Mapping place attachment in the built environment of Assen: potential lessons for spatial planning

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Date: 10-06-2018
Version: Final

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Summary

Places seem to be facing loss of identity. Consequently, places try to distinguish themselves to retain their identity. Comparably, in the Netherlands demographic shrinkage is a growing issue. In particular, the province of Drenthe is anticipating the impact. However, Assen, one of Drenthe's prominent cities, could provide insight on how cities' identities are developed without losing their uniqueness. To understand place identity, exploring place attachment is necessary. Places are dependent on the meanings which people assign to landscapes: positive emotional bonds that are strengthened with collective meanings develop. Appropriately, this research question arose: How can collective meanings of the built environment in the centre of Assen help spatial planners to understand neighbourhood place attachment?

To answer the question, a map-based scale of approach was used through a questionnaire in the centre of Assen. Ultimately, the survey yielded relevant answers: collective meanings provide a social bond which enhances place attachment. Recreational and cultural areas that encourage socialising sustain that bond. Spatial planners should develop neighbourhoods with central hubs where people can interact. Multi-functionality is used in planning, however its relation to place attachment deserves more attention. Furthermore, natural places within the built environment positively affect place attachment, and should be preserved.

1. Introduction

Place identity has become an interesting topic in the last two decades. Some scholars argue that places are becoming more alike and that there is a loss of identity in cities (Escobar, 2001). For example, Dutch architect Rem Koolhaas sees cities as increasingly resembling so-called 'generic cities', where there is a lack of characteristics and authenticity (Hajer, 1999). However, it could be said that such claims depend on a person's perception of what place identity is. Vanclay (2008) argues that despite the notion of transcendence of place, place remains fundamentally important to people's sense of identity and community. Through storytelling people create and re-create their connection to place; these connections are about where people live, work and play (Vanclay, 2008). Thus place identity is a subjective matter. To comprehend place identity Davenport and Anderson (2005) propose a focus on place attachment and meanings. Similar to Vanclay (2008), other empirical research sees place attachment as a product of shared behaviour and cultural processes (Stedman, 2003).

In the Netherlands the phenomenon of 'demographic shrinkage' has persistently become an important economic as well as spatial issue (Haartsen & Venhorst, 2010). Demographic shrinkage is a result of both an aging population, and local migration (Rijksoverheid, 2014). With large numbers of people migrating from rural to urban areas, villages and municipalities are increasingly facing economic risk (Verwest, 2011). Inversely, cities are forced to facilitate this migration flow (Verwest, 2011). In the northern Netherlands the province of Groningen has been coping with this reality for years (Rijksoverheid, 2018), and other regions are to follow in the upcoming decades (Verwest, 2011). For instance, in the province of Drenthe shrinkage is being anticipated in more than half of the municipalities (Provincie Drenthe, 2015). Still, municipalities like Assen are experiencing a positive migration balance (Provincie Drenthe, 2015), in particular the city of Assen. The draw to cities provides a link to place attachment that exceeds the concept of urbanisation, as cities like Emmen are experiencing decline (Provincie Drenthe, 2015). Which (social or economic) factors kept people in or drew people to Assen? This is relevant for spatial planning with the future of the Netherlands in mind. Hence, the title of this research is 'Mapping place attachment in the built environment of Assen: potential lessons for spatial planning'.

This thesis will elaborate on place attachment in the city of Assen, derived from place identity (Jorgensen & Stedman, 2001), which can provide insight on how the physical aspects of the built environment contribute to it. A variety of social studies has extensively focused on the natural environment and its relation to place attachment (Brown & Raymond, 2007), however, it would be prudent to explore the relationship between the built environment and place attachment instead. Furthermore, understanding this relationship may provide relevant lessons for spatial planning, such as to enhance or stimulate place attachment within neighbourhoods or deter overall loss of identity within cities.

1.1 Enhancing place identity

Recently, place branding has been used to attract and retain resources both at the local and regional scale. Branding is a market oriented approach at enhancing places, which has to deal with the perception of the individual that gives meaning to a brand (Pasquinelli, 2010). In the Netherlands attempts have been made to use place branding as an instrument to attract highly educated people to shrinkage regions to increase the economic vitality (Verwest, 2011). In Assen, the strategy of 'Alles Draait Om Assen' ('Everything Revolves Around Assen'), was developed to increase the appeal of the city's centre for the year 2025 (Majolée et al., 2015), albeit with unknown success as of yet. Similarly, Pasquinelli (2010) explores a case of high-tech place branding in Tuscany that failed to positively influence the region. The two main reasons for this failure were the inability to capture the uniqueness of Tuscany, and likeliness to regions like Sillicon Valley. This example of Tuscany provides a link to how the perceived place identity is difficult to change without losing its specific identity. Ultimately, place identity is a relevant matter in the field of spatial planning, and the role of the people is crucial. Assen, one of Drenthe's prominent cities, could provide clues on how cities' identities are developed without losing their uniqueness, and how this attracts people.

1.2 Research problem

As mentioned earlier, there is a notion of place identity loss, and places try to distinguish themselves. However, varied stakeholder interests, economic interests (Main & Sandoval, 2014), and institutional procedures (Wolsink, 2007) make it difficult. Similarly, demographic shrinkage is becoming a serious issue in the Netherlands (Haartsen & Venhorst, 2010); the province of Drenthe is preparing for the upcoming years. Considering these findings, it is important to understand how place attachment can be enhanced in the aforementioned process. The focus is to gain knowledge of which physical aspects of urban districts add to place attachment, and how these aspects can help spatial planners to provide room for place attachment development in other neighbourhoods. The object of study is the city of Assen. Generally, the built environment is defined as physical aspects like historical architecture (Goss, 1993) or accessibility (Owen et al., 2010). These physical aspects can be mapped under the umbrella of 'special places'; which are "defined as places where people have some form of place attachment or identification, [and can] be spatially identified, along with the reasons for their importance" (Brown, 2004, p.19). Appropriately, the following central research question arises:

How can collective meanings of the built environment in the centre of Assen help spatial planners to understand neighbourhood place attachment?

Naturally, a set of sub-questions emerges in order to examine the relation between place attachment and the built environment. The subsequent questions are:

1. *Which places in the centre of Assen do people experience as 'special' places?*
2. *In what context do people value 'special' places in the centre of Assen?*
3. *Which physical characteristics of the built environment contribute to the valuation of 'special' places in Assen?*
4. *What is the social collective meaning of 'special' places in the centre of Assen?*

In answering the central research question potential knowledge can be gained on how key elements of neighbourhoods (the built environment) contribute to place attachment.

1.3 Hypotheses

The research questions arouse curiosity in which results can be expected. In particular, the central research question evokes the hypothesis:

- The cultural-historical value of buildings contributes the most to place attachment in the centre of Assen.

Likewise, the following hypothesis can be formulated for the second sub-question:

- People value special places in the centre of Assen based on the functionality of those places.

However, it is possible that the research will not yield more insight on place attachment:

- Place attachment in the centre of Assen is influenced by the social interaction between people regardless of the physical aspects of the meeting places.

1.4 Thesis structure

The thesis is comprised of five sections, including this one. Section 2 elaborates on the theoretical framework; the main theory is explicitly presented. The theme of place attachment is further expanded with concepts, such as the two-dimensional conceptualisation of place attachment. In the consecutive sub-section the conceptual model is visualised. Furthermore, in section 3 the data collection and analysis are explained; ethical and scientific considerations are debated. Finally, in section 4 the analysis is conducted and illustrated through maps and tables, and research sub-questions are answered. The final section (5) answers the main research question, and gives recommendations for future research.

2. Theoretical framework

First of all, it is important to understand which concepts are used to answer the central research question. Jorgensen and Stedman (2001) adopt place attachment into their concept of sense of place. For which, place attachment, place identity and place dependence overlap but remain separate concepts. Sense of place is an umbrella concept that describes relationships between human beings and spatial settings (Shamai, 1991). It is generally about the meaning attached to a spatial setting. A place is viewed as a centre of meaning that accentuates human emotions and relationships (Tuan, 1979). Thus, places are dependent on the meanings which people assign to landscapes (Ryden, 1993). These places become 'special places', which are usually given specific meanings by people (Brown & Raymond, 2007). A landscape is defined as not only the natural environment but also cities and towns: the built environment (Lawrence & Low, 1990). Brown (2004) presents in his research the idea of special places, which he defines as places where people express some form of place attachment. First, an operational bridge is formed to connect the geographical location with the psychological perception; wherein the concept of landscape value is used (Brown, 2004). People attribute values to landscapes and places for different reasons, derived from within an instrumental or a symbolic context. Subsequently, these values are part of psychological dimensions, which constitute place attachment (Knez & Eliasson, 2017).

To further construe the concept of place attachment a two-dimensional conceptualisation is used; here place attachment is divided into place identity and place dependence (Williams & Vaske, 2003). Proshansky et al. (1983) define place identity as a mixture of feelings about specific settings; it is further seen as "the notion that places serve various functions in identity development that promote a sense of belongingness" (Davenport & Anderson, 2005, p.628). Place dependence refers to connections derived from activities that take place in settings and provide favourable conditions for their intended use (Schreyer et al., 1981).

Moreover, Williams and Vaske (2003) view place attachment as the development of positive emotional bonds between individuals and their environment. Adopting Williams and Vaske's (2003) concept, the survey response can be related to physical aspects of the built environment through the meanings given to places. The municipality of Assen identified the aesthetic value of places as the most relevant for people's bonds with the city of Assen (Gemeente Assen, 2017). Devine-Wright (2009) proposes that disruption to place attachment overlaps with negative emotional responses to change. Similarly, Pasquinelli (2010) revealed in her research a strong negative response to the place branding of Tuscany, due to disruption of people's perception. To supplement the two-dimensional conceptualisation, Davenport and Anderson (2005) distinguish four human-environment relationships. The first is that, places manifest physical characteristics of settings, activities, experiences, and individual interpretations. Second, meanings of places are assigned by people, whom then derive meaning in their lives from those places. Third, some place meanings develop into strong emotional bonds that have an impact on attitudes and behaviours. Finally, place meanings are subject to natural resource management and planning (Davenport & Anderson, 2005). Especially, the second and third relationships are important in the two-dimensional concept. After all, human rationale makes sense of place (Knez & Eliasson, 2017), and the emotional bond affects the use of places (Williams & Vaske, 2003).

Lastly, it is important to elaborate on the collective meanings of places. Brown and Raymond (2007) argue that studies tend to emphasise the individualistic dimensions of place, thus "obscuring the collective nature of relations between people, identities, and their environments" (Brown &

Raymond, 2007, p.91). Spatial planners have to take into account many different interests when devising spatial plans or policies, however, it is not desirable to implement all of the individual interests (De Roo, 2015). Therefore, emphasising the collective dimensions of place should give a more comprehensive relation between people and place attachment. Correspondingly, Knez and Eliasson (2017) remark that people develop personal and collective ties to their environment, which indicates that landscapes not only encompass the physical/spatial aspects but also social, psychological, cultural, and historical connotations. Collective place attachment is connected to (inter)group membership, processes and behaviour (Hogg, 2006). Thus, collective meanings can be derived from interaction between individuals at certain sites. Further, it is shown that the collective meanings act as memory aid, ultimately strengthening ones place attachment (Knez & Eliasson, 2017). Hence, the collective meanings play a crucial part in understanding neighbourhood place attachment, and this thesis will focus on spatial aspects but with social aspects in mind.

2.1 Conceptual model

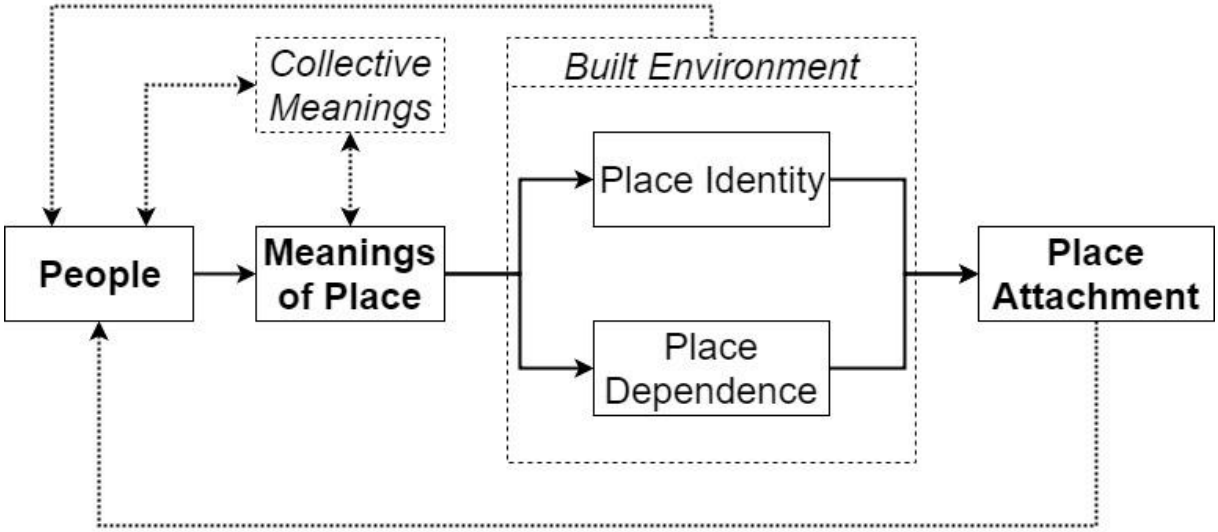


Figure 1. Conceptual model of people's influence on the built environment and place attachment.

The conceptual model, as seen in Figure 1, visualises the theoretical framework of this thesis. The relationship between people and place attachment is central to the research. People give meanings to places (Williams & Vaske, 2003), and in turn the meanings reflect upon the place identity and place dependence within the built environment. In addition, the meanings of place are enhanced by collective meanings from individuals sharing a similar mindset (Knez & Eliasson, 2017). Therefore, the link between people and meanings of place reflects upon the built environment. The built environment consists of buildings and infrastructure (Lawrence & Low, 1990), and has a feedback link to people: it conditions individuals to assign certain meanings to places (i.e. work, play and living) (De Roo, 2015). As a result of place identity and dependence, a place attachment emerges (Jorgensen & Stedman, 2001). The place attachment in an environment can then give meaning to people's lives (Davenport & Anderson, 2005), since it encompasses positive emotional bonds between people and their environment (Williams & Vaske, 2003). This positive bond is strengthened upon feedback by collective meanings of place (Knez & Eliasson, 2017). The model will be tested by exploring the collective meanings of the built environment of Assen, and how this influences people's place attachment.

3. Methodology

Geographical research tackles diverse subjects of a social or physical nature, like human behaviour or the physical environment (Clifford et al., 2010). As such, different research methods can be used, generally qualitative (interpretive) or quantitative (statistical) methods. The latter method forms the basis of most research in physical geography (Clifford et al., 2010). Since the aim of this research is to understand which aspects of the built environment positively influence place attachment, a quantitative research has been conducted. Quantitative elements were implemented such as sample bias comparison through respondents' socio-demographic characteristics (Brown & Raymond, 2007). Ethically, it is important to hold justice, beneficence and respect to a high esteem (Clifford et al., 2010). Notably, respondents were asked to disclose personal information, and after obtaining verbal consent the confidential information was solely used for this research. Thus, the anonymity of the respondents was respected. Brown and Raymond (2007) suggest using the variables age, education, employment, gender, and income, because an easier comparison can be made to national CBS databases. The variables were analysed with the aid of SPSS Descriptive Statistics, in which the kurtosis and skewness values were calculated for the distribution within the variables. Both measures of deviation from normality can reveal whether there is sample bias (George & Mallery, 2010). For both measures a value between +2.0 and -2.0 is acceptable, and it respectively equates to a distribution more peaked or flatter than normal. A kurtosis value between +1.0 and -1.0 is considered excellent for most purposes. The same principles apply for skewness, which represents the distribution balance (George & Mallery, 2010).

