI, IVBN	Investor, Representative investors
	Rent regulation	- The current regulation does not lead to the intended increase of housing supply;	CBRE GI, Wonam, IVBN	Investor, Developer, Representative investors
	Rent regulation	- The market segments that are under the highest pressure are the ones that are most heavily regulated, which has a negative effect on the amount of new dwellings;	CBRE GI	Investor
	Rent regulation	- Rent regulation to solve the problems in the housing market should be temporary;	Wonam	Developer
	Rent regulation	- Rent regulation should be location specific;	Wonam	Developer
	Rent regulation	- Determining an initial rental housing price for the first tenants is ok, but after a mutation takes place one must determine the rental price themselves. The same goes for the buyer's market in the Netherlands;	Wonam	Developer
Stimulus instruments	Liberalisation of social housing	- To increase the middle rental housing segment social housing can be liberalised; - By liberalising social housing the landlord levy expires; - Housing that will be liberalised would otherwise be sold;	De Alliantie, Portaal, Municpality of Amsterdam	Housing association, Municipality
	Liberalisation of social housing	- Larger housing that will be liberalised is mostly not suitable for the target group of social housing since the target group of social housing nowadays include mostly one- and two-person households; - Often larger housing does fit the target group for mid-segment rental housing;	Portaal	Housing association
	Liberalisation of social housing	- It is possible to liberalise housing with a certain rental price when the dwelling is inhabited. Nothing changes for the rental housing contract of the tenant. But the housing association will no longer have to pay the landlord levy in this particular dwelling;	Portaal	Housing association
	Tender procedure	- The municipality can increase the housing supply by the use of tenders. Thereby they put together a set of demands and a matching land price;	Municipality of Amsterdam	Municipality
	Tender procedure	- Tender procedures with high demands and a high land price that have been won by a developer, are often difficult to find investors for in the market; - Because of the high demands and the high land prices in tender procedures, many new developments are jammed before construction takes place;	De Alliantie, Portaal, Wonam	Housing association, Developer
	Tender procedure	- Within a tender procedure, market parties often have more to offer. Therefore, it will mostly not be possible for a housing association to develop mid-segment rental housing by the use of a tender. For this type of development land should be allocated to a housing association by the municipality;	Portaal	Housing association
	Tender procedure	- Tenders are very costly and time-consuming. Therefore, the municipality should change this system to increase the speed of the process and reduce costs;	Portaal, Wonam	Housing association, Developer
	Tender procedure	- Biddings within a tender procedure have a cost increasing effect;	CBRE GI	Investor
	Tender procedure	- If a tender is not financially feasible then we will not develop;	Wonam	Developer
	Framework policy	- If the government would create a clear framework for what they would like to see being built, then a market party can easily decide whether they are willing to develop something accordingly or not;	Wonam, IVBN	Developer, Representative investors

