

Do we prefer **New Urbanist design** to conventional **suburban design**?

Towards a new method of measuring the Quality of Place



Sybren Kooistra, B.Sc.
Radboud University Nijmegen
Master Thesis Urban and Cultural Geography

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Sybren Kooistra

Student number: 0532231

Radboud University Nijmegen

Master Thesis Human Geography

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Supervisor: Dr. Roos Pijpers

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Abstract

In this thesis I test the claim that New Urban design leads to a higher Quality of Life than conventional (American) suburban design. Considering the continuous growth of suburban living in the United States, and in light of the many other claims of improvement, the possibility that New Urban design leads to a higher Quality of Life than conventional suburban design is an interesting and important one. I furthermore note the need for a subjective, non-ambiguous and non-arbitrarily defined measure for the relation between place and Quality of Life. A 'Quality of Place' measure is developed that uses interviews to determine which elements of neighborhood design are relevant, and quantitative analyses to judge and compare the importance of, and satisfaction with these elements, for both a conventional suburban (Orchard) and a New Urban (Kentlands) neighborhood. New Urban design seems to fulfill its promise of improving the Quality of Life, as Kentlands has a significantly higher Quality of Place than Orchard. These results further emphasize the need to review today's planning practices. However, the results are impaired by a low response-rate. The measure of Quality of Place nevertheless proves its merit and it is recommended to use this measure in future research on the relationship between place and Quality of Life.

Keywords: Quality of Life, Quality of Place, Urban Planning, neighborhood satisfaction, New Urbanism

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1 INTRODUCTION

“To enhance the Quality of the day... That is the highest of arts”

– Henry David Thoreau (1854)

Since World War II, most Americans have left the cities to live in the surrounding suburbs. These suburbs have offered the average American a chance to buy their own house, on their own private lot, at a short drive from the city (Bruegmann, 2005, p. 36). Together with owning a car the detached house and the private lot have long been advertised, and perceived by many, as being the material embodiment of the ‘American Dream’ (Kelly, 1993, 21; Hayward, 1996). Considering the fact that about two-thirds of the houses in the United States consist of such detached dwellings on separate lots (Jackson, 2006, p. 14), the ‘suburbanization’ of the United States can be seen as a huge success.

However, this suburban expansion has not been sans critique. Where some portray the suburbs as the materialization of the American dream, others point to its supposed adverse consequences and inferiority to other ways of living. The conventional suburbs would lack a sense of community (Kim & Kaplan, 2004), would be bad for health (Jackson 2003), would be depressing, boring and ugly (Kunstler, 1993) and would not (or no longer) be in line with the housing preferences of many Americans (Benfield, 2011; Ewing, 1997). In relationship to the environment, the suburbs are seen as a major contributor to global warming and the destruction of natural habitats (Meredith, 2003, p. 455; Myers & Kitsuse, p. 8). In relationship to society, the suburbs are seen by some to have enhanced social segregation (Jackson, 1985, Meredith, 2003), to lead to excessive conformity to prevailing norms (Jackson, 1985) and to be economically inefficient (Ewing, 1997). The list – although often lacking convincing empirical evidence - goes on and on.

In the 1980s a group of architects and urban planners came up with an alternative that is supposed to cure many of the above-mentioned ills of conventional suburban development. This (prominent) alternative goes by the name ‘New Urbanism’ or ‘Neo-traditional development’. Where conventional suburban development is characterized by homogeneous low-density, auto-dependent housing subdivisions with little to no public amenities, the New Urban development is one of heterogeneous high-density, walkable neighborhoods that include parks, shops, offices and services (Duany, Plater-Zyberk & Speck, 2000; Kim & Kaplan, 2004; Meredith, 2003). Not only do the protagonists of New Urbanism claim that this design would cure many of the ills of conventional suburban development, one of their main (and as of yet untested) claims is that living in such neighborhoods would lead to a ‘higher Quality of Life’ (Duany, 2003).

The theorem that New Urban design leads to a higher Quality of Life for its inhabitants than conventional suburban design, has as of yet not been researched. It is, however, a very interesting, and quite important, claim: a large part of our lives revolve in and around our house and neighborhood, and it is safe to say that we are all trying to lead a pleasurable life. New suburban neighborhoods are built every day, but what type of design – conventional or New Urban - is really best in improving the Quality of Life? At the moment we lack an answer and in this research I aim to fill this knowledge gap.

In order to reach this goal a measure of Quality of Life resulting from neighborhood design – ‘Quality of Place’ – has to be used. However, an acceptable measure is not readily available. Research on the relationship between Quality of Life and neighborhood design has to do with problems of methodological arbitrariness and the ambiguity of concepts. Therefore the first goal of this research will be to create and define a suitable measure of ‘Quality of Place’ which conquers the arbitrariness of most other measures and can do the job of comparing the Quality of Place in a New Urban and a conventional suburban neighborhood. My definition of a Quality of Place is operationalized as the manner in which people are satisfied with what they (individually, subjectively) consider important in neighborhood design.

[2]

└ The mission

The objectives of this research are thus twofold: developing a measure of the Quality of Place and compare New Urban and conventional suburban development to one another with this measure. This will enable me to evaluate if New Urban design leads to a higher Quality of Place than conventional suburban design. This, in turn, shall give us insight in to what type of neighborhood design leads to a higher Quality of Life.

This leads to the following research questions:

Is the Quality of Place of New Urban design higher than that of conventional suburban design?

- a) *What is the design of New Urban and conventional suburban neighborhoods?*
- b) *What is a non-ambiguous, non-arbitrary and precise measure of the Quality of Place?*
- c) *What is the Quality of Place of a New Urban and conventional suburban neighborhood?*

Scientific relevance

Seeking to understand the nature of the person-environment relationship is the quintessential geographical question that lies at the heart of social geography. Examining the influence of neighborhood design on people's satisfaction with it, is therefore clearly relevant to this discipline of scientific research. However, already there is a growing amount of research on the relationship between neighborhood and Quality of Life, with researchers trying to uncover this relationship with a broad array of instruments (See Leidelmeijer & van Kamp, 2003, p. 13-56 and Myers, 1988, p. 353 for overviews). This research will nonetheless prove scientifically relevant, on two accounts.

First of all, although there is a growing amount of research looking at the neighborhood and Quality of Life there is still much ground to cover. The relationship between neighborhood design and people's subjective evaluation of it specifically is in need of more research (Kährlik & Leetmaa, 2009; Myers, 1987). New Urbanism is seen as the major alternative to conventional suburban design, but its comparative effect on the Quality of Life is nothing but a question mark at this stage; this research will give an answer and further our knowledge on the merits of New Urbanism.

The second source of scientific relevance is the creation of a new measure of Quality of Place that is non-ambiguous and non-arbitrarily defined. Ecological economist Robert Costanza (et al., 2008, paragraph 1) claims that the problem with research on Quality of Life has always been that although it has long been an implicit or explicit policy goal "adequate definition and measurement [has] been elusive". There are many different (and often lacking) methods, and a lack of clarity about the meaning of academic concepts, surrounding the Quality of Life (Leidelmeijer & van Kamp, 2003). In a fairly recent paper Kees Leidelmeijer and Irene van Kamp (2003, p.5) emphasize the need for "a conceptual framework of Quality of Life (...) if the field is to advance". Using such a framework – provided by social geographer Michael Pacione – I will contribute to an effort towards more conceptual clarity in the field of Quality of Life research.

Most research on the relationship between Quality of Life and the neighborhood is based on 'objective' measures that use methodologically arbitrary definitions of what the good life would entail (Leidelmeijer & van Kamp, 2003; Myers, 1987). In my (substantiated) opinion, people have their own views and desires of life and we – the researchers - cannot simply use our own ideas of a good life as scientific reference. I will make the argument that Quality of Life is inherently subjective and that any measure of the relation between that and neighborhood design should therefore be based on people's own subjective views both of what is important in neighborhood design and how they evaluate it. Although to date there are a number of studies that look into the subjective evaluation of predefined aspects of the neighborhood (design) (Leidelmeijer & van Kamp, 2003), I

will add that the aspects of neighborhood design that are evaluated should also be subjectively defined. Another measure for the Quality of Place that is often used (Leidelsemeijer & van Kamp, 2003) is to simply ask people how satisfied they are with their neighborhood. I will make the argument that this simple measure is lacking in precision.

I will construct a measure that tackles both issues. In this research I will let residents define a list of elements of neighborhood design that they consider relevant to their appreciation of the neighborhood and then study how much value these elements are given and how satisfied the residents are with them. By comparing this extensive list of satisfaction with elements of neighborhood design one can then compare differences in views about what is important, but more importantly differences in satisfaction with them. Taking both the importance and satisfaction together, an overall Quality of Place can be constructed that is based on the subjective opinions of residents, and is precise and rich in information. With this innovative approach researchers are given a new instrument in evaluating the Quality of Place that takes care of the faults of most other measures.

└ Societal relevance

Arguably, Quality of Life has long been an implicit and sometimes explicit policy goal. When, for example, we strive for growth in the economy, is there not the implicit thought amongst many of us that this would help improve the quality of our lives? Nobel-prize winner Joseph Stiglitz (2009) had the following to say: “Our economy is supposed to increase our well-being; it is not an end in itself (...) GDP statistics were introduced to measure market economic activity, but they are increasingly thought of as a measure of societal well-being, which they are not”. The relevance of increased insight into effects on the Quality of Life should be clear: most if not all of us strive to be satisfied with our lives. As writer and philosopher Henry David Thoreau (1854) states: “to affect the quality of day, that is the highest of arts”.

[4]

The neighborhood is an important environmental unit in which a large part of our social lives occur. In the words of Feld (1981, in Campbell 1992) they are the “foci of emotional and financial investments, and potential sources of friends for children and adults”. Perhaps not surprisingly governments, both in the US and in the Netherlands, have grown increasingly interested over the last twenty years in Quality of Life in relation to the neighborhood. This research can address some of that interest by looking at the influence of a specific type of neighborhood design on Quality of Life, but also by making an instrument available in furthering such research. With a methodologically sound, non-arbitrarily defined and precise measure of

Quality of Place the influence of the type of neighborhood design on the satisfaction of its residents can be discovered for many other types of neighborhood design not covered in this research.

Around ninety-five percent of construction in the United States takes place in the suburbs (Ellis, 2002- 280). A big chunk of this construction can go in either of two directions: either a conventional suburban design or some of the alternatives (with New Urbanism being the major one). This can be a choice between a higher and a lower Quality of Life for its inhabitants, but also a choice between societal effects that affect all of us. Although the judge is still out on many of New Urbanism's promises, there is the wide-spread notion that a New Urban design would be the better alternative when it comes to fighting global warming, providing a sustainable tax-base for localities, decreasing car-dependency and improving social cohesion (Ellis, 2002; Meredith, 2003, Talen, 1999). The societal relevance of the effects of neighborhood design on some of these issues is clear in a world struggling to fight a possibly catastrophic global warming and with many U.S. localities struggling financially.

While the above-mentioned effects are not the object of study in this research, this research is indirectly quite relevant to it. Neighborhoods, at least in the U.S. are not predominantly built on the basis of societal interests, but on the basis of market interests (Duany, Plater-Zyberk & Speck, 2000, p. 113). So even in the case that the societal benefits of New Urban development versus typical suburban development would be well established, there still needs to be a market incentive for those neighborhoods to be built. It is the planners who create the choice, the government that influences these choices and the consumers that make the decision (Duany, Plater-Zyberk & Speck, 2000, p. 215-243). When New Urbanism can prove to provide with either equal or higher Quality of Life (for the same costs/profit) when compared to conventional suburban design, planners might be more eager to build them, governments to incentivize them and house-seekers to inhabit them. Insight into the Quality of Life effects will thus allow for a more insightful decision making between building of, incentivizing of and living in these two major types of suburban design.

The concept of Quality of Life lies close to the core of urban planning since the profession's central purpose is often stated to be the promotion of general welfare, the public well-being or the general interest (Myers, 1988). New Urban designers, conformingly, have the same purpose with their design and state that their designs would improve the Quality of Life (Duany, Plater-Zyberk & Speck, 2000, p. 240-243; Duany, 2003). This research will offer an evaluation of this claim; an evaluation that as of yet has not been done. Where designing, or planning, often follows a *vision* of what works, this research will add *fact-based insight* to the design process.

Overview

This research deals with defining the differences between new urban and (conventional) suburban design, substantiating an adequate measurement of the Quality of Place and evaluating the differences in this Quality of Place between both neighborhoods. Methodology plays a large role: how does one *operationalize* a new urban and conventional suburban neighborhood, how does one *operationalize* the Quality of Life as a result of neighborhood design, and how does one *compare* this Quality of Place between both neighborhoods?

I will start with a discussion on Quality of Life and Quality of Place (chapter 2: Quality of Place). After an introduction of the relevance of measuring the Quality of Life I will discuss some of the ways in which one can define this concept. Generally, the Quality of Place can be seen as the Quality of Life as a result of, or in relation to, the environment. However, concepts surrounding the Quality of Life are often quite ambiguous. With the help of a framework on Quality of Life-research, made by social geographer Michael Pacione (2003), I will be exceptionally clear about what *my* interpretation of the Quality of Place really is: a *time, place and individual-dependent, subjective indication of the quality of neighborhood design* through the (subjective) satisfaction with (subjective) needs.

[6]

In the third chapter I will discuss suburban and New Urban development (chapter 3: The suburbs). I will start with an account of the somewhat spectacular rise of suburban living in the United States in the last century. I will discuss both the praise these suburbs get, as the problems this suburban development is held responsible for. After a discussion and description of conventional suburban design, I will substantiate how the suburban neighborhood 'Orchard' fits the bill. The same will be done for the supposed alternative of New Urban design. The New Urban neighborhood that will be compared with Orchard, goes by the name of Kentlands.

The methodology of conducting this *time, place and individual-dependent, subjective indication of the quality of neighborhood design* is the topic of the fourth chapter (chapter 4: Methodology). Herein I will discuss my pragmatist philosophical worldview and how this opens up the possibility of using a mixed-method strategy of inquiry. I will make the argument that as a consequence of the subjectivity of needs an explorative phase of research, in which these subjective needs are uncovered, is required. Furthermore, I will make the argument that to come to an 'objective' and generalizable comparison of the Quality of Place, a second, quantitative, phase is necessary in which the satisfaction of needs can be compared between both neighborhoods.

The fifth chapter (chapter 5: Data and Analyses) will discuss the data, analyses and results. First the exploration of the important elements of neighborhood design, using interviews and an

open-ended questionnaire, will be discussed. Second I will talk about the construction and the distribution of the survey, and the characteristics and generalizability of the data that was acquired. I will then first zoom in on differences between both neighborhoods in the general importance of and satisfaction with the elements of neighborhood design, whilst taking the possible influence of background variables into account. Finally, I will describe the most important part of the analysis: the comparison of the Quality of Place.

In the last chapter, the conclusion, I will go back to the research questions and try to answer them (chapter 6: Conclusion and reflection). I will reflect on the results of the research and the research itself, and make recommendations for further research to be done, and paths to take.



2 QUALITY OF PLACE

2.1 An introduction into the Quality of Life and Place

Societal prosperity is, in today's society, mostly measured via the Gross Domestic Product. The GDP is what you get after you sum up all the goods and services that are produced within a country in a year, and is often seen as indicating country's societal well-being (Davies, sept. 14, 2009). The rise of GDP is, according to economist Tim Jackson (2009, p. 3), the single most important policy goal for governments for most of the last century. However, the equation of production and consumption with welfare – which is how GDP is used in practice – has been challenged by many authors (Costanza et al. 2008).

According to Jackson (2009, p. 15), “the prosperity of economic growth doesn't always appear to advance and may even impede human happiness”. If it were to be the sole and most important measure for societal prosperity, which it definitely seems to be, it fails, since prosperity is, of course, more than simply the accumulation of material pleasures. One, for example, needs health to enjoy material pleasures and an often heard cliché is that life is worth nothing when you cannot share it with anybody. However, beyond this narrow economic framing of prosperity there are competing visions of what prosperity would entail (Jackson, 2009). What does it really mean: to prosper?

In 2007 then French President Nicolas Sarkozy assigned Nobelprize-winners Joseph Stiglitz, Amartya Sen and French economist Jean-Paul Fittoussi at the task to create a competing measure of prosperity that would go beyond the simple measure of material production and take into account the well-being environment and the welfaring of the people. The goal was, as Stiglitz (2009) has written, to “truly capture progress”. Although there have been multiple attempts to introduce measures of progress that would be better indicators of prosperity, so far they have all failed to replace the dominance of GDP¹.

The lack of success of such measures does not, of course, emanate from the absence of a desire for a better measure of progress. The value of a better measure of prosperity is clear. The problem lies in the definition of prosperity and its measurement. Because if prosperity is more than economic growth, *what* is it then, and how can we move from looking at ‘simple’ economic data to measuring such a more comprehensive concept?

¹ With the exception of the kingdom of Bhutan, where in 1972 Jigme Singye Wangchuck introduced a measure called “Gross National Happiness” which is used to this day as the main measure of progress.

In the 1960s and 1970s the concept of 'Quality of Life' gained a lot of attention in the academic world, as a means to evaluate places and lives via a measure covering more than just material affluence (Rapley, 2003, p. 3-10). What would be a better measure for societal progress than the rise in the Quality of Life of its citizens?² One can thus define progress as a rise in Quality of Life. However, what constitutes the quality of one's life? Philosophers disagree on what a good life constitutes, just like religions do (Ventegodt, Merrick & Andersen, 2003, p. 1031). In the coming paragraph I will reflect on notions of 'the good life'. There, sadly, is no definitive notion of what constitutes the 'Quality of Life' (Leidelsemeijer & van Kamp, 2003). However, I will show that this does not inhibit the use of a workable and surprisingly simple definition. With this definition in hand, I can continue to defining the 'Quality of Place'; a concept that combines the notion of 'Quality of Life' with the spatial arrangements³ surrounding a person. This is the main aim of this chapter.

After finding a definition, the issue of measuring still remains. One can define 'Gods' as the number of gods that exist, but how does one go about to actually count the number of Gods that are possibly there? In my case, the question is: how does one go about to measure 'Quality of Place'? This will be discussed in this chapter and, in all its precision, in the fourth chapter 'measuring a Quality of Place'. The end-goal of both chapters is to define and substantiate a measure with enables to research the claim that New Urbanist design would, in comparison to contemporary suburban design, improve life quality for its inhabitants.

[10]

2.2 Quality of Life

A lot of philosophers have concerned themselves with the notion of 'the good life'. As in more general discussions on ethics, there is a wide array of different opinions on what 'the good life' would entail (Sen & Nussbaum, 1993, p. 2). This is an enormously interesting discussion, and one that can have profound influences on our lives through, for example, the notions on the good life of the different major religions. However, can we objectively define what 'the good life' is? Moral relativists make the point that we cannot make objective judgments on different notions of right and wrong, good and bad (Lee & Sirgy, 1999). Even if we could, would we then want to use a measure of the Quality of Life with which people can fundamentally disagree? Is not every individual's own opinion on the good life just as important (Liu, 1974, p. 2)?

² And perhaps, the wellbeing of the environment, as in the case of Sarkozy's commission.