This thesis is concerned with presenting a local view on place attachment with the use of collective meanings of place (Brown & Raymond, 2007). Therefore, the methods should not be viewed as an either/or choice (Clifford et al., 2010); a mixed method of research was adopted. The collective meanings were derived from qualitative elements within a questionnaire, including open research questions addressing the reason why people chose certain places and what made them move to or stay in the city of Assen (see Appendix I). After taking into account survey-fatigue in Groningen, due to the RUG's surveys, the choice to explore place attachment in Assen was solidified. Especially, Assen's centre is an interesting district, because it has a deep history, and is conterminous with the Asserbos, the central station, et cetera (Gemeente Assen, 2018). Afterwards, respondents were selected from the various neighbourhoods of Assen's centre. According to the Gemeente Assen (2018) around 5480 citizens live in this particular district. The power approach to effective sample size determination (Lenth, 2001) revealed that at 95% confidence level and 5% confidence interval a minimum of 359 respondents was necessary. However, due to time and resource constraints, a more realistic sample size of thirty respondents was opted for instead. The neighbourhood for the survey was designated through a random sample within the central district of Assen, which can be seen in Figure 2 (CBS, 2018). Here a unique number is assigned to units within the sampling frame (Clifford et al., 2010). The thirteen neighbourhoods were given a number from one to thirteen:

1. Brinkkwartier
2. Erfgoedkwartier
3. Overcingel
4. Oranjebuurt
5. Galgenveld
6. Koopmanskwartier
7. Cultureelkwartier
8. Oude Gasfabriek
9. De Hertenkamp
10. Asserbos
11. De Esch
12. Bomenbuurt
13. Zuiderpark

Using the 'randInt' option on a Texas Instruments TI-84 calculator the random number 12 was generated: the Bomenbuurt. Initially, a stratified sample using zip-codes was considered, however due to previously mentioned restrictions the entire neighbourhood was covered.

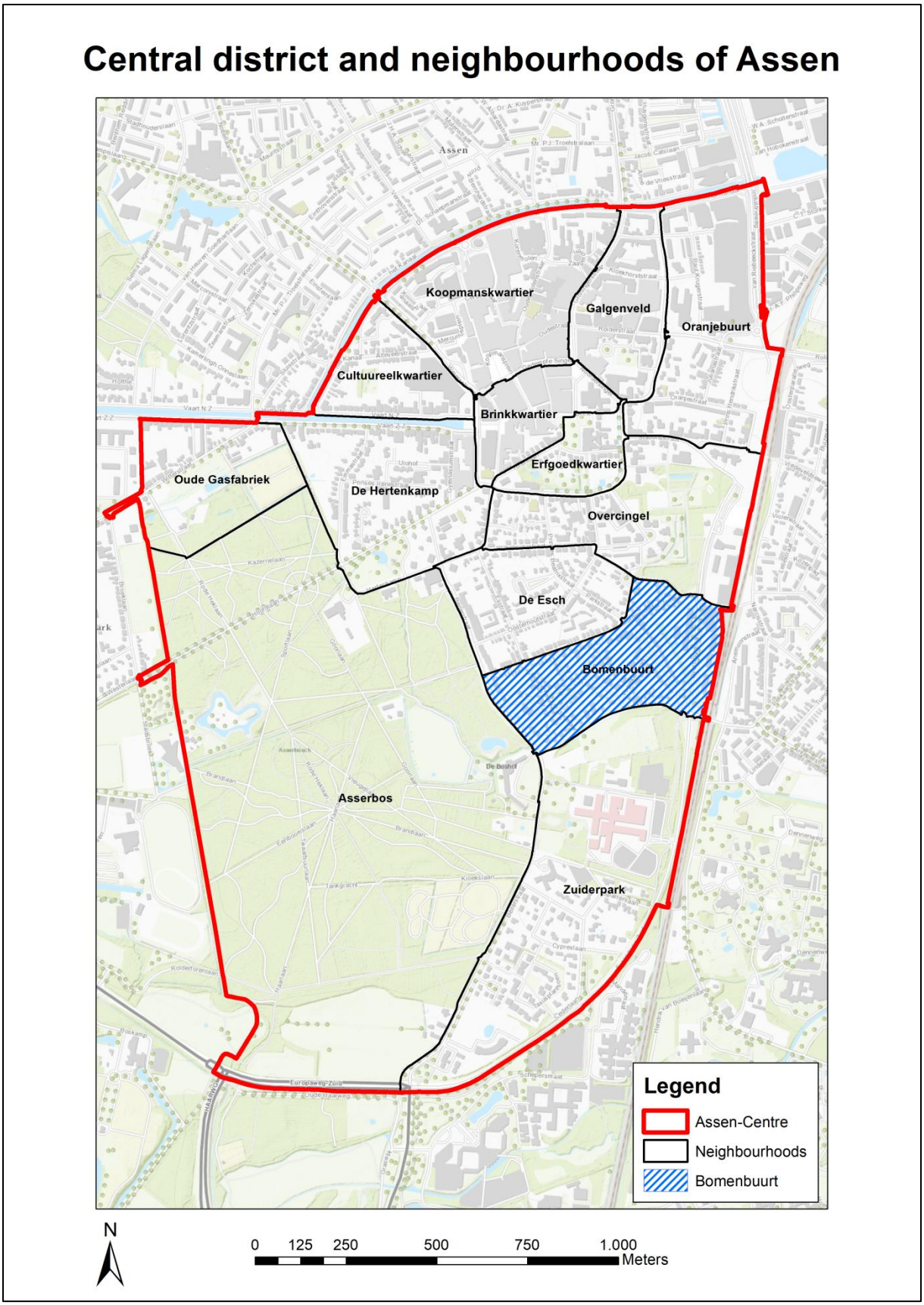


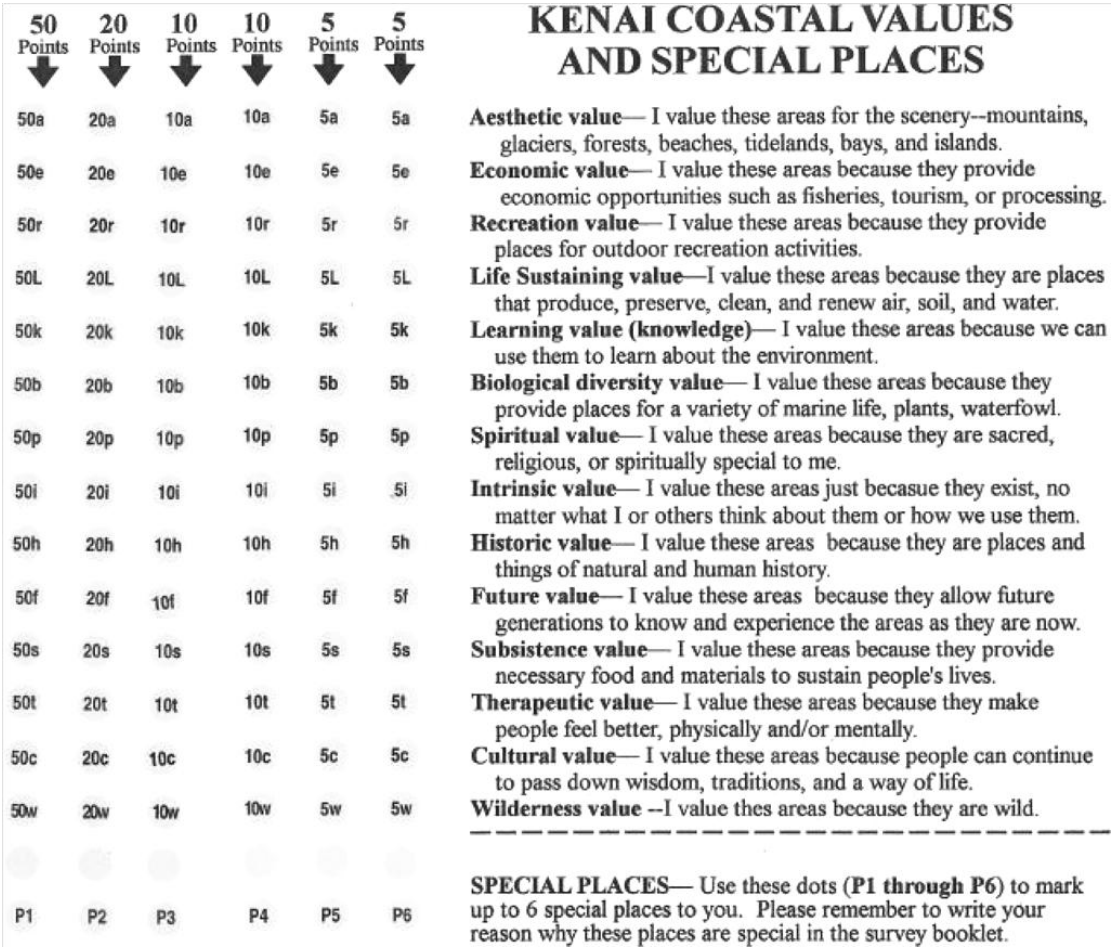
Figure 2. Central district and neighbourhoods of Assen, with random sample selection Bomenbuurt (CBS, 2018).

3.1 Data collection

The data collection took place over the course of three weeks; between week 15 and 17. On Saturday 14th and Sunday 15th of April a total of twenty-six respondents were collected; on Saturday 28th the sample was completed with nine additional respondents. The survey was held during the weekend; this choice was based on the availability of respondents presuming that more people were available during the weekend because people generally do not have to work.

Using an Apple iPad in combination with Maptionnaire, the data were collected. The respondents filled out the questionnaire at their homes with the researcher present. The map-based scale of place attachment was used to collect special places and landscape values (Brown & Raymond, 2007). This instrument provides a GIS variant (Talen, 2000) where respondents rank a set of landscape values before placing markers on a map (Brown, 2004). Respondents allocate a hypothetical $100 among the landscapes. A second method provides a predefined value that can be allocated on the map. Both systems of the map-based scale approach share advantages and disadvantages. The latter method has the significant advantage that it yields locations that already show a relative importance of landscape value (Brown, 2004), thus, it was adopted for the survey.

The first part of the mapping consisted of eight landscape values for the built environment. These values were derived from Brown's (2004) Kenai coastal survey (Figure 3). However, not all values were used because initially natural landscape values were portrayed. For example, the 'wilderness value' would not fit in a built environment. Additionally, Knez and Eliasson (2017) revealed in their research that social, cultural, historical, and religious connotations are also part of landscapes. Thus, the eight values in Table 1 (Appendix I) were established.



50 Points	20 Points	10 Points	10 Points	5 Points	5 Points
50a	20a	10a	10a	5a	5a
50e	20e	10e	10e	5e	5e
50r	20r	10r	10r	5r	5r
50L	20L	10L	10L	5L	5L
50k	20k	10k	10k	5k	5k
50b	20b	10b	10b	5b	5b
50p	20p	10p	10p	5p	5p
50i	20i	10i	10i	5i	5i
50h	20h	10h	10h	5h	5h
50f	20f	10f	10f	5f	5f
50s	20s	10s	10s	5s	5s
50t	20t	10t	10t	5t	5t
50c	20c	10c	10c	5c	5c
50w	20w	10w	10w	5w	5w
P1	P2	P3	P4	P5	P6

Figure 3. Sticker dots and landscape value legend used in Kenai coastal survey (Brown, 2004, p.24).

Respondents allocated points to each of these values on the map (Brown, 2004), and provided reasons for their place attachment in the Bomenbuurt. This part of the questionnaire aimed to shed light on the second and third sub-question (see §1.2). Consequently, the context was determined from the landscape values. Furthermore, the second part of the questionnaire provided qualitative evidence for the fourth sub-question (§1.2). As a result, maps with special places and landscape values emerged in Figure 9. Additionally, the open questions allowed participants to provide arguments for special places (Brown, 2004); the answer to the first sub-question (§1.2) was deduced by comparing the given meanings.

3.2 Data analysis

The collected data were transferred into ArcMap in the form of point data from the questionnaire digital map. Using the 'Select by attributes' tool in ArcMap these points were separated into the eight landscape values. Thereafter, the data were converted into density maps, which were generated from two parameters: "the cell size for the density "grid" and a point search radius" (Brown, 2004, p.28). The cell sizes were heuristically derived from the map scale and the assumed respondent error in point placement (e.g. 500m) (Brown, 2004). Furthermore, the Spatial Analyst Tools' 'Point Density' converter was used to determine the highest points allocated per dot; resulting in nine density maps (Appendix IV). This method proved sufficient enough, and no extensive statistical and geographical models were deployed, confirming this, Brown (2004) notes that inferential statistics could potentially provide no significant insight beyond that of simple descriptive statistics.

Lastly, the open questions were categorised in context of the answers (Table 7; 8, Appendix III). A collective meaning arose from the likeliness between the given answers. For instance, when the answers leaned more on the social side of the spectrum then the assumption on the physical side was also made: the respondents collectively preferred Assen's meeting places due to room for social interaction, then the physical side of the answer was related to 'recreational areas'. If extensive interviews would be held instead, similar but more elaborate conclusions could be drawn (Davenport & Anderson, 2005).

3.3 Data quality

The collected data were sufficient for the map-based scale of place attachment, however it could not be fully utilised in combining ArcGIS and SPSS models due to lack of time and knowledge. When using similar methods, concepts should be made into personal theories first. Unfortunately, weaker recommendations were made. In contrast, the data instrument captured both quantitative as well as qualitative responses, and provided a decent basis to draw conclusions on. Still, a larger sample size is ideal. There should be a stronger focus on the aspects of the built environment that were already defined, and integrating more secondary data to formulate a sharper set of landscape values. Overall, the data provided a decent insight on place attachment in the built environment, but failed to provide strong recommendations. A focus on qualitative research might have proven more effective in the end.

4. Results

To begin with, a total of thirty-one respondents filled out the questionnaire, and it should be noted that 'income per household per year' and 'years resided in Assen' have missing values due to respondents declining to disclose information. On a side note, any tables referenced in the following section can be found here: Tables 2 and 3 in Appendix II, and Tables 4 through 8 in Appendix III. Regardless, sample bias has been avoided, as seen in Table 4. Given the kurtosis value for each variable, 'age', 'education level', 'income per household per year', and 'years resided in Assen' are excellent (George & Mallery, 2010), with values of -0,148, -0,688, -0,434, and 0,975 respectively. Whereas, the variables 'gender' and 'employment' share the value of -1,462, which indicates an acceptable deviation from normality (George & Mallery, 2010). Reasons for the higher deviation from normality could be that one third of the respondents were female, while two thirds were male (Table 5). Similarly, in Table 6 it is evident that more than 30% of the respondents have an HBO degree, and approximately 36% had completed a university master. As for the skewness value, the balance of distribution appears to be excellent in all but the variable 'years resided in Assen'. It exceeds the assumed ±1 value, but is still acceptable within the ±2 skewness value (George & Mallery, 2010). Thus, an acceptable sample bias is confirmed, and therefore analysing the mapped values and open questions is representative.