		- Rent regulation should be known up front. After someone buys the land, municipalities should not determine what should be developed on this ground. Otherwise, they should have created a framework up front. By determining what should be developed on land after the land has been bought the development becomes unfinancially feasible;		
	Building capacity	- More land capacity is needed to increase the housing supply; - If the plan capacity and thereby the availability of building land would increase, then the increase of a specific housing segment would not be at the expense of another housing segment; - It is desirable to increase building capacity by allocating building in the outskirts of a city as well;	Portaal, CBRE GI, Wonam, IVBN	Housing association, Investor, developer, Representative investors
	Building capacity	- Since the financial crisis of 2008 which has led to bankruptcy of contractors and developers, these companies have less building capacity;	CBRE GI	Investor
	Building capacity	- The government should create extra plan capacity when there is a shortage in the housing market. Thereby, they should invest in infrastructure for these places upfront;	Wonam, Municipality of The Hague	Developer, Municipality
	Added value contribution (in Dutch: meerwaardeafdracht)	- If a housing association densifies on their own ground or sell mid-segment rental housing they have to pay an added value contribution to the municipality. By abolishing this added value contribution in favour of the housing association, they are able to invest more in housing;	Portaal	Housing association
	Mobility	- Increase mobility between certain areas and the large cities;	Portaal	Housing association
	Landlord levy	The landlord levy diminishes the overall investing capital of a housing association;	Portaal, IVBN	Housing association, Representative investors
	Subsidy	- In the Dutch housing system social housing is subsidised. Subsidising of housing instead of subsidising the household leads to skewed living (in Dutch: scheefwonen); - Subsidising homeownership for all income groups is not a social act; (not in favour of preserving a balanced society)	CBRE GI	Investor
	Risk on investment	- The municipality is often involved in large developments since in these types of developments come with risks are too high for market parties;	Wonam	Developer
	Time span development	- It's beneficial to speed up the development, since then it would be easier to develop more housing within a certain time period;	Wonam	Developer
	Residual land price	- The demands of the municipality of Amsterdam are included in the land price. By the use of the residual value approach the land price that is charged should be a fitting land price;	Municipality of Amsterdam	Municipality
Capacity-building instruments	Demands and costs	- High demand has a cost increasing effect;	De Alliantie, Portaal, CBRE GI	Housing association, Investor
	Total cost of living	- When looking at affordability one should not only look at the base rent price, but also at the total cost of living. The total cost of living should include costs on energy and other services; - When offering extra services next to living the total costs of living can be decreased;	CBRE GI	Investor
	Living as a service concept	- A "living-as-a-service"-concept enables one to develop affordable housing for certain income groups. The same can be said of other co-living concepts. Thereby, a place for different income groups can be created in cities where it otherwise would not be possible to create;	CBRE GI	Investor
	Communication	- It is important to come to agreements with municipalities, but these agreements must be financially feasible;	CBRE GI, Wonam, IVBN,	Investor, Developer, Representative investors, Municipality

		- To come to these agreements, communication should occur between market parties and municipalities;	Municipality of Amsterdam	
	Communication	- The municipality of Amsterdam is not always open for communication. The municipality was not open to communication about a collaboration between them, a housing association and a market party;	CBRE GI	Investor
	Political agenda	- When talking to municipalities, one always has to deal with an alderman that has a certain vision and that will want to win over voters for in the future. The choices that municipalities make on the basis of this political agenda does not always lead to what the government actually had in mind;	CBRE GI	Investor
	Representative investors	- Creating a platform that represents the institutional investors in the Netherlands. Their task is to communicate with the Dutch governments on legislation they propose and to come to agreements on certain topics;	IVBN	Representative investors
	Municipal plans	- Market parties often do not know what the municipality has in mind before buying land. Often after buying land they come to the conclusion that the land price was too high for what is possible with this land;	Municipality of The Hague	Municipality

Table VIII.1: Summary interview findings concerning the increase of the rental housing supply for middle-income households (own table)

Type of instrument	Theme	Lessons learned	Mentioned by interviewee	Type of organisation
Shaping instruments	Operating with an independent firm	- By working with an independent firm, a housing association can act under the same conditions as a market party; - By developing housing with an independent firm, housing associations can develop mid-segment rental housing. The interest on mid-segment rental housing flows directly back to the housing market. Next to that, an independent firm of a housing association is able to operate market-contrary;	De Alliantie, Municipality of Amsterdam	Housing association, Municipality
	Feasibility mid-segment rental housing	- A housing association accepts a lower interest. Also, they can develop market-contrary. Therefore, it is possible for them to develop mid-segment rental housing when it is hard or impossible for market parties to develop;	De Alliantie, Portaal, CBRE GI	Housing association, Investor
	Perennial mid-segment rental housing	- A housing association accepts a lower interest. Therefore, a housing association is in some circumstances willing to accept perennial mid-segment rental housing in the land lease contract. - The housing association accepts perennial mid-segment rental housing in the land lease contract if the housing association has a long-term vision in this segment; - Thereby, a housing association is able to create a permanent mid-segment rental housing basis; - Perennial mid-segment rental housing is attractive since it comes with a lower land price;	De Alliantie	Housing association
	Active land policy	- If the municipality has an active land policy, they can easily steer on what they want to achieve;	De Alliantie	Housing association
	Reshape the total housing market	- The problems with the housing market are not just a middle rental housing segment problem. It is a problem with the whole housing market. Therefore, the whole housing market needs to be reshaped; - Different systems in the Netherlands need to be connected. This the responsibility of the Dutch government; - One should not wait until the complete housing market is reshaped, but only to solve the problem in the middle rental housing market is not the solution;	De Alliantie, CBRE GI	Housing association, Investor
Regulatory instruments	Buy-to-let	- In recent years, buy-to-let has led to an increase of the middle rental housing segment;	De Alliantie	Housing association
	Housing allocation	- For the municipal government it is good to pay attention to allocating housing; - Housing associations make a good partner in keeping an eye on allocation processes together;	De Alliantie, Portaal, Municipality of The Hague	Housing association, Municipality
	Housing allocation	- For the middle rental housing segment, a minimum income is mandatory. The reason for this is risk reduction for the letter. Also, this is a security for the tenant, making it unlikely that they become unable to pay their rent;	De Alliantie, CBRE GI	Housing association, Investor
	Housing allocation	- It is probably good to wait to see what type of households would like to live in a certain housing segment before allocating a housing segment to a certain target group; - By the use of housing allocation, the housing market becomes less transparent, making it unclear what housing is meant for which target group;	De Alliantie, CBRE GI	Housing association, Investor
	Property value system	- The effect on rent regulation in the middle rental housing segment, is that you will get a lot of side effects;	De Alliantie, CBRE GI, IVBN,	Housing association, Investor, Representative

