

Student housing on brownfields: An assessment of the barriers and opportunities for the development of PBSA on brownfields in the student cities of Amsterdam and Groningen



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Abstract: The Netherlands is currently coping with a shortage in student housing. The construction of Purpose Built Student Accommodation can help solve the housing shortage and for these developments appropriate locations must be found. In the United Kingdom, brownfields are seen as suitable locations and through conducting a policy review, interviews with stakeholders and a GIS analysis this research displays the main barriers and opportunities for the development of PBSA on Dutch brownfield locations. The study shows that these brownfields are located inside the urban environment of student cities, close to universities and well accessible by public transport which makes them attractive for students. Due to the desire for constructing affordable PBSA however, other -more profitable- real estate products also benefitting from the brownfields' spatial qualities can outbid PBSA developers for brownfield properties making it difficult for affordable PBSA acquire these kinds of locations. Therefore, especially in Amsterdam, mainly more expensive student housing can be developed on brownfield locations. At last, for the development of PBSA on brownfields, building at a large scale turns out to be a prerequisite as this is increasing the feeling of safety on brownfields as well as financially attractive.

Table of contents

- 1. Introduction..... 4
 - 1.1. Student housing in university cities..... 4
 - 1.2. The research problem 4
 - 1.3. Structure..... 5
- 2. Brownfields and the development of student housing..... 5
 - 2.1. Brownfields and their development..... 5
 - 2.2. Spatial components influencing the development of PBSA..... 7
 - 2.3. Financial aspects influencing the development of PBSA..... 7
 - 2.4. Conceptual model for the potentiality of PBSA development..... 8
- 3. Methodology 9
 - 3.1. A case study approach..... 9
 - 3.2. Triangulation of methods 10
 - 3.3. Policy review..... 10
 - 3.4. Interviews 10
 - 3.5. GIS analysis 11
 - 3.6. Ethical considerations 12
 - 3.7. Reflection on the data collection process 12
- 4. Results 12
 - 4.1. A student housing policy review 13
 - 4.2. The practice of developing student housing 14
 - 4.3. A GIS analysis on brownfields their strengths and weaknesses..... 17
- 5. Conclusions..... 24
- 6. References..... 26
- 7. Appendices 29
 - 7.1. Appendix A:Reviewed policy documents 29
 - 7.2. Appendix B: GIS data sources..... 29
 - 7.3. Appendix C: Interview coding scheme 30
 - 7.4. Appendix D: Interview guides 31
 - 7.4.1. Municipality of Groningen..... 31
 - 7.4.2. Private developer Groningen 32
 - 7.4.3. Student housing corporation Groningen..... 33
 - 7.4.4. Campus developer Groningen..... 34

7.4.5.	Municipality of Amsterdam.....	35
7.4.6.	Private developer Amsterdam	36
7.4.7.	Student housing corporation Amsterdam.....	37
7.4.8.	Umbrella organization on student housing.....	38

1. Introduction

1.1. Student housing in university cities

In the last years student numbers in the Netherlands have risen (CBS, 2019) and they will continue to do so in the years to come (Rijksoverheid, 2019a). When student numbers rise, the effects students have on the city they live and study in increase as well (Sage et al., 2012). As cheap terraced family housing near universities has proven to be easy to convert into House in Multiple Occupation (HMO) suitable for students (Sage et al., 2012), many of these family houses have been converted and now serve as accommodation for students. Studies conducted in the United Kingdom have shown that the increasing number of students living in HMO's located in university towns is causing problems on the neighbourhood scale (Hubbard, 2008). According to Munro and Livingston (2012) examples of the emerging problems from HMO occupation include a lost sense of community feeling among the original residents and complaints about noise disturbance, caused by the distinctive lifestyle of students. Currently, student towns are trying to find solutions to prevent the emerging problems from happening and according to Hubbard (2009) a potential solution is the development of purpose built student accommodation (PBSA).

In the UK many local governments see so called brownfields as suitable locations for these PBSA developments (Hubbard, 2009; Sage et al., 2013; Kinton et al., 2018). According to Hubbard (2009), the Newcastle city council has even identified fifty potential brownfield sites suitable for the development of PBSA. These brownfields are located in or near city centers with good access to nightlife, facilities and public transport, making them attractive for students.

Currently there is a deficit in student housing in the Netherlands and students encounter difficulties when it comes to finding accommodation (Rijksoverheid, 2019b). A report on the supply of student housing by ABF research (2019) shows that to battle the shortage in student housing an annual 3000 extra units are created and added to the market through the conversion of family homes into HMO's. The majority of the local governments however want to put a halt to this increase in HMO's (ABF research, 2019) as they create the before mentioned issues like noise disturbance and a lost sense of community feeling. This poses a problem as there is a housing shortage, yet adding extra units through the conversion of family homes into HMO's is undesirable. Therefore, like in the UK, the development of PBSA can be a solution.

These PBSA complexes need to be developed at appropriate locations but in the Netherlands, unlike in the UK, brownfields are not specifically identified as suitable locations. In Amsterdam, one of the municipalities where the student housing shortage- and conversion rate of family houses into HMO's is the highest (Gemeente Amsterdam, date unknown; ABF research, 2019), brownfield sites are not mentioned in any policy as possible locations for the development of PBSA. Therefore the question arises: are there reasons why Dutch brownfields are not identified as suitable locations for the development of student housing?

1.2. The research problem

If brownfields are such good places to develop student housing, as promoted in the UK, why are they not mentioned in Dutch policies. Particularly considering the critical need for increased student

housing in the country. The Dutch context may give a different view on the suitability of brownfields as locations for PBSA. The main research question has therefore been formulated as follows:

What are the barriers and opportunities affecting the development of purpose built student accommodation on brownfields in Dutch university towns?

Students have certain spatial needs and preferences when it comes to suitable locations (Hubbard 2009) and student housing has proven to be a profitable product for investors (Hubbard, 2009; Chatterton, 2010). Therefore the spatial and financial aspects impacting the development of PBSA on brownfield locations have been examined. To answer the main question, the following sub-questions have been formulated:

1. What are brownfields and where are they located in Dutch university towns?
2. Why can brownfields be suitable locations for the development of student housing?
3. What spatial aspects play a part in the development of student housing and how do they affect the suitability of brownfields for Purpose Built Student Accommodation?
4. What financial aspects play a part in the development of student housing and how do they affect the suitability of brownfields for Purpose Built Student Accommodation?

1.3. Structure

First relevant academic literature with respects to the development of brownfields and student housing is reviewed in the theoretical framework. At the end of the framework the conceptual model is presented and explained. In the methodology section the approach for investigating the barriers and opportunities is presented. This section includes an insight in how the policy review, interviews and the GIS analysis have been conducted. In the fourth chapter there will be an elaboration on the results from the conducted policy review, interviews and the GIS analysis. In the final section, there will be a conclusion on the most important opportunities and barriers concerning the development of purpose built student accommodation including a recommendation for further research.

2. Brownfields and the development of student housing

In this chapter, the main concepts and theories that lie on the basis of researching the barriers and opportunities for PBSA development on brownfields will be discussed. First the concept of a brownfield and its redevelopment potential for student housing will be explained. Next, the spatial components influencing the suitability of a location for student housing will be touched upon and at last financial aspects related to the development of student housing on brownfields will be discussed.

2.1. Brownfields and their development

Brownfields

Glumac et al. (2013) refer to a brownfield as follows: *'A brownfield site is any land or premises which has previously been used or developed and is not currently fully in use, although it may be partially occupied or utilized. It may also be vacant, Derelict or contaminated. Therefore, a brownfield site is not available for immediate use without intervention'*. This definition of a brownfield, which is based on existing European definitions and US examples, will be used for this research. Hendriks et al.,

(2018) conducted a study on the reuse of brownfields in the Netherlands and found that Dutch brownfields are mainly old industrial-, military-, infrastructure-, or commercial sites. These sites are typically situated inside the urban environment (Hendriks et al., 2018) like the ones in figures 1 and 2.



figure 1: A fenced Brownfield in Groningen



figure 2: An open brownfield in Groningen

Unused brownfields are eyesores to a city and the development of these areas has many benefits (Lungo & Campbell, 2017). Redevelopment of brownfields can for example contribute to the regional and even national economy (Hendriks et al., 2018) and it increases the attractiveness of an area (Lungo & Campbell, 2017). Next to that, Lungo and Campbell (2017) state that developing on brownfields can keep cities compact. This serves the biodiversity in the region of the city and reduces greenhouse gasses emitted by the city's inhabitants as well as their energy consumption.

Yet, the development of brownfields does encounter a number of barriers. According to Hendriks et al. (2018), the redevelopment is a complex process which usually involves multiple public and private actors. Main barriers for the redevelopment of brownfields include the financial liabilities being the decayed state of brownfield sites and the possibility of soil contamination, their negative image, and the abundance of so called greenfield suitable for development outside city borders (Hendriks et al., 2018)

Development of brownfields for student housing

Several Researches conducted in the UK repeatedly mention brownfields as potential development areas for student housing (Hubbard, 2009; Sage et al., 2012; Smith et al., 2014), and a lot of student housing development has actually been done on brownfields. According to Hubbard (2009) students provided for new young life in areas where only little investments had been made in the past years. Now these places are teeming with life.

However, since brownfields are typically located inside the urban environment (Glumac et al., 2013; Hendriks et al., 2018), they are attractive locations for other functions as well. Businesses and family housing for example also benefit from the proximity to the city center. Therefore PBSA encounters competition from other functions for development grounds.

2.2. Spatial components influencing the development of PBSA

Student needs

Since students have a predilection for city live, student populations tend to settle near or in the inner city (Sage et al., 2013). Yet, students also want to live near university facilities because they only want to have a short walk to their lectures (Munro & Livingston, 2012). Since brownfields are located in already existing urban environments (Glumac et al., 2013; Hendriks et al, 2018), and perhaps close to the inner city as well as university facilities, they can be attractive locations for students (Hubbard, 2009). However, if Dutch brownfields are located at the edges of the city, distant from central urban areas, campus, and direct links between campus and the inner city, brownfields may be less attractive locations for the development of student housing (Sage et al., 2013)

Next to living close to the city center and campus, Hubbard (2009) indicates that good access to nightlife, facilities (such as supermarkets and sports and fitness centers (Hubbard, 2008)) and public transport is important to students. Hubbard (2009) argues that these aspects are even more important to students than proximity to higher education institutes. Good accessibility to nightlife, facilities, public transport, higher education institutes and the inner city are thus spatial qualities which should be taken into account when searching for a suitable student housing location.

The neighbourhood scale

From a local government point of view another spatial factor should be taken into account when it comes the development of student housing. Since high concentrations of students in neighbourhoods create studentification problems, local governments desire a balanced and spread out student population over their neighbourhoods (Hubbard, 2008; Sage et al. 2012). Municipalities are even strengthening their legislation to counter unwanted development of student housing in areas already overly populated by students (Munro & Livingston, 2012). The suitability of a student housing location is thus heavily dependent on the already existing student population in the area.

2.3. Financial aspects influencing the development of PBSA

The spatial aspects affecting the development of brownfields and student housing in general mentioned in the previous section also have an impact on the financial aspects affecting the development of PBSA on brownfields. No or insufficient infrastructure on and around brownfields have an effect on the financial case surrounding brownfields as it needs to be constructed. Next to this the possibility of soil contamination is a big financial risk since soil remediation is costly (Hendriks et al., 2018). On the other hand, as Munro and Livingston (2012) mention in their article, students seem to accept lesser living conditions. A somewhat underdeveloped brownfield might therefore be sufficient for a student to live on.