³ the environment (not ecologically, but as a 'place')

Many, if not most, definitions of the 'Quality of Life' move away from *moral* notions of the good life by offering a neutral concept of the Quality of Life.⁴ The Quality of Life group of the World Health Organization (1993, in Marsella, Levi & Ekblad, 1997) defines Quality of Life as "an individual's perception of his/her position in life in the context of the culture and value systems in which he/she lives and in relation to his/her goals, expectations, standards and concerns". McDowell and Newell (1987, in Rapheal, Renwick, Brown & Rootman, 1996) define Quality of Life as that which "relates both to the adequacy of material circumstances and to people's feelings about these circumstances". Ben-Chieh Liu (1974, p.1) defines it as an expression of "that set of "wants" which after being supplied, when taken together, makes the individual happy or satisfied". Finally, Diener (1995, in Hagerty, 1999) defines Quality of Life simply as life satisfaction, and Veenhoven (1996) as the product of happiness and life expectancy.

A recurring element in many of these definitions is the personal satisfaction with (elements of) life. There seems to be a general endorsement of the idea that a higher life-satisfaction equals a

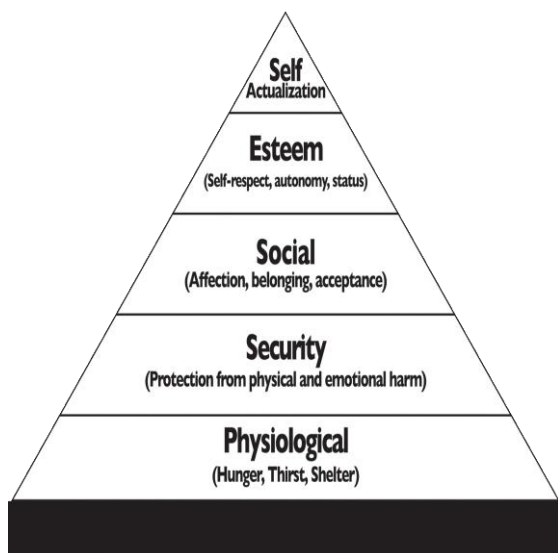


Figure 1. Maslow's hierarchy of needs.

Adopted from Maslow, 1954

higher Quality of Life. Cheung (1997) defines this as the 'hedonist good life'. He feels that the 'dialectic good life' (understanding of others), 'humanist good life' (autonomy and realization of potential) and 'formalist good life' (according to what is right) are other important elements of the good life. Clearly there is much to say about the importance of the other elements of life besides that of needs-satisfaction. However, if one would want to define the other elements, the problem of moral-objectivism returns: how, and on what basis, can one define 'the good life' for another person? It is therefore not surprising that most Quality of Life research, just as mine, focuses on satisfaction.

[11]

When discussing humans' desire to satisfy needs, one cannot ignore Abraham Maslow. Maslow's famous pyramid (see left) is, in essence, 'simply' a hierarchy of human needs (Sirgy, 1986, p. 331). First there are the physiological needs – the need to sleep, to eat, to clothe. Then there is the need for safety and peace of mind. After that comes the need for love and acknowledgement. Even closer to the top we find the need to value one-self and be valued, as well as the quest for knowledge. Finally, in the top part of the pyramid, there is the need to realize our personal

⁴ However, implicitly such notions often still play a role.

meaning of life and to become a valuable, integrated part of the world. The pyramid is not without criticism, and different versions of the pyramid have since been developed. However, what the pyramid of Maslow makes clear is the hierarchy and context-dependency of needs: when one need is satisfied, another can pop up to take its place (Liu, 1974, p. 1) and such needs can differ from time to time and place to place.

Another thing this pyramid makes clear is that a lot of different needs (can) ultimately have a role in one's satisfaction with life. It is therefore not surprising that Quality of Life has been a research subject from a broad range of academic fields, from psychology and medicine to geography and anthropology to economics and sociology. There is no definitive classification of the elements that are part of 'Quality of Life', however Mitchell (2000, p. 73) has tried to "incorporate all the issues thought relevant to 'Quality of Life' measurement", as seen in Figure 2. One of the elements in which needs are to be satisfied, is that of the physical environment. It is this part of this (hedonistic) 'Quality of Life' on which the remainder of this chapter focuses.

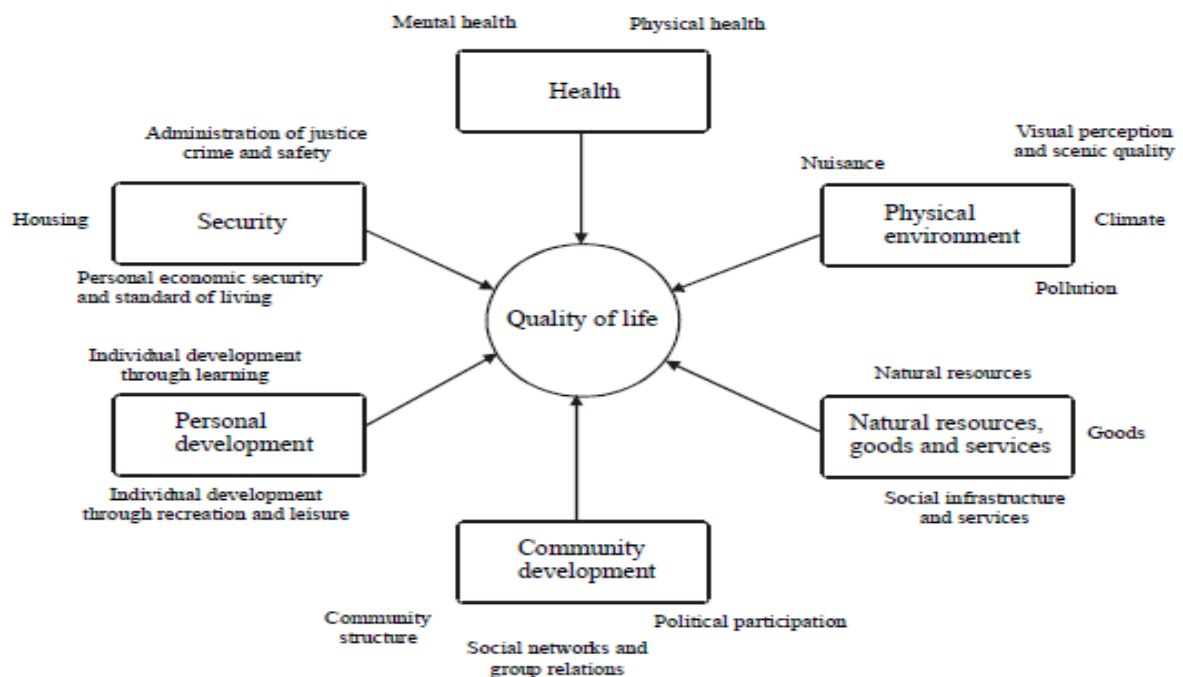


Figure 2. A number of Quality of Life components.
Reprinted from Mitchell, 2000

2.3 Quality of Life and the environment

Many factors influence Quality of Life, as seen in the preceding paragraph, but there is a growing conviction among urban policy makers that the character of the built environment is one of them (Arifwidodo & Perera 2011; Leidelmeijer & van Kamp, 2003). Although perhaps limited in this perspective, in designing and building our environment knowledge on what improves, however slightly, the Quality of Life is nonetheless important for progress in our urban development. The relationship between humans and their environment when concerning Quality of Life has academically been approached from multiple perspectives, over many years and with a fairly complex array of different starting points, methods and results (Leidelmeijer & van Kamp, 2003). An overview will be given. This overview should make clear the *why*, *how* and *what* of different perspectives in the relationship between environment and Quality of Life.

└ A short history

The relationship between the environment and the Quality of Life has had a lot of attention, both from academics and policy makers, over the years. Quality of Life In the Netherlands this is clearly visible in the increased political and policy attention to the concept of 'liveability', as seen in the political "Leefbaar-"parties and the 'Investeringsbudget Stedelijke Vernieuwing'. Internationally this is visible in an increased academic attention to, and policy for, concepts of sustainable built environment.

We can see aspects of Maslow's hierarchy of needs in a historical description given on the relationship between environment and city-design as given by Karel Leidelmeijer and Irene van Kamp (2003). Here, of course, is not the space or place for a complete discussion of this history. This description will function mostly as introductory to the historical evolution of how this relationship has been seen and researched, and is largely based on Leidelmeijer and van Kamp (2003) and Lawrence (1999).

Leidelmeijer and Van Kamp start their story in the heart of the process of industrialization. With the industrialization, cities increased massively in size and people started to live closer together in a specific urban manner – with little room for the less-urban such as green and open space – with its side effects of poverty, malnutrition and disease. With the problems emerging from these cities, such as the before-mentioned spreading of disease, solutions had to be found. Until around 1870 the notion that disease emerged from contaminated (or simply: 'bad') air was widespread. This lead to urban visions such as the Garden City (Howard, 1898/1960), which entailed small cities in which people would live and work, and with its own supply of green space.

After the 'bad air' paradigm, the 'germ theory' followed (Leidelmeijer & van Kamp, 2003). The idea here is that water and dirt could carry disease. In the classical study from William McNeill on the influence of epidemic disease on human disease he, at some point, describes Cholera which emerged around 1830. Although at the time often seen as being the wish of the Almighty God (Checkland, in de Swaan, 1989), there was a search for solutions. In the Netherlands the notion that clean water supply and sewerage would possibly save the citizens from this disease, sewerage and clean water eventually became (almost) universal (de Swaan, 1989: 227-230). An urban vision connected to this is Le Corbusier's 'Ville Radieuse' (1935) in which design was aimed at bringing sunlight, space and greenery into the city.

According to Lawrence (1999) this perspective changed from a biological into an ecological perspective somewhere after the Second World War. In this perspective dealing with germs is of course still necessary for disease, but not simply sufficient. Social and physical elements play an important role. Blum (1974) is seen as important in this respect (Van Dijk, 2001); he describes the main categories of good health as being human biology (heredity), behavior (lifestyle), health care organization and finally the environment. Liveability questions such as does one live far from good health care facilities, does one have friendships nearby and is the environment pleasant, gained relevance.

[14]

With the bottom level of Maslow's hierarchy of needs now reached for a lot of people, social needs (and security needs) start to increase in importance (see Hagerty, 1999 for an overview of the evolving importance of Maslow's different levels in the last fifty years). An important and influential author in this respect is, of course, Jane Jacobs. City planning had to result in pleasurable living, and not be purely functional as was the dominant paradigm (Jacobs, 1961). She propagated small scale intermixing of living, working and facilities such as the school, the church, the bakery and the shop (ibid.). This has some resemblance to New Urbanist ideas; as can be seen in chapter four.

Academically, the perspective that the environment has *some* influence on the Quality of Life really started in the seventies in the way Quality of Life more generally became of academic importance during that time (Leidelmeijer & van Kamp 2003: 19). This notion of the environment having an influence on the Quality of Life is what lies at the basis of this research. In the eighties sustainability in relation to the environment also gained more attention (ibid.: 22). Ever since, sustainability and Quality of Life have been important issues in research on the relation between humans and the (build) environment (ibid.: 23).

A lot of policy, and even political parties such as 'Leefbaar Nederland' in The Netherlands, is based on the idea of building places with high 'liveability' (ibid: 24). The last decades showed a spur of rankings and comparisons in liveability (ibid: 25-26). And with an increased attention to the issue of global warming, there has been an increasing amount of policy and research on the sustainability of human-environment relations. Practical examples of how the (built) environment is seen as a playfield to influence liveability and sustainability are the interest of the U.S. Environmental Protection Agency in Smart Growth and New Urbanism (epa.gov/dced) and the amount of policy and attention for the Dutch 'krachtwijken'.

└ The ambiguity of concepts

The main concepts used in research on the relationship between the built environment and the Quality of Life are *sustainability*, *Quality of Life*, *environmental Quality of Life*, *Quality of Place* and *liveability* (Leidelmeijer & van Kamp, 2003). Sustainability distinguishes itself from the other concepts by taking into the equation the manner in which practices can be continued in the future; taking either the (ecological) sustainability or sustainability in time ('*can the Quality of Life be continued long term?*') into the equation (ibid.). (Environmental) Quality of Life, Quality of Place and liveability are not so easily distinguishable. The problem lies in the ambiguity of these 'concepts'. These different terms could be used to describe something similar or something entirely different, just as the term 'Quality of Life' can mean something entirely different from one article to the next.

[15]

Leidelmeijer and Van Kamp (2003, p. 28-32) show the ambiguity of these concepts by giving around ten (often) fundamentally different definitions that they derived from literature, for each of these concepts. This ambiguity of concepts surrounding Quality of Life and the environment is of course undesirable as it mystifies what researchers are actually talking about. Accordingly, it makes it difficult to analyze and value the acquired knowledge. That is why, in this chapter, I will be very precise about my definition of 'Quality of Place'. For that, I will use a framework created by urban geographer Michael Pacione (2003).

└ Pacione's five dimensional structure for Quality of Life-research

Pacione (2003) has tried to supply a framework to place the different ways of researching Quality of Life within social-geographical (place-bounded) research. This framework is his 'five-dimensional structure for Quality of Life research' as seen in Figure 3 which considers key conceptual and methodological issues in geographical research into Quality of Life (Pacione, 2003, p. 20-21).

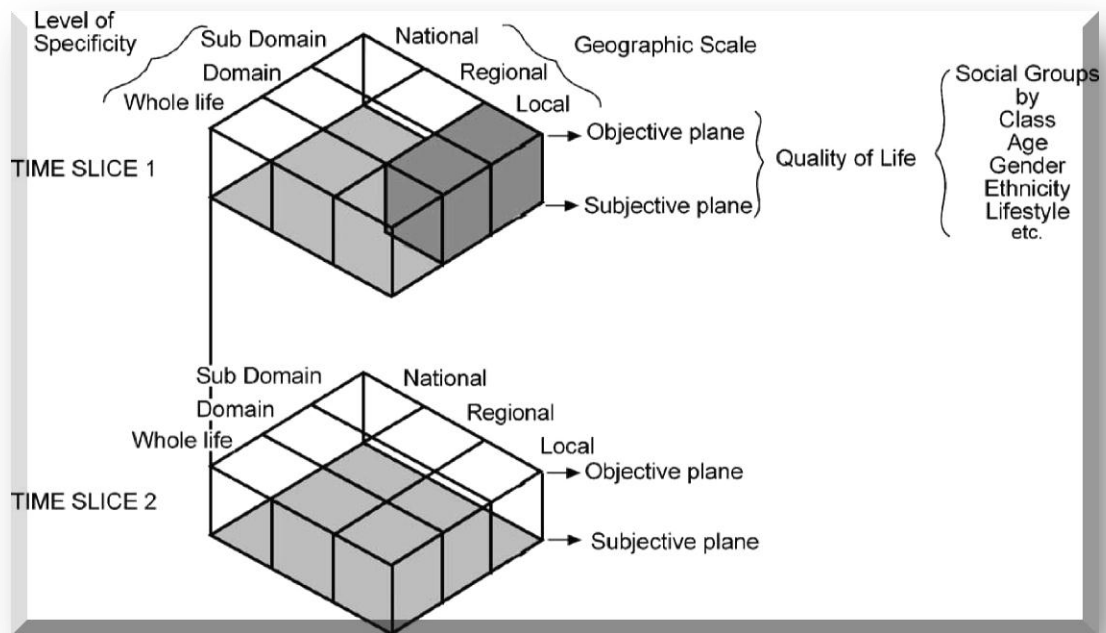


Figure 3. A Five-dimensional structure for Quality of Life research.
Adopted from Pacione, 2003.

└ Indicator type

First of all Pacione discusses the choice of indicator type. The difference between and discussion of objective and subjective research on Quality of Life is incredibly important in this respect. As with Quality of Life research in general, there is a distinction between objective and subjective measuring of life quality: the measurement of objective conditions and settings (such as economical or physical settings) versus the psychological state or evaluation of life satisfaction (Sahin, Fasli & Vehbi, 2007) (For examples of both see Liu, 1974 and Campbell, Converse & Rodgers, 1976). An 'objective' measuring is based on predefined aspects of life which, via a predefined expected manner, would raise or lower the Quality of Life (Dissart & Deller, 2000, p. 136). An example of this would be to take the health and wealth of a person as an assessment of someone's Quality of Life.

Problematic herein is that this predefined manner, as has been explained before, proves to be fundamentally arbitrary. We all need good health, but what people need to achieve this differs greatly and what people want besides good health opens up an incredibly enormous variety in wishes and desires, as people themselves vary so enormously. The 'subjective' measuring is based on people's own evaluation of their life quality, or their evaluation of what is important and the manner in which these important things are reached (Pacione, 2003, p. 21; Sahin, Fasli & Vehbi, 2007). When put more directly into relation between the environment, the distinction between both according to Pacione is as follows:

"Objective indicators describe the environments within which people live and work (...) [and] subjective indicators [are] intended to describe the ways in which people perceive and evaluate conditions around them" (Pacione, 2003: 21)

There is more to this story. Although there seems to be a consensus in the literature that objective indicators can in themselves not be enough (Dissart & Deller, 2000, p. 137; Grayson and Young in Leidelmeijer & van Kamp, 2003, p. 68), there are many who claim an adequate analysis of Quality of Life should take both into account. Both the 'true', objective situation and the subjective perception and evaluation of it influence how one sees and values this situation. Grayson and Young state:

"There appears to be a consensus that in defining 'Quality of Life' there are two fundamental sets of components and processes operating: those which relate to an internal psychological mechanism producing a sense of satisfaction or gratification with life and those external conditions which trigger the internal mechanisms" (Grayson and Young, 1994, in Leidelmeijer & Van Kamp, 2003, p. 68)

However, to what extent are these 'external conditions' truly objective? There is an almost limitless amount of aspects of neighborhood design that people could (subjectively) assess, so how does a researcher judge what the relevant 'external conditions' are that, together with the internal psychological mechanism, produce a sense of satisfaction? Most research that take the subjectivity of the evaluation into account, still take a predefined list of relevant characteristics of a place as a starting point. However is the relevancy of external conditions not also subjective? As Myers states:

"The fault of recent comparative studies is that facts have not been selected and structured in a manner local residents would consider relevant; key factors may be omitted, other superfluous factors added, and weightings may be inconsistent with local views" (Myers, 1987, p. 111)

└ Indicator specificity

The second aspect of life quality, or concern, is the level of (indicator) specificity or generality. There are multiple aspects that influence the Quality of Life and one does not have to, and usually does not, research them all at once. As has been made clear in the preceding paragraphs, one can distinguish many domains within, or components of, Quality of Life. When considering the environment as the main domain from which to look at Quality of Life, one can further distinguish various sub-domains such as social aspects (security, community) or physical aspects (scenic quality, climate) of the environment. Pacione (2003, p. 22) judges that the level of indicator specificity is either the whole life, a domain of life or a sub-domain - thereby stating that simply anything goes as long as it is an aspect of life quality.

└ Geographical scale

Another very important distinction, or choice, within Quality of Life research is the geographical scale. It is this spatial dimension that makes much of Quality of Life-research, such as this, quintessentially social-geographic. Just as one can choose to look at varying levels of Quality of Life, so can one look at society, or the research group, in varying levels. One can look, for example, at the world, the nation, a region or a locality in assessing Quality of Life. If one takes the environment as object for the research, the geographical scale is important in order to distinguish that what is being assessed.