		- When introducing rent regulation in the current housing supply this will lead to a change in the feasibility of past investments. These investments are calculated with the use of the legislation that was in force at the moment of the investment;	Municipality of The Hague	investors, Municipality
	Property value system	- Rent regulation for new construction will give clarity in the investment climate. For new construction rent regulation by the property value system could be interesting;	De Alliantie	Housing association
	Property value system	- Increasing the limit of the property value system will not help to increase the mid-segment rental housing. Most mid-segment rental housing is already above the maximum number of points that fit this rental price;	Portaal	Housing association
	Property value system	- Using the property value system for rent regulation will be a good solution to keep the rental housing supply affordable for households. This would be a great deal for both the current housing supply as for the future housing supply;	Municipality of Amsterdam	Municipality
	Rental price indexation	- The rental housing price of the mid-segment rental housing of housing associations will be annually increased with the CPI. When dealing with private parties, this is sometimes not the case. This can make it hard to predict with what (range of) rates the rent will increase;	Portaal, Wonam, Municipality of The Hague	Housing association, Developer, Municipality
	Rental price indexation	- A stated rental price indexation are causing that investment for maintenance and sustainability will not be possible within a certain period since an investor cannot earn the investment on maintenance and sustainability by increasing the rent;	CBRE GI	Investor
	Zoning plan	- The zoning plan is used to negotiate with market parties on what will be developed on land that has been bought by market parties themselves. Thereby, the municipality is able to steer it to a certain housing segment. This is only possible if the zoning plan needs to be changed;	Municipality of The Hague, Municipality of Amsterdam	Municipality
	Housing division	- Housing division causes high pressure on the environment of housing. Also, they cause the diminishing of the larger rental housing supply that is meant for larger households;	Municipality of The Hague	Municipality
	Small excesses	- Regulation in the housing market is only able to deal with small excesses. Thereby, the regulation affects everyone operating in the housing market and not only the ones who cause the excesses. The Dutch government should focus on fighting these excesses without affecting the rest of the housing market;	CBRE GI, IVBN	Investor, Representative investors
Stimulus instruments	High demands and land prices	- At the moment municipalities have high demands for new developments. These high demands often come with high land prices. And so it becomes increasingly harder to meet the demands of the municipalities; - When having high demands and high land prices, the housing prices of the developed housing will increase tremendously after the fixed period that the prices are in force. The reason for this is that rising the rental housing prices will be the only way to have an interest on the investment; - The high demands in combination with the high land prices will have an oppressive effect on the increase of the middle rental housing supply;	De Alliantie, Portaal, Wonam, IVBN, Municipality of The Hague	Housing association, Developer, Representative investors, municipality
	High demands and land prices	- The municipality of The Hague is willing to lower land prices for certain demands they have;	Municipality of The Hague	Municipality
	Increase supply	- The increase of the housing supply will lead to a new balance in the housing market. Thereby, housing prices will eventually become rebalanced, probably dropping to a lower re-established market value;	De Alliantie, Woman	Housing association, Developer