According to Glumac at al. (2013), brownfield redevelopment usually seeks a form of partnership between parties from the public and private sector. This is especially the case when the circumstances are unfavorable for an independent private developer. Lungo and Campbell (2017) mention that therefore, in many cases, financial incentives given by the government were drivers for the redevelopment of brownfield sites. For Public Private Partnerships to be successful, a clearly defined goal is key (Glumac et al., 2013). When a private developer wants to develop a shopping mall

because it is a profitable product but a local government wants social housing to be constructed, a successful partnership between the parties is not likely to be established. In the case of PBSA development however, the goal of a local government to develop student housing does not have to conflict with financial, profit driven interests of a private developer. According to Hubbard (2009), student housing is a lucrative business to be in as (I) student housing is the fastest growing sector in the property market in the year of 2007 and (II) students tend to just accept an annual increase in rent and thirdly, students tend to not have any debts.

2.4. Conceptual model for the potentiality of PBSA development

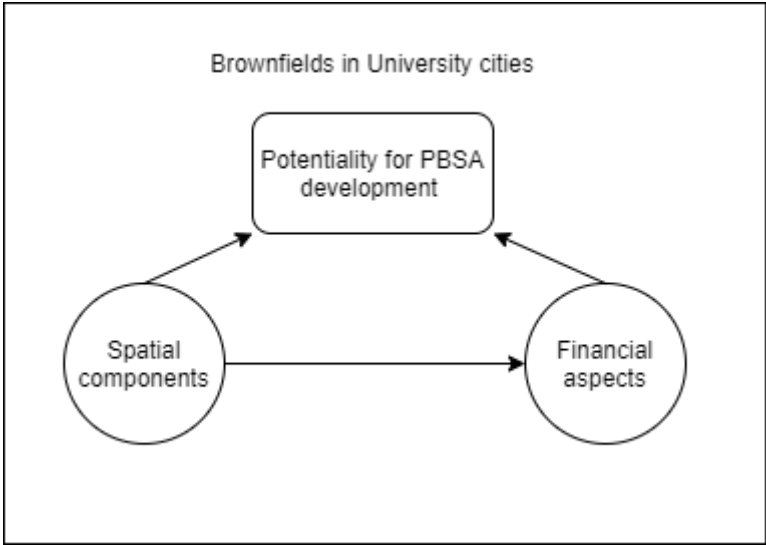


figure 3: Conceptual model

This research takes place in the context of Dutch university cities (Figure 3). The spatial components such as the proximity to the inner city and higher education institutes have an effect on the attractiveness of a brownfield for student housing development as well as on the financial aspects. The financial aspects influencing the potentiality of PBSA development mainly lies in the costs and benefits regarding the student housing development on brownfields.

3. Methodology

3.1. A case study approach

In order to come to an in-depth analysis of the barriers and opportunities regarding the development of PBSA on brownfields, the exploratory case study approach has been used (Clifford et al., 2016). As Groningen and Amsterdam have the highest number of student living in student accommodation inside the city, they have been selected as case study cities (figure 4). Although both cities have a

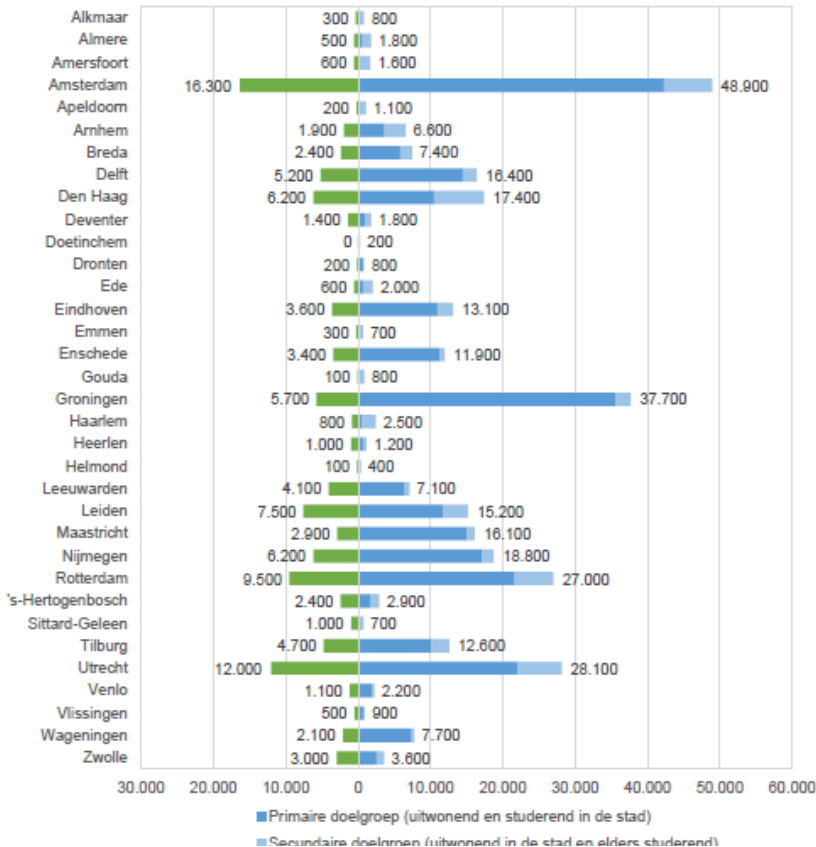


figure 4: Number of students living in student cities in the Netherlands (Source: Kences, 2019)

high number of students living in their cities, the cities themselves have very different characteristics. Amsterdam for example has approximately 872.000 inhabitants while Groningen only has 232.000 (CBS, 2020). This makes the student population in Amsterdam 5,6 % and in Groningen 16,3 %. Next to the difference in population numbers, Amsterdam is the Dutch national capital and located in the west of the Netherlands near other big cities like Utrecht, The Hague and Rotterdam. Groningen on the contrary is a regional capital and the only big city in its region. Figures 5 and 6 display both cities and their surroundings.

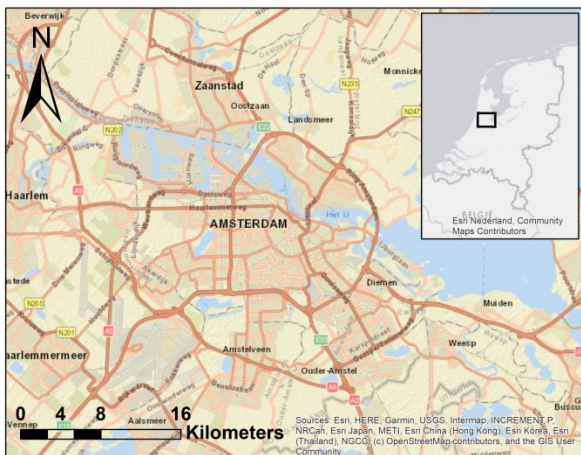


figure 5: An overview of Amsterdam

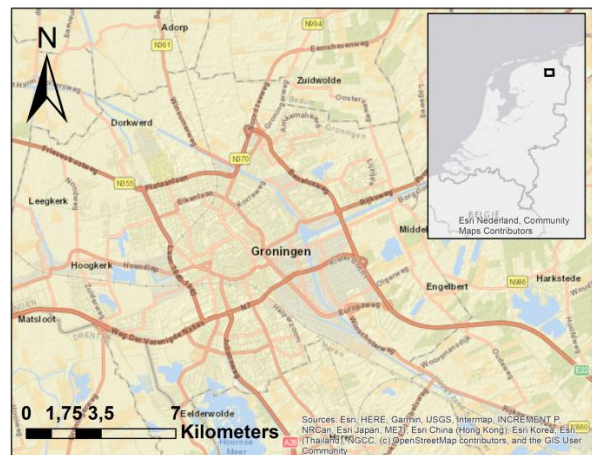


figure 6: An overview of Groningen

3.2. Triangulation of methods

For the data collection and -analysis from the case study cities, the concept of triangulation has been adapted. Triangulation is common and important when using a case study approach (Clifford et al., 2016) as drawing from different data sources and using different methods minimizes (Delyser, 2010).

This research has made use of a literature review, semi-structured in depth interviews and a GIS analyses to gain a good understanding of the barriers and opportunities affecting student housing development on brownfields. These three methods will be elaborated upon in the next sections.

3.3. Policy review

Policy documents listed in appendix A concerning the development of student housing from both case study cities as well as from the national government have been reviewed to indicate the proposed appropriate locations for new PBSA.

Next to gaining an insight in the policy approach regarding the development of student housing, the analyzed literature also served as input for both the GIS analysis as well as the conducted interviews.

3.4. Interviews

The interviews conducted in this research have been used to confirm, supplement or contradict location qualities for the development of PBSA mentioned in the academic literature. Next to investigating whether the predominantly British literature applies to the Dutch context, stakeholders have been asked general open questions regarding the opportunities and barriers they encounter regarding student housing development and student housing development on brownfields in particular.

In order to gather valuable information, it is important to select relevant interviewees. As the development of brownfields (Glumac et al., 2013) as well as the development of student housing (Chatterton, 2010) is often done through Public Private Partnerships, interviews with both public and private parties active in the student housing development have been conducted. Table 1 gives a representation of the interviewees and their backgrounds.

Region	Participant
Groningen	Campus developer
Groningen	Student Housing corporation
Groningen	Municipality of Groningen
Groningen	Private developer
Amsterdam	Student housing corporation
Amsterdam	Municipality of Amsterdam
Amsterdam	Private developer
National	Umbrella organization on student housing

Table 1: interviewees

The formulated interview questions have been based on the read academic literature and policy documents. All interviews have been recorded, transcribed and coded. Coding has been done with the help of Atlas.ti and the codes are based on the read literature as well as the interviews themselves. The coding scheme is presented in Appendix C.

3.5. GIS analysis

3.5.1. *The components*

GIS has been used to map the locations of brownfields in Dutch university cities within 3000 meters from university locations. For this research only empty sites without any activity of function have been marked as brownfields. To ensure that the identified brownfields are correct and according to the proposed definition in the theoretical framework, different reliable sources (Appendix B) were used to map brownfield locations. In Groningen brownfields have gone through a final examination for emptiness through a site visit. Unfortunately, due to the Corona virus pandemic it has not been possible nor responsible to travel to Amsterdam and examine brownfields in person. Therefore Google maps has been used to confirm the emptiness of a plot. After the localization of brownfields, the presence of facilities and public transport, as well as the proximity to university locations and nightlife which is situated in the inner city of both Amsterdam and Groningen (Amsterdam.org, date unknown; Groningenlife.nl, date unknown) have been analysed. At last the density of the student population surrounding a brownfield has been examined.

3.5.2. *Operationalization of the GIS analysis*

Proximity to universities

Students prefer travel time towards university not to be longer than 10 minutes (Hubbard, 2009). As cycling is a popular transport mode amongst Dutch students (Goudappel Coffeng & Youngworkd, 2015) and Dutch cyclists travel at an average speed of 15,8 kilometers an hour (Fietersbond, date unknown) a maximum distance of 3000 meters between brownfields and university facilities has been defined as an attractive travelling distance. By using a 3000 meter buffer for the early selection of possible brownfields, brownfields situated further than 3000 meters from university facilities are excluded from the research at an early stage saving time in the analysis phase.