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The array of differences within the defined geographical space become larger as the geographical scale becomes larger. Thus, the richness of information one gets from putting all these different regions under the same banner, can quickly become quite limited. Choices herein depend on the predefined goals of a research, but the geographical scale clearly has strong consequences for the type, richness and perhaps validity of the acquired data. This will be further discussed in the following paragraph.

An important aspect concerning the geographical space chosen is the mental viewing of the space by those that are being researched. If one asks you to assess 'your neighborhood' and 'your region', would this 'your neighborhood' and 'your region' differ from your neighbor's 'neighborhood', or the 'region' from a man or woman living in a different part of town? Robert Kitchin (1996), studying some 300 students from Wales, showed how the subjective viewing of what would be, for example, 'the neighborhood' differs between people – people have different 'mental maps' from the world around them. Within a subjective approach attention therefore has to be paid to how the evaluating people, the respondents, define the geographical object of study.

└ Causality

The fourth part of Pacione's structure concerns causality. One can imagine a person to rate their environment higher because they are generally satisfied, but also to be more satisfied because their environment is better. Pacione spends little words discussing this dimension of Quality of Life research, but it can nonetheless be tremendously important. If one is interested studying the *causes* of why the world is the way it is, or in this case the influence of the environment on people's Quality of Life, one needs to be able to make causal inferences with the acquired data.

Causality, however, is not a prerequisite for good research. Many sociological studies these days are based on cross-sectional surveys that cannot distinguish cause and effect – they can only point to their plausibility - but this, of course, does not mean that all these studies are irrelevant. Untangling causality in such a complex relationship as the human-environment Quality of Life relation is difficult and as there has not been much success to this affect (Leidemeijer & van Kamp, 2003). Quality of Life is a complicated and (possibly) very subjective concept that can be influenced by many things and the influence of the environment on the psychological well-being of human beings can take many forms. To be able to test hypotheses one needs causal inferences (Heckman, 2000), but descriptive research, for example, can also give much insight into the human-environment Quality of Life relation, and can help build theory.

[19]

└ Context-dependency

The last part of Pacione's five-dimensional structure for Quality of Life research are social groups or more generally it is the context-dependency. The things that, and the manner in which, the life quality is affected can and do differ by place, time and more generally the situation. Just as Maslow's hierarchy shows that certain more secondary attributes of a good life only gain importance when the more primary have been met, these secondary attributes can differ from group to group, place to place and through time in attributed value. The more basic needs, such as food, health and shelter, can very well be quite universal, but more secondary needs can of course differ greatly as people differ in aspirations and desires. The life quality is influenced by both, but where the primary needs are required and therefore probably quite universal, the secondary desires are more bounded to person, time and place. In this respect Pacione discusses the relevance of taking social groups into account.

The relevant planes of division, according to Pacione (2003, p. 22), range from class, age, lifestyle, gender and ethnicity to groupings based on behavior and common interest. The environment may have an effect on people's life quality, but aspects of these persons also influence how they rate or perceive this environment and that which makes for a good life quality. Different

people from different places from different times will have different notions and perceptions of life quality. This is one of the main arguments for the subjective method in life quality research, but this also shows that within this subjective method there is relevance to try to account for the differences in subjective notions and perceptions. An evaluation of the environment is partly based on the environment and partly based on aspects of those that do the evaluation. The life quality is partly based on the external, and partly based on the internal differences in evaluating the external (Myers, 1987). One can look at this by looking at differences between social groups, places and/or time, but can also simply take all known-to-be relevant 'internal' aspects that influence people's evaluations into account.

These five different dimensions of life quality research show the broad array of choices that one can make when doing such research. These choices constitute the specific way one is looking at Quality of Life and which aspects are deemed relevant. These choices, therefore, have a huge influence on the results of the study and define *what aspect(s)* of Quality of Life are researched, through *what lens* and *what is taken into account*. It therefore makes sense to clearly define and demarcate what perspective is taken. One does not simply do Quality of Life research, but one always does a specific kind of Quality of Life-research and this specificity has a lot of influence on the (type of) acquired knowledge and how the results should be interpreted. The one right answer has not been given since there is none; they are foremost choices in which the one choice does not have to be better than the other but both have strong consequences for the specific character of the research. This research's specific perspective will be explicated and substantiated in the next chapter.

[20]

2.4 Quality of Place

I will now move from the Quality of Life to the Quality of Place by defining and demarcating the concept. The precise measurement will be discussed in the methodology chapter but the 'what is', and thereby some aspects of measurement, is object of this paragraph. What would make a good definition of Quality of Place which can be used with the before-mentioned evaluating goal in mind? In this paragraph a substantiated definition of Quality of Place will be given.

The five important choices in defining a Quality of Life-measurement that relate to the environment have been discussed in the previous paragraph. The first dimension is that of indicator type. The relevant distinction herein is the objective versus the subjective way of evaluating life quality. The second dimension is the indicator specificity: what domain(s) of life quality does one look at? Thirdly one can evaluate Quality of Life at different spatial levels, from the global to the local. The second to last dimension is that of causality and the last about context dependency. Within all of these dimensions a substantiated choice will be given that takes into account the goal

of evaluating the neighborhood design of New Urban and suburban neighborhoods as well as the desire for objective, valid, informative and reliable research.

Indicator type: subjective

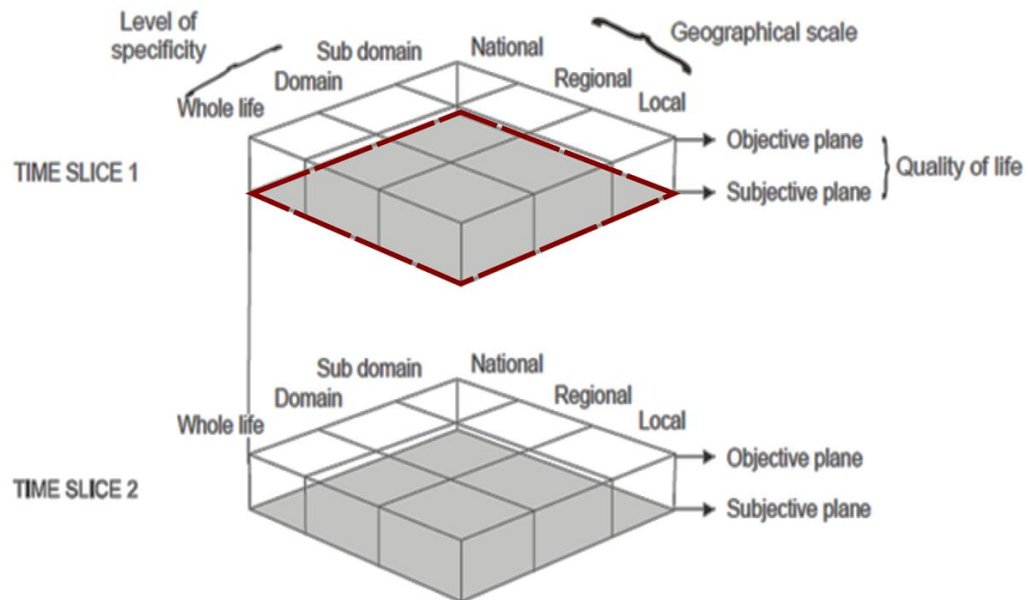


Figure 4. Pacione's structure; the subjective plane of the Quality of Life

[21]

In most scientific research there is a strive for objectivity. Scientific measuring should, in essence, not be dependent on the scientist that does the measuring. There is much to be said about the possibility of objectivity in research, which Bruno Latour calls a process replete with uncertainties and challenges (1987, p. 63-79), but I will leave this to be discussed in chapter four. A strive for objectivity, (for now) regardless of its possible limitations, has clear merit. With an objective measure the inferences, when done correctly, can become fact. Results are not thus because it is this or that researcher that has done the measuring, but because the world is thus.

However, when using 'objective' indicators in Quality of Life research, a researcher arbitrarily predefines the measurement of life quality to the extent that the results are based primarily on the measurement and only secondary on the world. There is no scientific law that defines life quality-aspects nor the manner in which these aspects influence life quality. There is no theory that is tested; there is only limited theory that is laid upon the measurement of 'fact'. The 'objective' indicators of life quality are therefore not truly objective. Let us elaborate.

As has been stated before, it is plausible that people are very alike in needs of necessity. One, for example, needs life (as in: to be alive) for there to be a quality in it. One cannot assume the same when it comes to desires. There is no universal and paved path for the pursuit of

happiness as people differ greatly and one can always debate the nature of their supposed life quality (as has been discussed in chapter 2.2). There is no way of objectively predefining how and what contributes to life quality without taking this subjectivity in the make-up of life quality into account. The 'objective' approach is fundamentally arbitrary since it leaves the subjective nature of life quality out of the equation and predefines the make-up of life quality for all. This will thus always be just *one* subjective account of life quality used to measure life quality for *all* of the people.

A good measure should therefore be based on the subjective make up of life quality, or in this case place quality, of people. Person A cannot define life quality for person B. The next question is, can person A decide the level in which the defined life quality of person B is met? If person B states that all he needs is a beautiful street, can person A decide for him that he has achieved that? The answer is of course no, since something like beauty is also fundamentally subjective. But if person B states he needs to be able to bike to the groceries without too much trouble, can person A decide his ability to do so? This is not something fundamentally subjective, so perhaps he can.

How somebody rates his Quality of Life, or the quality of a place, is both based on the exogenous make-up of the world around him, and the endogenous subjective evaluation of it. However, how one sees this world around him – is the street beautiful or ugly? – is at least to some extent also (very) subjective. A good measure of Quality of Place should therefore take both the subjectivity of the defining of what makes a good place, and of the evaluation of these elements, into account.

[22]

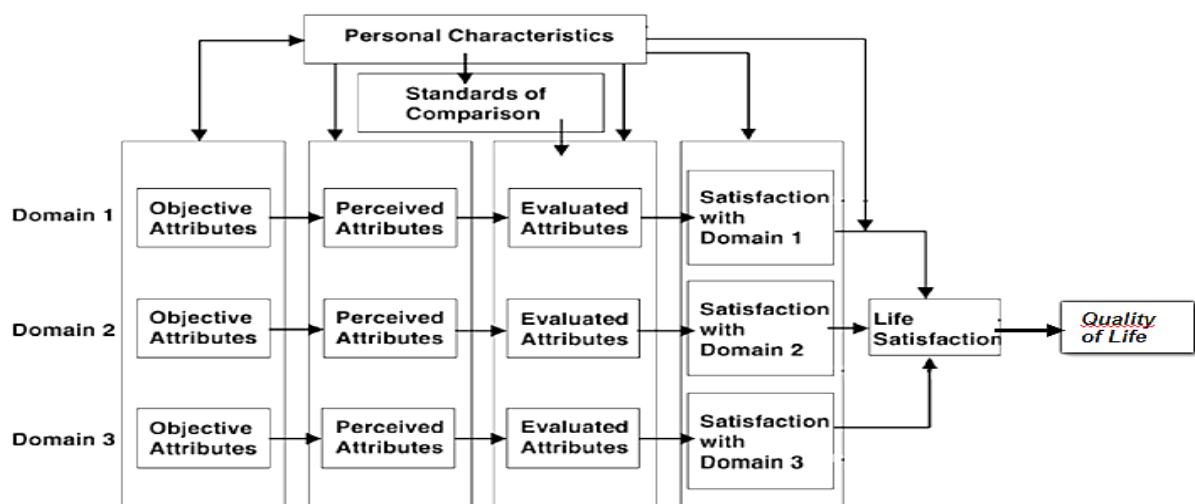
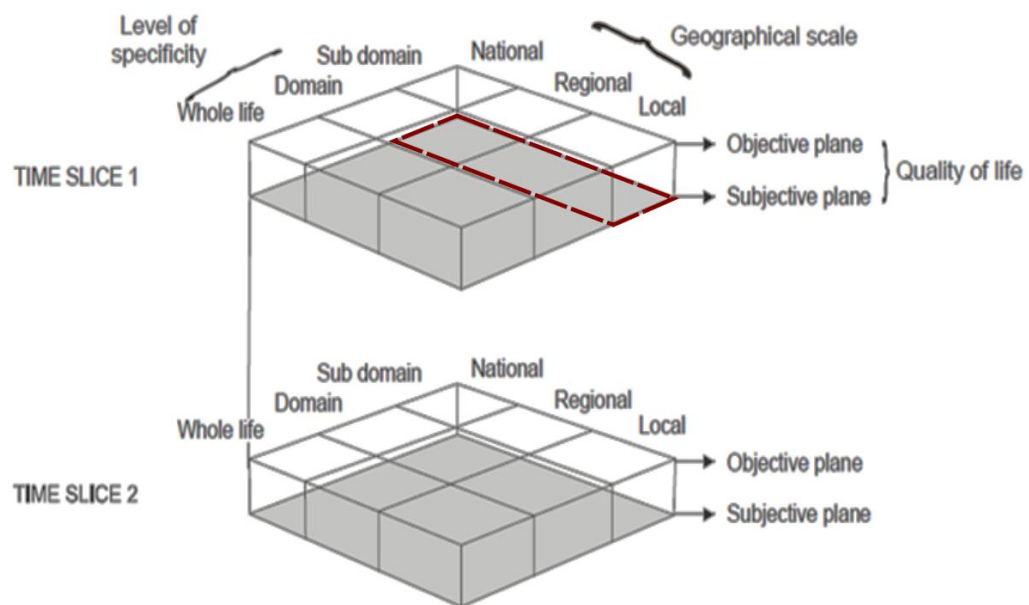


Figure 5. The objective attributes and subjective evaluation of Quality of Life domains. ‘

Adopted from Cambell, Converse and Rogers, 1976.

The model of Campbell, Converse and Rogers (1976), as seen in Figure 5, is clarifying in this respect. Campbell (et al., 1976) believed, as I do, that characteristics of the evaluator are important for insight in the Quality of Life. According to them, the context, meaning the actual objective attributes of the environment, is also of importance. It are people's evaluations of people's perceptions of the actual objective attributes of the environment that influence life satisfaction. Also, people's evaluations and people's perceptions would be influenced by people's characteristics and standards of comparison, which is something that I will discuss later on in this paragraph.

└ Indicator specificity: **neighborhood design satisfaction**



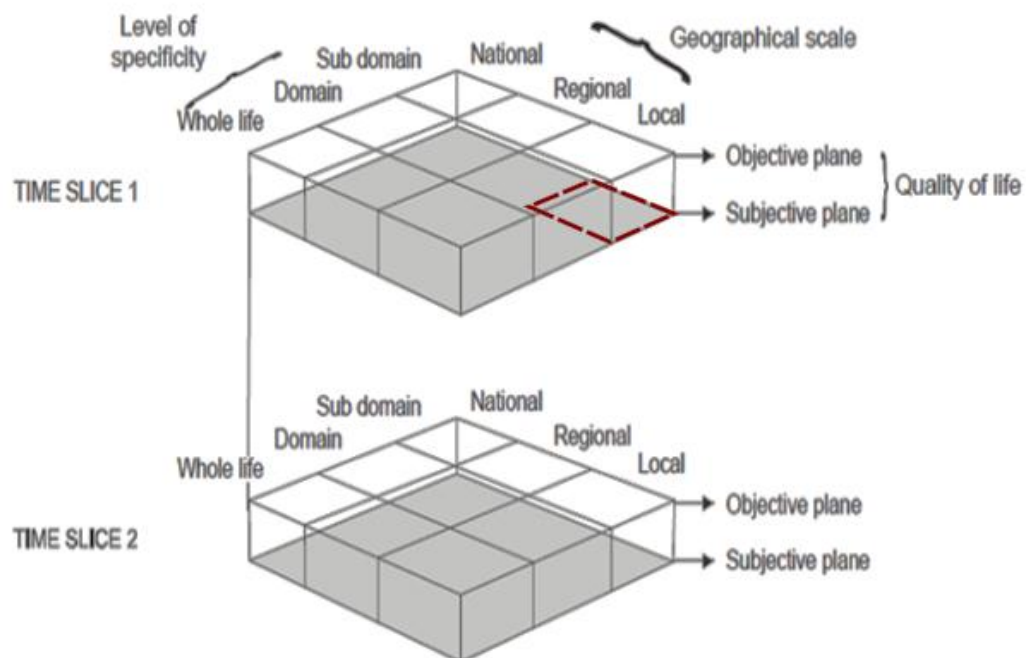
[23]

Figure 6. A subdomain of the subjective plane of the Quality of Life

Pacione distinguishes between researching one's entire Quality of Life, domain(s) of it or subdomain(s). If one looks at only part of the make-up of Quality of Life, one has to at least hint at the relation that this part has to the whole. This relates to envisioned structures of the different domains that make up Quality of Life and to models on life quality such as Maslow's hierarchy of needs which defines how these domains relate to each other. There are multiple envisioned structures of the make-up of Quality of Life but their theoretical and empirical foundation is lacking: they are visions, sometimes to a certain extent tested, but not strong enough pegs to really demarcate the types of (sub)domains that make up life quality. I have discussed some of them in paragraph 2.2. Such pegs are, however, not necessary for this research. I need only state that there is a relation to the Quality of Life. Although some parts of life can be less important than others, every aspect of it can influence its overall quality. People's environment, the place they are living in, surely has some influence.

With my measure of Quality of Place I wish to research the comparative influence of New Urban and suburban neighborhoods on Quality of Life as a result of their design. When there is a list of what makes up a good Quality of Place based on the subjective views of people, people can then evaluate the level in which they believe these aspects to deliver. The (sub)domain in question thus is the level of satisfaction with the design of the neighborhood. The precise relation to Quality of Life is not clear – only that a higher satisfaction leads to a higher Quality of Life- but the domain is nonetheless clearly demarcated. I am looking at the level of satisfaction with the design of the neighborhood, which has a relation to the Quality of Life. To fill in Pacione’s structure I will call it a subdomain of life quality.

└ Geographical scale: **Neighborhood**



[24]

Figure 7. A subdomain of the local subjective Quality of Life

The aim is to evaluate the design of New Urban neighborhoods in comparison with more contemporary suburban neighborhoods. The geographical scale of this Quality of Place is therefore that of the neighborhood. More exact the geographical scale is that of suburban American neighborhoods. Smaller scale Quality of Place analysis makes sense, according to Pacione (2003, p. 22) since it is the local situation in which most real human-scale problems are embedded. Furthermore, as the scale increases, so do the differences in the actual environment (situation) that people deal with. Larger scale analysis “may have little more significance than a report on the national average weather.” (Pacione, 2003, p. 22).

A problem within the geographical scale is, as before mentioned, is the subjectivity in the demarcation of 'the neighborhood'. Thankfully the demarcation of these suburban neighborhoods with their distinct style, name and often the physical demarcation via highways or natural boundaries, is less prone for such subjectivity. In the methodology chapter I will discuss this problem more thoroughly.