	Surface area	- A housing association is often capable to develop mid-segment rental housing with a larger surface area compared to market parties; - Although a housing association is often capable of developing some larger housing, they are still unable to develop large family housing anymore without acting market contrary; - If the municipality prefers larger housing, the municipality should lower the land prices;	De Alliantie, Portaal, Municipality of The Hague	Housing association, Municipality
	Surface area	- It is still possible to develop mid-segment rental housing, but only by making concessions on, for example, the size of the surface area;	Wonam, IVBN, Municipality of Amsterdam	Developer, Representative investors, municipality
Capacity-building instruments	Living as a service concept	- The municipality is not too keen on using the living-as-a-service-concept as a means to increase housing affordability.	Municipality of The Hague, Municipality of Amsterdam	Municipality

Table VIII.2: Summary interview findings concerning the preservation of the rental housing supply for middle-income households (own table)

Appendix X – Expert panel invitation

*The original file was a PDF-file; screenshots of this PDF-file are added to this appendix.

A place for all households in urban areas

Expert panel

Beste deelnemer,

Allereerst wil ik u hartelijk bedanken voor uw deelname aan de expert panel van mijn afstudeeronderzoek aan de TU Delft. Om te beginnen zal ik een korte introductie geven over mijn afstudeeronderzoek, waarna ik het doel van de expert panel zal uitleggen. In dit document worden de probleemstelling en de uitkomsten van dit onderzoek verder toegelicht.

Binnen mijn afstudeeronderzoek stel ik de vraag: 'Hoe kan de betaalbare huurwoningvoorraad voor huishoudens met een middeninkomen worden vergroot volgends de woonpreferenties van deze middeninkomens?' Met woonpreferenties wordt verwezen naar voorkeuren aangaande het woningtype, woonoppervlak, aantal kamers, beschikken over een buitenruimte, afstand tot verstrekkers van eerste levensbehoeften. Ik heb bij dit onderzoek twee verschillende methodes gehanteerd. Als eerste heb ik kwantitatief onderzoek gedaan naar de betaalbaarheid van wonen voor verschillende huishoudelijke typen met een middeninkomen, en naar de woonpreferenties van deze verschillende typen huishoudens. Vervolgens heb ik kwalitatief onderzoek gedaan naar instrumenten die de woningmarkt zouden kunnen sturen naar vergrotingen- en het behoud van de betaalbare huurwoningvoorraad, welke voldoet aan de preferenties van deze middeninkomens.

Dit panel dient mij op minstens twee manieren:
1. Het kan de uitkomsten van het kwalitatieve deel van mijn onderzoek valideren. Dat betekent dat ik u de volgende vragen zou willen stellen: Kunt u zich als professional vinden in de uitkomsten? Ziet u bij deze uitkomsten kansen voor de woningmarkt? Welke voorwaarden ziet u verbonden aan deze uitkomsten?
2. Het kan een debat doen ontstaan tussen verschillende partijen met verschillende belangen. Naar mijn idee verschaft zo'n debat mij meer inzicht dan een één-op-één gesprek.

Dit expert panel staat ten dienst van mijn onderzoek, maar ik hoop dat het voor u ook een interessante en leerzame ochtend zal zijn en dat het u nieuw inzicht verschaft. In de rest van dit document vindt u hopelijk alle benodigde inhoudelijke informatie betreffende mijn onderzoek. De beschreven zaken en uitkomsten zullen tijdens de introductie van het expert panel toegelicht worden.

Mocht u nog vragen hebben dan hoor ik deze graag van u.

Met vriendelijke groet,
Anne Koesen

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11:00	Introductie
11:15	Voorstelronde
11:30	Debat
12:45	Vragen en feedback ronde

Probleemstelling

Sinds de jaren '90 wordt woningbezit binnen de Nederlandse woningmarkt op ver-schillende manieren gestimuleerd. Dit heeft geleid tot een verkleining van de gepriva-tiseerde huurvoorraad. Een van de manieren waarop eigen woningbezit gestimuleerd werd, was het creëren van de mogelijkheid om een hypotheek te krijgen die groter was dan 100% van de woningwaarde; als gevolg waarvan in de financiële crisis die begon in 2008 veel huizen onder water kwamen te staan. Naar aanleiding hiervan zijn de eisen voor het verkrijgen van een hypotheek strenger geworden en sindsdien kunnen hypotheken niet meer dan 100% van de waarde van de woning bedragen. Daarnaast is besloten vanuit de centrale overheid om de hypotheekrenteaftrek af te bouwen, waardoor het moeilijker is geworden om een eigen woning in bezit te krijgen.