Public transport

Network buffers around brownfields for walkable distances have been created to decide whether there is good access to public transport. Within the buffers the number of public transport nodes have been examined. For bus and tram stops, a maximum walking distance of 400 meters has been handled and for train and metro stations a maximum walking distance of 800 meters has been used (Garcia-Palomares et al., 2013; CROW, date unknown).

Facilities

For this research, the examined facilities are supermarkets. This type of facility is important to students and named in both Hubbard (2008) and Munro & Livingston (2012) their articles. According to the CROW (date unknown), supermarkets are considered well accessible by foot when they are within 500 meters. Therefore a 500 meter network buffer around brownfields has been created to assess the number of supermarkets at a walkable.

A balanced student population

Many cities strive for a student population which is spread out over the city (Sage et al., 2012). Therefore the student density in the proximity of the brownfields has been examined. When the student density of a certain area is high compared to other areas in the city, that area is marked as unsuitable for adding extra student housing.

Nightlife

Good access to nightlife is important to students (Hubbard, 2009). Therefore, like with universities locations, when brownfields are located within 3000 meters from the inner city, where nightlife is concentrated, nightlife is deemed accessible.

3.6. Ethical considerations

When conducting interviews one should always take ethical concerns into account. For this research the interviews have been recorded so that they could be carefully analyzed. The participants in this research have been informed about their rights as a voluntary interviewee and they have been asked permission to record the interview. Referring to interviewees' data has been done in an anonymous way and therefore there is no mentioning of names in this research .

3.7. Reflection on the data collection process

Due to the coronavirus pandemic the collection of data has been spread out over a longer period of time than originally intended which had no influence on the quality of the gathered data. In total eight interviews, some in combination with another student, with relevant stakeholders from both private and public sector have been conducted. The experience has been that it is valuable to first conduct the literature research before conducting interviews. The literature served as a basis for the interviews and enabled the asked questions to be relevant and specific to the case study cities and their local context.

The GIS data collection process took longer- and turned out to be more complicated than expected. It was expected that governments would have a list of brownfields present but this was not the case. Instead, online research, Interviewees and the municipality of Amsterdam and an expert in the field of brownfields have helped to create a viable list of actual brownfields.

At last there is a certain asymmetry in the data regarding the student densities in Amsterdam and Groningen. In Amsterdam a map displays all the exact locations of large PBSA complexes including their size where as in Groningen the monitoring of student populations is done on a neighbourhood scale showing how many students live in a certain neighbourhood.

4. Results

In this section, the result from the policy review, interviews and GIS analysis will be discussed. First the reviewed policies will give an insight in both the national- as the local context of Amsterdam and Groningen and their approach for development of student housing. Second, the data collected from the interviews is touched upon and finally there is an elaboration on the GIS analysis.

4.1. A student housing policy review

4.1.1. The national scale

On the national scale the 'national action plan student housing 2018-2021' (national actieplan studentenhuiving 2018-2021) (Rijksoverheid, 2018) has been developed. This document provides guidelines for the development of student housing in the Netherlands and it poses a long term solution for the student housing shortage with special attention for international students. The document states that student housing should be incorporated in local governments so called 'woonvisies' (living visions) and leaves the actual development of student housing responsibility to them as well. Yet, the document does advertise for the development of units with shared facilities to keep housing affordable. Next to housing types, the document also suggests some possible locations the development of student housing. It states that local governments can look at the region but also excess government-owned real estate such as former prisons, offices or police stations can serve as development locations. As excess government-owned real estate is not (fully) utilized, these properties can possibly be identified as brownfields.

4.1.2. Amsterdam

Over the past years, many housing policies have been developed in Amsterdam (Gemeente Amsterdam, 2016; Gemeente Amsterdam, 2017; Gemeente Amsterdam, 2018) and all policies mention student housing. Next to these general housing plans, two policy documents have been designed specifically for youth- and student housing (Gemeente Amsterdam, 2019; UvA, 2019). These policies state that affordability is important for student housing in Amsterdam since students and younger people in general experience a lot of competition when it comes to finding a home because they have to compete in the same market with people who have more budget (Gemeente Amsterdam, 2019).

Furthermore for young people and students, there is an estimated housing shortage of 8000 to 22.000 units. Therefore the municipality of Amsterdam aims for the construction of an additional 10.500 units until 2022 constructed by both private parties as well as housing corporations. 9000 units are ought to be built in Amsterdam itself leaving 1500 units to be constructed in the region. When developments takes place on municipality-owned land, housing corporations will be granted precedence as they are government-authorized institutions and guarantee affordable housing.

Next to affordability being a main priority, the municipality states that when development takes place in the region, it should be near public transport nodes which is in line with the article of Hubbard (2009). Also, it is recommended that university owned land is used for the development of student housing (UvA, 2019) as well as the transformation of old unoccupied office buildings into student units (Gemeente Amsterdam, 2017) which might be seen as brownfield development.

The last point of importance is that the city of Amsterdam is striving for a mixed city wanting all different layers of society to live amongst each other. Also, Amsterdam is aiming to further intensify its urban environment. As student housing has been labeled as an intensive living concept (Gemeente Amsterdam, 2016), it can actively contribute to the intensification of the city of Amsterdam.

4.1.3. Groningen

In 2012, the book about the manifest Bouwjong! by Asschert (2012) came out. The production of the book was initiated by the municipality of Groningen because of the increasing need for good quality housing for young people. In combination with developers and architects, the municipality has created plans for the development of high quality, large scale housing for young people. Because in Groningen young people usually live in neighbourhoods among the other inhabitants of the city the development of new large scale youth housing was new and therefore the trajectory of Bouwjong! has been initiated. At the start of the trajectory, there has been an exploration of possible development locations. Suitable locations, needed to be spacious and located inside the existing urban environment. Some brownfields have met these requirements and in the end 30 concrete plans have been proposed of which some are located on or near brownfield sites. Although not all plans have been implemented, the Bouwjong! locations still have priority for the development of youth housing in more recent policies.

In the policy documents produced after the trajectory of Bouwjong! there is a lot of attention for international students (RUG, 2018). The 'convenant jongeren- en studentenhuysvesting 2019-2022' states that in between 2020 and 2025 1.500 extra units have to be created to accommodate international students and for the development of these extra units for internationals, the main focus lies on the Zernike campus (RUG, 2018; gemeente Groningen, 2015). In addition, the municipality of Groningen states that there is no longer good balance between students and nonstudents in some neighbourhoods emphasizing the fact that new student housing development should not be done near or in neighbourhoods where there is a high share of student households.

4.2. The practice of developing student housing

Through interviews with different stakeholders active in the development of student housing, the practical opportunities and barriers of the development of student housing has been explored. This section discusses the current trends, spatial, financial and other relevant aspects influencing the development of student housing on brownfields

4.2.1. Current trends in the construction of student housing

Within the development of student housing, predominantly small independent units are being constructed. This trend is caused by being (I) financially more attractive than units with shared facilities due to the renters ability to get renting subsidy on an independent unit and not on a unit with shared facilities and (II) because these units are easier to rent to other social groups than students. A private developer in Amsterdam stated that it is important to have this flexibility in possible tenants so that if the demand for student housing decreases, the units can be rented to nonstudents.

This desire for flexibility can also be seen in the societal group students are put in by the municipalities of Amsterdam and Groningen. In both cities there is a focus on young people in general and not specifically students when constructing housing for the student group. This results in a mix of housing for young people and students together which can be a barrier for corporations only renting to students as mentioned by a student housing corporation in Amsterdam. Putting students in the larger group of young people however does correspond with the municipalities their aim of

creating a mixed city with different societal groups living amongst each other creating balanced communities.

Another trend having an effect on student housing development is the increasing number of international students studying in the Netherlands (Kences, 2019). In Amsterdam international students have been around for a while but in Groningen, the increasing number of international students is relatively new. The international population has diverse location preferences. However, interviewees indicated that the majority of the international students want to live close to university facilities, making proximity to universities even more relevant. Next to that, international students require more service than domestic students as they are new in the country and need more guidance. In general larger parties like housing corporations or big private housing providers tend to provide housing for these international students since they have the resources to provide the extra service. With international student numbers increasing, it is likely larger parties will play a bigger role in the development of student housing.

4.2.2. Spatial aspects

The interviewees have been asked what spatial aspects they find important when typifying a location suitable for student housing. In accordance with the literature, interviewees found proximity to the city center, nightlife, education facilities and the availability of public transport and facilities important when finding a location for the development of PBSA. Having a balanced community has also been marked as important by six out of the eight interviewees. This shows that not only municipalities but also other stakeholders want to prevent neighbourhoods being overly populated by students. The last quality important quality of location was the scale. Developers and corporations stated that producing small scale projects is not financially attractive and therefore they aim for locations where a large quantity of units can be produced.

Looking at brownfields specifically, the aspect of social safety was an issue. People need to feel safe when they are travelling home and therefore stakeholders desire to develop in an area which is already inhabited. Activity in neighbourhoods will increase the feeling of safety. Yet, brownfields are typically empty areas with no- or only little activity. Therefore the safety aspect is a large barrier. Developers and municipalities from both Groningen and Amsterdam however state that students themselves are creators of activity in areas and they are a group of people who are daring to live at these kind of places. Therefore students themselves residing in these areas are a solution to the safety barrier. Yet, in order to the needed activity, interviewees indicated that a larger scale is needed. A private developer as well as a housing corporation in Amsterdam stated that when they develop a large number of units, they can provide additional facilities and activities where residents can recreate meet each other. These facilities and activities increase the vibrancy in the area and therefore decreases the feeling of unsafety.

4.2.3. Financial aspects

A large financial motive for constructing PBSA is that PBSA is considered as social housing. As both Amsterdam and Groningen want to have mixed cities and balanced communities, in many cases larger developments must include a minimum amount of social housing. Within this segment of

social housing, student housing is the most profitable product as the revenue is high compared to the size of the house.

Yet, affordability of student housing is still a very important aspect for municipalities and housing corporations. For corporations the goal is to develop housing under the renting subsidy limit of 432 euros a month. Based on this rental income corporations can only pay a certain price for development grounds and this is a barrier for student housing corporations, especially in Amsterdam. The reality is that corporations compete for land with other parties developing more profitable products than affordable student housing. They can afford to pay more for the same piece of land and therefore regularly outbid student housing corporations. Furthermore corporations are heavily dependent on municipalities for the supply of land and municipalities are regularly not the owners of brownfields. According to the municipality of Amsterdam around 80% of the land is not owned by the municipality and due to the lack of affordable building plots, corporations are forced to develop outside Amsterdam in cities such as Almere and Haarlem.

Private parties on the contrary are able to pay more for a building plot. They are not bound to affordability as much as corporations and therefore they get a higher rental income than corporations. This makes it possible for private developers to outbid developers of other housing types and develop on more attractive and costly grounds. In addition private parties are more flexible in the exploitation of their properties which decreases the financial risks of a development. When it is financially attractive to sell properties or rent units to social groups other than students, they can do this easier than housing corporations.

Although by both private parties as well as corporations student housing is being developed, the difference in affordability for students can be high. Since the population of students whom are able to pay a high price for housing is limited, the demand for expensive student housing has its limits.

4.2.4. Other aspects

Next to the spatial- and financial aspects playing a role other important issues regarding the development of PBSA on brownfields came up during the interviews. In both Groningen and Amsterdam much development of PBSA has taken place in the past years and although there is still a need for extra student housing the motivation for adding extra units in both cities is very different. In Amsterdam there is still an actual shortage whereas in Groningen so much has been built that the shortage seems taken care of. The reason for adding extra units in Groningen is to compete with so called 'slumlords' (huisjesmelkers) who ask a high price for poor quality converted HMO's. Although the municipality thinks this is important, the demand for student housing in Groningen is not as high as in Amsterdam. Therefore, especially in Groningen, decisions are made to develop other types of housing on brownfields since the demand for these types of housing is higher than the demand for student housing.