└ Causality: a descriptive measure

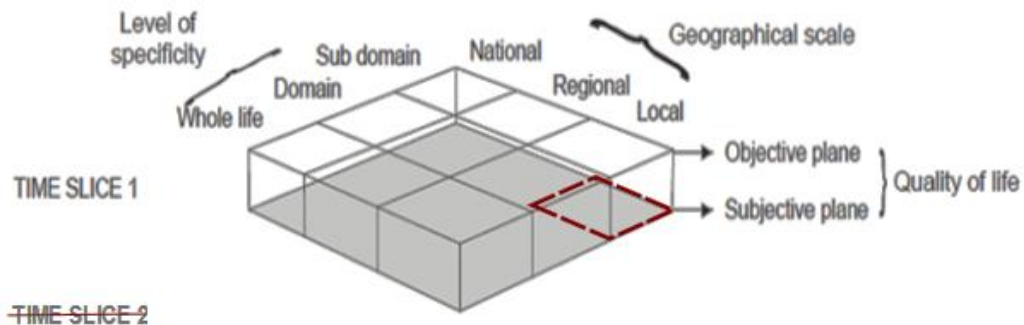


Figure 8. A descriptive measure of a subdomain of the local, subjective Quality of Life

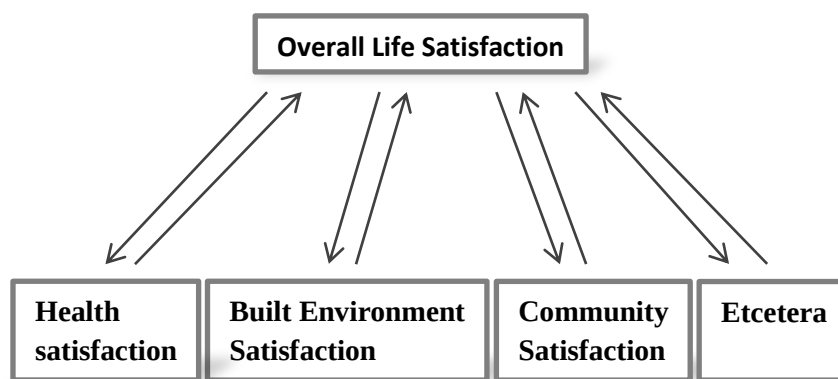
Before discussing my take on causality it is important to make the distinction between descriptive and explanatory research. Put simply, descriptive research is about the *what, where, when, who* and *how* questions of trying to understand the world. It aims to describe the world, but not explain it (Hesse-Biber & Leavy, 2010, p. 10). Explanatory research *is* about explaining the world - it is about the *why* questions (ibid.). The question of causality therefore is mostly a question for explanatory research.

[25]

In this research I first of all aim to define a good measure for the Quality of Place. With this measure I will then proceed to rate the Quality of Place in comparable suburban and new urban neighborhoods. This seems to be purely descriptive since there is no external question to the *why*: people state what matters in the design of the neighborhood and then rate that which would matter. Their rating of those elements can only be based on a) the quality of those elements of the neighborhood and b) attributes of people that influence this evaluation. The idea that a higher satisfaction with what people believe makes up a good neighborhood *will lead to* a higher Quality of Life is a question of causality, but this does not relate to the measurement of a Quality of Place. This is an example of an issue of causality in underlying theory.

There is one issue of causality that does relate to the measuring of Quality of Place. This issue concerns the people that do the evaluation of their satisfaction. One does not simply have to be satisfied with what makes up a good neighborhood because these elements of the

neighborhood are satisfactory. One can also be, or not be, satisfied because one simply already is satisfied with the neighborhood as a whole. If you have all of your friends living in the neighborhood you might be very satisfied with the neighborhood and would rate elements of the neighborhood as *fine* even if you would not rate them as *fine* if you were not already quite satisfied with your neighborhood. To put it into more general terms: it is both plausible that you are, overall, satisfied with life and therefore are more satisfied with domains of life and that you are satisfied with domains of life and therefore are more satisfied with life. Satisfaction can, possibly, move both bottom-up and top-down. There is some scientific support for both possible relations (Leidelmeijer & Van Kamp, 2003, p. 78) and both could very well be true.



[26]

Figure 9. Life satisfaction: Top down or bottom up?

As said, the (implicit) idea is that it is the design of the neighborhood, in relation to people's views on a good neighborhood, that constitutes people's satisfaction with it. There is an environment around people, people judge their satisfaction with parts of it, and their satisfaction arises from the quality of the environment. However, just as overall satisfaction can influence satisfaction on other levels, so can individual attributes of people. The difficult question of causality herein thus lies in the question if it is the environment that influences people's satisfaction, or if it is people's attributes. According to the model of Campbell (et al., 1976) it would be both. If an element of a good Quality of Place would be the quality of the housing, then it is dependent on its real quality, people's perception of its quality and perhaps people's comparison to other housing. There are no problems of causality for the first, but in people's perception and evaluation of quality a lot of internal mechanisms can be at play. Individual attributes matter and should therefore be controlled for. I will further discuss this in the following part on the social context.

However, since I descriptively look at the design of the neighborhood, and how people perceive and evaluate it, a number of messy problems of causality are avoided. Again: untangling causality in such a complex relationship as that of the human-environment in Quality of Life is difficult and there has not been much success to this affect (Leidelseijer & van Kamp, 2003). Some problems of causality, however, remain. Mainly this concerns the differentiation between the influence of aspects of the environment and people's characteristics in evaluating it, when measuring the Quality of Place.

└ Social context: Suburban America's individuals

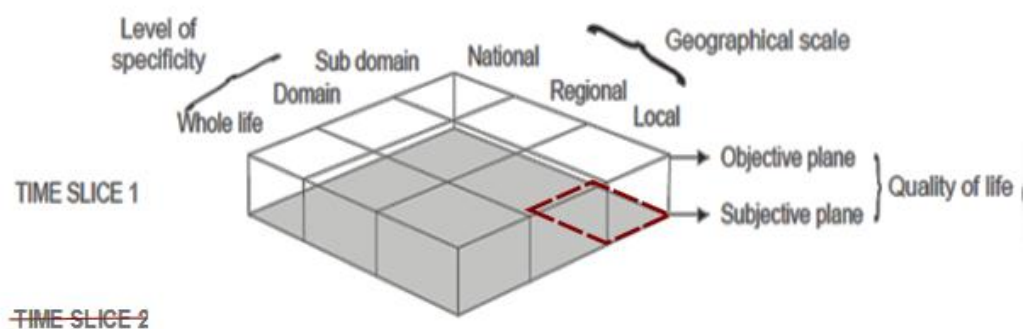


Figure 10. The Quality of Place: A descriptive measure of the subjective Quality of Life of the (suburban) neighborhood as a result of neighborhood design.

[27]

The determination of what is important for a good Quality of Place is of course dependent on when and by whom that determination is made. Person A can believe able parking space to be important, but for carless person B this naturally does not have to be the case. In a place where or a time when there are no cars, a lack of parking space will probably not be seen as having a bad influence on the quality of the neighborhood. What constitutes the relevant elements for a good Quality of Place can thus differ by group, time and place. One can try to either find a way to distinguish a Quality of Place regardless of social context, or place the Quality of Place within a social context.

Here the choice is made to place the Quality of Place within the social context. The Quality of Place is strongly rooted in the social context precisely because it is a subjective matter. Social context therefore only has to be taken into account when there are plausible differences in the social context of the places that are researched and compared. The social context, qua place and time, in general being that of suburban United States (anno 2011). More specific the social context being that of comparable neighborhoods in the same area within this suburban United States. This will further be discussed in the chapter on Gaithersburg, Maryland, which is where the research will take place, and in the methodology chapter.

By controlling for the proven to be relevant individual attributes in influencing satisfaction I have taken the social context into account when it comes to differences in social groups in evaluation. According to Pacione (2003, p. 22) these relevant individual characteristics are class, age, lifestyle, gender, ethnicity, and possibly groupings based on behavior and common interest. I will discuss these and other individual characteristics in the methodology chapter. But again: one does not have to value the same things as being important for a measure of place quality. How can we make a general measure that takes into account this fundamental subjectivity? Either one has to look at each and every individual matching of the things he or she sees as important and how he or she rates it, or one has to substantiate a general measure of what 'people' find important and how 'people' rate it. To be able to substantiate such a general measure considering the before mentioned fundamental subjectivity, there have to be elements that (almost) everybody rates as being important for a Quality of Place. I will try to take the social context into account via both ways. I will then take into account the element of subjectivity, but also evaluate the possibility of looking at a more general measure and use it.

└ A Recapitulation: A Quality of Place

There are many ways one can look at the human-environment relation from a Quality of Life-perspective. I choose to look at the environment through the perception of the people: does it meet our desires and wishes? This Quality of Place, as such a perception is called, meets my objective to define a measure with which to be able to evaluate the promise that New Urbanist design would be better for the Quality of Life when compared to more contemporary suburban design.

[28]

But as my discussion of the human-environment relation in a Quality of Life-perspective showed, within such a general concept of Quality of Place there is an array of possible interpretations of such a concept. My Quality of Place is a *time, place and individual-dependent, subjective indication of the quality of neighborhood design*. The time being now, the place being suburban America in Gaithersburg, Maryland and the individuals being the ones living in these neighborhoods. I do not look at why neighborhood design would improve Quality of Life, but simply evaluate the level in which it meets that what its inhabitants think constitutes a good neighborhood.

As with all Quality of Life and Quality of Place research, this is just one of the many ways of looking at Quality of Life or Place and which aspects are deemed relevant. The specific interpretation of a Quality of Place has an enormous influence on the results and the type of acquired knowledge of the study. Again, one does not simply do Quality of Life research, but one

always does a specific kind of Quality of Life-research and this specificity has a lot of influence on the (type of) acquired knowledge and the way in which the results can and should be interpreted. I have substantiated my choice and have shown its relevance in achieving the objectives in this study, but it remains of one of the many ways to look at Quality of Place. In the methodology chapter I will further discuss the measurement and measurement-issues of my Quality of Place.

2.5 Sense of Place

You hear about it every so often: a run-down building, a mere shell of what it once was and no longer serving its function as a bar, a club or a hotel, is up for demolition and (yet) people rise up in protest. There is more to places than the mere quality in satisfying needs and desires; places (can) have meaning. One can be surrounded by violence, poverty and filth but still love a place. Anne Buttimer (1980, p. 166) states that through much modern poetry and song there rings an emotionally laden eulogy of the meaning of place. Therefore this example:

“Brooklyn my habitat, the place where it happens at. Live sway and the sharp balance of the battle axe. Irons is brandished at, thugs draw they hammer back. (...) Sometimes I feel my only friend is the city I live in, is the beautiful Brooklyn” - Mos Def (1999, track 13)

The term ‘sense of place’ refers to such feelings that people can have towards the geographical areas in which they live (Gregory, Johnston, Pratt, Watts & Whatmore, 2009:, p. 676). People can feel affection, attachment and belonging, love perhaps even, towards a place. Yi-Fu Tuan (1977, p. 6) states that actually this is how places come to be: “What begins as undifferentiated space becomes place when we endow it with value”. The concept of a sense of place has many aspects and has had many different interpretations since its introduction (see Gregory et al. 2009, p. 676) but in the context of evaluating Quality of Place it makes it clear that one has to pay attention to the plausible effects of people’s attachment to a place affecting their judgment of that place.

Leidelmeijer (2004), amongst others, has shown such aspects to be at play. He looked at the 10 percent of people that differed most from the rest in either a more negative or more positive evaluation of their neighborhood. Of those that feel a strong attachment to their neighborhood, 40 percent gave a relatively positive evaluation of their neighborhood. Of those with a weak attachment, 60 percent gave a relatively negative evaluation. Furthermore, the ones with a strong attachment to their neighborhood did not change their positive evaluation even if they felt the neighborhood has been in decline for the last years.

A neighborhood can have qualities that not everyone sees and people can give meaning to a neighborhood that not everybody can understand. This is just as much an argument to view Quality of Place from a subjective perspective as it is a measurement-issue because of the influence of the individual 'senses of place' that might influence their judgment. I will further discuss this in the methodology chapter. In the following chapter I will again discuss the sense of place as a means to distinguish the somewhat 'placeless' parts of the contemporary suburban world versus that of places with New Urbanist design.

3 SUBURBS AND NEW URBANISM

3.1 Introduction

Today, more than half of Americans live in ‘the suburbs’; from just ten percent of the population a mere century ago (“U.S. population now 300 million and growing”, 2006). More and more, the United States has become what Duany, Plater-Zyberk and Speck call a “suburban nation” (Duany, Plater-Zyberk & Speck, 2000). Needless to say, this has been a massive transition in how people live and, correspondingly, what the United States looks like. In the following paragraphs I will give an account on how this change has come about, what it has resulted in and what praise and criticism it has received. Furthermore, I will give an account of the “New Urban” alternative that aims at solving some of the proclaimed issues of the conventional suburban development.

I will start with an overview of the historic development of ‘the suburbs’ from around 1800 to now. Not to needlessly complicate this historical account, my definition of ‘the suburb’ is simply that of residential areas from which one commutes to the city. I will follow with a discussion on what ‘the suburb’ is and looks like – which includes a more thorough definition of the suburb. The (perceived) good and bad of the suburbs will be discussed in the third part of this chapter. I will conclude with a discussion of the New Urban alternative, and what these neighborhoods look like.

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3.2 (sub)urbanization in the U.S.

An account of *all* the spatial and urban developments would surely be exhausting before it is exhaustive. In the following paragraphs I will try to give an account of the most important trends from the mostly rural early 1900s to the predominantly (sub)urban or non-rural nature of today’s spatial arrangements. The focus will be on suburban development rather than the changing shape of the city itself. A pragmatic but somewhat arbitrary distinction has been made between four time periods: the period before the 1920s; the 1920s through World War II; the post-war decades; and the period of about 1970 until now. In it, I will rely on sources both in favor and highly critical of the direction this (sub)urban development has taken.

Several themes recur in the next paragraphs. These include the importance of changes in the modes of transportation and changes in technology, of cheap lots and means of construction, of government subsidies and of a rising, affluent, middle class. Most of all, the preference of Americans to own a detached suburban dwelling is pervasive throughout this description of (sub)urban development in the United States. I will show that this is not a uniquely American preference, nor that suburban development is necessarily uniquely American. However, I will also

show that the scale of suburban development in the United States, and its influence on culture, is as of yet, unprecedented.

└ Before the First World War

In the early 1800s, cities in North America, not unlike their European counterparts, had small streets and small houses that were close to the curb [Jackson, 1985, p. 14]. The 'Walking City' as Kenneth T. Jackson dubbed the cities of that time, was characterized by incredible density (compared to today); its mixture of functions (Jackson, 2006, p. 17); a clear distinction between city and country (ibid.); the small distance people lived from, and *walked* to and from work (ibid.); the important role of the center of the city as *the* place for civic life and entertainment (Jackson, 1985, p. 14-16); and with it, the supposed inferiority of the suburb (ibid, p. 17).

It was also, more generally, the beginning of the era of *the city*. After the era of frontier expansion came the time of the metropolises, according to Frederick Jackson Turner (in Talen, 2005, p. 73). Telling is the example of Chicago, which increased its population sixty-fold in the period from 1850 to 1900 (Talen, 2005, p. 73), and of New York, that became the world's largest city. At the turn of the century both cities, not coincidentally, were among the first to introduce (steel) skyscrapers; an icon of today's larger cities.

[32]

These cities were not only growing larger; spatially they were changing radically as a result of revolutions in transportation technology. With the price of land falling faster than transportation costs rose, moving outward became economical even for the middle class (Jackson, 1985, p. 129). First, there was the steam ferry, linking, for example, Manhattan to Brooklyn⁵ (Jackson, 1985, p. 25-27). Not much later, around the 1830s, the omnibus and the commuter (steam) railroad were introduced, opening up even more habitable space further away from the city centers (Jackson, 1985, p. 33-36). The introduction of the elevated railroad and cable car had the same effect. The introduction of the electric streetcar, around the turn of the century, had an even greater role in opening up the suburbs for the common man (Jackson, 1985, p. 118). We can measure this geographically: where, in 1850, convenient and affordable commuting was limited to about 2 miles, it increased to some 6 miles at the end of the century (ibid.).

Another revolution took place in construction. Balloon framing – presumably named after the (false) assumption that such a construction was no more substantial than a balloon (Woodward, 1865, p. 151-152) – made it possible for the common man to construct a house without the necessity of being skilled in carpentry. With the development of balloon framing cheap

⁵ Which is sometimes seen as the first, large, commuter suburb. (Jackson, 1985, p. 25-29)

land could be combined with cheap construction. By 1920, middle class families were able to buy a detached house on an accessible lot, with an easy commute to work for the breadwinner (Bruegmann, 2005, p. 36; Jackson, 1985, p. 136).

Not only *could* the middle class buy a house in these newly created suburbs, they *wanted* to, setting a suburban rather than an urban standard for most Americans (Jackson, 1985, p. 137). Life within the crowded, often crime-ridden, often filthy (industrializing) city could be traded for a safe life, owning your own, detached house just outside of the busy city center. Although spacious in comparison with the city, these streetcars suburbs still were relatively dense compared to more recent suburbs, since they required a certain volume of traffic (Jackson, 1985, p. 136). Although Europe saw a comparable rush to the urban periphery, housing in American suburbs was both more affordable and more spacious (Bruegmann, 2005, p. 33; Jackson, 1985, p. 136)

From the 1920s through the Second World War

If the period before 1920 can be marked by the transition from walking to public transportation, the period from 1920 onward can be marked by the transition from public to private transportation. The automobile became attainable and attractive for the, ever growing, middle class. Whilst the number of electric streetcars in 1948 went down from 72,911 in 1917, to 17,911 (Jackson, 1985, p. 171), this 'demise' of rail-transit occasioned few protests because it was accompanied by the rise of the much-preferred alternative: the automobile (Jackson, 1985, p. 170). As early as 1940, 13 million people, or 10 percent of the country, lived in neighborhoods that were beyond the reach of public transportation (Jackson, 1985, p. 171).

With the expansion of the suburb catered to automobile transportation, the nature of the suburbs that surrounded the cities changed. Subdivisions no longer needed to have the density that the streetcar prescribed, nor did they need to be in range of its tracks. With the automobile also came the truck, and factories could, and did, relocate out of the central city (Jackson, 1985, p. 184). Cities expanded far beyond their old boundaries (Jackson, 1985, p. 189), and one could argue that the distinction between urban and rural became harder and harder to make, considering the ever declining density of the inhabited environment surrounding the city.

As decentralization continued, so did the price of a house in the suburbs continue to decline. This was the result of both further improvement in the efficiency of construction, federal policies subsidizing home-ownership, and the still plentiful supply of cheap land. No longer were few houses built by many contractors, but using new production techniques, many houses could now be built by few construction companies. Using routinized construction methods and standardized models, comparatively luxurious houses became comparatively cheap (Jackson, 1985,

p. 205). Furthermore, the New Deal provided home owners with cheaper mortgages most importantly through the insuring of mortgages for lenders (in effect, the Federal Government gave mortgage guarantees for banks) and increasing the repayment period from 5-10 to 20-30 years (Jackson, 1985, p. 204-205). All of this resulted in ever lower prices for buying a house, and a growing portion of the American urban population to have the option of living in a single-family detached house in the suburbs (Bruegmann, 2005, p. 36). This was a trend that would continue on to the next decades, just as the increasing role of the automobile, and the declining role of the central city, would.