4.1 Open questions

In Table 7 the most frequent answers to the question 'What was the most important reason for you to reside in Assen?' are summarised. Notably, 52% of the respondents said that their main reason to reside in Assen was work, and 32% indicated residence due to family and/or relationships. Interestingly, other reasons like facilities and real estate prices were given in less than 20% of the responses. These findings strongly suggest that the economic value within the city of Assen is an important pull-factor.

Comparably, the question 'Could you say that you feel bonded with Assen? If so, what is this bond comprised of?' asked the respondents to debate their attachment to Assen. Strikingly, 68% of all responses revealed to have a social bond with Assen, mostly family and friends were the driving force (Table 8). Collectively, this argument is part of the social connotations surrounding the built environment (Knez & Eliasson, 2017). On the other hand, the economic bond is evident with 42% of the respondents stating it as the reason for their attachment.

Taking this into account, there is a relationship between the pull-factors of Assen and the respondents' place attachment. Evidently, more than half of the respondents moved to Assen for work-related reasons, whereas more than two thirds developed a bond with Assen due to social relationships. Additionally, nearly one third moved to Assen because of social relationships, while more than two fifths developed an economic bond. The question 'In what context do people value 'special' places in the centre of Assen?' is then partially answered, namely that respondents view special places from a social context. Thus, relationships become special meanings that are connected to places in Assen, resulting in place attachment. However, as respondents were allowed to give multiple reasons, not every work-related residence is necessarily connected to a social bond. The social context is further tested in section 4.2, where special places can provide a physical context to supplement the findings above. Citations of answers of 'Why is this place special?' (Appendix I) are used for support.

4.2 Mapping landscape values

The density map of the combined landscape values is presented in Figure 4. Remarkably, a high density of values in the Brinkkwartier and Erfgoedkwartier, the commercial district (Gemeente Assen, 2018), can be observed. This indicates that a high concentration of values of fifty points (see Table 1) is present in the two neighbourhoods. Furthermore, Figure 4 reveals that the Bomenbuurt appears to have a low to middle density of landscape values, thus indicating that respondents viewed the surrounding commercial district as more valuable. To further explore these findings, the most pronounced landscape values will be discussed separately (see Appendix IV for all density maps).

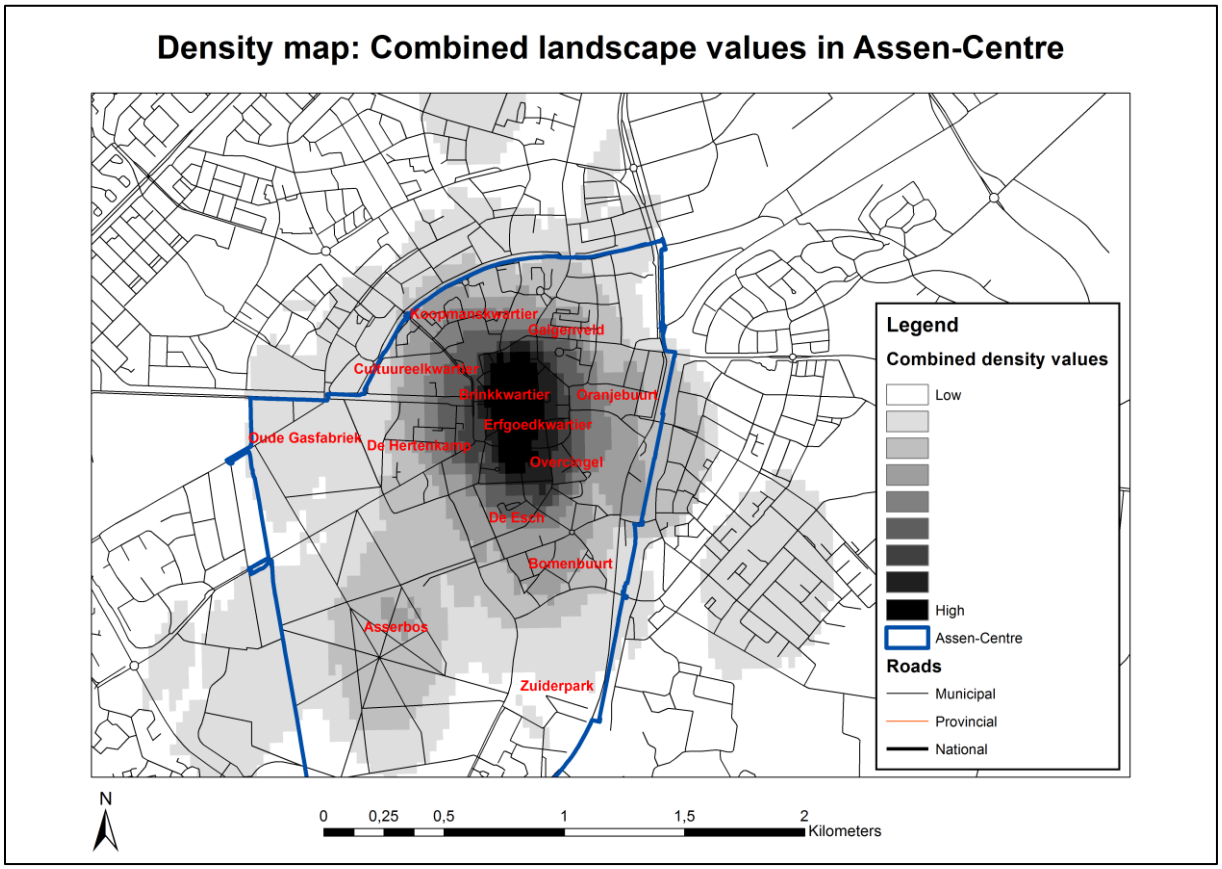


Figure 4. Combined density map of the eight landscape values in Assen-Centre based on the map-based scale of place attachment (Brown, 2004).

To begin with, the aesthetic value as seen in Figure 5 portrays a high density in the Overcingel neighbourhood. Respondents noted that its architecture was very iconic, stating that the Overcingel is "[a] valuable piece [of] nature and monument[s] in Assen", and "[a] downtown beauty" (Table 2, 4:13; 5:19). The RCE (2018) describes the Overcingel as a neighbourhood with 18th century estates. This is in line with the assumption made by the Gemeente Assen (2017) in regard to place attachment and architecture. The aesthetic value is appreciated by the respondents, but as shown in Figures 6 and 7, there is more to place attachment to be found.

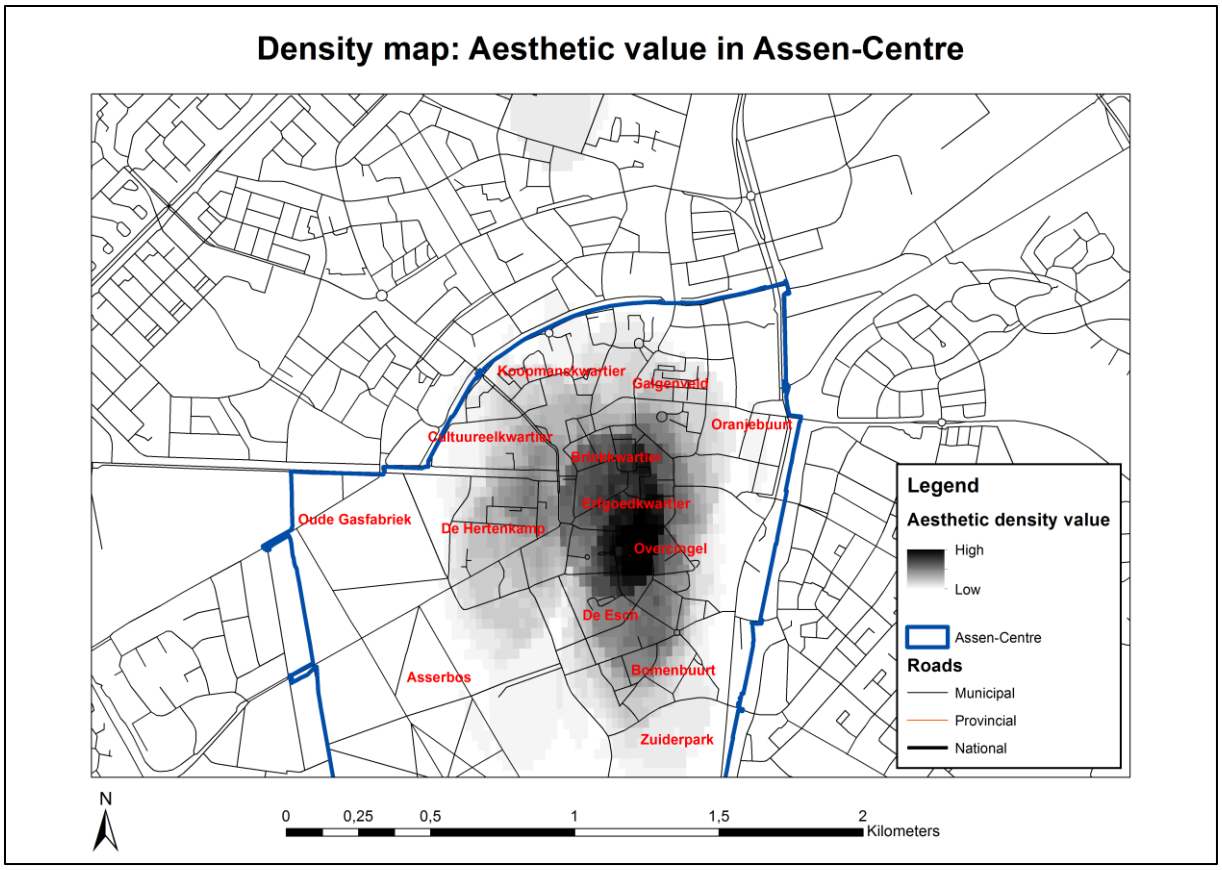


Figure 5. Density map of the aesthetic landscape value in the centre of Assen.

The second interesting value is exhibited in Figure 6, here the density of economic values is highest at Cultureelkwartier and Brinkkwartier. An explanation is that in the Cultureelkwartier a new multifunctional, cultural hall has opened: 'De Nieuwe Kolk' (DNK, 2018). Many respondents expressed a positive attachment to this place; a respondent commented "[the] vibrant cultural heart of Assen" (Table 2, 4:19). In addition, the commercial district is highly valued, with respondents stating that "[t]he area around the museum represents the essence of Assen" (Table 2, 1:4). In regard to the sub-question 'In what context do people value 'special' places in the centre of Assen?' it is apparent that many respondents view places in a social context; socialising gives important meaning to places. Furthermore, in a physical context, multifunctional places like DNK were paramount for the interaction between people. Expectedly, the cultural landscape value appeared in higher density at DNK in Figure 7. With these findings the hypothesis 'The cultural-historical value of buildings contributes the most to place attachment in the centre of Assen' is confirmed, indicating that place attachment is concerned with the cultural value of places mostly in the form of socialising. In addition, the hypothesis 'People value special places in the centre of Assen based on the functionality of those places' is confirmed; generally the function that the places fulfilled drove people's meanings of those places. To illustrate this, respondents mentioned that "[the] [c]ombination of theatre, cinema, library… [] and other facilities is amazing" (Table 3, 4:19). While other respondents added: "[a] nice meeting place" (Table 2, 4:18) or "[a] social meeting place" (Table 2, 2:2).

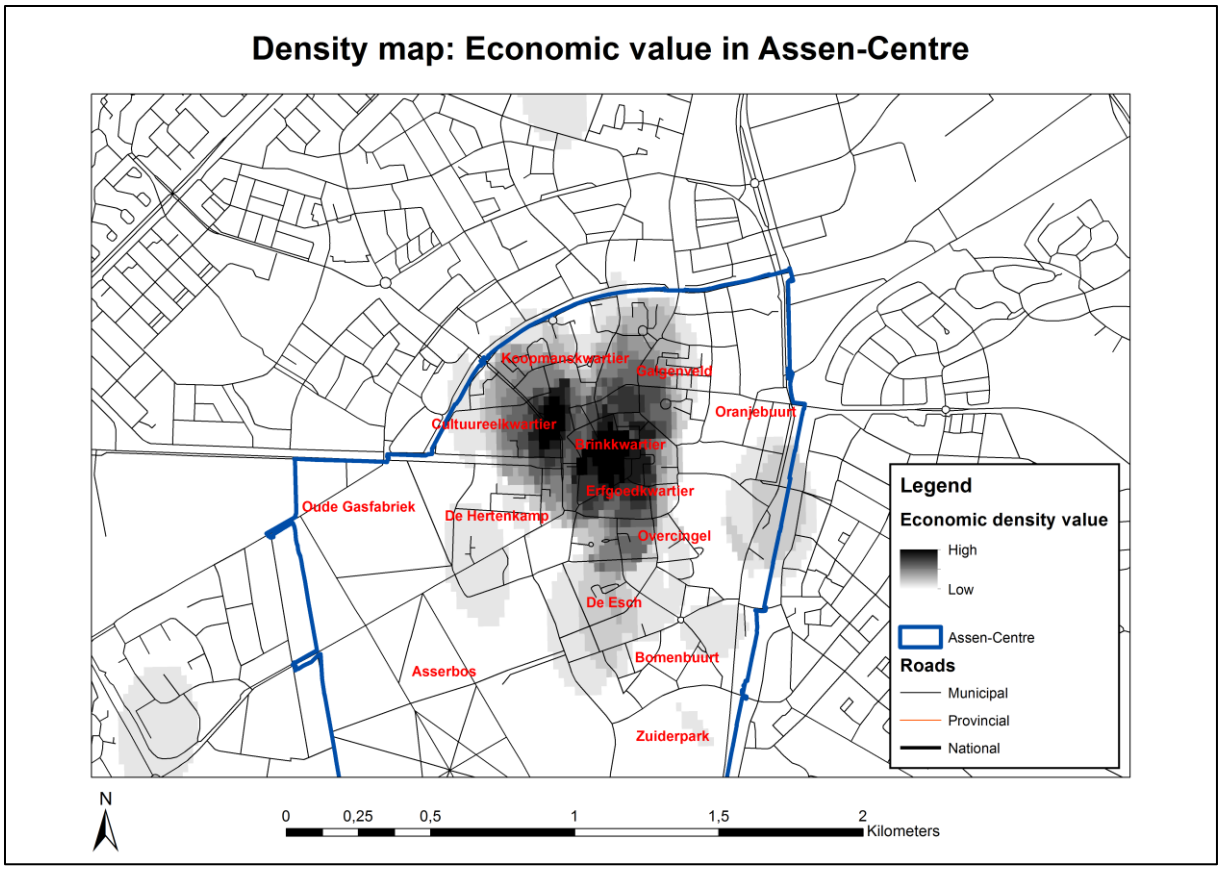


Figure 6. Density map of the economic landscape value in the centre of Assen.