The last big opportunity with regards to developing PBSA that came up in the interviews is temporary housing. This type of housing is seen as a very suitable type of housing on brownfields as it is flexible and according to the municipality of Amsterdam this type of housing is predominantly developed for younger people and students. Temporary housing can function as a kick start for brownfield development and by exploiting temporary housing, sites are being utilized while

permanent plans are still under development. Next to this, sometimes there is an opportunity to make the temporary development a permanent one.

According to the interviewees, the main reason why temporary housing is not developed is because temporary housing can obstruct the permanent development of an area. Next to that, housing corporations stated temporary housing has to be exploited for more than 10 years in order to be financially feasible. According to the municipality of Amsterdam, new legislation makes it possible to temporarily exploit an area for 15 years. The municipalities of Groningen and Amsterdam however are aiming for 10 years in order to stay flexible.

4.3. A GIS analysis on brownfields their strengths and weaknesses

In order to conclude whether brownfields in Amsterdam and Groningen possess the spatial qualities related to student housing A GIS analysis had been conducted. The brownfields have been tested for qualities mentioned in the reviewed literature as well as the interviews being:

- Proximity to university locations
- Proximity to nightlife
- Proximity to the inner city
- Accessibility of public transport (bus, tram, metro, train)
- Accessibility of supermarkets
- Keeping balanced communities in the city

In the following sections will show an analysis per aspect for both Groningen and Amsterdam and in the end table 2 gives an overview of all the results

4.3.1. Locations of brownfields and the proximity to university location

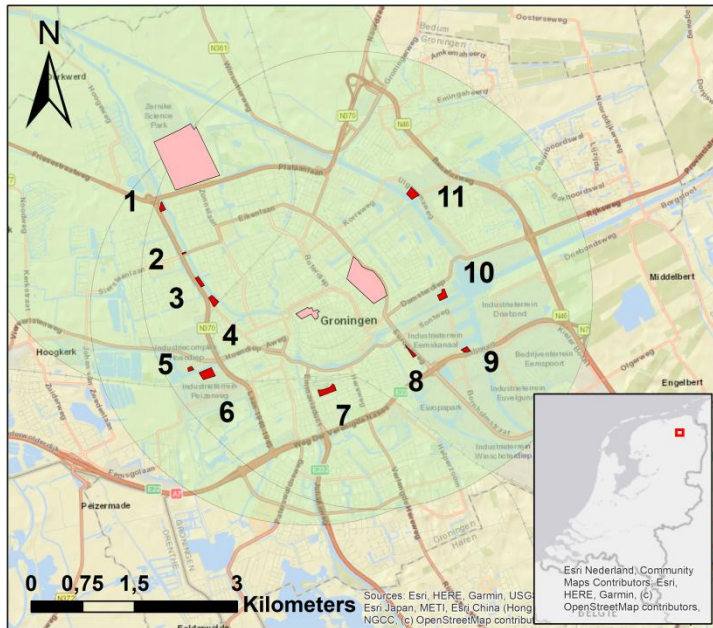
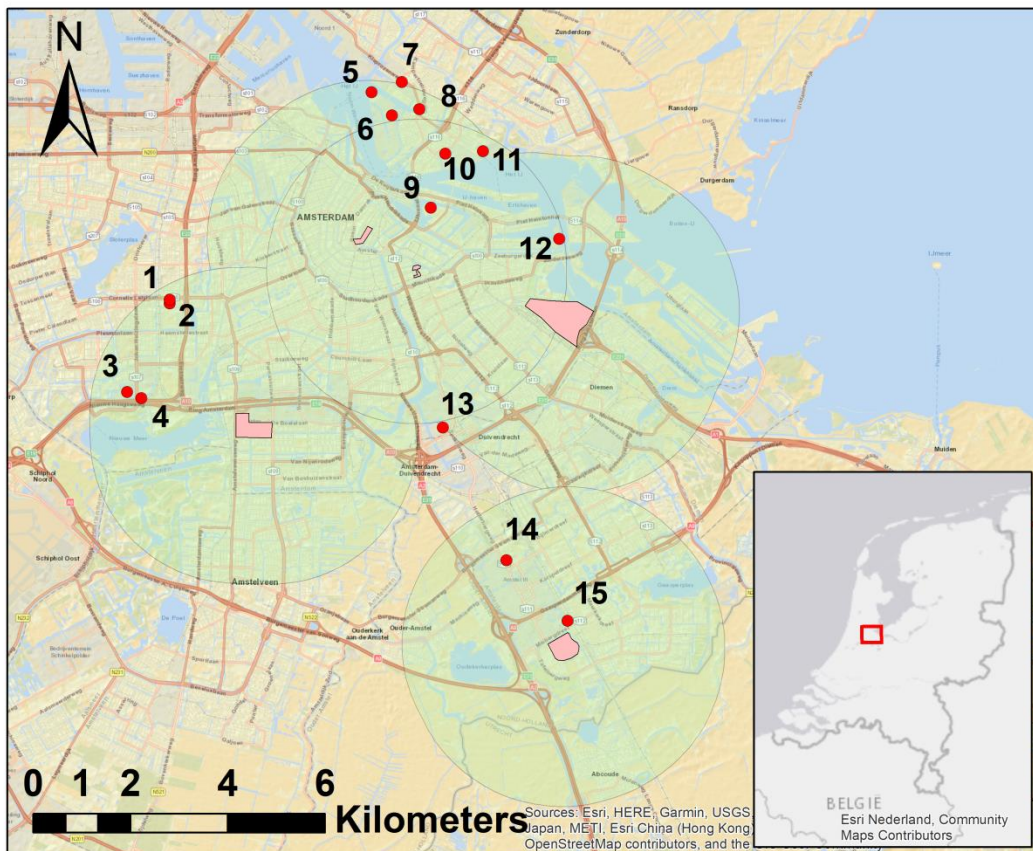


figure 7: Brownfields and universities in Groningen

As can be seen in figure 7 and 8, Groningen and Amsterdam both possess multiple brownfields within 3000 meter buffers drawn around university locations. In Groningen the brownfields are regularly situated well within the 3000 meter buffers whereas in Amsterdam the identified brownfields are situated more on the edges of the 3000 meter buffers. In addition, brownfields 5,6,7,8,10 and 11 are located at the other side of a waterfront. This makes travelling towards university locations more difficult as there are only few options to cross the waterfront.



Legend

- Brownfield
- University location
- 3000 meter university buffer

figure 8: Brownfields and universities in Amsterdam

4.3.2. Proximity to nightlife and the inner city

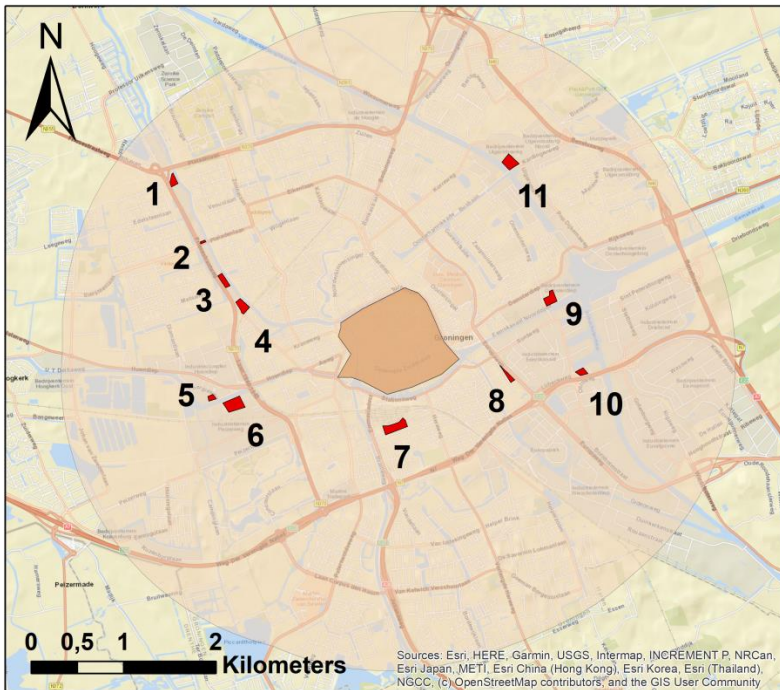
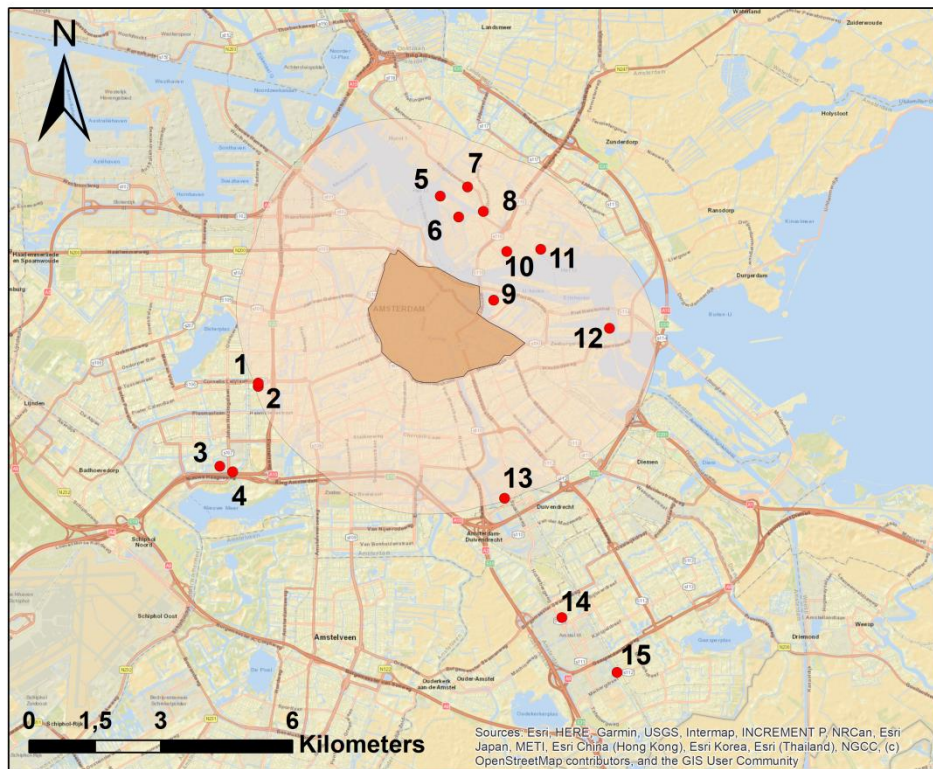


figure 9: The inner city of Groningen

Proximity to the inner city and accessibility to nightlife are important to students (Hubbard, 2009). In both Groningen and Amsterdam, nightlife is situated inside the inner city (Amsterdam. Org, date unknown ; Groningenlife.nl, date unknown) and therefore proximity to both nightlife and the inner city are combined in figures 9 and 10. In Amsterdam the majority of the brownfields lie within the 3000 meter buffer and in Groningen even all brownfields are located within cycling distance to the city.