The forties, fifties and sixties

With increasing income, and (relative to income) declining automobile prices, automobile ownership continued to rise. Two decades after World War II a majority of the American households was now able to own a car (Bruegmann, 2005, p. 130) Together with a thriving highway system, largely through the Highway Trust Fund of 1956, the mobility of the average car-owning American further increased (Meredith, 2003, p. 475). With increasing income, the continued and strengthened policies of the government that, effectively, subsidized home-ownership, and continuing improvements in construction methods, owning a house also came in reach for a majority of Americans.

[34]

Mortgages could now not only be guaranteed for the middle class by the Federal Housing Administration, but also for those that served in the military during World War II (16 million people) by the U.S. Department of Veterans Affairs (Jackson, 1985, p. 215). During these years real estate developers such as William Levitt, perfected the mass-production of houses, providing even better shelter for an even lower price (Jackson, 1985, p. 235-236). At the start of the 1970s most American families now owned a house and a car (Bruegmann, 2005, p. 130; Jackson, 1985, p. 216). And these houses were mostly located in the suburbs. Eighty-three percent of the growth between 1950 and 1970 took place not in the city but in the suburb, and by 1970 seventy-four million people could call the suburbs their home (Jackson, 1985, p. 283).

The subdivisions that were built broadly between the Second World War and the early 1970s, continued to be located on the periphery (Jackson, 1985, p. 238). The density continued to decline, with almost all dwellings being completely detached on a large lot (Jackson, 1985, p. 239). This went together with a growing automobile-dependency since most new neighborhoods were designed on the assumption that its residents would have automobiles (ibid.). As a result of mass-production techniques these houses were increasingly similar architecturally (ibid). FHA requirements (such as concerning lotsize, setback from street) and standards made many such

houses increasingly similar even across regions and states (Jackson, 1985, p. 204-205, 208, 239-240).

Besides an architectural similarity, the subdivisions also showed a strong economic, racial and age homogeneity (Jackson, 1985, p. 241; Talen, 2005, 11). This was increased by zoning restrictions and so-called red-lining. Zoning typically made the exclusion of industry, commercial use, and certain types (and price-ranges) of homes possible for each 'zone', thereby increasing its homogeneity (Jackson, 1985, p. 242; Meredith, 2003, p. 478). The FHA, concerned with "inharmonious racial or nationality groups", recommended subdivision regulations aimed at prohibiting racially mixed occupancy in a neighborhood (Jackson, 1985, p. 365). It also had the result of delineating areas in which banks would not, or to lesser extent, invest, thereby in practice discriminating (inner-city) blacks (Jackson, 1985, p. 214). Finally, these contractor-built suburbs were marked by wealth in that its dwellings had central heating, automatic stoves, washing machines, refrigerators and telephones (Jackson, 1985, p. 243)

As the suburbs changed, so did society. Public transport was increasingly replaced by the automobile, and as more and more neighborhoods were built for the automobile, dependency on the car – to reach jobs, shopping facilities – continued to rise (Jackson, 1985, p. 239; Talen, 2005, p. 11). As more cars hit the road, the miles of road increased, and streets became predominantly car-oriented. An increasing number of people now lived in very homogeneous neighborhoods in terms of race, age, class and architecture (Jackson, 1985, p. 240-242; Talen, 2005, p. 11))⁶. With the (white) middle class leaving the city for the suburbs, the inner cities were left with an increasingly poor (and black) constituency and resulting blight (Jackson, 1985, p. 245). However, the inexpensive suburban housing that America had now made available for so many of its citizens was by many standards a remarkable achievement. An achievement that was stirred by policy and economic-rational, but also dependent on preference, considering the residential drift towards the periphery that was seen for many decades now (Jackson, 1985, p. 217)

[35]

└ From the 1970s onward

The trends of rising automobile ownership, rising house ownership and increasing size of house and lot, continued after the seventies. The average size of a new house has risen from around 1,000 square feet at the beginning of the postwar decades, to nearly 2,500 square feet at the beginning of the next century (Bruegmann, 2005, p. 58). Although European countries have seen comparable trends, they generally started much later and were less strong (Bruegmann, 2005, p. 98), as

⁶ In the following decades, many of these houses would be transformed and added to according to personal taste, thereby reducing its architectural similarity (Jackson, 1985, p. 240)

Europeans lagged behind in wealth, generally had less readily available space, and often stricter government restrictions (Bruegmann, 2005, p. 74, 199). Nonetheless, polls consistently show that most Europeans and people from other continents, just as Americans, prefer single family houses on their own lot (ibid.).

The story of (sub)urban development in the United States is not only one of rising automobile use, larger houses, and increasing home ownership. A decentralization took place in many aspects of daily life; with it changing the character of contemporary American culture (Hubbard, 2006, p. 47). In the first half of the 20th century, leisure, commerce, and work were still very much linked to the central city. Shopping strips, designed to serve the car rather than the pedestrian, were introduced as early as the 1920s (Jackson, 1985, p. 258). As had been noted, this was also the time that jobs started to transfer from the core city to the suburbs. Ever since, 'strip malls' and suburban office parks started to dot the suburbs (Jackson, 1985, p. 258); replacing the shops and offices in the city center (Hubbard, 2006, p. 47). Perhaps the paragon of American suburban culture became the drive-in fast-food chains and drive-in motels, further catering a world based on the automobile. Through these processes the car increased its dominance in public life, and the public realm increasingly became privatized and exclusionary. Increasingly, it was the (private) mall where teenagers would go to hang out and meet the opposite sex (Jackson, 1985, p. 260), and the privacy of the car driving on the freeways that connected the different *pods* of activity such as work, leisure and commerce (Duany & Plater-Zyberk, 2010, p. 7).

[36]

The decentralization that took place in American life, thus, was not only one of split-level homes and the decreasing role of the core city, but one that affected many aspects of life. One no longer only slept in the suburb, often one worked there, did his or her shopping there, went to church there, went to the movies there, and generally found leisure there. With decentralization came also differentiation; with different neighborhoods catering to different income, age, racial and even cultural groups, and work, leisure, civic life, and residency spread out and connected via highways (Duany, Plater-Zyberk & Speck, 2000). A differentiation also took place in taxing and income of different municipalities and districts, thereby creating distinctions between rich and poor cities and suburbs, and neighborhoods with a lot or little school-funding (Jackson, 1985, p. 138, 155, 272-277). This trend has been strengthened through the use of homeowner associations that worked as a sort of local governmental structure, and developments such as the gated community (Bruegmann, 2005, p. 58). The freedom of the car and the wealth of the suburb arguably came at a cost.

Not all urban development went into the same direction. The last few decades have also been marked by a move back to the city, and a move back to the traditional neighborhood.

Whether it is partially a result of (cheap) supply, it is clear that a large group of people with cultural demands, or longing for the 'buzz' of city life, have moved back to the city since World War II and especially in the last few decades (Hubbard, 2006, p. 42-46), thereby reinvigorating many (inner-) cities (Bruegmann, 2005, p. 48, 56). Many cities formerly shrinking in population, are now growing (Lewis, April 22, 2011). Furthermore, the eighties saw the introduction of the New Urbanism; a move back to a denser, more traditional, inclusive and diverse, neighborhood. More-over, the lot size in urban areas, which averaged a staggering 10,000 square feet for most of the seventies, eighties and nineties, has declined to 8,750 square feet at the start of the new millennium (Bruegmann, 2005, p. 68), perhaps signaling somewhat of a halt to the increasing decentralization.

Concluding remarks

The 20th century in the America is marked, among others, by a large and (comparatively) affluent middle class. It has also been marked by abundant and cheap energy, and the introduction of the (affordable) mass-produced automobile, making the automobile an attractive means of transportation. Cheap land in combination with transportation improvements, construction improvements and later on (until very recently) ever more affordable mortgages because of government subsidies and the policies of banks⁷, got the detached dwelling in range for a growing group of people. In regard to wealth and the affordability of both the house and the automobile, Europe has lagged behind. However, as (western) Europeans have become more affluent in the last decades, population densities in the city often declined and suburban development – in the form of single-family houses – has risen, not unlike the United States (Bruegmann, 2005, p. 199). Perhaps the direction towards decentralization is not so much unique for the United States, but the scope and, with it, its effect on daily life are.

[37]

What is it that created such an enormous flux of suburbanization? As has been pointed out, there were many (technological and policy) developments and circumstances (cheap land) that made suburban living an increasingly economically attractive choice. Furthermore, there has been an enormous rise in population over the last century, who all needed a roof to sleep under. The specific suburban form that this expansion took, however, has been noted to occur outside of the United States. An important cause, therefore, could simply be preference; a preference for privacy, mobility, and a comfortable house for the nuclear family. Inner-city crime and racial distinctions (fear) could be yet another reason for the move to the suburbs (however, in relatively safe and homogenous European countries and cities, we have seen a comparable development). The judge

⁷ Here I am referring to the techniques with which banks tried to make mortgages available for an ever larger group of people, something that has arguably spiraled out of control in the last years, considering the housing-crises.

is out on exactly to what extent these different developments caused sprawl, but that some people, many even, seem to have a preference for the suburban dwelling, is without question.

Of the 100 million houses in the United States, about two-thirds now consist of single-family dwellings on separate lots (Jackson, 2006, 14). This is a remarkable achievement: in a hundred years the (suburban) detached and relatively large single-family home, with its comforts and privacy, has become a viable choice for most Americans. But, arguably, this suburban development has come at a (societal) cost and has not been as successful at satisfying some other needs and desires of people besides that of having a spacious, private, safe and accessible dwelling. These (perceived) 'pros and cons' of the American suburban development will be discussed in the next paragraph.

3.3 Defining the suburb

With a process of suburbanization that spans many years, and encompasses enormous amounts of houses and housing subdivisions, comes a great variety in shape and size: from suburbs that depended on public transport to the suburbs catered to the automobile, and from gated suburbs to ethnic suburbs. Anno 2012 the variety in suburbs stems furthermore from the time in which they were build, to socioeconomic status, to racial and ethnic profile, from thriving to being in decline (Hanlon, 2009), in their distance from the city, their exclusiveness, their shape and political structure, etcetera.

This variety in suburbs is accompanied by the academic inability to share a clear definition of 'the suburb'. First of all, some see the suburb not as a geographical space per se, but as a state of mind, or as a cultural representation (Vanghan, Griffiths, Haklay & Jones, 2009). Clearly in this thesis the focus is on the geographical space and spatial form. However, that still does not solve the issue of defining the suburb. Even as a category of space, there is no consensus on that which we call the suburb (Bruegmann, 2005, p. 17-18; Burchell & Shad, 1998; Jackson, 1985, p. 4; Myers & Kitsuse, 1999, p.2) nor, according to Nicolaidis and Weise (2006, p. 7), is it likely to emerge any time soon.

On the issue of defining the suburb Bourne (1999, p. 163-4) argues for recognition of the "diversity of perspectives" that comes with a complex topic. And of course, academics should not keep themselves from using different scopes through which to look at the suburbs. However, a clear definition of the geographical space of 'the suburb' is nonetheless required, since the aim is to compare a New Urbanist subdivision to 'the suburb'.

How is it that most Americans I spoke to during various stays in the United States, when questioned about the suburbs, seemed to “know it when they saw it” but that it seems nonetheless difficult to define? I would like to make the argument that this reveals that this has to do with the context-dependency of what a ‘suburb’ is, and that most people have an archetypal image of the suburb in mind.

Let me explain. One could safely assume that an Englishman, a Spaniard or a South African would all hold different ideas about what the suburb is, than an American would. Furthermore, it is safe to say that we hold a different view on what ‘the suburb’ is, than people a hundred years ago would. The ‘suburbs’ therefore can be seen as contextually dependent. In the end, the *sub-urban* is set off against the *urban* – just as the dichotomy between rural and urban – and what is urban is dependent on both time and place.

Emily Talen (2005) tries to differentiate the suburban and the urban by the underlying principles in which they differ. In her book she looks at the multiple ideals from which urban planners have looked at spatial development in the last hundred years. According to her, the recurrent normative consent in many groups of urban planners is that the urban consists of such principles as diversity, equity, community, connectivity and the importance of civic and public space (Talen, 2005, p.3). The converse principles – of separation, segregation and the neglect of equity, place and the public realm – that she feels define the suburbs, are what she calls the ‘sub-urban’ or rather ‘anti-urban’ (ibid.). As such she creates a context-dependent description of the suburban whereby the context is the ‘urban’ – of a set time and place - which it opposes.

This implies that one city may be more ‘urban’ than another, just as one suburb may be more ‘sub-urban’ than another. This holds well with the notion most of us implicitly have that a city such as Paris or New York is ‘more of a city’ than, say, your local provincial town. Taking time into the equation this also means that what could once be considered suburban, may now be considered more urban because of it becoming, for example, (comparatively) less separated and more diverse. This, then, holds well with the fact that many of the ‘suburbs’ of the early 1900s are now often no longer considered suburban, such as for example the neighborhood called Rosemont in Alexandria, Virginia.

When most Americans think of ‘the suburb’ they do not hold the academic complexity of the nature of the suburb in mind, but simply have a notion of some common features that signify the present-day suburb. What then is the present-day image of the suburb that makes Americans point and shout “suburb!”? This question gets us close to the notion of ‘suburban sprawl’ which I

believe is to be seen – when taken out of its negative connotation⁸ – as the predominant suburban shape that took over the American landscape since the Second World War (Bruegmann, 2005; Duany, Plater-Zyberk & Speck, 2000; Jackson, 1985; Meredith, 2003).

Who better than urban planners to enlighten us on the geographical shape that the suburban landscape has taken? Urban planners Duany, Plater-Zyberk and Speck neutrally define ‘sprawl’ as “an abstract system of carefully separated pods of single use [where] daily needs are located within driving distance” (Duany, Plater-Zyberk & Speck, 2000, p. 4). This ‘system’ consists predominantly out of housing subdivisions, shopping centers (or strip malls), office parks and civic institutions connected together through roadways (ibid, p. 5-7). In other words, the ‘pods’ of places to shop, to work, to live and of civic life are all separated and connected through (predominantly) automobile transport – which reminds of Talens’ ‘un-urban’ principle of separation and the neglect of the public realm⁹.

The subdivision – or suburb¹⁰ – within this suburban landscape is one that is defined by low density, detached, single-family homes in, again, a single-use residential ‘pod’ (Myers & Kitsuse, 1999, p. 17). Because of its single use and (corresponding) automobile dependency, roads need only be a connection from the house to the highway, and from the highway to whatever service (shopping, education, work, leisure) required. The roads are not made to create accessibility by bike or foot, from one house to another or from the house to the required service (Duany, Plater-Zyberk & Speck, 2000, p. 24-25). Although obvious, it seems nonetheless important to point out that such single-use development thus prevent having places of shopping, work, worship etcetera from being part of a neighborhood, and thus meaningful ‘public’ space from being part of any subdivision.

Besides the exclusion of services and car-dependency, the typical suburb holds other features. When asked to describe what ‘the suburb’ looks like, many Americans would probably name the ‘cul-de-sac’ somewhere in their description. Most streets in the suburbs of the last fifty years are curvilinear and quite wide (Duany, Plater-Zyberk & Speck, 2000, p. 33-34, 78-79). A cul-de-sac – being a sort of lollipop-shaped dead-end road – is the epitome of the curvilinear road network of the suburb. The houses on these, often curvilinear, streets are predominantly large-lot single-family houses, which have steadily increased in size over the decades, and are much larger

⁸ See Myers and Kitsuse (1999, p. 7, 24-28) for a discussion of the terminology of ‘sprawl’ and ‘suburban’.

⁹ More about this in the next paragraph which discusses the perceived pro’s and con’s of the (typical) suburbs.

¹⁰ Continuously, definitions of such terms as ‘suburb’, ‘sprawl’, ‘urban’ etcetera can be confusing and used in different ways. Although the ‘suburb’ has, in the preceding pages, mostly been described as the mixture of both the housing subdivision and that which surrounds it, the term is also used to describe only the subdivision.

than Europeans are used to¹¹ (Bruegmann, 2005, p. 58; Duany, Plater-Zyberk and Speck, 2000, p. 41). Not only are these subdivisions often predominantly of the same type of housing, they are also inhabited by the same 'type' of people; they are (often, not always, and less and less so (Bruegmann, 2005, p. 143)) homogeneous by income, ethnicity, class, age and values even (Duany, Plater-Zyberk & Speck, 2000, p. 43-45).

Besides the cul-de-sac and the wide, curvilinear streets, the conventional suburbs know many other communalities in their aesthetics. First of all, regardless of what specific look and size the houses in a certain subdivision might have, they often look strikingly the same (in style and type) (Kim & Kaplan, 2004, p. 322). This is often true for the architecture of the house itself, but even more so for the way the lots on which they stand correspond with the house. The house stands in the middle of the lot, with a lawn to the front, to the sides, and the back, and (often) a large garage facing the main street (Duany, Plater-Zyberk & Speck, 2000, p. 74, 80-81). Correspondingly these houses are often set back from the street significantly – much further than you would find in more urban areas. Front porches – a feat you find in many houses of older American neighborhoods – are usually rare or non-existent¹². These suburbs are furthermore lacking in a certain form of variety, because there are usually few to zero retail and/or recreation facilities, service buildings, common greens, parks or alleys in between the rows of houses, making them seen by some (or many?) as un-enjoyable to walk through (ibid, p. 74-83).

[41]

Orchard

Orchard is the suburban community – or 'subdivision' – that will be used as the suburban reference in this research. Orchard is located in Gaithersburg, Maryland – in the same city as the New Urban neighborhood that I will research – which is just a few miles north of the U.S. capital, Washington D.C. . The question at hand is to what extent the characteristics of Orchard meet the common characteristics of conventional suburban development, as mentioned in the preceding paragraph.

Driving into Orchard the first thing one would perhaps notice are the (sometimes very) wide, curvilinear streets. Almost all of the streets know at least one, and often quite a lot more, cul-de-sacs branching off from the longer streets. Further in accordance with the conventional suburb are the (large) separate one-family houses which are built on large lots with distances of at least 15 to 25 feet between the houses (Kim & Kaplan, 2004, p. 323). The houses in Orchard are set back far from the street, with garages facing the street. Front porches are few and far in between. Also, the houses appear similar in style.

¹¹ The average size of a new house has risen from around 1,000 square feet at the beginning of the postwar decades, to nearly 2,500 square feet at the beginning of the next century (Bruegmann, 2005, p. 58).

¹² However, I spoke with a realtor who mentioned that front porches are possibly making a comeback.

As one would expect from the above description of Orchard, the density of housing is low. Orchard has no retail facilities and service oriented buildings are limited to (swim and tennis) clubhouse facilities, and some educational facilities. In terms of landscape design one notices the extensive amount of grassy areas and the occasional group of trees. Also, there are a few small lakes surrounding the more expensive houses in the subdivision, which are partly accessible, but no playgrounds, common greens or alleys. There are sidewalks, although not always and often only on one side of the street. It is a subdivision clearly not designed for the pedestrian. Overall, Orchard is in many ways alike to the conventional suburb, but not archetypical in the sense that every and all of its features are in accordance with the ideal type. There are some condominiums instead of only one-family houses, and there are some facilities – albeit not many – but apart from that it corresponds from the ideal-type suburb.