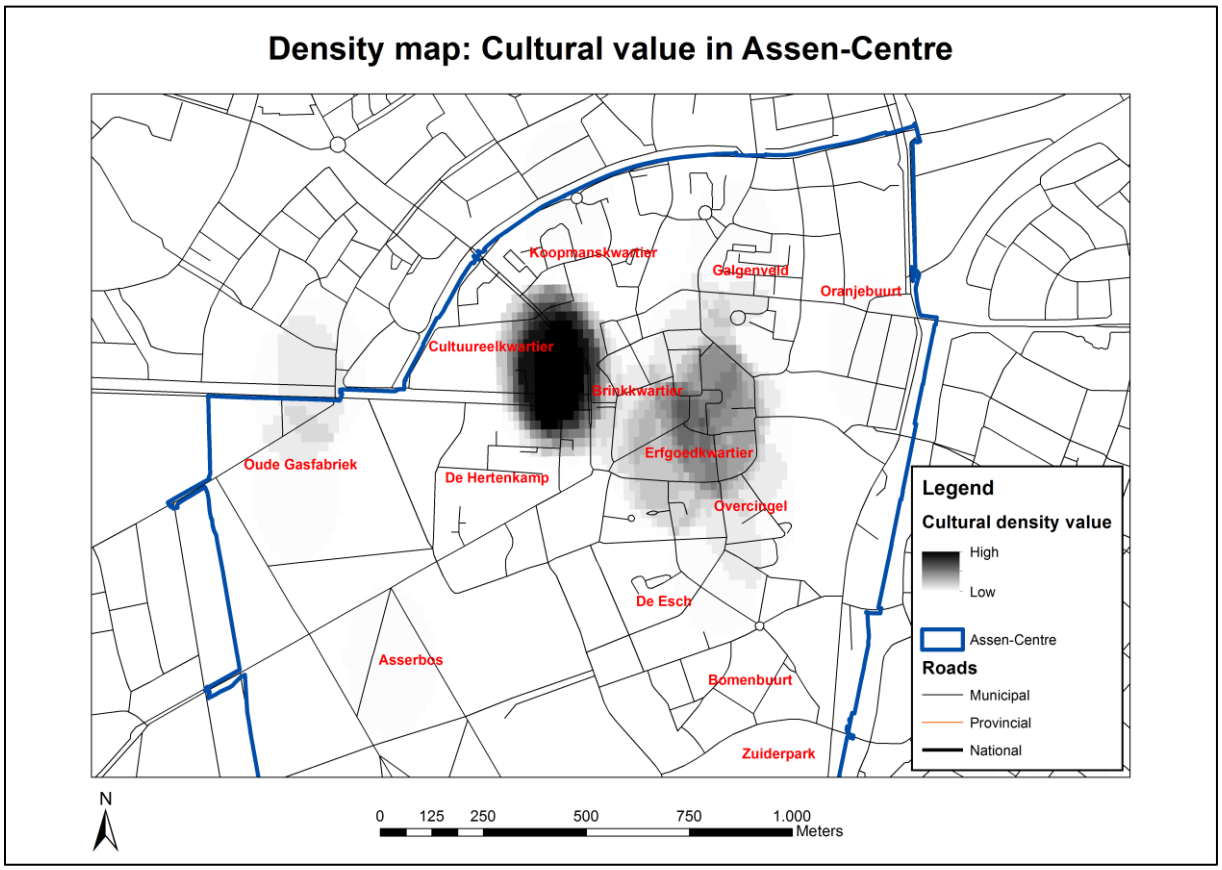


Figure 7. Density map of the cultural landscape value in the centre of Assen.

Finally, in Figure 8 two of the main recreational areas emerge: the Asserbos and the commercial district around Overcingel. These high densities indicate a strong attachment to the recreational sites within Assen. Particularly, the Asserbos holds a long history, and is one of the largest forests within a city in the Netherlands according to the survey (Appendix II). Surprisingly, the Cultureelkwartier does not hold much recreational value, therefore indicating that recreation at the DNK is not the most important value. The recreation value and social context further become clear in Figure 9.

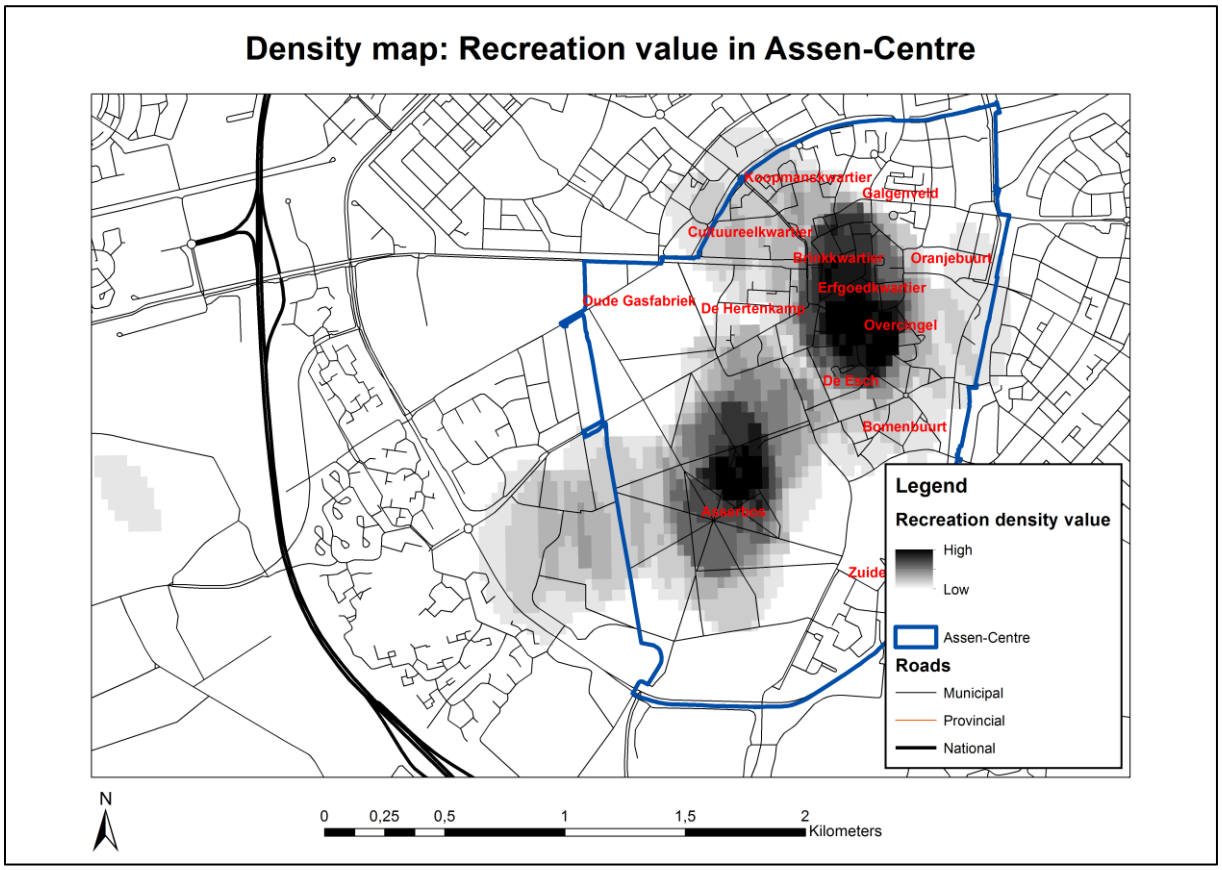


Figure 8. Density map of the recreation landscape value in the centre of Assen.

Following, Figure 9 shows a varied distribution of special places, with the Asserbos (seventeen dots), De Nieuwe Kolk (seven dots) and the commercial district (fifteen dots) being the most consistent. This gives answer to the first sub-question 'Which places in the centre of Assen do people experience as 'special' places?'. The response indicated a strong interest in recreational areas, as the Asserbos allowed leisurely activities; the DNK served as meeting place. Respondents commented that "[the] [A]sserbos[ ]is essential to the daily walk with the dog. Even after vacations to the Alps, we are always happy to take a stroll [through the Asserbos]" (Table 2, 2:4). Its proximity to the city gives it a special meaning for most respondents: "Large acreage, [surprising] that such a beautiful forest [exists] in the middle of the city" (Table 2, 1:3). Other respondents recalled that "[such an] old forest with this size and context often cannot be found in [the] centre of a city" (Table 3, 4:6). Likewise, the DNK was highly valued, which is displayed by the cluster in the Cultureelkwartier. Respondents remarked often visiting the DNK. One respondent said: "[…] a beautiful meeting place[,] where I and [my] comrades can enjoy a drink…" (Table 2, 1:24). Overall, the use of the DNK exceeds its basic function; many respondents experience place attachment because there is room for social meetings.

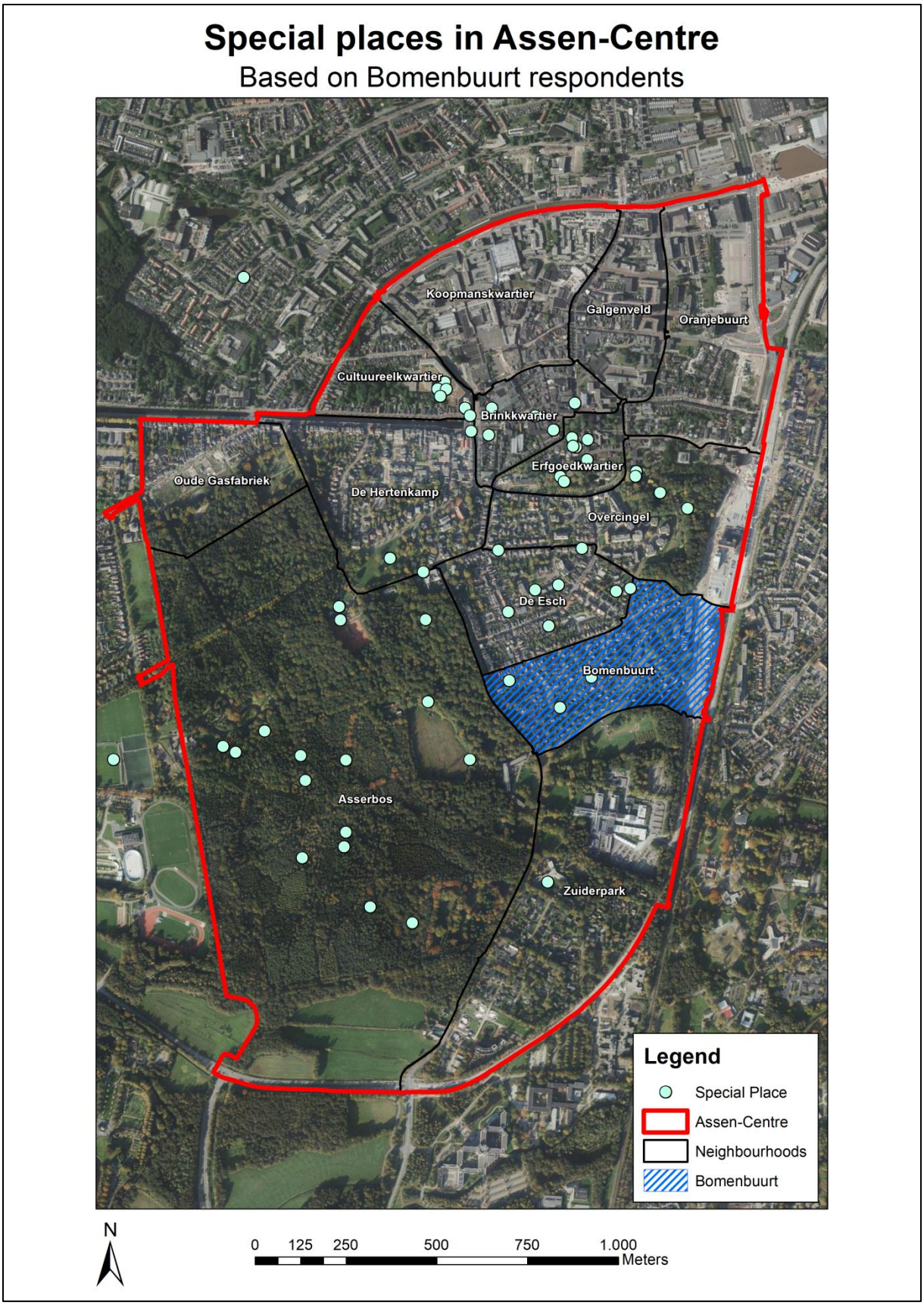


Figure 9. Distribution of special places in Assen-Centre, based on Bomenbuurt respondents.

Finally, in answering ‘Which physical characteristics of the built environment contribute to the valuation of ‘special’ places in Assen?’ the proximity appears as the main physical characteristic. Some respondents noted that their special places should be reachable on foot, like the Asserbos “because of [its] large natural acreage close to the centre” (Table 2, 1:11) and the commercial district because of the “[b]iking distance; direct vicinity” (Table 3, 1:27). Still, the hypothesis ‘Place attachment in the centre of Assen is influenced by the social interaction between people regardless of the physical aspects of the meeting places’ is plausible; it became evident that the respondents’ place attachment was mostly due to interaction with other people at places like DNK and the commercial district. However, this differs for the Asserbos, here multiple respondents mentioned “[at] this place I can wind down…” (Table 2, 1:17), suggesting a ‘therapeutic value’ as proposed by Brown (2004) in Figure 3. The answer to ‘What is the social collective meaning of ‘special’ places in the centre of Assen?’ then becomes: the collective meaning of special places is that such places provide ground for recreation and socialisation, except for natural places which follow a different collective meaning. In addition, the cultural value of a place positively added to the collective social meaning.

5. Conclusion

Place identity has gained attention in recent years; there is a debate about loss of identity in cities (Escobar, 2001). Still, place remains important to people’s sense of identity and community (Vanclay, 2008), and try to retain their identity. In the Netherlands, demographic shrinkage (Haartsen & Venhorst, 2010) has led to the province of Drenthe facing economic decline (Provincie Drenthe, 2015). Yet, Assen persists as Drenthe’s prominent city; provides understanding of city identities. To understand place identity a focus on place attachment has been adopted from Williams and Vaske (2003). Their two-dimensional conceptualisation viewed place attachment as the development of positive emotional bonds between individuals and environments. This indicated that meanings of place, from these bonds, influence place attachment (Knez & Eliasson, 2017). These concepts were tested with the survey; the main research question was ‘How can collective meanings of the built environment in the centre of Assen help spatial planners to understand neighbourhood place attachment?’. Additionally, the research question was supported by four sub-questions.

At first for ‘Which places in the centre of Assen do people experience as ‘special’ places?’, it is apparent that the Asserbos, De Nieuwe Kolk, and the commercial district of Assen, are collectively experienced as special places. Then in answering ‘In what context do people value ‘special’ places in the centre of Assen?’ a social context emerged. People associated a strong place attachment with the special places due to room for socialising. Furthermore, the recreation and cultural value construed stronger place meanings, and mainly enhanced the function of places socially. In regard to ‘Which physical characteristics of the built environment contribute to the valuation of ‘special’ places in Assen?’ proximity appears in the collective meanings of places, as such further research can reveal more on the relation between proximity and place attachment. Still, ‘Place attachment in the centre of Assen is influenced by the social interaction between people regardless of the physical aspects of the meeting places’ is plausible; social interaction at DNK enhanced respondents’ place attachment, however natural places (Asserbos) differed in that there was a therapeutic value, which was not connected to socialising (Brown, 2004). Lastly, the final sub-question is answered, ‘What is the social collective meaning of ‘special’ places in the centre of Assen?’. From the survey it is clear that people formed a collective meaning from a social context, where recreation and socialisation gave important meaning to places. Furthermore, in a physical context, multifunctional places were paramount for the interaction between people.