Legend

- Brownfield
- Inner city
- 3000 meter inner city buffer

figure 10: The inner city of Amsterdam

4.3.3. Accessibility of public transport

bus and tram

There are large differences between brownfields when it comes to the accessibility of bus and tram stops by foot (figures 11,12,13 and 14). In Groningen there are only busses and every brownfield has a bus stop within walking distance. However, brownfield number 1 and 11 do only have a couple bus stops within walking distance. In Amsterdam differences are big as well since brownfields 1,2,3 and 4 have numerous bus and tram stops within walking distance whereas brownfield 11 only has one and number 12 and 13 has no bus or tram stops within walking distance.

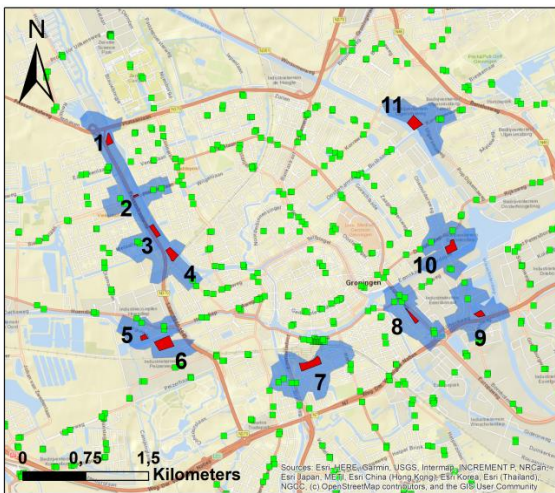


figure 11: Bus stops in Groningen

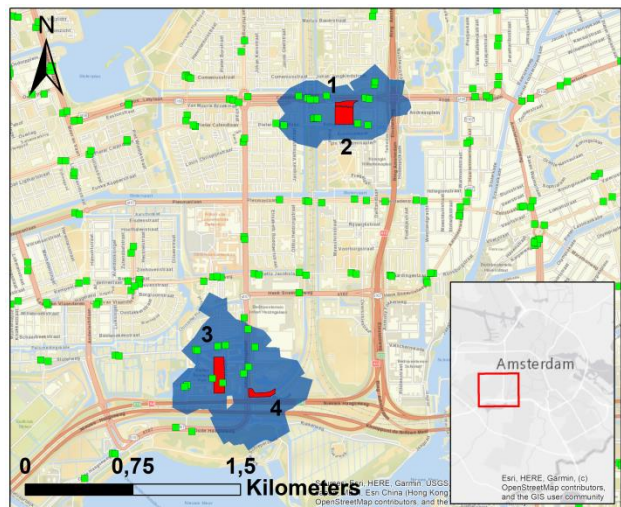
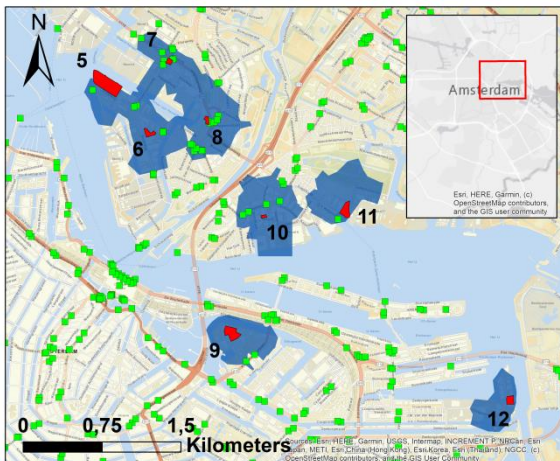


figure 12: Bus and tram stops in Amsterdam 1

figure 13: Bus and tram stops in Amsterdam 2



Legend

- Bus and Tram
- Brownfield
- 400 meter buffer

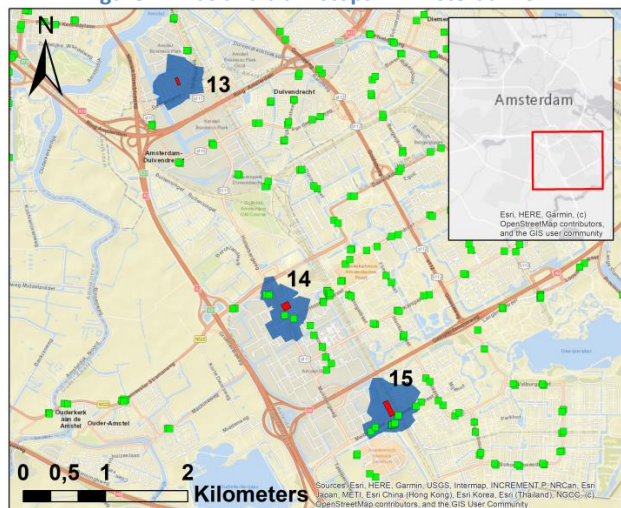


figure 14: Bus and tram stops in Amsterdam 3

Metro and train

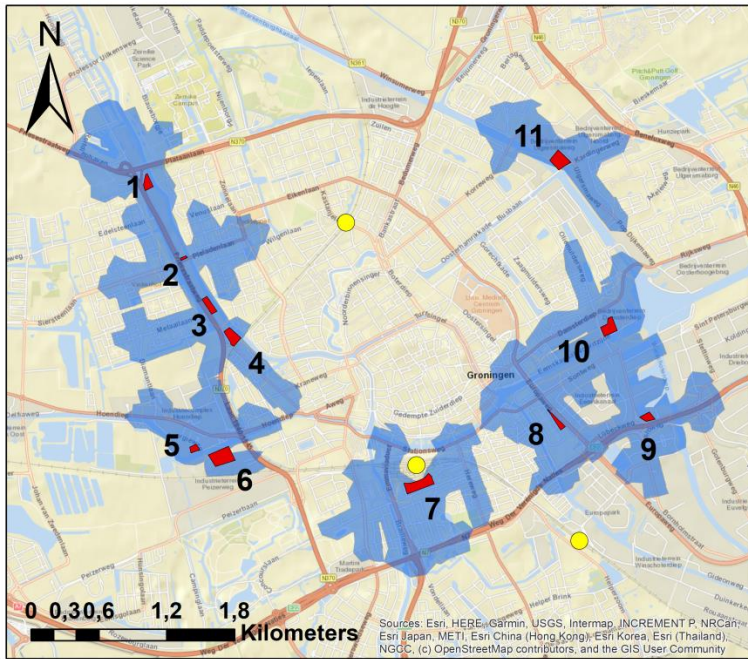
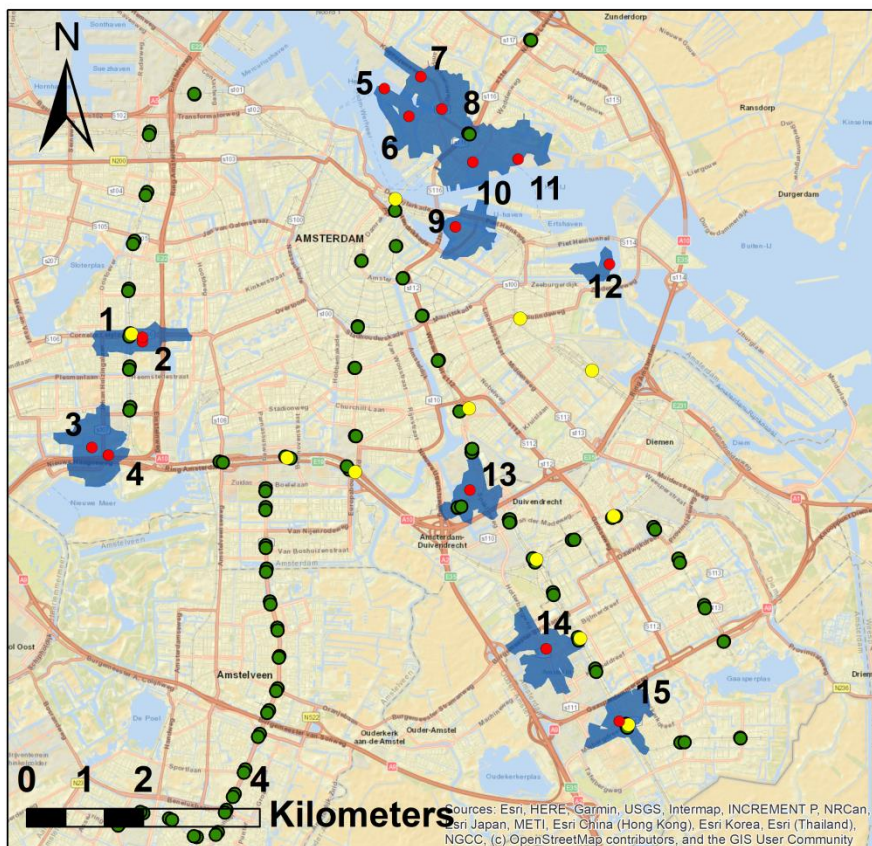


figure 15: Train stations in Groningen

Also when it comes to the accessibility of train- and metro stations there are large differences between brownfields (figure 15 and 16). In Groningen, apart from brownfield 7, train stations are not well accessible by foot. In Amsterdam the situation is different. In addition to train stations, Amsterdam contains a metro network and especially metro stations tend to lie within walking distance from several brownfields. Especially brownfields 5,6,7,8,10 and 11 benefit from the metro station as it provides a convenient possibility to cross the waterfront separating the brownfields from university locations as well as the inner city.



Legend

- Brownfield
- Train station
- Metro station
- 800 meter buffer

figure 16: train and metro stations Amsterdam

4.3.4. Access to supermarkets

The accessibility to supermarkets has proven to be a barrier. As can be seen in figures 17,18,19 and 20 only a few brownfields in both Groningen and Amsterdam have a supermarket within the walking distance of 500 meters (CROW, date unknown), In Groningen only brownfield number 7 and 2 have supermarkets at a walkable distance and in Amsterdam only brownfields 1,2, 8, 10 and 15 appear to have a supermarket within the 500 meter buffer. This leaves 73% of the identified brownfields without a supermarket within close proximity.