Naast dat eigen woningbezit minder wordt gestimuleerd door de overheid kennen sommige regio's in Nederland een tekort aan woningen. De Randstad regio wordt gekenmerkt door een woningtekort; met name Amsterdam, Rotterdam, Den Haag en Utrecht. In deze steden is het voor huishoudens met een inkomen tot 1,5 keer modaal bijna onmogelijk om een woning te kopen in de stad. Pas bij een inkomen van 2 keer modaal wordt het eenvoudig om in de stad een woning te kopen. Dit onderzoek richt zich op huishoudens met een middeninkomen in stedelijke gebieden in de Randstad. Hierbij is het middeninkomen gedefinieerd van de sociale huurgrens (€36.798 voor het jaar 2018) tot 1,5 keer modaal (€51.750 voor het jaar 2018). Het stedelijk gebied van de Randstad is gekenmerkt door de hoge werkgelegenheid, hetgeen veel van dit soort huishoudens naar dit stedelijk gebied doet willen trekken.

Door veranderingen in de arbeidsmarkt in recente jaren, is de arbeidsmarkt op nog een nieuwe manier invloed gaan uitoefenen op de plek van huishoudens op de woningmarkt. De norm ging van vaste arbeidscontracten naar flexibele arbeidscon-tracten. Voor werknemers met een flexibel contract is het aanzienlijk veel moeilijker een hypotheek te verkrijgen dan voor werknemers met een vast contract, aangezien hypotheekverstrekkers doorgaans alleen dit laatste type contract gunstig achten. De inkomens van degenen met een flexibel contract worden vaak ook nog gedrukt doordat ze minder uren kunnen werken, wat hun koopkansen nog verder verkleint. Dit tezamen maakt het voor een aantal typen huishoudens moeilijk, dan wel onmogelijk, om toe te treden tot de koopwoningmarkt en maakt dat ze aangewezen zijn op de huurwoningmarkt.

Als we de Nederlandse huurwoningmarkt onderverdelen in vier categorieën, krijgen we:
categorie 1 - sociale huur in eigendom van een woningcorporatie
categorie 2 - sociale huur in eigendom van een particuliere partij
categorie 3 - geliberaliseerde huur in eigendom van een woningcorporatie
categorie 4 - geliberaliseerd huur in eigendom van een particuliere partij

De landelijke liberalisatiegrens bedroeg in het jaar 2018 €710,68 per maand. Woningen in categorie 1 zijn voor huishoudens met een middeninkomen nagenoeg niet toegankelijk, waardoor het grootste gedeelte van de huishoudens met een middeninkomen afhankelijk zijn categorie 3- en 4-woningen. Echter door de harde liberalisatiegrens is er een gat ontstaan vlak boven de liberalisatiegrens. Dat wil zeggen; er zijn vrijwel geen huurwoningen beschikbaar met een huurprijs vlak boven de liberalisatiegrens in de Randstad.

In de afgelopen jaren zijn er in Nederland een aantal regels ingevoerd die hebben geleid of mogelijk gaan leiden tot een huurprijs verhogend effect. De overdrachtsbelasting wordt voor beleggers verhoogd van 2% naar 8% en de verhuurdersheffing heeft een huurprijs verhogend effect, en zorgt er tevens voor dat er minder geïnvesteerd kan worden in nieuwbouw en renovatie. Daarbij komt dat woningcorporaties door de introductie van de markttoets al beperkt zijn bij het bouwen van nieuwe middenhuurwoningen. Naast de introductie van verschillende vormen van regelgeving die een huurprijsverhogend effect hebben, is de grondprijs in de afgelopen jaren met 20% gestegen in verhouding tot de totale ontwikkelingskosten. Wanneer de grondprijzen verhoudingsgewijs in deze mate stijgen, is het aanvoerbaar dat dit ook een huurpijsverhogend effect heeft op de woningen die op die duurdere grond worden ontwikkeld.