In light of the theoretical framework, the social aspect of the built environment (Knez & Eliasson, 2017) is indeed most important. The findings showed that the main special places provided ground for socialising, including the cultural and recreational value, similar to Brown and Raymond’s (2007) conclusions. The findings corresponded with Williams and Vaske’s (2003) view on place attachment, where positive emotional bonds between individuals and their environment are developed. It seems that with a collective interest in places (Asserbos) people develop an attachment that lasts even when they are away from home (Table 2, 2:4). Finally, Ryden (1993) argued that places are dependent on the meanings which people assign to landscapes. This is confirmed by the increasing interest in De Nieuwe Kolk; which transcends its original function because of the collective meanings

surrounding it. From a physical perspective, the survey made apparent that multifunctional places stimulate place attachment. The ability to interact through different activities that multi-functionality provides for people is what makes places thrive. However, the effects of such places have received little attention in place attachment. Therefore, a broader scale of place attachment should be used to encompass both the psychological and spatial aspects.

In conclusion to the main research question, collective meanings in the centre of Assen provide a social bond which place attachment can be based on. This social bond is sustained through recreational and cultural areas that allow room for socialising between different groups of people. This indicates that spatial planners should develop neighbourhoods with at least one central hub in mind, where people can engage in activities, and develop or strengthen their social bonds. The thesis further provides evidence that spatial planners should pursue multi-functionality in designing places. Multi-functionality is currently used in planning (De Roo, 2015), however its relation to place attachment has received less attention in research. Furthermore, high-quality greenery, like Asserbos, should be preserved as much as possible, since natural places within the built environment positively affect place attachment.

5.1 Discussion

Although the data were sufficient to provide conclusions, in general the survey only captured some influence of the built environment on place attachment. In future research, physical aspects of the built environment should be predefined based on literature findings. In addition, qualitative research can prove more effective for collective meanings of place. Interviews provide detailed answers at the local scale. The used mixed method could be adopted, but a larger sample size is necessary. Still, there are some relevant discoveries, namely that multi-functionality and proximity of places have a significant effect on place attachment. Further research on the relationship of these factors in the built environment is recommended. In addition, the extent of greenery (i.e. size, quality, proximity) in the built environment should be further explored, and compared to results of studies on place attachment in the natural environment. Lastly, it is recommended that in future mapping of place attachment, social aspects of the built environment are operationalised. Researchers should analyse forms of social interaction: meeting with friends and encountering random people at places; observing other people going to specific places. Such actions could offer more understanding for place attachment in the built environment.

References

Brown, G. (2004). Mapping Spatial Attributes in Survey Research for Natural Resource Management: Methods and Applications. *Society and Natural Resources*, 18(1), 17–39.

Brown, G. & Raymond, C. (2007). The relationship between place attachment and landscape values: Toward mapping place attachment. *Applied Geography*, 27(2), 89–111.

Centraal Bureau voor de Statistiek – CBS (2018). *Wijk- en buurtstatistieken*. Retrieved on March 18, 2018 from https://www.cbs.nl/nl-nl/dossier/nederland-regionaal/wijk-en-buurtstatistieken. Den Haag: Centraal Bureau voor de Statistiek.

Clifford, N., French, S. & Valentine, G. (2010). *Key Methods in Geography*. 2nd Edition. Thousand Oaks: SAGE.

Davenport, M.A. & Anderson, D.H. (2005). Getting From Sense of Place to Place-Based Management: An Interpretive Investigation of Place Meanings and Perceptions of Landscape Change. *Society & Natural Resources: An International Journal*, 18(7), 625–641.

Devine-Wright, P. (2009). Rethinking NIMBYism: The Role of Place Attachment and Place Identity in Explaining Place-protective Action. *Journal of Community & Applied Social Psychology*, 19(6), 426–441.

DNK (2018). *Zekelijk*. Retrieved on May 20, 2018 from https://www.dnk.nl/zakelijk. Assen: DNK.

Escobar, A. (2001). Culture sits in places: reflections on globalism and subaltern strategies of localization. *Political Geography*, 20(2), 139–174.

Gemeente Assen (2017). *Startnotitie Omgevingsvisie: Mijn Stad Assen*. Assen: Gemeente Assen.

Gemeente Assen (2018). *Wijken*. Retrieved on March 14, 2018 from https://www.assen.nl/wonen-en-leven/wijken. Assen: Gemeente Assen.

George, D., & Mallery, M. (2010). *SPSS for Windows Step by Step: A Simple Guide and Reference, 17.0 update*. 10th Edition. Boston: Pearson.

Goss, J. (1993). The "Magic of the Mall": An Analysis of Form, Function, and Meaning in the Contemporary Retail Built Environment. *Annals of the Association of American Geographers*, 83(1), 18–47.

Haartsen, T. & Venhorst, V. (2010). PLANNING FOR DECLINE: ANTICIPATING ON POPULATION DECLINE IN THE NETHERLANDS. *Journal of Economic and Social Geography*, 101(2), 218–227.

Hajer, M. (1999). The Generic City. *Theory, Culture & Society*, 16(4), 137–144.

Hogg, M.A. (2016). Social Identity Theory. In McKeown, S., Haji, R. & Ferguson, N. (Red.), *Understanding Peace and Conflict Through Social Identity Theory* (pp. 3–17). Switzerland: Springer International Publishing.

Jorgensen, B.S. & Stedman, R.C. (2001). Sense of place as an attitude: lakeshore owners attitudes toward their properties. *Journal of Environmental Psychology*, 21(3), 233–248.

Knez, I. & Eliasson, I. (2017). Relationships between Personal and Collective Place Identity and Well-Being in Mountain Communities. *Frontiers in Psychology*, 8, 79.

Lawrence, D.L. & Low, S.M. (1990). The Built Environment and Spatial Form. *Annual Review of Anthropology*, 19, 453–505.

Lenth, R.V. (2001). Some Practical Guidelines for Effective Sample Size Determination. *The American Statistician*, 55(3), 187-193.

Main, K. & Sandoval, G.F. (2014). Placemaking in a translocal receiving community: The relevance of place to identity and agency. *Urban Studies*, 52(1), 71–86.

Majolée, M., Bak, R., Kaai, J. & Zimmer, H. (2015). *Visie aantrekkelijke binnenstad Assen 2025*. Report MKB. Assen: Gemeente Assen.

Owen, N., Bourdeaudhuij, I. de, Sugiyama, T., Leslie, E., Cerin, E., Dyck, D. van & Bauman, A. (2010). Bicycle Use for Transport in an Australian and a Belgian City: Associations with Built-Environment Attributes. *Journal of Urban Health*, 87(2), 189–198.

Pasquinelli, C. (2010). The limits of place branding for local development: The case of Tuscany and the Arnovalley brand. *Local Economy*, 25(7), 558–572.

Pronvincie Drenthe (2015). *Bevolkingsprognose 2015-2040*. Report RO15042801, Provincie Drenthe, Assen.

Proshansky, H.M., Fabian, A.K. & Kaminoff, R. (1983). Place-identity: Physical world socialization of the self. *Journal of Environmental Psychology*, 3(1), 57–83.

Rijksdienst voor Cultureel Erfgoed - RCE (2018). *Overcingel – Complexnummer: 408907*. Retrieved on May 20, 2018 from https://cultureelerfgoed.nl/overcingel. Amersfoort: Rijksdienst voor Cultureel Erfgoed.

Rijksoverheid (2014). *Oorzaken en gevolgen bevolkingskrimp*. Retrieved on April 7, 2018 from https://www.rijksoverheid.nl/onderwerpen/bevolkingskrimp/oorzaken-en-gevolgen-bevolkingskrimp. Den Haag: Ministerie van Binnenlandse Zaken en Koninkrijksrelaties.

Rijksoverheid (2018). *Indeling gemeenten krimpregio's en anticipeerregio's per 1 januari 2018*. Ministerie van Binnenlandse Zaken en Koninkrijksrelaties.

Roo, G. de (2015). *Abstracties van Planning*. Groningen: InPlanning.

Ryden, K.C. (1993). *Mapping the Invisible Landscape: Folk-lore, Writing, and the Sense of Place*. Iowa City: University of Iowa Press.

Schreyer, R., Jacob, G., & White, R. (1981). Environmental meaning as a determinant of spatial behaviour in recreation. *Proceedings Applied Geography Conference*, 4, 294–300.

Shamai, S. (1991). Sense of place: an empirical measurement. *Geoforum*, 22(3), 347–358.

Stedman, R.C. (2003). Is It Really Just a Social Construction?: The Contribution of the Physical Environment to Sense of Place. *Society & Natural Resources*, 16(8), 671–685.

Talen, E. (2000). Bottom-up GIS: A New Tool for Individual and Group Expression in Participatory Planning. *Journal of the American Planning Association*, 66(3), 279–294.

Tuan, Y.F. (1979). Space and Place: Humanistic Perspective. In Gale, S. & Olsson, G. (Red.), *Philosophy in Geography* (pp. 387–427). Dordrecht: Springer.

Vanclay, F. (2008). Place matters. In Vanclay, F., Higgins, M. & Blackshaw, A. (Red.), *Making sense of place : exploring concepts and expressions of place through different senses and lenses* (pp. 3-11). National Museum of Australia Press.

Verwest, F. (2011). *Demographic decline and local government strategies : a study of policy change in the Netherlands*. Delft: Eburon.

Williams, D.R. & Vaske, J.J. (2003). The Measurement of Place Attachment: Validity and Generalizability of a Psychometric Approach. *Forest Science*, 49(6), 830–840.

Wolsink, M. (2007). Planning of renewables schemes: Deliberative and fair decision-making on landscape issues instead of reproachful accusations of non-cooperation. *Energy Policy*, 35(5), 2692–2704.

Appendices

Appendix I – Questionnaire 'Place attachment in Assen'

What is your gender?

- Male
- Female

What is your age?

……
…….

What is the highest education level that you have achieved?

- Less than middle school
- Middle school (high school)
- MBO
- HBO
- University bachelor
- University master

Are you employed?

- Yes
- No

What is your median household income per year? (Give an estimated value)

……
…….

How long have you lived in Assen?(Only give the time of your current residing)

……
…….

What was the most important reason for you to reside in Assen? (Elaborate)

……
……..……
……..……
……
……..……
…….

Could you say that you feel bonded with Assen? If so, what is this bond comprised of? (Think about whether it is an economic or social bond)

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……..……
……
……..……
…….

Assign the following points to places on the map that match the given values.

There are a total of eight landscape values; they are defined as values that motivate your choice on a varied basis. For example the 'Aesthetic value' is concerned with the architecture and infrastructure of the selected area. You may only assign a maximum of 100 points per value. Try to divide the points between certain areas in your neighbourhood (and the surrounding areas), think about why certain aspects of the neighbourhood add to your attachment to it. How important are these areas? Each value has to be assigned a minimum of 5 points.

Repeat the following steps for each value.

Step 1: Think of a place in or around your neighbourhood that matches any of the values.

Step 2: Choose the appropriate amount of points to express the importance of that place.

Step 3: Place the points on the map.

50 points	**20 points**	**10 points**	**10 points**	**5 points**	**5 points**	**Assen-centre values**
50a	20a	10a	10a	5a	5a	*Aesthetic value*: I value these areas for the architecture.
50i	20i	10i	10i	5i	5i	*Accessibility value*: I value these areas for their infrastructural accessibility and openness.
50e	20e	10e	10e	5e	5e	*Economic value*: I value these areas because they provide economic, commercial, and/or entrepreneurial opportunities (tourism, shopping; work).
50r	20r	10r	10r	5r	5r	*Recreation value*: I value these areas because they provide places for leisurely activities and relaxation (sports, pubs, social meeting places).
50s	20s	10s	10s	5s	5s	*Subsistence value*: I value these areas because they provide food supplies and materials necessary for human life (supermarkets, restaurants, take-out joints)
50h	20h	10h	10h	5h	5h	*Historic value*: I value these areas because they are places that carry parts of the city's history (monuments, musea)
50c	20c	10c	10c	5c	5c	*Cultural value*: I value these areas because people can enact traditions, pass down knowledge and a way of life (community centres for example).
50t	20t	10t	10t	5t	5t	*Spiritual value*: I value these places because they are sacred, religious, or spiritually special to me.
Special places						
P1 ●	P2 ●	P3 ●	P4 ●	P5 ●	P6 ●	Use these dots to select up to six places that have an important meaning to you (select a minimum of one). These are places that you personally feel most attached to, and without them your neighbourhood would not be the same. Give a reason for your choice(s).

Table 1. Point allocation for the values of Assen-centre, and explanation of special places (Brown, 2004).

Why is this place special? Think about why this place appeals to you.

P1:

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P2:

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P3:

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P4:

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P5:

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P6:

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Is this place unique to Assen? If so, in what way?

P1:

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P2:

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P3:

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P4:

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P5:

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P6:

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Digital version: https://app.maptionnaire.com/nl/4210

Appendix II – Questionnaire response for special places

The tables found here serve as support of the thesis, namely sections 2 to 4. The highlights mark text of important nature associated with the special places in Figure 9. The non-marked text indicates answers that were not specific enough or too broad to use for answering the main research question. On a different note, the date in Table 2 and Table 3 are unaltered and in their raw form; in doing so the authenticity of the response has been spared.

Legend	**Number of reponses**
Asserbos	(21)
Commercial district Assen	(11)
De Nieuwe Kolk	(10)
Architecture	(7)
Sportcentre	(6)
Playground and park Bommenbuurt	(6)

Referencing tables in the text
Citation references in the text indicate the column and the row of the cited table. For example ‘Table 2, 4:19’ is equivalent to Table 2, column ‘P4a’, row 19 starting from the cell directly under ‘P4a’.

Special places and their description					
P1a	**P2a**	**P3a**	**P4a**	**P5a**	**P6a**
Rust,grote ,breikbaarheid					
Wonen	Sociale ontmoetingsplek				
Groot goed, dat er zo' n mooi bos midden in e stad is.	Heerlijke plek om te relaxen, sporten, en mensen te ontmoeten				
Het gebied rond het museum vertegenwoordigt de essentie van de stad Assen. Informele historie, groen en aantrekkelijke omgeving.	Het asserbosnis essentieel voor de dagelijkse wandeling met de hond. Zelfs na vakanties in de Alpen zijn we altijd Weer blij hier te mogen wandelen.				
Recreatie mogelijkheden					
Deze mooie groene wijk met oude huizen.	Bibliotheek en theater en bioscoop	Sportvoorzieningen	Natuur bos in de stad heerlijk wandelen en onthaaste		
Mijn kinderen spelen hier graag.					
Sportcomplex					
Wonen; spin in het web					
Asserbos: uniek natuurgebied vlak bij centrum Assen	Nieuwe kolk: gevarieerd cultuuraanbod				
Woonlocatie	Stadcentru	Natuur	Natuur		
Asserbos, heel waardevol voor alle bewoners	Centrum . Mooi oud, kleine kern.	DNK. Prachtig multi culturee	Overgingel. Waardevol stuk natuur en monument in Assen		
Het is een mooi, modern en historisch museum.					
Veel tijd door gebracht met de kinderen en veel gesport.	Centrale speelplaats in de wijk.	Stuk straat waar de meeste buurtcontacten zijn.			
Het is een heerlijke plek om te wandelen.					
Op deze plek kan ik tot rust komen. Er is veel natuur en er zijn verschillende diersoorten.					
Mooie woonwijk	Beeldbepalend park	Mooie plekken	Mooieontmoetingsplaats		Groot bos in midden stad.