Figure 11

A picture that I made in Orchard. Clearly visible are both the curving nature and the width of the street.



Figure 12

Another picture from Orchard. One may notice the absence of sidewalks and the large lots. The houses are set back quite far from the street, and the distances between the houses are wide.

3.4 Problems and praise; a selection

Suburban living has brought many Americans the possibility of owning their own house, with the privacy of having your own lot, in an environment of comparatively low housing density, and all of this in an acceptable commute from the city. According to many polls, this possibility fits with consumer preference (Bruegmann, 2005, p. 126, 201; Myers & Kitsuse, p. 12, 18). Some go as far to say it – together with owning a car - is an essential part of the American dream. Having your own house –and the privacy that may come with it- was in reach for only a select few a mere hundred years ago, now it has become available far down the economic and social ladder (Bruegmann, 2005, p. 36, 110). If indeed the suburbs have made the fulfilling of this dream an economic possibility for most Americans, there seems to be a lot to praise the suburbs for.

And the suburbs have more to offer. In the case of *Euclid v. Ambler* (1926), the U.S. Supreme Court justice Sutherland argued that a separation of functions in our surroundings protects people from “fire, contagion and disorder which in greater or less degree attach to the location of stores, shops and factories”. Single-use housing subdivisions are thus implied to offer a safety that (more) urban areas do not provide. The city does not only mix different uses in the same area, it is also known for its inner-city crime and poverty, further adding to the notion of the urban being unsafe, and the suburban being a safer alternative.

[44]

Sociologist Richard Sennett (1970) argues that this escape from the city does not only provide safety but also social comfort. It is his view that during adolescence, people are confronted by a world of growing complexity and uncertainty and that we create an identity that “coheres, is unified and filters our threats in social experience” (Sennet, 1970, p. 9), as well as seek to find a set of circumstances in our lives that keeps surprises at bay. The suburbs, according to Sennett, offer a simplified (because less diverse?) social environment when compared to the confusion of the city. Suburban living thus gives us the option of living in more of the “purified community” – as he puts it - that many of us supposedly desire.

New subdivisions are often advertised by paying homage to the (idealized) life of a small town or invoking an image of rural living, but with all the comforts of city-life (Duany, Plater-Zyberck & Speck, 2000, p. 102). According to Jeremy Meredith (2003, p. 470), the suburbs have been propagated as the superior choice of living arrangements, from the Founding Fathers to Thoreau to Frank Lloyd Wright. This is something that Jon Teaforde (2006, p. 72-73) also recognizes in some of Hollywood’s imagery - and which is beautifully displayed in the first 15 minutes of the documentary “The end of suburbia”. Although suburbs do not offer real ‘small-town living’ or a true rural surrounding, it does perhaps bring people much closer to that ideal.

Other feats of suburban living are its possibilities for political participation and its overall economic package (Meredith 2003, p. 467, 472). A city is diverse and large, which means one has to share his voice with many, and many different, voices and share governmental costs with more, and more diverse people. The suburbs allow a citizen to 'shop' between different communities, with different level of taxes and with different prevailing (political, ethical, religious) views among its inhabitants. Meredith argues (2003, p. 467) that the suburbs provide people with an economic bundle of taxes and (quality and costs of) school services. Together these things make the suburbs somewhat of a shopping ground of costs and benefits, in which people can chose their most preferred bundle.

Surely in the last decades the praise for the suburbs has been eclipsed by the critique. Some wonder if the conventional suburb truly delivers what people want, others if people *should* want it, and finally there is the question if the conventional suburb is worth its costs. With criticism stemming from many fields of research to literature (such as 'The geography of nowhere' by Howard Kunstler, 1993), music ('The Suburbs' by pop-band Arcade Fire, 2010) and documentaries ('Radiant City' by McCrea and Burns, 2006), I will limit myself to a summary of what I believe to be the most potent arguments of critique on the suburbs.

First of all, there are those who say that the form that the conventional suburb has taken does not truly reflect people's wishes. A 1988 survey done by the 'Center for Public Interest Polling' showed that living in a small town, a village, and a rural setting all ranked higher as a desired residential location than the suburbs did¹³. The conventional suburb may be something that brings people closer to that ideal, but then we should still question *the form* of the suburb. For instance, these conventional subdivisions lack amenities such as a church and a town-center, that would bring the suburb even closer to the ideal of (affordable) small town living. Professor of City Planning Reid Ewing (1997, p. 111) argues - on the basis of surveys showing the preference for small-town living - that compact cities would do well if only the market provided greater opportunity for people to choose this type of living. Likewise, protagonists of New Urbanism argue that their mixed-use communities would work well in the market, but that the market simply offers little of that choice to most suburbanites (Duany, Plater-Zyberk & Speck, 2000, p. 105).

Then there is the economic critique of the suburb: that it is a subsidized inefficient and in the end quite costly way of housing people. Filling your tank in the United States is the fraction of the cost of most European countries which fits well with the dominance of the car in daily life. However, Ewing (1997, p. 122) calculates that a gallon of gasoline would cost an additional \$6.80 to be able to cover the cost of creating roads and parking space, the congestion that comes with

¹³ A 1989 Gallup survey asking people about where they preferred to live showed comparable results: 34 percent of the respondents chose a small town and only 24 percent chose the suburb (Johnson, 1990)

everybody using the car, and pollution that results from it¹⁴. This, in effect, subsidized inefficiency continues with the services provided by municipalities. The low-density development of suburbs is comparatively costly in terms of the miles of water pipes, roads and other infrastructure that is required to serve the citizens; the distances are higher and the efficiencies of economies of scale inapplicable (Meredith, 2003, p. 454-455). This can, and does, create severe economic burdens for municipalities¹⁵.

Besides being a possible burden for municipalities, the suburbs are often seen as a burden on the cities they are built around (Bruegmann, 2005, p. 145; Meredith, 2003, p. 455; Teaford, 2006). With the more affluent citizens, and many jobs, leaving the city, the city is left with both a worse tax-base and a higher percentage of non-affluent citizens to provide for¹⁶. In 1990 the central cities housed a half of the poor people – from one-third in 1960 - and this concentration of poor people quite possibly aggravates the effects of poverty (Meredith, 2003, p. 459). In effect, the poor had become ever more concentrated in places that had ever decreasing funds to deal with the problems, whilst the suburbs would remain relatively exempt from such problems and could correspondingly keep their levels of taxation lower.

As people moved out of the heterogeneous cities to the more homogenous suburbs, Americans, according to Professor Gerald Frug (1996), have lost tolerance for diversity. According to him the social and spatial distance between people that follows from conventional low-density suburban development, is in stark contrast with the degree of interaction between strangers that is part of city life. Frug (1996) states that this interaction with a diverse surrounding both helps increase tolerance as well as create more opportunity for the individual to follow a preferred life-course. City life would promote and intensify subcultures, which in turn would create more opportunity for individual experimentation, growth, and choice (Meredith, 2003, p. 463).¹⁷ Frug (1996) extends this critique to the level of community *within* a subdivision: the distance between people/houses, together with a lack of shared public space or amenities, would be detriment to a 'sense of community'. This is a critique also found in Robert Putnam's renowned book "Bowling Alone" (2000) and which is shared among many of the protagonists of New Urbanism. I have not

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¹⁴ Duany, Plater-Zyberk and Speck (2000, p. 94-94) estimate the hidden costs of driving at \$5,000 per car per year, which makes them conclude that "subsidized automobile use is the single largest violation of the free-market principle in U.S. fiscal policy".

¹⁵ For example, the city of Franklin, Milwaukee estimated that it would cost them \$10.607 to service a new single-family home, whilst it would yield less than \$5,000 in property taxes (Hulsey, 1996).

¹⁶ It is important to note that this flight of jobs and people from urban areas has been true for many decades, but that the last ten-twenty years show a slowing or, even, a turnaround in the larger cities (Teaford, 2006, p. 252-253)

¹⁷ However, this is not to say that suburbs cannot also cater subcultures, as there are suburbs that cater to a certain lifestyle or conviction that are out of the mainstream.

found convincing research about the absence of community in the suburbs (although some of the research on gated communities and sense of community is interesting), but there is convincing research that New Urban neighborhoods promote more of a 'sense of community' than conventional suburban neighborhoods do (Kim & Kaplan, 2004).

With distances between home and services often being too large to walk or even bike, and little access to convenient public transportation, the conventional suburbs have created an automobile-dependency (Bruegmann, 2005, p. 140; Duany, Plater-Zyberck & Speck, p. 125-127). Those in the suburbs who cannot drive – the young, the old, the handicapped and the poor – are thus confronted with a quite inaccessible environment (Myers & Kitsuse, p. 19). Furthermore, those who *can* drive and can afford an automobile are confronted with the necessity of buying a car - which comes at a cost. Although the research on the matter is conflicting, some also give the suburban landscape and corresponding automobile-dependency part of the blame for long commutes and more congestion (Bruegmann, 2005, p. 140; Duany, Plater-Zyberck & Speck, p. 125; Myers & Kitsuse, p. 19).

The car-culture of suburban America is linked to another cost of the suburbs: the environment. Automobile travel – which the suburban world requires more of - is linked to air and water pollution and increased energy consumption (Meredith, 2003, p. 466; Myers & Kitsuse, 1999, p. 8). Besides a high car usage, the suburbs are marked by the prominence of (large) single-family residences with their corresponding high energy usage. Together, these two feats of the suburban lifestyle are seen as contributing to global warming (Bruegmann, 2005, p. 149; Meredith, 2003, p. 466), which is quite possibly the biggest challenge humanity faces. Other negative environmental effects include the loss of agricultural land, the destruction of natural habitats and loss of ecosystems (Meredith, 2003, p. 463-464; Myers & Kitsuse, 1999, p. 8)

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The traditional nuclear family – which made up half or more of the American households in the 1960s – has recently become a minority (Benfield, 2011; Lewis, 2011) of America's households. Most projected growth in housing demand is to come from young people and retiring baby boomers: people with housing preferences different than that of a single-family home (Benfield, 2011). Both groups are thought to attach more value to walkable amenities, and less to the typical automobile dependent subdivision (ibid.). Furthermore, these younger generations might prefer something completely different than the suburban lifestyle (hence the migration of younger people into the (large) cities).

I will conclude this summary with the more normative critique of suburban culture and the aesthetics of the suburban world. Although the cultural critique seems to have become more

prominent in recent years, it is not new. In 1961, Historian and sociologist Lewis Mumford had the following to say about the suburbs:

“In the mass movement into suburban areas a new kind of community was produced, which caricatured both the historic city and the archetypal suburban refuge: a multitude of uniform, unidentifiable houses, lined up inflexibly, at uniform distances, on uniform roads, in a treeless communal waste, inhabited by people of the same class, the same income, the same age group, witnessing the same television performances, eating the same tasteless pre-fabricated foods, from the same freezers, conforming in the central metropolis, thus, the ultimate effect of the suburban escape in our time is, ironically, a low-grade uniform environment from which escape is impossible” (Mumford, 1961 in Jackson, 1985, p. 244)

Mumford thus critiques the supposed ‘uniformity’ of the suburban world and the suburban lifestyle. Robert Davis (in Miller, 1999) and James Howard Kunstler put further oil on the fire by criticizing the suburban world as an “insatiable consumption apparatus” and as “brutal, ugly [...] and spiritually degrading”. In his trademark poetic cynicism James Howard Kunstler calls the suburbs a landscape of “jive-plastic commuter tract home wastelands, [...] Potemkin village shopping plazas with [...] vast parking lagoons” and “Orwellian office parks featuring buildings in the same reflective glass as the sunglasses worn by chain-gang guards” (Kunstler, 1993, p. 10). Surely one does not (should not?) have to agree with this normative criticism of the suburban aesthetics, but we should take notice of the fact that some, or many, people (really) do not like how one of the most dominant living arrangements in the United States look.

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3.5 New Urbanism

In recent decades an alternative vision for conventional suburban development has started to take hold among planners and architects. It is a vision that is presumed by many to combat most of the ills of the continuous rise of suburban sprawl. During the early 1980s, architects Andrés Duany, Elizabeth Player-Zyberk and Peter Calthorpe pioneered this supposed superior alternative to the conventional suburb, and it has since become known as ‘New Urbanism’ or ‘Neo-traditional development’ (Eppli & Tu, 1999, p. 427; Nasar, 2003, p. 58). Since its conception, it has been a growing movement, that has organized itself in the Congress for the New Urbanism (CNU)¹⁸.

¹⁸ Visit www.cnu.org for their website. Their mission, according to their website and strategic plan, is to “change the practices and standards of urban design and development to support healthy and diverse, complete neighborhoods”. The movement organizes a yearly convention, and has a guiding document on principles of good design.

The New Urbanists look back at American neighborhoods built before the rise of the (automobile-dependent) conventional suburb – hence the name ‘neotraditional development’ - and try to apply the principles of that design to today’s development (Eppli & Tu, 1999, p. 427). As Todd Bressi puts it in Peter Katz’s book ‘The New Urbanism’, these old neighborhoods “provide both inspiration and countless practical lessons for the design of new communities” (Katz. 1994, p. xxv). Basically the New Urbanists are saying that conventional suburban development is flawed, so let’s go back to building the neighborhoods that did work.

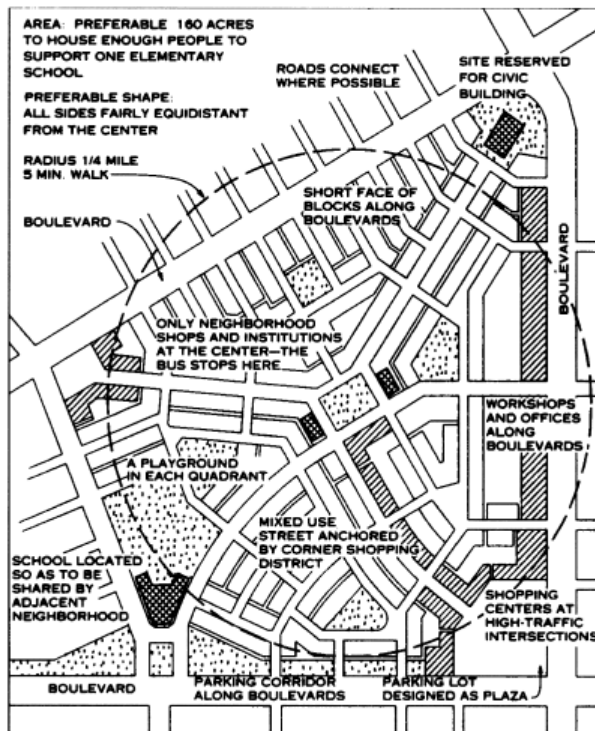


Figure 13. New Urban planning. Reprinted from Ramsey and Sleeper, 2000 (in Meredith, 2003)

The New Urbanists seek to create “healthy and diverse, complete neighborhoods” (CNU, 2011^a), with an emphasis on “walkable, human-scaled” design (CNU, 2011^b) for liveable, accessible, sustainable neighborhoods that pay attention to the public realm (ibid.). So what is a ‘healthy and diverse’ neighborhood? It is a neighborhood that includes different houses to suit people of different age, of different income, and of different family-types. It is place where people walk and bike (Myers & Kitsuse, 1999, p. 26). What is a complete neighborhood? It is a neighborhood that revitalizes the public realm and brings back a sense of community, and it is a mixed-use neighborhood that brings back businesses,

shops and services into the community (Myers & Kitsuse, 1999, p. 26). Finally, it is a place of intrinsic quality, a place that comes with a ‘higher Quality of Life’, a ‘more pleasant place’ (CNU, 2011^c).

According to its protagonists, New Urbanism has quite a lot to offer. The main ingredients for such ‘healthy diverse, and complete’ neighborhoods are spatial. Whereas the conventional suburban development is organized in monotonous, single-use zones (or ‘pods’) that are connected via highways, New Urban development is aimed at bringing these different places back into one neighborhood, and make them walkable, easily accessible (Duany, Plater-Zyberk & Speck, 2000; Myers & Kitsuse, 1999, p. 26). Furthermore, the public realm is to be ‘revitalized’ by making streets and spaces pleasant meeting places, where interaction between citizens can thrive and ‘placelessness’ ends (CNU, 2010; Duany, Plater-Zyberk & Speck, 2000).

In Talens' (2005) terms of 'anti-urban' and 'urban', the principles of New Urbanism are clearly in line with the latter. New Urbanism can be seen as a practical handbook to realizing the ideal neighborhood that is built to cater accessibility, diversity, public space and a sense of community. This revival of urbanism comes after decades of thriving 'anti-urban' development materialized in the conventional suburbs. New *urbanism* is therefore true to its name.

New Urbanism pays attention to desirable changes in public policies and development practices that facilitate conventional suburban development. It also pays attention to what regional development should look like (CNU, 2010). However, the heart of the movement lies in its urban planning doctrine (CNU, 2010; Meredith, 2003, p. 482-3) which describes the principles of New Urban planning and design on the neighborhood, block-, street- and building level. The heart of the movement thus lies in the practice of different (better?) neighborhood design than its conventional suburban counterpart.

Considering the New Urbanists have carefully laid out the principles of good neighborhood design, I can simply look at its design principles to describe what the (ideal) New Urban neighborhood looks like. The four principles of 'human scaled, walkable (accessible) design' that is 'liveable, diverse and pays attention to the public realm' are diversity, pedestrian-orientation, accessible public spaces and community institutions, and celebration of unique local elements (CNU in Meredith, 2003). I have described the basic tenants of New Urban design, now let me give a more exact picture on what New Urban neighborhood design looks like.

One important element of the walkability of New Urban communities is the so-called 'five-minute walk': a five-minute walk from the edge of a neighborhood to its center. In spatial terms, this implies a quarter-mile or 400 meter radius of houses around the neighborhood center (Duany, Plater-Zyberk & Speck, 2000, p. 198). According to the New Urbanists, walkability implies more than just a walkable distance to and from, and also requires comfortable, safe and interesting streets and squares (CNU, 2010, principle 23). This would be created by the use of narrow travel lanes to slow traffic, onstreet parking to create a buffer between the pedestrian and the street, large sidewalks with green-lanes for a more comfortable walk, and houses close to the sidewalk so that their windows form a sort of eyes on the street and further facilitate a safe walk. Finally, a 'grid-network' street lay-out facilitates walkability and accessibility. Another important element in the non-automobile dependent accessibility of the New Urban neighborhood is the existence of "frequent and predictable" transit systems with stops that are "safe, dry and dignified" (Duany, Plater-Zyberk & Speck, 2000, p. 202-3).