Door huurprijsverhogingen (zonder verhoudingsgewijze inkomensstijgingen) in stedelijke gebieden hebben huishoudens met een middeninkomen, waaronder huishoudens met- of bestaande uit sleutel werkers ('key workers'), zelden nog toegang tot de woningmarkt in de Randstad. En bij de enkele huishoudens die deze toegang wel vinden, voldoen de woningen vaak niet aan de leefbaarheidsnorm. Vooral door deze zojuist beschreven factoren acht ik de volgende vraag relevant: 'Hoe kan de betaalbare huurwoningvoorraad voor huishoudens met een middeninkomen worden vergroot volgens de woonpreferenties van deze middeninkomens?'

Zoals vermeld in de introductie heb ik zowel kwantitatief als kwalitatief onderzoek verricht. Bij het eerste deel van het kwantitatieve onderzoek heb ik onderzoek gedaan naar wat een type huishouden met een middeninkomen zich maximaal kan veroorloven aan kale huur. Dit is gedaan aan de hand van de residuele waarde methode in combinatie met de budgetten van het Nibud. Het tweede deel van het kwantitatief onderzoek was een onderzoek naar woonpreferenties. Dit is uitgevoerd met behulp van het WoON 2018 en bestreek de regio Groot-Amsterdam (huurwoningvoorraad, huidige woonsituatie van de middeninkomens, woonvoorkeuren van de middeninkomens.) Er is bekeken of de woningvoorraad woningen bevat die betaalbaar zijn voor middeninkomens, alsmede voldoen aan hun preferenties. Om woonvoorkeuren volgens een norm te kunnen definieren, is er het een en ander hard opgesteld aangaande leefbaarheid m.b.t. woonoppervlak per persoon en het aantal kamers per type huishouden, dat vervolgens afgezet is tegen de huidige woonsituatie en de woonpreferenties .

In het tweede deel van het onderzoek heb ik kwalitatief onderzoek gedaan. Hier heb ik door middel van semigestructureerde interviews met verschillende partijen waaronder gemeentes, woningcorporaties, beleggers en ontwikkelaars, gekeken naar de rol van

verschillende partijen en mogelijke instrumenten die de betaalbare huurwoningmarkt voor huishoudens met een middeninkomen welke ook voldoet aan hun preferenties kunnen vergroten en behouden. In de volgende secties leest u kort over de uitkomsten van dit onderzoek.

Betaalbaarheid en woonvoorkeuren en de woning-voorraad van Groot-Amsterdam

Deze sectie gaat over de betaalbaarheid van wonen voor middeninkomens en de woonvoorkeuren van middeninkomens in relatie tot de woningvoorraad in Groot-Amsterdam.

Tabel 1 geeft een overzicht van de uitkomsten van het kwantitatieve onderzoek, waarin te zien is dat de meeste huishoudentypes niet wonen naar hun preferenties. Dit heeft veelal te maken met het feit dat zij niet in een eengezinswoning wonen en wonen in een kleiner huis en met minder kamers dan zij aangeven als voorkeur. Dit is ook terug te zien in het feit dat voor een aantal huishoudens de woningvoorraad ook niet volledig voldoet aan de voorkeur van deze huishoudens.

Wat ook opvalt is dat bepaalde huishoudentypes niet wonen volgens de leefbaar-heidsnorm die gesteld is, waaronder: paar met twee kinderen, paar met drie kinderen, eenoudergezin met kind, eenoudergezin met twee kinderen. Voor het paar met twee kinderen en het paar met drie kinderen is de kans groot dat zij niet wonen volgens de leefbaarheidsnorm, gezien voor een deel van deze huishoudentypes huurwoningen in het middensegment, en een ander deel -in het sociale segment niet betaalbaar zijn. Wat betreft het eenoudergezin met kind en het eenoudergezin met twee kinderen kan dit niet geconstateerd worden. Wanneer men kijkt naar de woningvoorraad kan er ge-constateerd worden dat de woningvoorraad onvoldoende woningen bevat die voldoen aan de leefbaarheidsnorm van het paar met drie kinderen.

Vanuit het onderzoek blijkt dan ook dat de woningvoorraad onvoldoende eengezins-woningen bevat met relatief groot oppervlak vanaf 96m2 en 5 kamers. Hierbij is echter belangrijker dat de woningvoorraad voldoet aan de betaalbaarheid en de leefbaarheid boven de woonpreferenties. Dat de woningvoorraad, wanneer men kijkt naar de woon-voorkeuren en de leefbaarheid van de woningvoorraad, onvoldoende grotere wonin-gen bevat wil niet per definitie zeggen dat er geen vraag is naar kleinere woningen.