Tennispark, prachtig beschut gelegen, veel tijd doorgebracht in mijn jeugd	Asserbos, uniek zo dicht bij	Landgoed Overcingel - beauty in de binnenstad	Theater De Kolk - bruisend cultureel hart van Assen	Prachtige fietspaden o.a. naar Kampsheide	
Woongenot, vlak bij centrum.					
De Nieuwe Kolk. Dit is een mooie ontmoetingsplek waar ik met kameraden een drankje neem. Ook is daar een prachtig theater.	Sportpark Stadsbroek. Mijn kleinkinderen voetballen daar en dan kan ik leuk meekijken.				
Eigen huis in jaren 30 straat. Rust, ruimte en veiligheid. Uitstraling van de buurt met architectuur,karakteristieke wijk.					
Bereikbaarheid winkels, station, bar, kroeg	Rustige wijk, onder architectuur gebouwde huize				
Cultuur historie	Thuis en Asserbosch				
Mooi park, vaak bloeiende planten, rust en ontmoetingspunt	Lekker eten kopen kan op de markt				
Plezierige groen gebied in centrum dat ikdoorkruis bij mijn wandeling naar het centrum					
Mooie panden, groene, ruime omgeving. Bijzondere bouwstijlen	Oud midden van de stad, museum, gebouwen, ruimte en ontspanning	Oud landgoed, opengesteld voor publiek. Midden in de stad.			

Table 2. Special places and their description.

Arguments for special places and their uniqueness					
P1b	**P2b**	**P3b**	**P4b**	**P5b**	**P6b**
Authentieke vorm					
Mooie plek, prettige woonomgevin	Genoeg recreatie en gezelligheid				
Historisch mooie centrale plek	Rust, ruimte en natuur in één.				
De ligging in het centrum					
Ja bouwstijl van de huize	Ja veel dingen in 1 mooi centraal en nieuwe archtectuur	Sportvoorzieningen die voor iedereen toegankelijk zijn zijn belangrijk. Jammer dat de ijsbaan nu ontbreekt	Dit oude bos in deze vorm en grootte vindt je niet vaak in een centrum van een stad		
Ja. Gelegen in onze wijk, een mooi grasveld, rondom bomen en struiken.					
Persoonlijke binding					
Ja, vanwege grote oppervlakte natuur dichtbij stadscentru	Nee, andere steden hebben ook mooie theaters				
Wone			Ruimte en ontspannin		
Sterrebos, ook in Groningen maar veel mooier en Groter	Kleine oude kern met mooie historie en panden	DNK architectuur aan de Vaart	Midden in destad een rustpunt		
Ja, een provinciehoofdstad moet een gedegen museum hebben, centraal gelegen en van deze tijd.					
Ja. Historie van het bos.	Nee.	Ja, vanwege de bewoners en de sfeer.			
Ja, want in 1800 heeft een rijke man het overgenomen van het klooster, daarmee is het Asserbos erg oud.					
Ja, in andere steden zijn bossen zoals het Asserbos er niet. Vaak ook minder groot.					

Ja	Mooi maar niet uniek				Ja, nergens zo'n groot bos in het centrum
Jazeker vanwege ligging	Ook het bos is vrij uniek, met woonwijken eromheen gebouwd	Jammer dat er nog zo weinig van het Landgoed over is, 'opgesnoept' door de vooruitgang...	Combinatie theater, bios, bibliotheek, fietsenstalling, kunst expo en andere faciliteiten is geweldig	Ja de vele uitvalswegen naar omliggende natuurgebieden is uniek	
Wel, het is sinds 2012 geopend en een combinatie van allerlei voorzieningen. Er zit een bioscoop, theater, bibliotheek en nog veel meer in.	Nee				
Ja, cultuurhistorisch. Verder wel gebruik kunnen maken van hedendaagse voorzieningen als trein en supermarkt					
Fietsafstand ,directe omgeving					
Ja. Oase van rust. Helaas denken de junks er hetzelfde over					
Ja, vanwege Naploeon die deze buurt heeft laten bouwen en andere panden zijn daarop geïnspireerd.	Ja, veel steden hebben geen brink meer in ere gehouden.	Ja, veel steden hebben geen landgoederen in het centrum.			

Table 3. Arguments for special places and their uniqueness.

Appendix III – Results: tables

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Gender	31	0	1	,32	,475	,798	,421	-1,462	,821
Age	31	21	83	56,06	14,852	-,067	,421	-,148	,821
Education level	31	1	5	3,74	1,154	-,430	,421	-,688	,821
Employment	31	0	1	,68	,475	-,798	,421	-1,462	,821
Income/h/y	26	24000	100000	57769,23	22654,461	,286	,456	-,434	,887
Residing Assen	29	1	82	25,21	19,947	1,041	,434	,975	,845
Valid N (listwise)	24								

Table 4. Results of SPSS Descriptive Statistics with the skewness and kurtosis test of deviation from normality.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	21	67,7	67,7	67,7
	Female	10	32,3	32,3	100,0
	Total	31	100,0	100,0	

Table 5. Frequency descriptive statistics of the variable 'gender'.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Middle school (high school)	1	3,2	3,2	3,2
	MBO	3	9,7	9,7	12,9
	HBO	10	32,3	32,3	45,2
	University bachelor	6	19,4	19,4	64,5
	University master	11	35,5	35,5	100,0
	Total	31	100,0	100,0	

Table 6. Frequency descriptive statistics of the variable 'education level'.

What was the most important reason for you to reside in Assen?	Percentage of arguments used by respondents (n=31)
Work	52%
Relationship/family	32%
Facilities	19%
Real estate prices	16%
Nature/space	13%
Born in Assen	10%
Convenience	6%
No reason	6%

Table 7. Percentage of arguments for residing in Assen used by respondents (multiple answers per respondent possible).

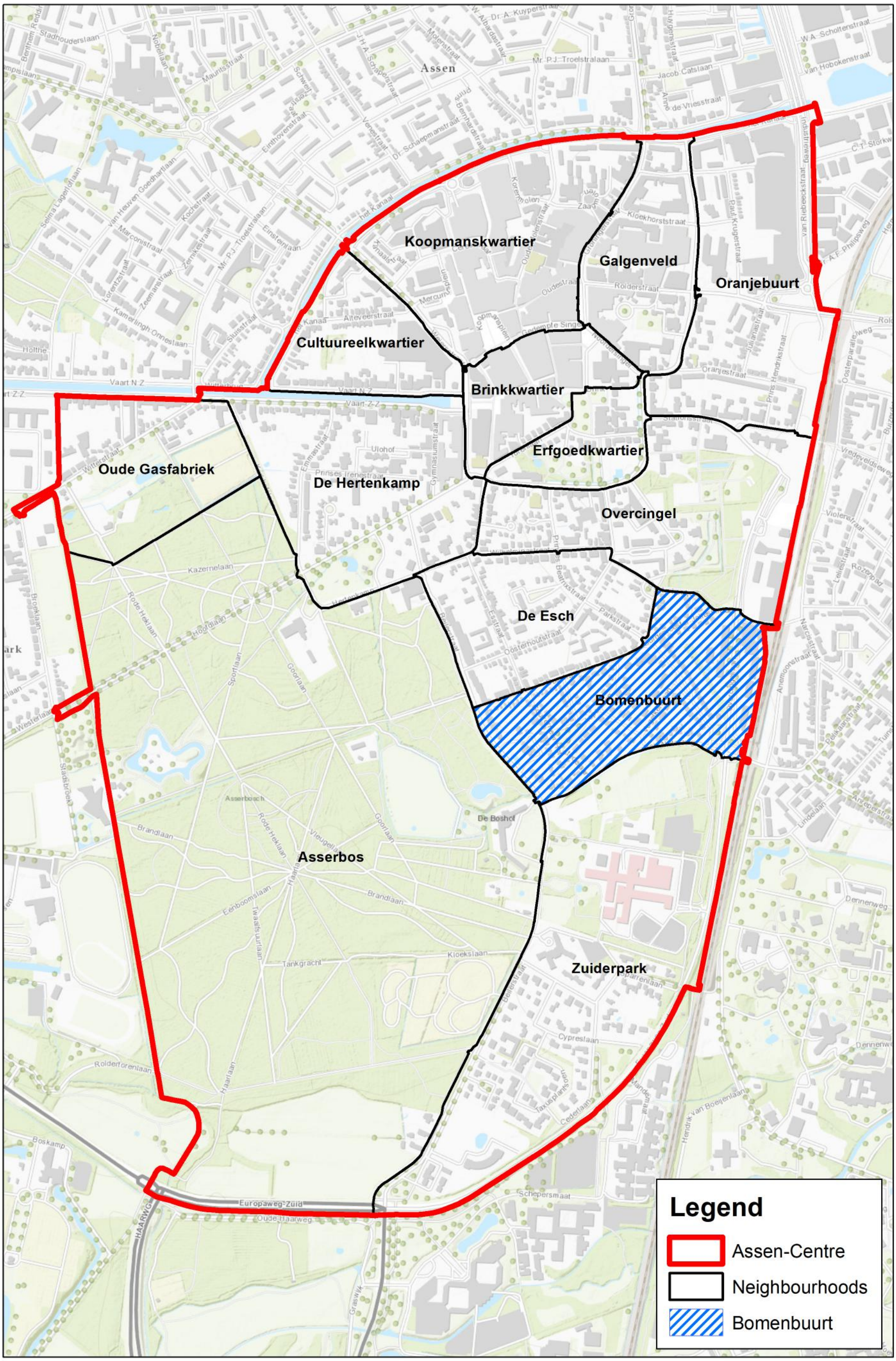
Could you say that you feel bonded with Assen? If so, what is this bond comprised of?	Percentage of arguments used by respondents (n=31)
Social bond (family/friends)	68%
Economic bond (employment/education)	42%
Nature	23%
Accessibility (public transport/biking/walking distance)	6%
No bond	13%

Table 8. Percentage of arguments for attachment to Assen used by respondents (multiple answers per respondent possible).

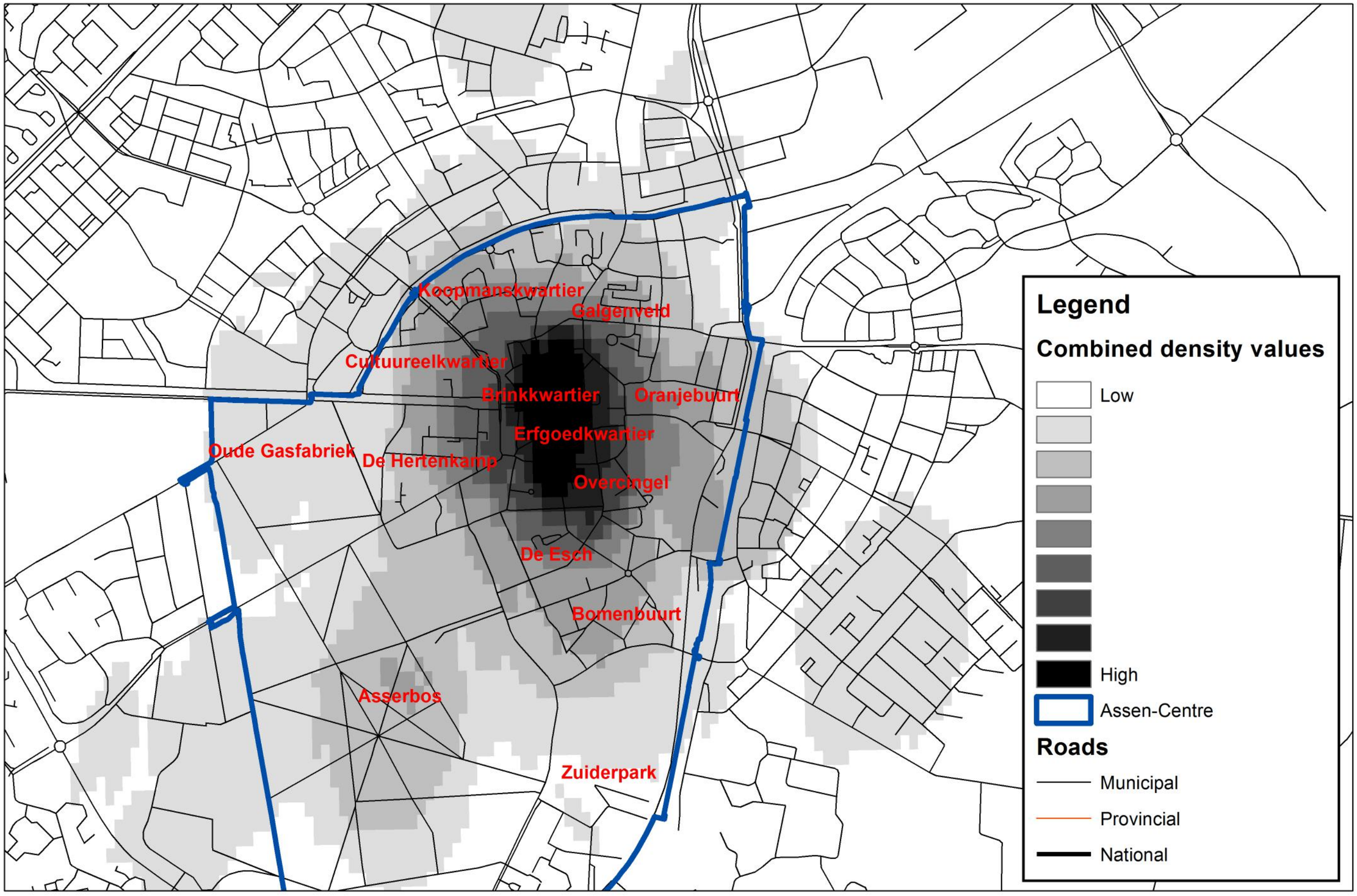
Appendix IV – Maps

1. Central district and neighbourhoods of Assen – 1:8500
2. Density map: Combined landscape values in Assen-Centre – 1:12000
3. Density map: Aesthetic value in Assen-Centre – 1:10000
4. Density map: Economic value in Assen-Centre – 1:10000
5. Density map: Cultural value in Assen-Centre – 1:7000
6. Density map: Recreation value in Assen-Centre – 1:12000
7. Density map: Accessibility value in Assen-Centre – 1:11000
8. Density map: Subsistence value in Assen-Centre – 1:8000
9. Density map: Historic value in Assen-Centre – 1:8000
10. Density map: Spiritual value in Assen-Centre – 1:7000
11. Special places in Assen-Centre: Based on Bomenbuurt respondents – 1:8500