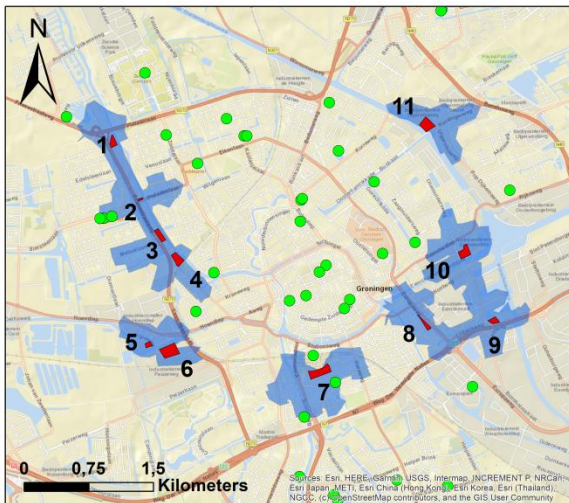


figure 17: Supermarkets in Groningen

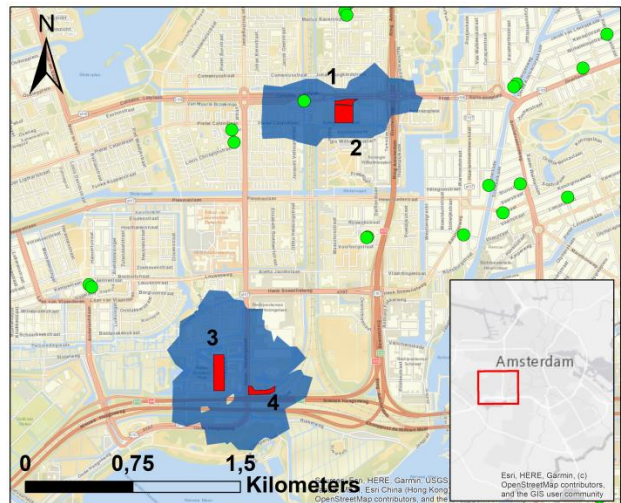


figure 18: Supermarkets in Amsterdam 1

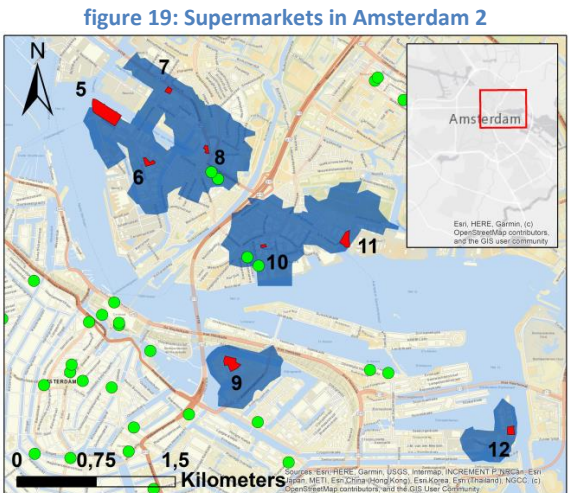


figure 19: Supermarkets in Amsterdam 2

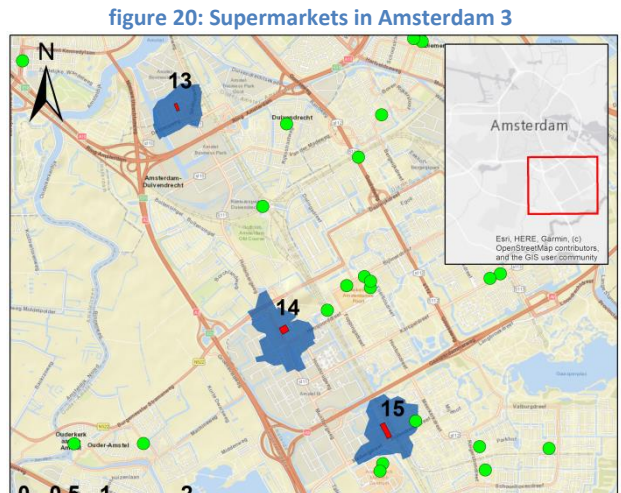
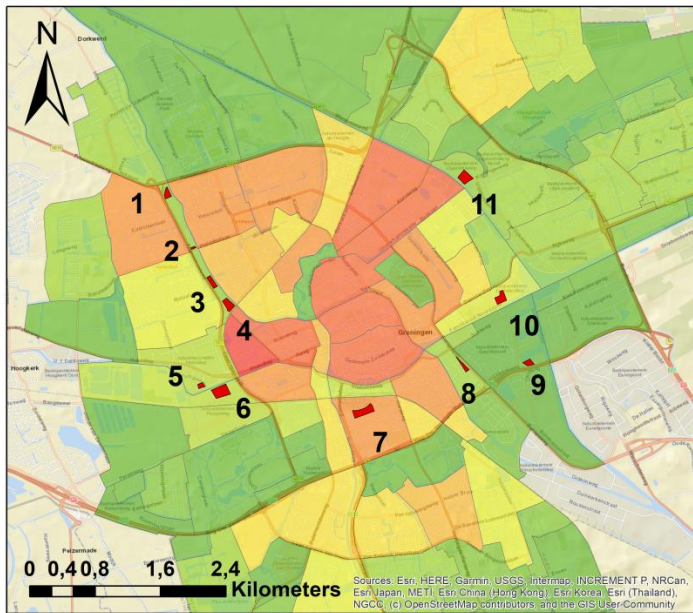


figure 20: Supermarkets in Amsterdam 3

Legend
● Supermarket ■ Brownfield ■ 500 meter buffer

4.3.5. A balanced student population

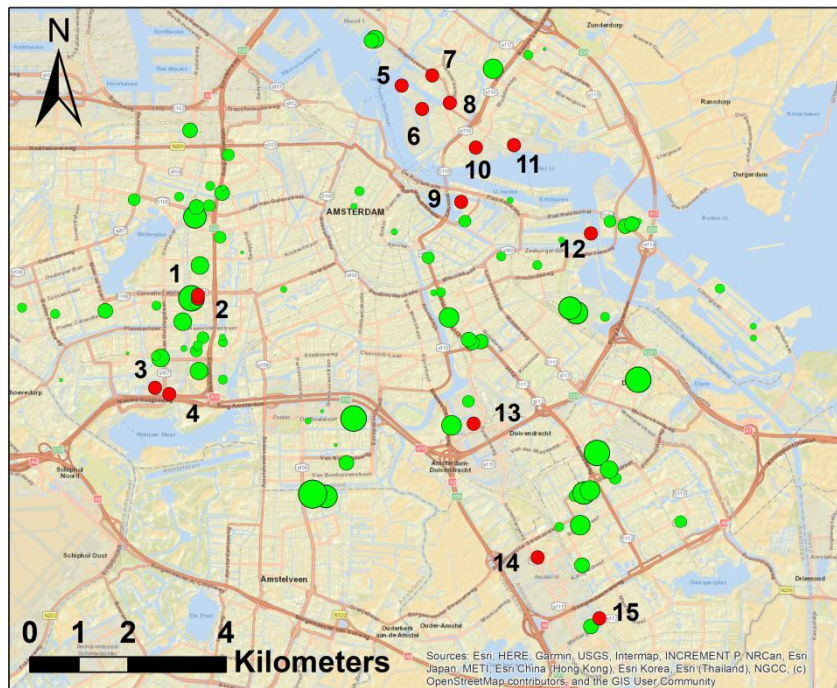


Legend



figure 21: Student distribution in Groningen

Since all the academic literature and many of the interviewees indicated that new PBSA development should not take place in or near areas which are already heavily populated by students student densities in both Groningen and Amsterdam have been examined. In both figure 21 and 22 it can be seen that some areas have higher student concentrations than others. In Groningen apart from number 7, brownfields are located in areas which are not heavily populated by students. However, brownfields 1,2,4 and 11 are located near neighbourhoods with high student numbers. In Amsterdam a similar pattern can be seen where the majority of the brownfields are located in areas not heavily occupied by students. Especially brownfields 5,6,7,8,10 and 11 are located in an area where there is not a lot of student accommodation present.



Legend

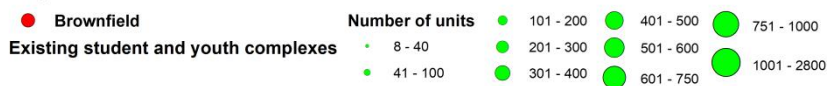


figure 22: student accommodation in Amsterdam

4.3.6. Summary of the GIS analysis

Table 2 displays a summary of the conducted GIS analysis

City	Brown-field nr.	position within university buffer (Well within/ At the edge)	Situated within inner city buffer (Yes/Almost /Far)	Bus or tram stop within 400 meters (Many/few /none)	Train or metro station within 800 meters (Yes/ Almost/ No)	Supermarket within 500 meters (Yes/Almost/ No)	Current number of students living in the area (High/Middle /Low)
Groningen	1	At the edge	Yes	Few	No	Almost	Middle
Groningen	2	Well within	Yes	Many	No	Yes	Middle
Groningen	3	Well within	Yes	Few	No	No	Low
Groningen	4	Well within	Yes	Few	No	Almost	High
Groningen	5	Well within	Yes	Few	No	Almost	Low
Groningen	6	Well within	Yes	Few	No	Almost	Middle
Groningen	7	Well within	Yes	Many	Yes	Yes	High
Groningen	8	Well within	Yes	Many	Almost	No	Low
Groningen	9	Well within	Yes	Few	No	No	Low
Groningen	10	Well within	Yes	Many	No	Almost	Low
Groningen	11	At the edge	Yes	Few	No	No	Middle
Amsterdam	1	At the edge	Yes	Many	Yes	Yes	High
Amsterdam	2	At the edge	Yes	Many	Yes	Yes	High
Amsterdam	3	At the edge	Almost	Many	Almost	No	Middle
Amsterdam	4	At the edge	Almost	Many	Almost	No	Middle
Amsterdam	5	At the edge	Yes	Few	No	No	Low
Amsterdam	6	At the edge	Yes	Few	Almost	Almost	Low
Amsterdam	7	At the edge	Yes	Many	Almost	No	Low
Amsterdam	8	At the edge	Yes	Many	Almost	Yes	Low
Amsterdam	9	Well within	Yes	Few	No	Almost	Middle
Amsterdam	10	At the edge	Yes	Many	Yes	Yes	Low
Amsterdam	11	At the edge	Yes	Few	Almost	No	Low
Amsterdam	12	Well within	Yes	None	No	No	Middle
Amsterdam	13	At the edge	Yes	None	Yes	No	Middle
Amsterdam	14	At the edge	Far	Many	Yes	Almost	Low
Amsterdam	15	Well within	Far	Many	Yes	Yes	Middle

Table 2: Results of the GIS analysis

5. Conclusions

The aim of this research was to discover the barriers and opportunities regarding the development of PBSA on brownfield locations. A policy review, interviews and a GIS analysis have been conducted to discover the main spatial- and financial barriers and opportunities for the development of PBSA on brownfields.

Spatial qualities of a proper location for student found in the mainly British literature housing being accessible public transport and facilities (Hubbard, 2009), proximity to the inner city (sage et al., 2013), university (Munro & Livingston, 2012) and nightlife (Hubbard, 2009) have proven to be applicable to the Dutch context too. However, with the increasing number of international students

wanting to live close to their education, proximity to universities is becoming increasingly important. When looking at brownfield locations, there are large differences between brownfields. Yet, numerous brownfields are located at a cycle able distance from both university locations and the inner city, are within walking distance of some sort of public transport and lie in areas where student densities are not extremely high. The accessibility of supermarkets however is rather poor since there are no supermarkets within walking distance of most brownfields

In addition to the literature, interviewees indicated that brownfields are regularly situated in quiet areas with little activity. Therefore development has to take place at a large scale to create vibrancy and overcome the feeling of unsafety caused by the quietness. As developers of student housing find it financially unattractive to engage in small developments, the necessity of developing on a large scale is not a barrier but more so a reason to develop on a brownfield as these locations by definition need larger scale developments. A barrier for developing student housing is the goal to develop affordable housing. Although this goal of affordability is a logic one, it impacts the revenue of the student housing in a negative way. Especially in Amsterdam, lower revenues make it hard for corporations to develop affordable student housing on brownfields since they compete with other types of housing who can offer more for the same piece of land. This is in contradiction with the article by Hubbard (2009) stating that student housing is an extremely lucrative business. Yet, this is mainly a barrier for the development of affordable student housing mostly done by corporations. This barrier however is not as big for private developers gaining a higher rent revenue per unit. Next to that, private developers are more flexible in their type of tenant which decreases the risk of vacant units and missed profits.

At last temporary housing is seen as a fitting first development on brownfields. During the time plans for permanent development are being developed temporary housing is a way to already use the available land. As temporary housing is mainly inhabited by students, the construction of temporary housing can be seen as a large opportunity and give students a foothold on a brownfield. The question however is whether students are able to contain their foothold in brownfields by the time permanent developments are taking place.