Een groot probleem dat zich voordoet heeft te maken met de betaalbaarheid van wonen. Voor het paar met een kind, het paar met twee kinderen, het paar met drie kinderen en het eenoudergezin met drie kinderen geldt dat het middenhuursegment vaak niet te betalen is. Er zal dus meer nadruk gelegd moeten worden op verbetering van de betaalbaarheid, naast het vergroten van de woningvoorraad. Wellicht kan dit gebeuren op basis van het huishouden specifiek verbreden van de sociale huurgrens.

	Betaalbaarheid	De woningvoorraad bevat woningen die voldoen aan de preferenties van de middeninkomens	De woningvoorraad bevat woningen die voldoen aan de leefbaarheidsnorm	Middeninkomens wonen volgens hun woonpreferenties	Middeninkomens wonen volgens de leefbaarheidsnorm
Eenpersoonshuishouden	Ja	Ja	Ja	Ja	Ja
Paar	Ja	Ja	Ja	Nee	Ja
Paar met een kind	Misschien	Nee	Ja	Nee	Ja
Paar met twee kinderen	Nee tot misschien	Nee	Ja	Nee	Nee
Paar met drie kinderen	Nee	Nee	Nee	Nee	Nee
Eenoudergezin met een kind	Ja	Ja	Ja	Ja	Nee
Eenoudergezin met twee kinderen	Ja	Maybe	Ja	Nee	Nee
Eenoudergezin met drie kinderen	Nee tot misschien	Nee	Ja	Nee	Ja

Tabel 1: De betaalbaarheid en de leefbaarheid voor middeninkomens van het middenhuursegement in Groot-Amsterdam en het middenhuursegment in Groot-Amsterdam tegenover de woonvoorkeuren van de middeninkomens (WoON, 2018) (eigen tabel)

Vergroting en behoud van de woningvoorraad

Deze sectie gaat over de vergroting en het behouden van de betaalbare huurwoning-voorraad in de Randstad die overeenkomt met de woonvoorkeuren van de middeninkomens. Uit de vorige sectie kwam naar voren dat betaalbaarheid een belangrijk thema is bij de vergroting van de woningvoorraad, maar ook dat woninggrootte een belangrijk thema is.

Tabel 2 bevat een overzicht van de meest voorgestelde maatregelen/instrumenten voor het vergroten van de huurwoningvoorraad voor middeninkomens. Wat betreft de vergroting van de huurvoorraad voor middeninkomens kwam voornamelijk naar voren dat de centrale overheid een grotere rol zou moeten innemen wat betreft de sturing van de woningmarkt. Dit bevat onder andere het vergroten van de bouwcapaciteit, het vergroten van de financiële middelen waardoor ook een betere balans kan ontstaan tussen eisen van gemeentes en grondprijzen die gevraagd worden, het afschaffen van de markttoets en een grotere rol creëren voor woningcorporaties om te opereren in het middenhuursegment, en daarbij ook het afschaffen van de verhuurdersheffing en het verbeteren van de communicatie tussen overheden en marktpartijen. Dit laatste geldt overigens ook voor lokale overheden, want die zouden vaker een kaderscheppend beleid kunnen voeren en (meer) zorg dragen voor het niet (aan zich) voorbij laten gaan van mogelijkheden. Ook zouden tenderprocedures vereenvoudigd moeten worden zodat ze sneller kunnen worden voltrokken.

Type instrument	Instrument
Vormend instrument	- Meer regie van de centrale overheid; - Sturen doormiddel van een kader scheppend beleid;
Regulerend instrument	
Stimulerend instrument	- Subsidiering; - Betere balans tussen de eisen van gemeentes en de grondprijzen; - Vereenvoudigde tender procedures; - Vergroten van bouwcapaciteit; - Afschaffen van de verhuurdersheffing in het geval van het gebruik voor investeringen in nieuwbouw en renovatie; - Volledig afschaffen van de markttoets;
Capaciteit opbouwend instrument	- Betere communicatie tussen overheden en andere partijen;

Tabel 2: Overzicht van instrumenten die de sturen naar het vergroten van de huurwoningvoorraad voor middeninkomens (eigen tabel)