Central district and neighbourhoods of Assen



Density map: Combined landscape values in Assen-Centre

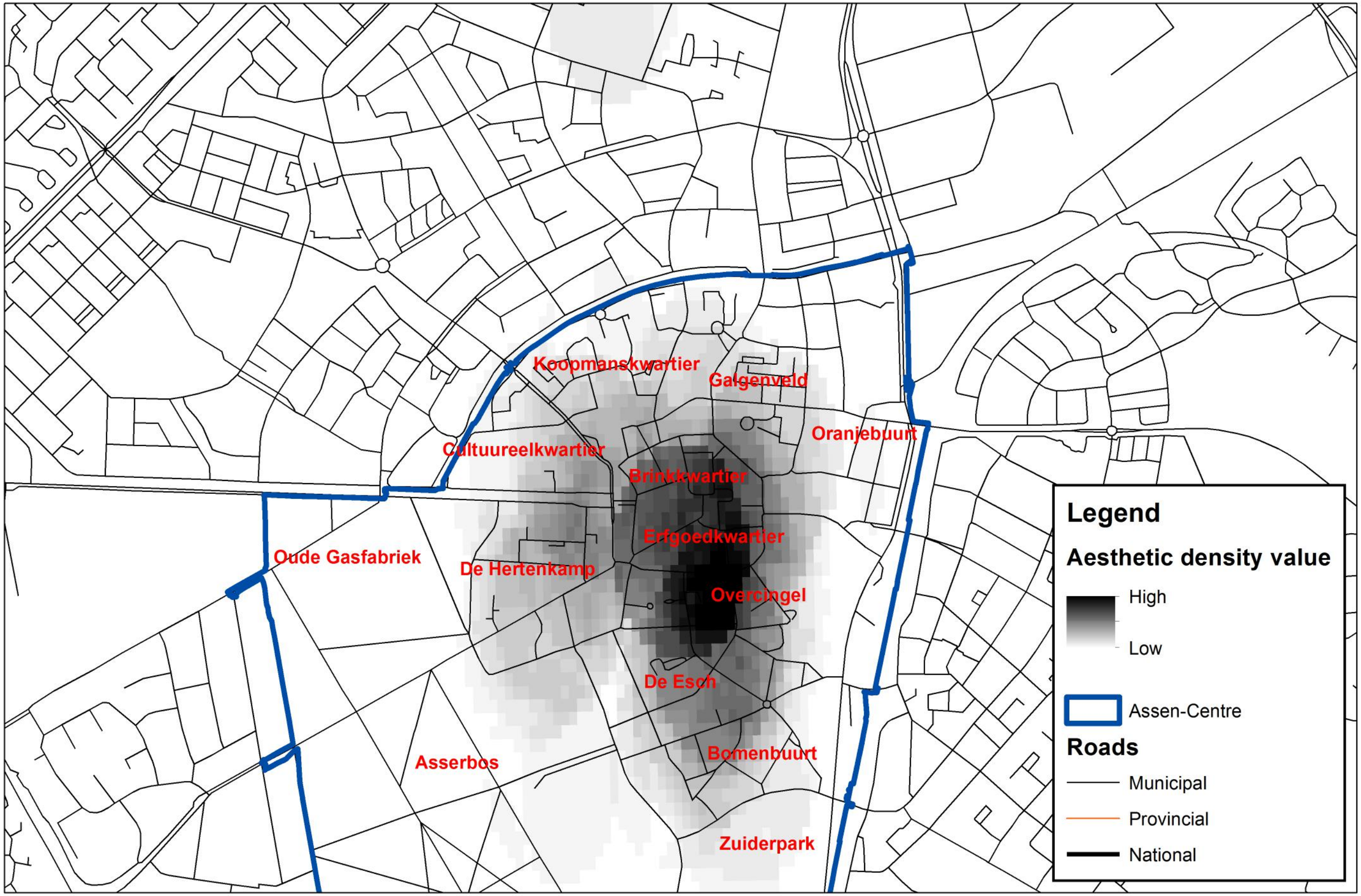


N

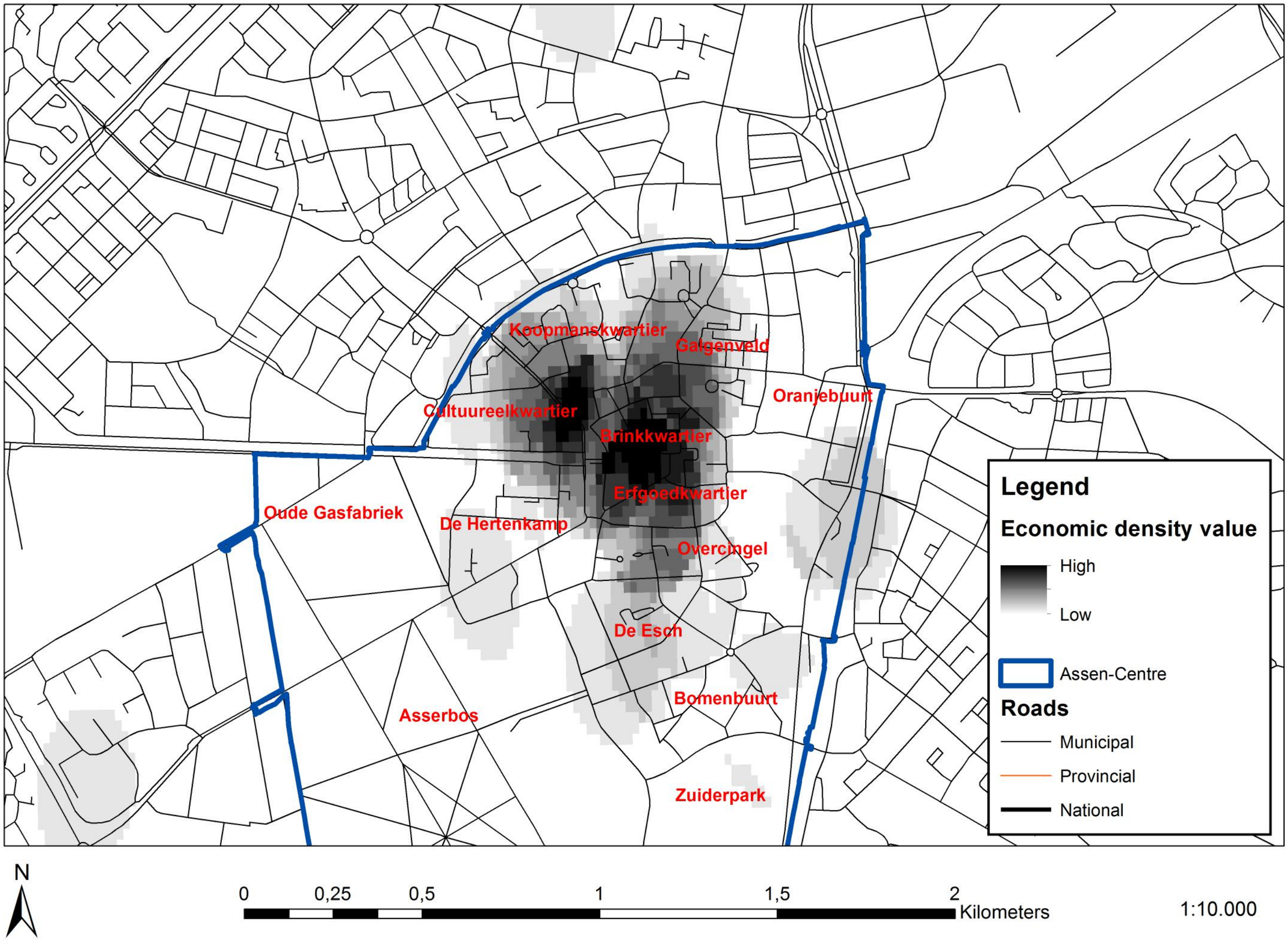
0 0,25 0,5 1 1,5 2 Kilometers

1:12.000

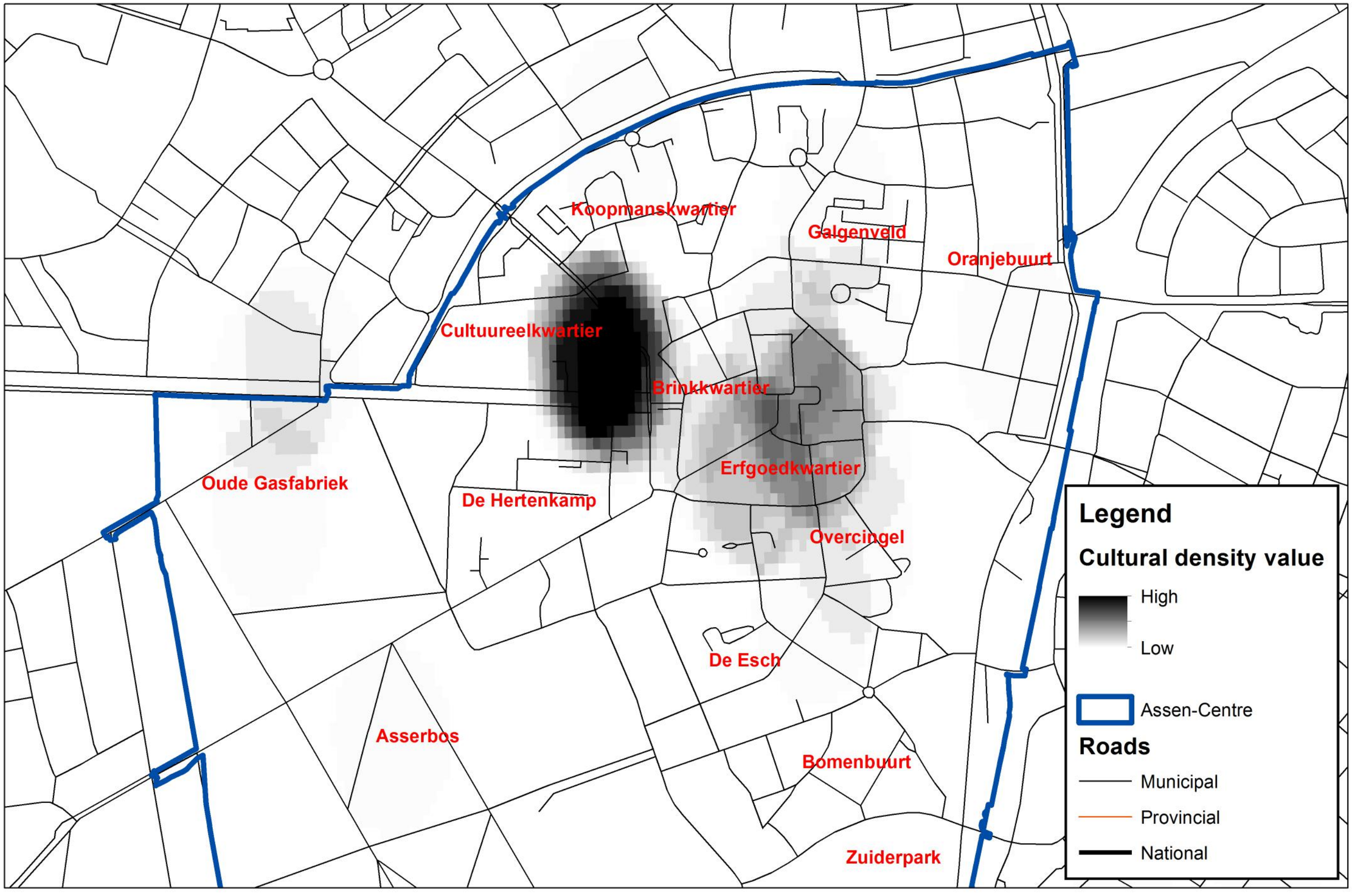
Density map: Aesthetic value in Assen-Centre



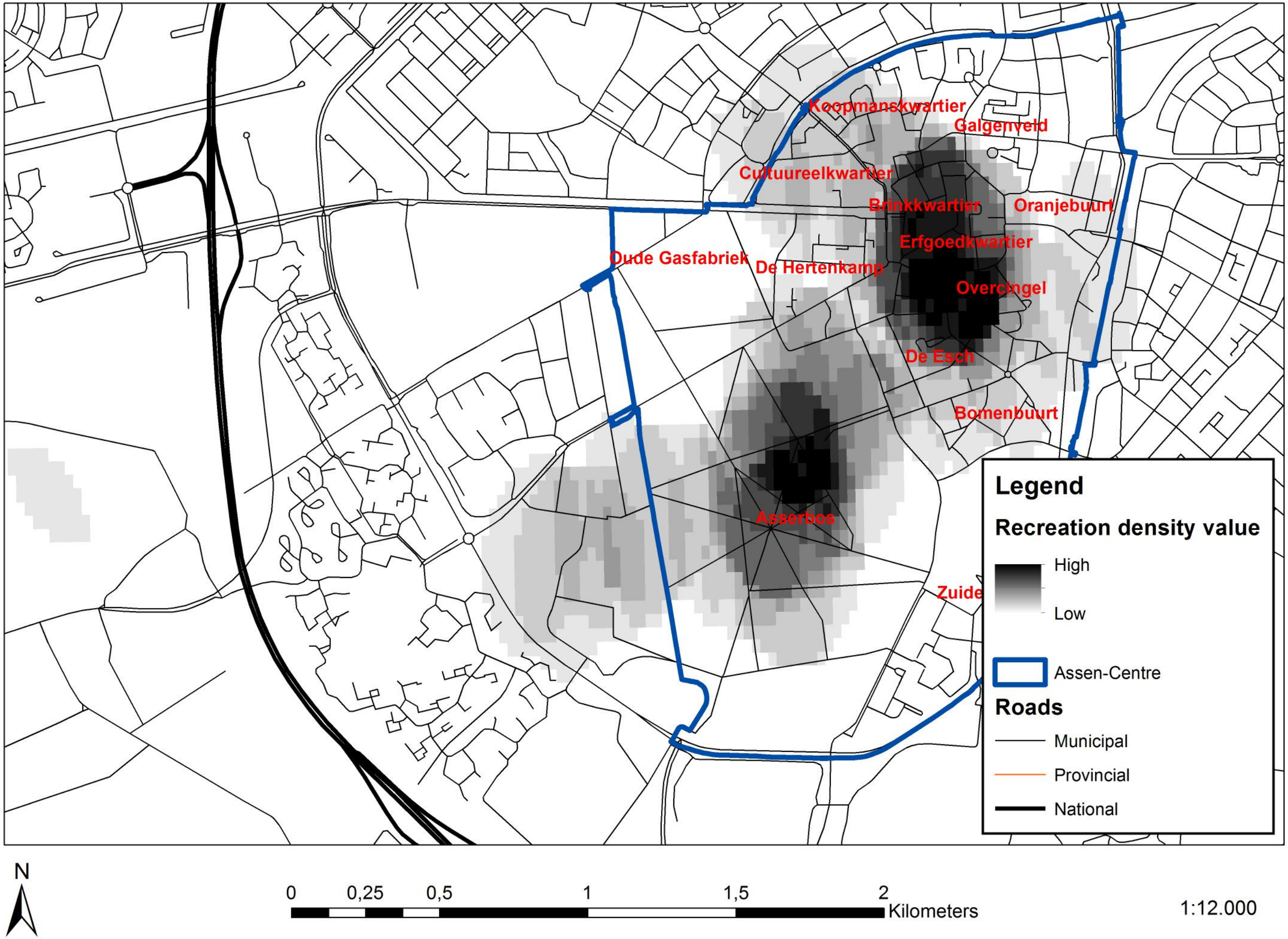
Density map: Economic value in Assen-Centre