In conclusion this research has discovered various barriers and opportunities when it comes to the development of PBSA on brownfield sites. When constructing PBSA on brownfields, the found aspects should be taken into account when deciding whether PBSA development is desirable. Furthermore this research has complemented the international academic literature mainly by providing an updated insight on current student housing trends and by testing the mainly British literature in the Dutch context. For further research on the barriers and opportunities for the development of PBSA on brownfields, the focus can be more on the financial aspects. In this research the main financial motivations for the development of PBSA have been explored. Yet, an in depth analysis of the underlying causes influencing the financial aspects has not been conducted.

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7. Appendices

7.1. Appendix A: Reviewed policy documents

Document	source
Landelijk actieplan studentenhuysvesting 2018-2021	Rijksoverheid (2018)
Convenant Studenten en Jongerenhuysvesting in Groningen 2019-2022	RUG (2018)
Meerjaren programma wonen 2019-2022	PVDA Groningen (2019)
Omgevingsvisie 'The Next City': de Groningse leefkwaliteit voorop	Gemeente Groningen (2018)
Woonvisie gemeente Groningen 2015	Gemeente Groningen (2015)
Bouwjong! Woningbouw voor jongeren	Asschert, r. (2012)
Plan Jongeren- en studentenhuysvesting 2019-2022	Gemeente Amsterdam (2019)
Convenant studentenhuysvesting Amsterdam 2019-2022	UvA (2019)
Koers 2025	Gemeente Amsterdam (2016)
Woonagenda 2025 Amsterdam	Gemeente Amsterdam (2017)
Woningbouwplan 2018-2025	Gemeente Amsterdam (2018)

7.2. Appendix B: GIS data sources

GIS component	Source(s)
Brownfield locations	- Expert on brownfields - Municipality of Groningen - municipality of Amsterdam - Primary data collection
Public transport nodes	-Geodienst RUG - Primary data collection
Supermarket locations	- Esri Nederland
Student densities	- maps.amsterdam.nl - Groningen.buurtmonitor.nl
Network dataset	- Geodienst RUG
University locations	- Primary data collection - UvA.nl - VU.nl
Nightlife	-Amsterdam.Org - Groningenlife.nl

7.3. Appendix C: Interview coding scheme

Code groups	Individual codes
Financial Barriers	Cost-benefit negative
Financial opportunities	Cost-benefit positive
Opportunities for building on brownfields	Temporary housing
	Few competition from non-student housing
	Positive effects on brownfields
	Timespan temporary housing
	Other opportunities
Barriers for building on brownfields	Much competition from non-student housing
	Social safety
	Other barriers
Spatial components	Balanced student population in the city
	Infrastructure
	Other spatial components
Spatial qualities for student housing	Proximity to education
	Proximity to Public Transport
	Proximity to city centre
	Proximity to facilities
	Possibilities to meet
Difference: corporations and private parties	Benefit for Corporations
	Benefit for Private parties
	Barrier for Corporations
	Barrier for Private parties
Reasons for the development of student housing	Reasons to develop student housing (general)
	Reasons not to develop student housing (general)
Locations	Example of suitable location
	Example of non-suitable location
	Location of existing location
Internationalization	Demand for type of housing
	Closer to education
	More international students
	Other changing demands

7.4. Appendix D: Interview guides

7.4.1. Municipality of Groningen

1. **Wat is uw functie binnen de gemeente Groningen en waar houdt u zich binnen deze functie dagelijks mee bezig?**
2. **Hoe ziet het proces van locatiebepaling voor nieuw te bouwen studentenhuisvesting er in zijn algemeenheid uit?**
3. **Hoe ziet de manifestatie BouwJong er uit en hoe helpt deze manifestatie bij het realiseren van goede studentenwoningen?**
4. **Wat zijn de ruimtelijke kwaliteiten die passen bij een goede locatie voor de ontwikkeling van studentenhuisvesting en in hoeverre wordt hier rekening mee gehouden bij de locatiekeuze voor de daadwerkelijke ontwikkeling van studentenwoningen?**
5. **Is er veel concurrentie tussen het ontwikkelen van studentenwoningen en niet-studentenwoningen of andere functies op ontwikkellocaties in Groningen?**
6. **Hoe beïnvloedt deze concurrentie de locatiekeuze voor nieuw te ontwikkelen studentenwoningen?**
7. **Sinds 2015 heeft de WOZ-waarde een grotere invloed op de puntentelling van het woningwaarderingstelsel (WWS). Heeft deze verandering in uw optiek invloed gehad op de locatievoorkeuren voor het ontwikkelen van nieuwe studentenwoningen?**
8. **Wordt er voor de huisvesting van Studenten ook buiten de stad Groningen gekeken naar mogelijke ontwikkellocaties?**
9. **In beleidsdocumenten van de gemeente Groningen kwam ik tegen dat er een investeringsfonds werd opgericht voor het realiseren voor studenten en jongerenhuisvesting. Hoe werkt dit en hoe beïnvloedt dit de realisatie van de studenten en jongerenhuisvesting? Werkt dit investeringsfonds bijvoorbeeld puur versnellend of veranderen er ook andere aspecten in het proces?**
10. **In Groningen is er speciale aandacht voor internationale studenten. Worden deze internationale studenten op een andere manier gehuisvest? hierbij specifiek lettend op locaties van hun huisvesting.**
11. **In hoeverre ziet u Brownfields zoals het suikerunieterrein als een geschikte locatie voor nieuwe studentenwoningen?**
12. **Zijn er in uw optiek bepaalde woontypes (denk aan studio's, eenheden met gedeelde voorzieningen of tijdelijke woningen) geschikter voor een locatie als een Brownfield dan andere woontypes?**
13. **Heeft u tips voor het vergaren van data betreffende de locaties van Brownfields, of beschikt u zelf over waardevolle data voor mijn onderzoek?**
14. **Heeft u nog punten die belangrijk zijn om mee te nemen in mijn onderzoek?**

7.4.2. Private developer Groningen

1. **Wat is uw functie binnen de Geveke en waar houdt u zich binnen deze functie dagelijks mee bezig?**
2. **Hoe ziet het proces van locatiebepaling voor nieuw te bouwen studentenhuisvesting er in zijn algemeenheid uit?**
3. **Kent u de manifestatie BOUWJONG en zo ja, wordt deze manifestatie gebruikt voor de locatiebepaling van nieuw te bouwen studentenhuisvesting?**
4. **Wat zijn de ruimtelijke kwaliteiten die passen bij een goede locatie voor de ontwikkeling van studentenhuisvesting en in hoeverre wordt hier rekening mee gehouden bij de locatiekeuze voor de daadwerkelijke ontwikkeling van studentenwoningen?**
5. **Is er veel concurrentie tussen het ontwikkelen van studentenwoningen en niet-studentenwoningen op Brownfields en ontwikkellocaties in het algemeen ?**
6. **Hoe beïnvloedt deze concurrentie de locatiekeuze voor nieuw te ontwikkelen studentenwoningen?**
7. **Sinds 2015 heeft de WOZ-waarde een grotere invloed op de puntentelling van het woningwaarderingstelsel (WWS). Heeft deze verandering, en de WOZ-waarde in het algemeen, invloed op jullie locatievoorkeuren voor het ontwikkelen van nieuwe studentenwoningen?**
8. **In beleidsdocumenten van de gemeente Groningen kwam ik tegen dat er een investeringsfonds is opgericht voor onder andere het realiseren voor studenten en jongerenhuisvesting. Bent u hier bekend mee en beïnvloedt dit de locatiebepaling van nieuw te bouwen studentenhuisvesting?**
9. **In Groningen is er speciale aandacht voor internationale studenten. Wordt er rekening gehouden met deze internationale student bij het realiseren van nieuwe studentenhuisvesting en zo ja, op welke manier?**
10. **Ontwikkelt Geveke ook tijdelijke studentenwoningen? Zo ja, zijn er locatievoorkeuren voor het ontwikkelen van tijdelijke studentenwoningen en hoe lang zou tijdelijke huisvesting ergens moeten staan om tot een sluitende businesscase te komen?**
11. **In hoeverre ziet u Brownfields zoals het suikerunieterrein als een geschikte locatie voor nieuwe studentenwoningen?**
12. **Zijn er in uw optiek bepaalde woontypes (denk aan studio's, eenheden met gedeelde voorzieningen of tijdelijke woningen) geschikter voor een locatie als een Brownfield dan andere woontypes?**
13. **Kent u locaties binnen Groningen die u zou typeren als een Brownfield?**
14. **Zijn er verder nog punten die niet aan de orde zijn gekomen in dit interview maar wel belangrijk zijn om mee te nemen in mijn onderzoek?**

7.4.3. Student housing corporation Groningen

1. **Wat is uw functie binnen de gemeente Groningen en waar houdt u zich binnen deze functie dagelijks mee bezig?**
2. **Hoe ziet het proces van locatiebepaling voor nieuw te bouwen studentenhuisvesting er in zijn algemeenheid uit?**
3. **Kent u de manifestatie BOUWJONG en zo ja, wordt deze manifestatie gebruikt voor de locatiebepaling van nieuw te bouwen studentenhuisvesting?**
4. **Wat zijn de ruimtelijke kwaliteiten die passen bij een goede locatie voor de ontwikkeling van studentenhuisvesting en in hoeverre wordt hier rekening mee gehouden bij de locatiekeuze voor de daadwerkelijke ontwikkeling van studentenwoningen?**
5. **Denkt u dat er (veel) verschillen zijn tussen het ontwikkelen van studentenwoningen op een campus, als Zernike Campus, t.o.v. buiten een campus?**
6. **Gebruiken jullie theoretische, ruimtelijke concepten voor het ontwikkelen van studentenwoningen?**
7. **Bestuderen jullie vergelijkbare ontwikkelingen op het gebied van studentenwoningen vóór jullie zelf studentenwoningen ontwikkelen?**
8. **Is er veel concurrentie tussen het ontwikkelen van studentenwoningen en niet-studentenwoningen of andere functies op ontwikkellocaties in Groningen?**
9. **Hoe beïnvloedt deze concurrentie de locatiekeuze voor nieuw te ontwikkelen studentenwoningen?**
10. **Sinds 2015 heeft de WOZ-waarde een grotere invloed op de puntentelling van het woningwaarderingstelsel (WWS). Heeft deze verandering in uw optiek invloed gehad op de locatievoorkeuren voor het ontwikkelen van nieuwe studentenwoningen?**
11. **Ontwikkelt Lefier ook tijdelijke studentenhuisvesting?**
12. **Zijn er wel eens (onvoorziene) problemen ontstaan tijdens of na de ontwikkeling van studentenwoningen?**

13. **In beleidsdocumenten van de gemeente Groningen kwam ik tegen dat er een investeringsfonds werd opgericht voor het realiseren voor studenten en jongerenhuisvesting. Hoe werkt dit en hoe beïnvloedt dit de realisatie van de studenten en jongerenhuisvesting? Werkt dit investeringsfonds bijvoorbeeld puur versnellend of veranderen er ook andere aspecten in het proces?**
14. **In Groningen is er speciale aandacht voor internationale studenten. Worden deze internationale studenten op een andere manier gehuisvest? hierbij specifiek lettend op locaties van hun huisvesting.**

15. **In hoeverre ziet u Brownfields zoals het suikerunieterrein als een geschikte locatie voor nieuwe studentenwoningen?**
16. **Zijn er in uw optiek bepaalde woontypes (denk aan studio's, eenheden met gedeelde voorzieningen of tijdelijke woningen) geschikter voor een locatie als een Brownfield dan andere woontypes?**