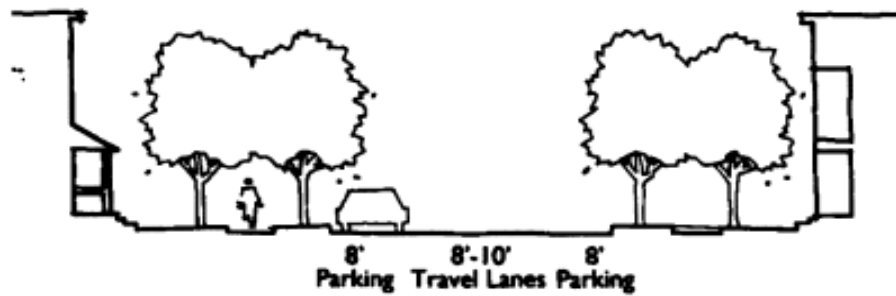


Figure 14. New Urban street design. Reprinted from Calthorpe, 1993, p. 97

To (further) invest in the public realm public parks are to be within two blocks of any residence (Calthorpe, 1993, p. 91). ‘Civic, institutional and commercial activity’ need to be embedded in the neighborhood and concentrated (by function) (CNU charter, principle 16). The civic buildings require important sites ‘to reinforce community identity’ as well as have a distinctive form (CNU, 2010, principle 25). Schools should be walkable and/or bike-able, and thus located close-by. Finally, open lands should be used ‘to define and connect’ different districts (CNU, 2010, principle 18).

The final two principles are diversity and the ‘celebration’ of unique local elements. To facilitate creating a diverse neighborhood “a broad range of housing types and price levels” is suggested (CNU, 2010, principle 13). New Urbanism promotes using local elements such as its climate, history and ecology, topography and building practice as basis for landscape design and architecture (CNU, 2010, principle 24). By addressing the unique-ness of a place this would facilitate creating an identity for the neighborhood. There are many other specific guidelines for New Urban design but it would be exhausting for both reader and writer to further dwell on specifics, when the major elements of New Urban design have since been described.

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└ Kentlands

The New Urban community that will be used to test its ‘Quality of Place’ is called Kentlands. Kentlands is – just like Orchard – located in Gaithersburg, Maryland. Kentlands is designed by New Urban ‘gurus’ Andres Duany and Elizabeth Plater-Zyberk. It is one of the first attempts to develop a community according to the New Urban planning doctrine, as construction started as early as 1989, and it is arguably one of the most complete New Urban residential developments (Kim, 2007, p. 204). As a prototypic New Urbanist development the characteristics of Kentlands are of course largely in line with New Urbanist’ principles; however there are (obviously) small deviations from its ideal type.

Driving through Kentlands there are many aspects that stand out from its surrounding conventional suburban counterparts. In the boundaries of the community there is a lot of retail-space (335,000 sq feet) with many small-scale shops, there are cafés, there is a farmers’ market, an

elementary school, a community building, a church, a clubhouse, a daycare center and more. A wide range of houses – from small to large, from apartments to single-family homes – further complements the diversity of the community.

Instead of wide curvilinear streets and cul-de-sacs, Kentlands is arranged on a grid pattern of narrow streets. Houses are close to the street and housing density very high – certainly by conventional suburban standards - with usually no more than 2 to 4 meters between them (Kim, 2007, p. 210). There are plenty of (wide) sidewalks, often complemented by lines of trees, and there is a lot of on-street parking. Although there is no ‘five-minute walk’ between the neighborhood center and all of the housing; services, shops and public space are never a long walk. There is also a shuttle bus service, with three ‘safe, dry and dignified’ stops, to a regional subway station (that is connected to Washington D.C.).

Green space (such as parks and lakes) is in abundance to a total of 100 acres out of Kentlands’ 350 acres. Shops are concentrated into a retail area, and (most) civic buildings are concentrated in a distinctive place filled with historic, landmark buildings that were built long before the construction of Kentlands. The landscape has retained topographic features such as hills and lakes and the architecture of the neighborhood is in line with the already existing buildings in the neighborhood.

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Although it is a prototypic New Urban development, there are some deviancies from the ideal. I already discussed the absence of a ‘five-minute walk’ for all its inhabitants. A perhaps more important absence is that of office space, of which there is few. Because of an excess of office space in the surrounding area, the office component of the development has been cancelled or, at the very least, postponed (Tu & Eppli, 2003, p. 429). Thus, the incorporation of places of work in the neighborhood has not been (fully) materialized. Finally, although there is a high diversity in housing, there is not as high a diversity among its inhabitants. This is the result of both housing-provisions (such using all natural building materials) that make the houses more expensive, and the market-premium (of an estimated 11%) because of high demand (Eppli & Tu, 1999, p. 73; Meredith, 2003, p. 492). Nonetheless, it is probably the (finished) neighborhood that comes closest to the New Urban ideal.



Figure 15

A picture I made in Kentlands. One may notice the striking difference with earlier pictures of Orchard: Houses are both close together and close to the street.



Figure 16

This picture was not taken in the best of weather, but one can nonetheless notice the sidewalks as well as the grid pattern of the streets. Both should increase the walkability of the neighborhood over conventional suburban design.

3.6 Is New Urban design an improvement over conventional suburban design?

In the preceding paragraphs I have discussed the achievements and problems attributed to suburban design and suburban development. I have also discussed New Urbanism and how its protagonists see it as an (enormous) improvement over conventional suburban design. However, there is also critique on New Urban design. The question arises: is New Urban design truly better than suburban design? The aim of this research is to test which one of the two designs is better in achieving a higher Quality of Life (i.e. to test which neighborhood has a higher Quality of Place). However, that is not to say that this is the only field of interest in which suburban design and New Urban design may compete over which is better.

Although there is nowhere near as much critique of New Urban design as there is of (conventional) suburban design, there is criticism. This criticism goes two ways: on the one hand there is the critique that New Urban design cannot provide what it promises or that it could be even better (see Ellis, 2002 and Meredith, 2003 for an extensive account of such criticism¹⁹), on the other there is the criticism that in some ways it might be worse than conventional suburban design (see Ellis, 2002 and Ford, 1999). If indeed New Urban design is all that it could be is questionable, but this goes for any promise of improvement, and it does not stand in the way of New Urban design being a possible improvement over conventional suburban design. However I do feel I should address the second type of criticism, that, in some ways, New Urban design might actually be worse than conventional suburban design.

The main points of criticism that I found of how New Urban design would be worse than conventional suburban design are as follows. The first charge is that the design of New Urban neighborhoods would be “unauthentic, inappropriate and overly cute” (Ford, 1999, p. 252). If this would only concern architecture I believe the criticism fails as this is a matter of taste – and there is widespread disliking of most conventional suburban architecture (see Kunstler, 1993, for an amusing example) – and because the design of the different New Urban neighborhoods is actually quite diverse (see <http://www.dpz.com/Practice/Overview> for examples). Actually, New Urbanism in itself is not even an architectural fashion as it is open to any architectural style (Ellis, 2002, p. 274). However, this critique can also be more than simply one of architectural taste, and be one of creating an imaginary past that fails to confront reality – one of catering nostalgia – through design (Ellis, 2002, p. 266). However – in defense of New Urbanism – I have not yet come across a

¹⁹ It has to be noted that New Urbanists themselves share this critique to a large extent. They, however, state that they are more-or-less bound to judicial, political and economic realities that they cannot overcome with design alone (Duany, Plater-Zyberk & Speck, 2000, p. 18-20, 50-51, 96, 113, 149, 185, 215-243). To borrow a quote by Andres Duany (In Ellis, 2002) “the architectural world thinks that all of this is conservative; the development industry thinks it is radical to the danger point, courting the bankruptcy of the developer, and even endangering the entire industry. These are the two worlds and the two critiques that we are straddling”.

substantiated account of how New Urban design accommodates such an excluded escape of reality. Furthermore, New Urban neighborhoods – in contrast to many other suburban neighborhoods - are ungated, facilitate diversity and public transportation towards the city.

Another critique is that the New Urban design-features aimed at creating a sense of community and safety – pathways surrounded by houses with porches close to the street, centrally located public buildings – are in effect a form of ‘panoptic surveillance’ and repressive control (Ellis, 2002, p. 272). However, one has to wonder how strong this effect of surveillance and repressive control truly is (if there even is one). In (smaller) cities there is (often) the same occurrence of central public buildings and houses closer to the street. Walking through the streets of Kentlands I did not feel ‘watched’ in any sense. According to Ellis (ibid.), these analyses are driven “by their own theoretical presuppositions far more than by any careful analysis of New Urban communities”. It is my understanding that this increased surveillance and control, and its possible negative effects, needs more substantiation; at this point I (we) can neither simply refuse nor accept this critique.

Finally, there is the critique that New Urban projects add to the segregation of society. Where conventional suburban development is criticized for enabling the differentiation of society through income and race, here the critique is that New Urban design adds differentiation through lifestyle to the mix (Ford, 1999 p. 253). Differentiation through lifestyle is however increasingly widespread with ‘creative cities’, ‘gay-communities’ and even the distinction between city and suburb (Ford, 1999, p. 254; Teaford, 1979). Furthermore, it must be noted that New Urban design tries to accommodate housing arrangements for different (and lower) income levels (Ellis, 2002, p. 279) as well as create a public space where people can meet (Ellis, 2002, p. 281). Nonetheless, segregation through lifestyle could very well be considered as something negative and thus - if indeed New Urbanism accommodates such segregation more than conventional suburban development - be a comparatively negative aspect of New Urban design. However, I could not find convincing evidence to substantiate the claim that New Urban development accommodates segregation more than conventional suburban development.

Although the criticism of both New Urban and conventional suburban design is interesting and in need of more research, I will limit myself to the evaluation of just one, albeit an important, aspect of design. I will test the claim that New Urban design leads to a higher Quality of Life – has a higher Quality of Place – than conventional suburban design. In the next chapter I will discuss the methodology of my measurement and comparison of the Quality of Place of both designs.



4.1 A measuring of Quality of Place

The 'Quality of Place' that I aim to determine and evaluate has, as has been discussed in chapter two, a few defining aspects. First of all it should measure the level in which the environment fulfills the needs and desires people have of that environment. Secondly, this 'environment' should be limited to the design of the neighborhood. I do not want to evaluate things that are there regardless of the design of the neighborhood, such as the distance to work, the quality of the nearby highways, the good manners of the neighbors or the air quality. Such elements might be influential when it comes to the overall satisfaction with the environment, but they are never (directly) consequential to the design of the neighborhood. They are not (directly) dependent on the environment being either of New Urban design or of more traditional suburban design. It, furthermore, makes no sense to evaluate this Quality of Place on another scale than the neighborhood, since this will make it impossible to distinguish the different effects of different neighborhood types.

I have underpinned why I believe a measure of a 'Quality of Place' should be subjective. Any 'objective' account of a Quality of Place would be fundamentally arbitrary and dependent on the researchers own make up of place quality. How can outside observers simply assume what factors are important to the Quality of Place for any and all of the individuals living in a neighborhood when what makes a place of quality is dependent on people's own visions, desires and wishes that differ endlessly between people? Furthermore, the evaluation of important factors for a Quality of Place is subjective. One might be satisfied with a certain aspect of the neighborhood when his or her neighbor is not, simply because people differ from one and other.

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This also means that the evaluation of the satisfaction with the neighborhood design is not only based on aspects of the neighborhood but also on aspects of the individuals doing the evaluation. This means that some effort has to be put in controlling for features of the individuals that do the evaluation.

Finally, it should be noted that this Quality of Place is also time and place-dependent. Different times and places call on different needs or desires. One can, regardless of time and place, evaluate the level of satisfaction but the elements that make up that what people feel are important elements of a neighborhood will differ. What good is a bike-trail when nobody bikes, but what good is having asphalt before the time of mass-produced cars? Will Americans, regardless of their features, evaluate a neighborhood differently than Europeans? My research focuses on

Gaithersburg, Maryland and I will compare a New Urban and a conventional suburban neighborhood within this municipality. This is the place to which my Quality of Place is dependent but I will argue that my research is nonetheless very insightful when it comes to suburban and New Urban neighborhoods in other parts of the United States.

The Quality of Place is a *time, place and individual-dependent, subjective indication of the quality of neighborhood design* in Gaithersburg, Maryland. I have to take into account aspects of the individuals that do the evaluation and remember the fact that I am researching the Quality of Place in a specific place within the vast array of places in the United States. I have to make sure that my concept and evaluation of this Quality of Place is based on the subjective accounts of residents.

To achieve in measuring this concept, I first of all need a subjective interpretation of what aspects of the neighborhood people consider important in their satisfaction with neighborhood-design. The researcher should have no influence on the aspects that are said to be seen as relevant. These aspects can differ in their importance and, again, can differ herein from person to person. The 'weight' these different aspects have should therefore also take into account its subjective nature. Besides the elements and weighting of the 'Quality of Place', there should also be a measure of the evaluation of the neighborhood on these elements. This evaluation should of course also be built upon the subjective opinions of the residents. We can ask people directly about their appreciation of neighborhood design or ask them to evaluate the individual and relevant elements of neighborhood design. The choice has been made to use the latter to construct a Quality of Place. The notion is that such a method to evaluate a Quality of Place is more reliable and valid. By letting people evaluate the parts there is a smaller chance that the evaluation is partly based on other, non-relevant, factors (such as chance) and it will be more precise. Furthermore, it is more insightful because it provides with more information about the nature of satisfaction.

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Thus, the measure and evaluation of the Quality of Place has an explorative and evaluating component. If the researcher should not influence the aspects that are said to be seen as relevant in the Quality of Place, these elements have to be 'explored' via what the residents show or have to say. With a clear image of what makes up the 'Quality of Place' in these neighborhoods, the neighborhoods then have to be evaluated with it.

In the next paragraph I will discuss the philosophical worldview of the researcher when it comes to science. From a discussion of the so-called 'pragmatism' I will continue to discuss mixed methods as a strategy of inquiry in this research. It will be argued that with both an explorative and an evaluating component it makes sense to combine both quantitative and qualitative research to gain answers to the research questions. In the paragraphs following my discussion of mixed

methods I will describe Gaithersburg, Maryland and the precise research strategies and methods for the analysis.

4.2 Pragmatism as philosophical worldview

As a researcher I subscribe to the philosophical notions of ‘pragmatism’. Pragmatism - as a philosophical concept - was introduced as early as 1878, although arguably philosophers such as Socrates and Locke shared/used similar views (James, 1904). Its main feat is not to let metaphysical disputes stand in the way of doing research and making inferences. In the words of one of the most prominent pragmatists William James (1904), it “means the open air and possibilities of nature, as against dogma, artificiality, and the pretense of finality in truth” as it is “primarily a method of settling metaphysical disputes that otherwise might be interminable”.

One such ‘metaphysical dispute’ – and an important one – is that of the positivist- versus the constructivist philosophy. The positivist philosophy, in short, states that the social world works according to *laws* – just like the physical world - that we can research *objectively* (Johnson & Onwuegbuzie, 2004, p. 14). This philosophy prescribes (quantitative) research which is devoid of biases, based on *hard* numbers (ibid). Constructivists subscribe to socially *constructed* worlds that can only be experienced and thus researched *subjectively* (ibid). With ‘reality’ seen as a construction constructivism holds time- and context-free generalizations as both impossible and undesirable and ‘hard’ (quantitative) data as a farce (ibid).

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According to Howe (1988) the ‘purists’ see their paradigm, and its corresponding research methods, (implicitly) as incompatible with the other: the positivist is not open for qualitative methods, the constructivist not open for the generalization of ‘hard’ data. Pragmatism rejects such paradigms as dogmatic and in the way of solving problems (Johnson & Onwuegbuzie, 2004, p. 18). By not letting such paradigms get in the way ‘the open air and possibilities of nature’ is to be unlocked.

However, pragmatism is not simply pushing ‘difficult’ metaphysical discussions to the side. Pragmatism endorses fallibilism – the notion that research conclusions and beliefs are not certain or absolute²⁰. Theories and correspondingly truth and knowledge, are thus seen as tentative and provisional (Johnson & Onwuegbuzie, 2004, p. 18). According to pragmatists such theories are to be seen merely as useful instruments; we need conceptual systems because they aid in inquiry, however they are nonetheless imperfect and tentative (W. V. Quine, 1951). Theories are instruments, and only true to the extent that they currently work in helping us to get grip on our environment (Johnson & Onwuegbuzie, 2004, p. 18).

²⁰ With the possible exception of knowledge based on axiomatic truths.

Pragmatists subscribe to both the positivist notion that there is an external world and the constructivist notion of a world that is lodged in the mind (Creswell, 2009, p. 11). Most importantly, however, they believe that we should leave this 'neverending' discussion and not let it get in the way of getting grip on our surroundings. Also, they endorse pluralism in that multiple and even conflicting theories can be useful, and that multiple (qualitative *and* quantitative) research methods can aid in understanding the world(s) (Johnson & Onwuegbuzie, 2004, p. 18). Pragmatism thus opens the doors for mixed methods research (Creswell, 2009, p. 11).

4.3 A mixed method strategy of inquiry

Pragmatism prescribes the use, and mix, of research approaches in the manner that it offers the best opportunities to answer the research question(s) (Hoshmand, 2003). It allows for the use of inductive (pattern-discovery), deductive (theory-testing) and abductive (reasonable logic as explanation of results) methods of research (Johnson & Onwuegbuzie, p. 17). This mixing of research designs (qualitative and quantitative) is not only allowed in pragmatism, but it can be seen, according to what the research questions are, as simply the best route to success. Simply put: the method(s) that best fit the purpose and nature of the research questions, should be the methods used (Creswell, 2009; Johnson & Onwuegbuzie, 2004, p. 17).

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When this 'best fit' is not one of purely qualitative or quantitative methods, we enter the realm of mixed methods. Mixed methods research is defined, as borrowed from Burke Johnson and Anthony Onwuegbuzie (2004, p. 17), as "the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study". Tashakkorri and Teddlie (2003, p. 15-17) consider mixed methods superior to the so-called mono-methods approach, in the following three areas: First, the ability to answer both confirmatory (theory-testing) and exploratory (pattern-discovery) questions simultaneously. Second, it allows for stronger inferences through the use of a wider variety of methods. Third, it can "elucidate the divergent aspects of a phenomenon" (Johnson & Turner, in Tashakkorri & Teddlie, 2003) by providing the opportunity for divergent findings (expressing different viewpoints). Mixed Methods research is inclusive and pluralistic research.

To make the most out of Mixed Methods research, the different characteristics of qualitative and quantitative research need to be considered. According to Johnson and Onwuegbuzie (2004, p. 14), the major characteristics of quantitative research are "a focus on deduction, confirmation, theory/hypotheses testing, explanation, prediction, standardized data collection and statistical analysis". They note "induction, discovery, exploration, theory/hypothesis

generation [and] the researcher as the primary “instrument” of data collection” as the major characteristics of qualitative research (ibid).

In comparison, the strengths of qualitative methods are that they provide rich and valid data that can leave the participants’ (precise) perspectives intact (Steckler, McLeroy, Goodman, McCormick & Bird, 1992, p. 2). The major advantage of quantitative research is that they can provide factual, reliable data that are generalizable to a larger population (ibid.). Other relevant strengths of qualitative and quantitative methods will be discussed in the following paragraphs. When these characteristics, and practical value, of the different methods of research are clear, the researcher can define the best fit for his or her research questions. Accordingly, it requires that the researcher is adept at using these different methods.

One can imagine mixed methods research to take on different forms, for a number of reasons. First of all there is a variable weight that can be attached to the qualitative and quantitative parts of a mixed method study. The quantitative part may be more important, the qualitative part may be more important and they could be equal in their weight. Secondly the timing of a mixed method study is variable. Both the quantitative and qualitative data can be collected at the same time (‘concurrently’) or in phases (‘sequentially’) in which either the qualitative or the quantitative research precedes the other (Creswell, 2009, p. 206). Thirdly, the mixing of data can occur at different stages of research, namely in the stages of data collection, data analysis and/or interpretation (Creswell, 2009, p. 207-208).