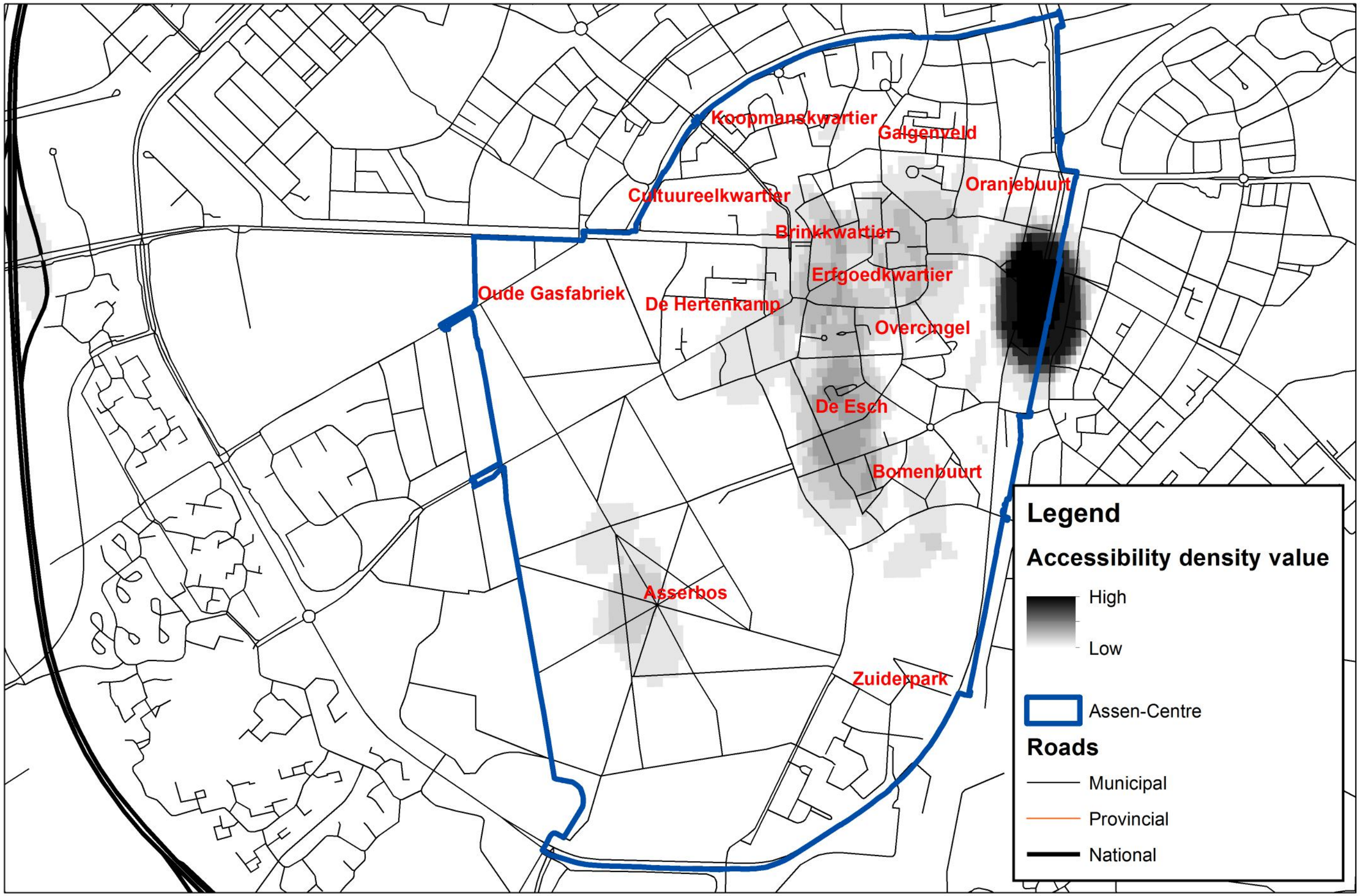
Density map: Cultural value in Assen-Centre



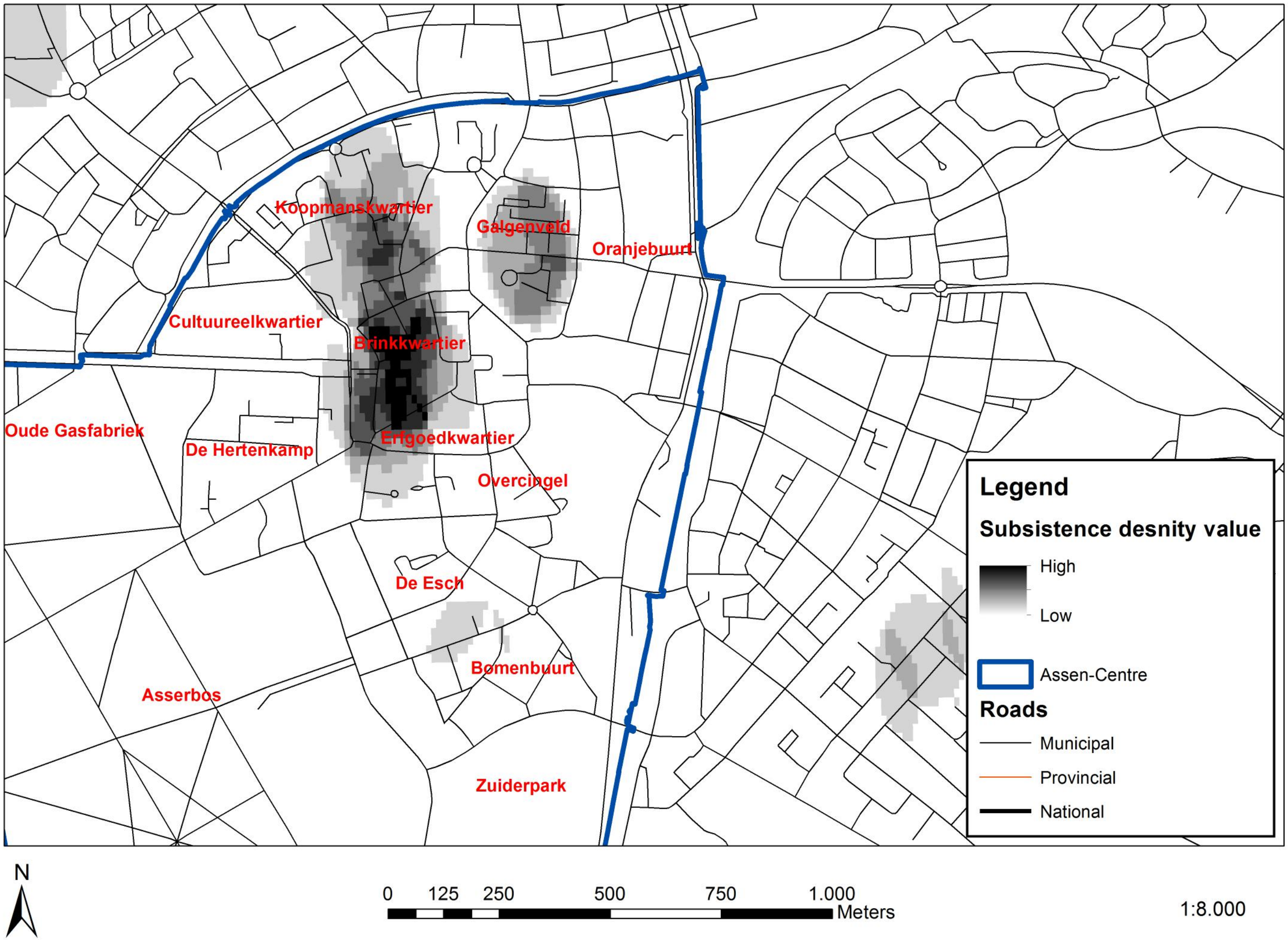
Density map: Recreation value in Assen-Centre



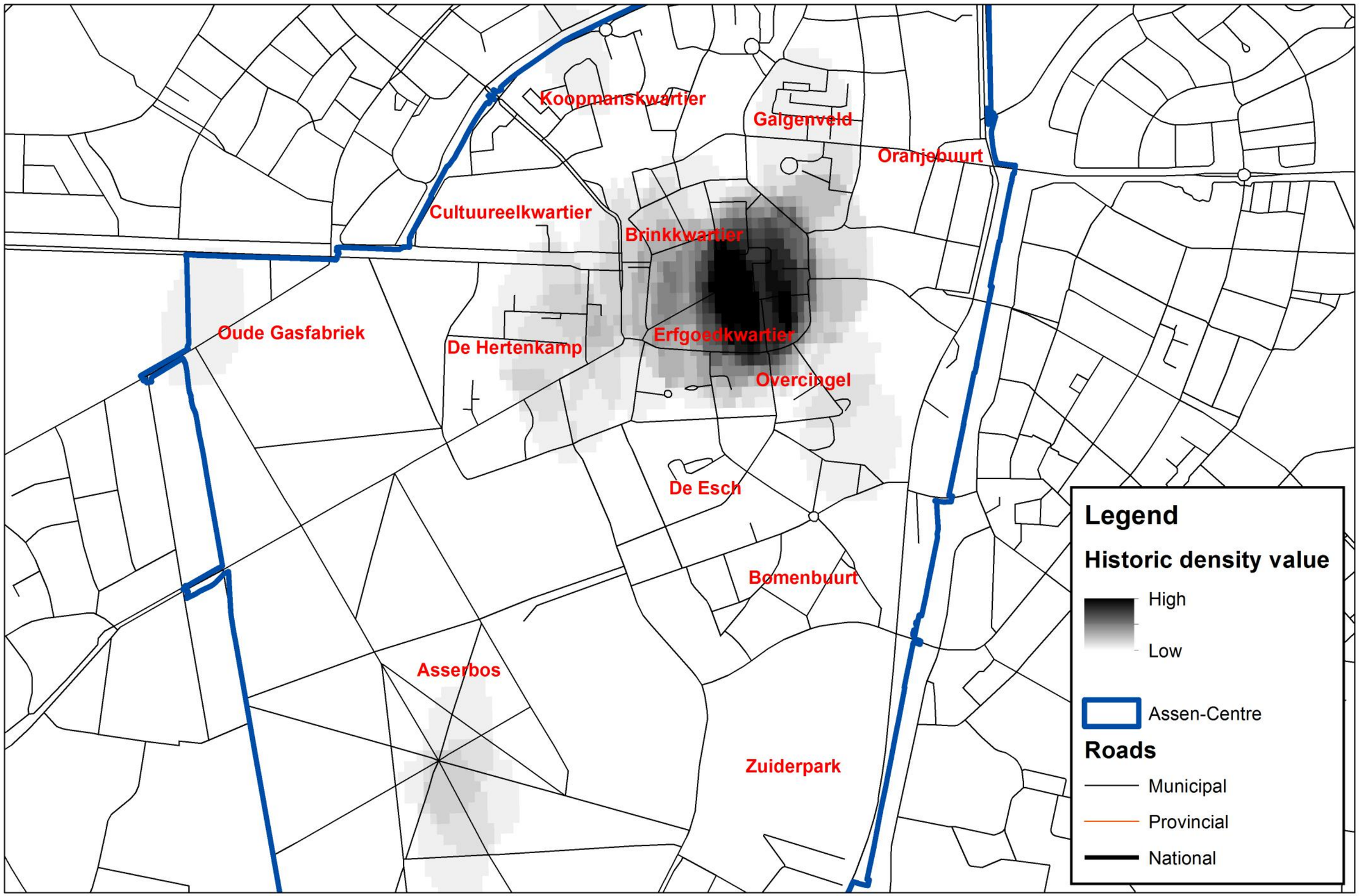
Density map: Accessibility value in Assen-Centre



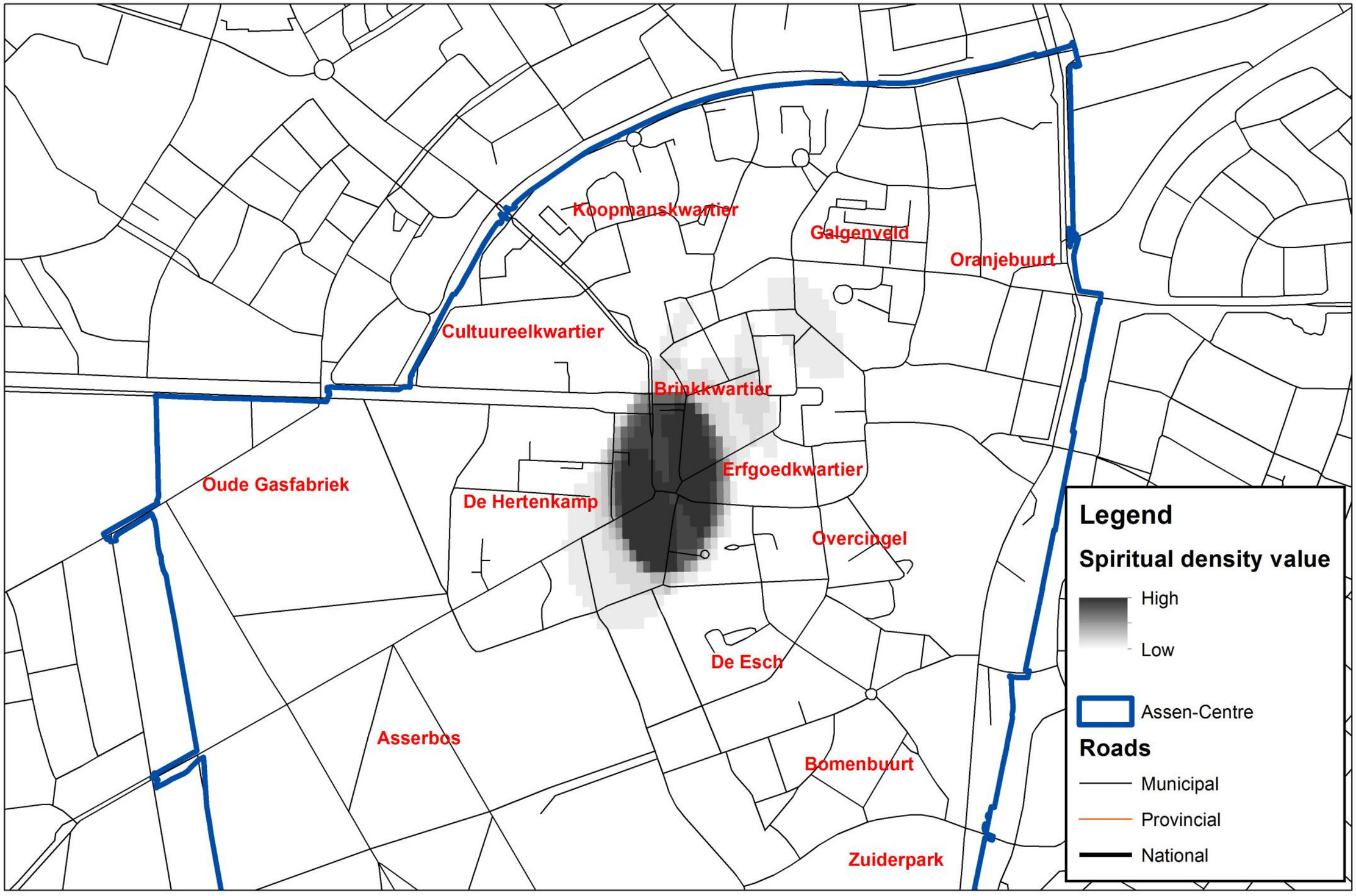
Density map: Subsistence value in Assen-Centre



Density map: Historic value in Assen-Centre



Density map: Spiritual value in Assen-Centre



Special places in Assen-Centre

Based on Bomenbuurt respondents