17. **Heeft u tips voor het vergaren van data betreffende de locaties van Brownfields in Groningen, of beschikt u zelf over waardevolle data voor mijn onderzoek?**
18. **Zijn er nog punten die niet naar voren zijn gekomen in dit interview maar die wel waardevol zijn voor mijn onderzoek?**

7.4.4. Campus developer Groningen

1. **Kan je iets over jezelf en over je functie vertellen?**
2. **Heb je ervaring met het ontwikkelen van studentenhuysvesting en/of on-campus ontwikkeling?**
 1. **Zijn er (grote) verschillen tussen het ontwikkelen van woningen op en buiten de campus? Zijn er dingen makkelijker of moeilijker?**
3. **Waar en hoe ben je / zijn jullie begonnen?**
 1. **Heb je soortgelijke ontwikkelingen bestudeerd?**
4. **Zijn er bepaalde concepten die je gebruikt hebt?**
5. **Waren er vooraf specifieke aandachtspunten?**
 1. **Zijn er bepaalde ruimtelijke kwaliteiten waar jullie naar kijken?**
6. **Zijn er (onvoorziene) problemen ontstaan tijdens of na de ontwikkeling?**
7. **Heb je voor mij nog punten waar ik aandacht aan zou moeten besteden in mijn onderzoek?**

7.4.5. Municipality of Amsterdam

1. **Wat is uw functie binnen de gemeente Amsterdam en waar houdt u zich binnen deze functie dagelijks mee bezig?**
2. **Hoe ziet het proces van locatiebepaling voor nieuw te bouwen studentenhuisvesting er in zijn algemeenheid uit?**
3. **Wat zijn de ruimtelijke kwaliteiten die passen bij een goede locatie voor de ontwikkeling van studentenhuisvesting en in hoeverre wordt hier rekening mee gehouden bij de locatiekeuze voor de daadwerkelijke ontwikkeling van studentenwoningen?**
4. **Is er veel concurrentie tussen het ontwikkelen van studentenwoningen en niet-studentenwoningen of andere functies op ontwikkellocaties in Groningen?**
5. **Hoe beïnvloedt deze concurrentie jullie locatiekeuzes voor nieuw te ontwikkelen studentenwoningen?**
6. **Sinds 2015 heeft de WOZ-waarde een grotere invloed op de puntentelling van het woningwaarderingstelsel (WWS). Heeft deze verandering invloed gehad op jullie locatievoorkeuren voor het ontwikkelen van nieuwe studentenwoningen?**
7. **De gemeente Amsterdam geeft aan dat ze sinds 2001 actief inzet op het faciliteren van studentenhuisvesting. Op welke manieren doet de gemeente Amsterdam dat?**
8. **Is er in de gemeente Amsterdam ook speciale aandacht voor internationale studenten? Zo ja, hoe worden zij dan anders gefaciliteerd dan Nederlandse studenten wat betreft huisvesting?**
9. **Voor studentenhuisvesting in Amsterdam wordt er ook vooral gekeken naar de regio. Wat is hier de reden voor?**
10. **In hoeverre heeft het doel 'betaalbare studentenhuisvesting' invloed op de locatievoorkeuren van nieuw te bouwen studentenhuisvesting?**
11. **Welke partijen hebben bij jullie de voorkeur als het gaat om het bouwen van nieuwe studentenhuisvesting en kunnen zij ook veel studentenwoningen bouwen in Amsterdam?**
12. **In hoeverre ziet u Brownfields als een geschikte locatie voor nieuwe studentenwoningen?**
13. **Zijn er in uw optiek bepaalde woontypes (denk aan studio's, eenheden met gedeelde voorzieningen of tijdelijke woningen) geschikter voor een locatie als een Brownfield dan andere woontypes?**
14. **Heeft u tips voor het vergaren van data betreffende de locaties van Brownfields, of beschikt u zelf over waardevolle data voor mijn onderzoek?**
15. **Heeft u nog punten die belangrijk zijn om mee te nemen in mijn onderzoek?**

7.4.6. Private developer Amsterdam

1. **Wat is uw functie binnen Greystar en waar houdt u zich binnen deze functie dagelijks mee bezig?**
2. **Hoe ziet het proces van locatiebepaling voor nieuw te bouwen studentenhuisvesting er in zijn algemeenheid uit?**
3. **Wat zijn de ruimtelijke kwaliteiten die passen bij een goede locatie voor de ontwikkeling van studentenhuisvesting en in hoeverre wordt hier rekening mee gehouden bij de locatiekeuze voor de daadwerkelijke ontwikkeling van studentenwoningen?**
4. **Wijzen jullie wel eens aangeboden locaties af op basis van de ruimtelijke kwaliteiten? Zo ja, wat zijn de voornaamste redenen voor het afwijzen van een ontwikkellocatie?**
5. **Hoe veel concurrentie ervaren jullie tussen de ontwikkeling van studentenwoningen en niet-studentenwoningen?**
6. **Hoe beïnvloedt deze concurrentie jullie locatiekeuzes voor nieuw te ontwikkelen studentenwoningen?**
7. **Sinds 2015 heeft de WOZ-waarde een grotere invloed op de puntentelling van het woningwaarderingstelsel (WWS). Heeft deze verandering en de WOZ-waarde in het algemeen invloed op jullie locatievoorkeuren voor het ontwikkelen van nieuwe studentenwoningen?**
8. **Ontwikkelt Greystar ook tijdelijke studentenwoningen? Zo ja, zijn er locatievoorkeuren voor het ontwikkelen van tijdelijke studentenwoningen en hoe lang zou tijdelijke huisvesting ergens moeten staan om tot een sluitende businesscase te komen?**
9. **De gemeente Amsterdam geeft aan dat ze sinds 2001 actief inzet op het faciliteren van studentenhuisvesting. Merken jullie daar iets van en hoe ervaren jullie dat als Greystar zijnde?**
10. **In hoeverre ziet u Brownfields als een geschikte locatie voor nieuwe studentenwoningen en wat voor barrières of kansen ziet u voor de ontwikkeling van studentenhuisvesting op Brownfields?**
11. **Zijn er in uw optiek bepaalde woontypes (denk aan studio's, eenheden met gedeelde voorzieningen of tijdelijke woningen) geschikter voor een locatie als een Brownfield dan andere woontypes?**
12. **Heeft u nog punten die niet aan de orde zijn gekomen in dit interview maar wel belangrijk zijn om mee te nemen in mijn onderzoek?**

7.4.7. Student housing corporation Amsterdam

1. **Wat is uw functie binnen DUWO en waar houdt u zich binnen deze functie dagelijks mee bezig?**
2. **Hoe ziet het proces van locatiebepaling voor nieuw te bouwen studentenhuisvesting er in zijn algemeenheid uit? (Thijs: het algemene proces van realisatie)**
3. **Wat zijn de ruimtelijke kwaliteiten die passen bij een goede locatie voor de ontwikkeling van studentenhuisvesting en in hoeverre wordt hier rekening mee gehouden bij de locatiekeuze voor de daadwerkelijke ontwikkeling van studentenwoningen?**
4. **Wijzen jullie wel eens locaties af op basis van de ruimtelijke kwaliteiten? Zo ja, wat zijn de voornaamste redenen voor het afwijzen van een ontwikkellocatie?**
5. **Worden jullie wel eens gevraagd om een kleiner deel van een groter ontwikkelgebied te ontwikkelen?**
6. **Hoe veel concurrentie ervaren jullie om ontwikkelgrond tussen studentenwoningen en andere soorten woningen (bijvoorbeeld appartementen in het dure segment).**
7. **Hoe beïnvloedt deze concurrentie jullie locatiekeuzes voor nieuw te ontwikkelen studentenwoningen?**
8. **Sinds 2015 heeft de WOZ-waarde een grotere invloed op de puntentelling van het woningwaarderingstelsel (WWS). Heeft deze verandering invloed gehad op jullie locatievoorkeuren voor het ontwikkelen van nieuwe studentenwoningen?**
9. **Ontwikkelt DUWO ook tijdelijke studentenwoningen? Zo ja, zijn er locatievoorkeuren voor het ontwikkelen van tijdelijke studentenwoningen?**
10. **De gemeente Amsterdam geeft aan dat ze sinds 2001 actief inzet op het faciliteren van studentenhuisvesting. Op welke manieren doet de gemeente Amsterdam dat en hoe ervaren jullie dat als DUWO?**
11. **Studentenhuisvesting wordt door de gemeente Amsterdam aangemerkt als een zeer intensief woonconcept. Worden jullie als DUWO door de gemeente Amsterdam actief benaderd om gebieden te verdichten doormiddel van de ontwikkeling van studentenhuisvesting?**
12. **In hoeverre ziet u Brownfields als een geschikte locatie voor nieuwe studentenwoningen?**
13. **Zijn er in uw optiek bepaalde woontypes (denk aan studio's, eenheden met gedeelde voorzieningen of tijdelijke woningen) geschikter voor een locatie als een Brownfield dan andere woontypes?**
14. **Heeft u tips voor het vergaren van data betreffende de locaties van Brownfields, of beschikt u zelf over waardevolle data voor mijn onderzoek?**
15. **Heeft u nog punten die belangrijk zijn om mee te nemen in mijn onderzoek?**

7.4.8. Umbrella organization on student housing

1. **Wat is uw functie binnen Kences en waar houdt u zich binnen deze functie dagelijks mee bezig?**
2. **Hoe ziet het proces van locatiebepaling voor nieuw te bouwen studentenhuysvesting er volgens u in zijn algemeenheid uit?**
3. **Wat zijn de ruimtelijke kwaliteiten die passen bij een goede locatie voor de ontwikkeling van studentenhuysvesting en in hoeverre wordt hier in uw optiek rekening mee gehouden bij de locatiekeuze voor de daadwerkelijke ontwikkeling van studentenwoningen?**
4. **Binnen de gemeentes Amsterdam en Groningen is er speciale aandacht voor de internationale student. Vindt u ook dat de internationale student speciale aandacht verdient betreffende de huysvesting?**
Zo ja, heeft dit volgens u invloed op de locatievoorkeuren voor nieuw te bouwen studentenhuysvesting voor deze internationale studenten?
5. **In hoeverre heeft het doel 'betaalbare studentenhuysvesting' van het rijk en de gemeentes invloed op de locatievoorkeuren van nieuw te bouwen studentenhuysvesting?**
6. **Sinds 2015 heeft de WOZ-waarde een grotere invloed op de puntentelling van het woningwaarderingstelsel (WWS). Heeft deze verandering invloed gehad op de locatievoorkeuren voor het ontwikkelen van nieuwe studentenwoningen?**
7. **In hoeverre ziet u Brownfields als een geschikte locatie voor nieuwe studentenwoningen?**
8. **Zijn er in uw optiek bepaalde woontypes (denk aan studio's, eenheden met gedeelde voorzieningen of tijdelijke woningen) geschikter voor een locatie als een Brownfield dan andere woontypes?**
9. **Is er veel concurrentie tussen het ontwikkelen van studentenwoningen en niet-studentenwoningen of andere functies op ontwikkellocaties binnen de studentensteden in Nederland?**
10. **Hoe beïnvloedt deze concurrentie de locatiekeuzes voor nieuw te ontwikkelen studentenwoningen?**
11. **Zijn u nog punten die niet benoemd zijn in dit interview maar wel belangrijk zijn om mee te nemen in mijn onderzoek?**