Tabel 3 bevat een overzicht van de meest voorgestelde maatregelen/instrumenten voor het behoud van de huurwoningvoorraad voor middeninkomens. Hierboven was al naar voren gekomen dat men van mening is dat woningcorporaties een grotere rol zouden moeten spelen bij de totstandkoming en de vergroting van het middenhuursegment. Een van de redenen hiervoor is dat woningcorporaties de mogelijkheid hebben om een meer permanent middenhuursegment te ontwikkelen. Daarnaast pleit men voor prijsindexatie van huurwoningen binnen het huidige huurcontract met daarop enkele uitzonderingen en een meer transparant toewijzingssysteem dat geen huishoudens uitsluit, maar alleen bepaalde huishoudens voorrang geeft. Ook voor het behoud van de huurwoningvoorraad voor middeninkomens is het van belang dat er betere communicatie plaatsvindt tussen overheden en andere partijen.

Type instrument	Instrument
Vormend instrument	- Een grotere rol voor woningcorporaties bij de totstandkoming van het middenhuursegment;
Regulerend instrument	- Prijsindexatie van de huur, maar met de mogelijkheid tot huurverhoging in het geval van groot onderhoud en verduurzaming; - Een toewijzingssysteem van woningen op basis van voorrang en niet op basis van uitsluitingen;
Stimulerend instrument	
Capaciteit opbouwend instrument	- Betere communicatie tussen overheden en andere partijen;

Tabel 3: Overzicht van instrumenten die de sturen naar het behoud van de huurwoning-

Stellingen

1

De centrale overheid moet een actievere rol gaan spelen bij het sturen van de woningmarkt.

2

De sociale huurgrens moet huishouden-specifiek verruimd worden.

3

Er is nu onvoldoende balans tussen de eisen van de overheden en de grondprijzen die daarbij gevraagd worden, het niet voorbij laten gaan van kansen/mogelijkheden moet een hogere prioriteit krijgen bij overheden.

4

Woningcorporaties moeten een grotere rol krijgen bij de totstandkoming van de middenhuur woningvoorraad.

5

De centrale overheid moet meer financiële middelen vrijmaken om de woningmarkt te stimuleren.

Appendix XI – Participants expert panel

XI.1 Municipal's participant

The municipality is represented by Erwin Daalhuisen, a strategic financial manager of land matters for the municipality of Almere. Almere is increasingly forced to put up with an issue concerning housing affordability. He used to be consultant for Fakton, where he was mostly involved with housing affordability at Amsterdam.

XI.2 Housing association's participant

Willem Apperloo, being a portfolio manager at Havensteder, represents the housing associations. Havensteder operates in the Rotterdam region. At Havensteder he is responsible for the long-term strategy concerning his portfolio. Also, recently he wrote down Havensteder's vision on their mid-segment rental housing supply.

Bart Moesbergen is managing director at his own company &Straks Wonen. Next to that, he is a commissioner at different housing associations and consults for them as well. He used to work for different housing associations and different real estate developers. He not only represents developers but housing associations as well. However, his views are stated from a housing association perspective. Thus, in the expert panel discussion, his views will be represented as being housing associations' views.

XI.3 Market parties' participants

Kim Rimmelzwaan is property manager at a.s.r. real estate for the Dutch core residential fund. There, she is responsible for the portfolio of the southern part of the Netherlands. Her main task is determining the level of market rental prices, monitoring tenant's satisfaction, monitoring the return on investment and monitoring and improving the level of sustainability of the portfolio. a.s.r. real estate is concerned with impact investment regarding their portfolio, by which she represents the investor fitting with the market party type.

Wim Rust is Fakton's founder. For the first years of his career, he mainly put his focus on owner-occupied housing in the mid-segment. He invented the savings linked mortgage (in Dutch: spaarhypotheek) and the start-up mortgage (in Dutch: startershypotheek). The start-up mortgage served to grant key workers an opportunity to buy housing in Amsterdam. During the expert panel, he, amongst others, represented the market party.

Robert van Ieperen is a partner at Fakton Capital, where he helps to stimulate cooperation between developers and investors to increase the housing supply. Robert used to work for companies such as Amvest and IVBN. His main career focus was always on the housing market. In this expert panel, he, amongst others, represents the market party.