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This mixing can be done in different ways. First of all, qualitative and quantitative research can be connected through a data analysis of the first phase of research and the data collection of the second phase of research (‘connected’). The quantitative and qualitative data might also be merged (‘integrating’), for example by transforming the qualitative data into quantitative data. This would then lead to a dataset which combines data from both qualitative and quantitative sources which could be analyzed quantitatively. It is also possible to have one of the two parts function as providing supportive information for the other (‘embedding’). An example of this could be the use of qualitative interviews to aid with the interpretation of the quantitative analysis.

4.4 A mixed method strategy to measure the Quality of Place

The first paragraph of this chapter explained that there is a need for an explorative and evaluating component in this research, both based on the subjective opinions of residents. Before any evaluation is possible the aspects of the neighborhood that people feel are important for their satisfaction with neighborhood-design need to be made clear (explored) as well as *how* important these different aspects would be in influencing the satisfaction with neighborhood design.

In order to be able to attach relative weight to the different aspects of good neighborhood design, the different aspects that are relevant in assessing the Quality of Place should first be made clear. Therefore, there is a need to first of all explore the neighborhood-aspects relevant to the satisfaction with neighborhood design. The satisfaction with the relevant aspects of the neighborhood can also only be assessed when we know what these relevant aspects are. Both the weighting and evaluation therefore have to be preceded by an explorative stage in which the relevant aspects of the neighborhood are to be made clear. This research therefore has to be 'sequential', in which an explorative phase is followed by an other.

The explorative phase should make clear which aspects of neighborhood design people feel are important in their satisfaction with it. In this case the important variables, namely the relevant aspects of neighborhood design, are not clear and are to be explored. Furthermore, these variables should be based on the subjective opinions of the residents, and not on abstract and arbitrary theory. In such cases research is best done via qualitative research (Creswell, 2009, p. 18; Morse, 1991). The first explorative phase therefore has to be qualitative. The precise method for gathering this qualitative data will be explained and substantiated in chapter 4.5.

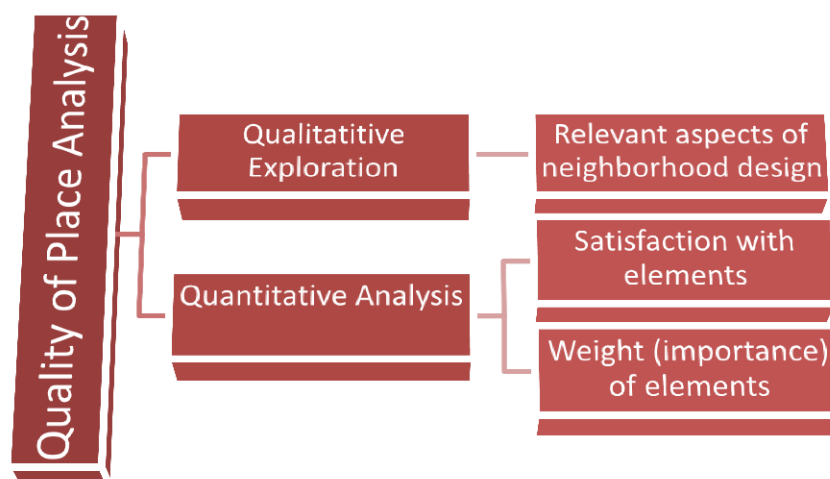
With the important aspects of neighborhood design clear, these aspects have to be, subjectively, weighed in their relevance and evaluated for both neighborhoods. To have an adequate image of the Quality of Place one does not only need to know which aspects of neighborhood design are relevant, but also the extent in which the different aspects are relevant. Therefore, to evaluate a Quality of Place, one also needs to know the weight these different aspects have. However, it is not necessary to know the one before the other. One needs to know the relative weight and evaluation of the different relevant aspects of neighborhood design before a full *analysis* can take place, but no knowledge of the other is necessary for the *research* to be able to take place. Both could therefore be researched in the same phase.

Besides knowing which aspects are relevant, they have to be weighed and evaluated for the satisfaction with them. Both can be seen as types of evaluation. The one is concerned with the evaluation on the basis of satisfaction, the other on the basis of relative weighting. With help of these evaluations I aim to have a strong, numerical measure based on the subjective opinions of the residents. Quantitative analysis can provide us with such easily summarizable numeric and strong measures. There is much discussion on the objectivity and validity of both quantitative analysis and qualitative analysis. However, the pragmatic reasoning for a quantitative analyses of the evaluation of neighborhood design is clear: a strong evaluation and comparison of numerical data with which to make clear and strong conclusions on the comparative Quality of Place in New Urban neighborhoods.

Creswell (2009, p. 211) calls the research strategy that starts with a phase of qualitative data collection and analysis and is followed by a phase of quantitative data collection and analysis which builds on the results of the qualitative phase a “sequential exploratory design”. Creswell (2009) however goes on to state that such strategies have the purpose to “use quantitative data and results to assist in the interpretation of qualitative findings”. My research requires an initial exploratory and qualitative phase with which an instrument can be built to evaluate the Quality of Place in two different neighborhoods. But the main focus of this research is not the exploration of a concept of Quality of Place; it is the evaluation of such a Quality of Place for both a traditional suburban and a New Urban neighborhood. The reason for collecting qualitative data initially is that the variables are not known. The reason for following up with quantitative data is to evaluate the Quality of Place in two different neighborhoods via broad numeric and convincing ‘objective’ statistic generalizations.

Figure 17

A mixed method strategy of inquiry for the Quality of Place



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With the groundworks of the research strategy made clear it is time to discuss the precise research methods and practices. What type of qualitative and quantitative data collection and analysis will be used? How will I secure a strong level of validity and reliability? In the following paragraphs I will substantiate and discuss what I believe to be strong research methods and practices. I will start with a discussion on the research locations in paragraph 4.5. In paragraph 4.6 I will discuss the research method and practice concerning the explorative phase of research. I will end with a discussion on the research method and practice of the evaluating phase of research in paragraph 4.7.

4.5 Two neighborhoods in Gaithersburg, Maryland

For the purposes of this research I need both a New Urban and a conventional suburban neighborhood to assess differences in the evaluation of Quality of Place. The aim is to compare the Quality of Place of a New Urban and a conventional suburban neighborhood so we can assess if indeed New Urban design improves the Quality of Life over conventional suburban design. This could have been any combination of both a New Urban and a suburban community, so why has the choice been made to use Kentlands and Orchard? First of all, Kentlands is, arguably, the most complete and mature New Urban neighborhood (Kim, 2007, p. 104) which makes it one of the best places to evaluate New Urban design. Kentlands has also been used in prior research by Joongsuk Kim (2007), Rachel Kaplan (Kim & Kaplan, 2004), Charles Tu and Mark Eppli (1999). There is, therefore, a lot of information already available on this New Urban community that I can use. In their articles, they use Orchard as their comparison neighborhood on the basis of their own judgment of comparability. Together, this creates a strong case to use these two neighborhoods as a starting point for my own research.

Why is it important to have two neighborhoods that are comparable on some aspects? The aim is to assess differences in appreciation of neighborhood design which excludes all other differences that two neighborhoods might have. This, however, is not a reason to compare two neighborhoods which are comparable on other aspects since the questionnaire can be constructed

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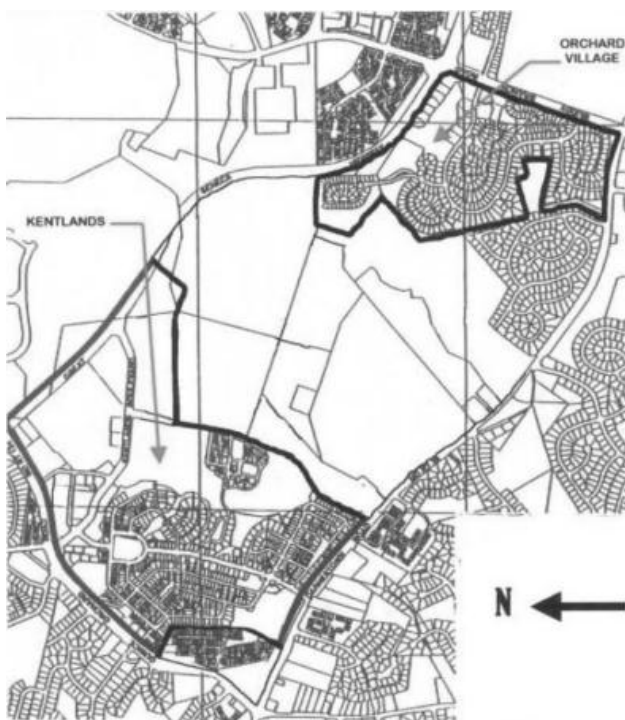


Figure 18. Kentlands and Orchard Village on the map. Reprinted from Kim & Kaplan, 2004, p. 321

in a way that aspects of the neighborhoods (and their surrounding) other than neighborhood design are excluded from having influence. Differences in the weather are probably important in your appreciation of the neighborhood, but not in your appreciation of neighborhood design.

However, as I have tried to make clear, a Quality of Place is always time and place dependent. In a place or time where nobody has a car there will be no (strong) desire for available parking space. It is difficult to compare different cultures, since it is plausible that there might be different desires in, for example, wanting privacy or having nearby public space.

The United States is a massive country with many differences in culture. There are strong differences in history, laws and attraction between states and cities and these can affect people's desires and needs as well as the type of people that choose to live there. This is what makes a Quality of Place place-dependent and that is why two aspects of the neighborhood are seen as relevant to control for: the location and the average home price. The age of the neighborhood is, for a different reason, also relevant.

Let's, again, consider the fact that the United States is a huge country with many cultural differences between places and states. To make sure a comparison is not made between two neighborhoods of significantly different cultures, it therefore makes sense to compare neighborhoods that are in the same general place. Both Kentlands and Orchard Village are about twenty-five miles from Washington D.C. and both lie within the borders of Gaithersburg, Maryland. Both Kentlands and Orchard Village are therefore in the same general place.

As has been described in the preceding chapter, suburban America is highly stratified. Neighborhoods often are distinct in general income (or: social class) and are furthermore often stratified on the basis of race and cultural values or desires (Teaford, 2006). Gaithersburg has a strong ethnic mix, however possibly more between neighborhoods than within the neighborhoods itself²¹ (Eby, 2012), as is common in the American suburbs (see chapter three). Housing prices in both neighborhoods are quite comparable. The average housing price for a single family house was \$360,000 in Kentlands and \$340,000 in Orchard Village in 2004 (Kim & Kaplan, 2004). For condos it was \$200,000 in Kentlands and \$150,000 in Orchard Village (ibid.). One can therefore expect income or social class not to play a strong role. This will be checked and, if needed, controlled for in the final analysis by directly controlling for people's income (see paragraph 4.6). To be able to adequately control for income, one needs to have people of comparable income in both neighborhoods which the housing prices suggest to be the case.

One can expect a different type of neighborhood to attract a different kind of people. This is an issue of comparability that can never be overcome or controlled for in its totality. I have tried to minimize this problem on the basis of plausible comparability. Because of the place of both neighborhoods people in those neighborhoods are, broadly, all aimed at a comparable set of jobs that are available to them. Many people with such an income around Washington D.C. are either civil servants or lobbyists. People here, broadly, get the same channels on the TV, the same high-speed internet and have the same collection of cultural venues and events available to them. The final analysis will be controlled for many attributes of people and these neighborhoods are quite

²¹ Data on ethnicity at neighborhood level is not available in Gaithersburg.

comparable on many aspects. However, often the one did choose for Kentlands and the other for Orchard Village. To be able to have some sort of control for this, people will be asked the question if they would have mind to have lived in the other neighborhood (see paragraph 4.7). With this question some insight can be given as to how different the people are that live in both neighborhoods.

A factor that has proven to be relevant in the evaluation of the neighborhood is the *duration in residence* (Hur & Morrow-Jones, 2008). When people have been living in a neighborhood for a longer period of time they have had time to adjust, settle and attach to the neighborhood, giving it a sense of place perhaps. To be able to control for this one needs to be able to have people (respondents) in both neighborhoods with a comparable range of different durations in residence. For Kentlands, building started in the year of 1990. For Orchard Village it was 1989. Although it took many years in both neighborhoods before all the houses were built they have a comparable range of possible durations in residence among their residents. To this regard they are thus comparable.

4.6 The first phase of research

This first and explorative phase in my research should clarify the aspects of neighborhood design that the inhabitants of the two neighborhoods feel are important for their satisfaction with it. It has been pointed out multiple times that these elements should be based on the subjective opinions of the residents since any 'objective' interpretation of such elements would be arbitrary and less meaningful. Theory, or more general the discourse, cannot distinguish the important elements of Quality of Place since the interpretation of such a concept is fundamentally subjective and different from person to person.

This, however, does not mean that the measurement of these elements has to be difficult. As I shall show in this and the next paragraph, there is only need for a list of elements of neighborhood design that an insightful group of people state contribute to their feelings on this design. With such a list a survey can be constructed in which a representative group of residents can give a generalizable insight into what constitutes Quality of Place in these two neighborhoods and how they feel their neighborhoods fare when it comes to the elements that make up the Quality of Place. Considering the importance of the subjectivity I do not want to predetermine the answers chosen because of the categories from which to choose. According to Lofland (1971, as cited in Patton, 2002, p. 21) "to capture participants in their own terms one must learn *their* categories for rendering explicable and coherent the flux of raw reality" (emphasis added). This is what this first phase of research is for.

In the exploration of elements of neighborhood design that people feel contribute to their satisfaction with the neighborhood a qualitative approach is most obvious. The main reason is that this *exploration* prescribes inductive research, which qualitative methods provide. Furthermore, according to Patton (2002, p. 14), qualitative research is most adept to give insight in, among others, situations where not enough is known about a phenomenon for there to be developed standardized instruments for it and when it concerns questions on the meanings people give to their experiences. Within this phase of research I aim to distinguish what people believe has meaning in the design of their local environment. Since knowledge on Quality of Life and Quality of Place is still very limited, because the concept of Quality of Place is bound to the place in which it is constructed and because standardized instruments are not possible for such a broad and subjective inquiry, one cannot say developed standardized instruments are available (or even possible).

There is a rich array of possible research methods under the banner of 'qualitative research'. Especially since the early 1980's, the number of often used qualitative methods strongly increased in size. The kinds of data collection, according to Patton (2002, p. 4), however are broadly distinguishable in the following three: in depth, open ended interviews; direct observation or; written documents. According to Patton (2002, p. 4) the method of interviewing "yield[s] direct quotations from people about their experiences, opinions, feelings and knowledge". Since I aim at gaining a direct insight into what people feel is important in neighborhood design qualitative interviewing seems to be the route to take. Other ways of acquiring such information are imaginable but none which can give such direct and easy insight into the desired information. How people give meaning to that which surrounds them is more easily asked than observed. With qualitative interviewing the underlying assumption, according to Patton (2002, p. 341) is that "we can get to know, and make explicit, the perspective of others". We have to ask people about these things and that is what I will do.

There are of course many ways in which interviews can be done and in which the acquired data from these interviews can be analyzed. Who is interviewed, how they are interviewed and how these interviews are analyzed need to be made clear and substantiated. Before this will be done I want to emphasize the relatively small role these interviews will play in the entire research. What is needed is a list of relevant aspects of neighborhood design that an insightful group of people see as contributing to their satisfaction with the neighborhood. In the second phase of my research this list can then be researched on the manner in which the people of both neighborhoods in general feel these aspects are relevant, how relevant they are and eventually how they rate these elements in their own neighborhoods. Such a list cannot be constructed any other way since what is needed, again, is to have "*their* categories for rendering explicable and coherent the flux of

raw reality” (Lofland, 1971, p. 7). It is needed for the researcher to have as little as possible influence on the aspects of neighborhood design that are said to be relevant according to the residents.

I simply aim to explore what an insightful group of residents state of neighborhood design as being relevant in their satisfaction with the neighborhood. There is no search for (complicated lines of) causality, there is no theory to be constructed and no complex case to unravel. There is only the preliminary list of relevant aspects which enables the construction of the survey. This survey will then make it possible to research these aspects on their generalizable value as elements of Quality of Place as well as their relative weight. This, therefore, does not require an extensive and very complex analysis or data collection. The data collection and analysis should simply be able to give a substantiated list with which to work in the next phase of research. Now let me start to answer the important questions: Who is interviewed, how are they interviewed and how are these interviews analyzed?

Important in determining whom to interview are possible theoretical, or plausibly relevant, differences among groups of people when it comes to distinguishing what is important in neighborhood design as well as that those being interviewed would provide insightful information. Such theoretical differences among groups are, however, not object of my study. I simply aim to gain an insightful list of aspects of neighborhood design which could be expected to cover the broad range of ideas on the matter in the neighborhood. What is needed therefore is to interview a group of people of which can reasonably be expected that they would provide with a sufficiently broad image of what people in the neighborhood might think. Because knowledge on relevant aspects of people in this regard is lacking considerations about relevant differences between people are based, above all, on common sense and plausibility.

One can expect parents to have different views than non-parents; they have to think with and for their children as well. In the countless statistical sociological analyses I have been confronted with in my educational career, there have been few in which gender and age did not show any relevancy. Finally, of course, people of both neighborhoods need to be interviewed since they chose a different neighborhood to begin with. Since both neighborhoods are qua income most probably very homogenous, taking income into account has no priority.

Are there other relevant differences among people? Of course there are, but taking these differences into account I believe to have an adequately broad image of what people in the neighborhood could view as relevant in neighborhood design. If this would not be the case the

second phase of research should show that, since a representative group of people will then get the chance to state if they felt something important was omitted from the questionnaire.

A general rule of thumb is to interview five people for every relevant 'theoretical' group (M. Coenders, 'Methodologie en Onderzoeksoepzet' lecture, January 2011). Interviewing five people for every individual group would take a lot of time – and time is scarce in my three month visit of the United States - so people will be interviewed that combine multiple of these characteristics. Around ten people, in total, will be interviewed. Since I am not comparing people with different background characteristics, but mainly aim to make sure that a sufficiently broad range of people could have their say on what they want in their neighborhood, I believe this to be adequate.

Since our needs are subjective, and everybody could thus have a different view on the matter, ten people could however prove to be too few. Therefore, additional surveys will be spread that include an introduction of neighborhood design, and in which the respondents are asked to name up to 15 things that they could think of as being important in neighborhood design (see appendix B). This way, the depth of conducting interviews can be combined with the sheer numbers of a survey. Together, these methods hopefully prove sufficient. Again, the quantitative part of the research will provide with a check by giving people the opportunity to state if and what relevant aspects of neighborhood design were missing from the list.

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There are three basic ways of collecting data via open-ended interviews, each with a different focus and different strengths and weaknesses. The three alternatives are, as taken from Patton (2002, p. 342):

- The informal conversational interview;
- The general interview guide approach; and
- The standardized open-ended interview

As the name suggests, the informal conversational interview is a form of data collection through informal conversations. It is a form of unstructured interviewing which "relies entirely on the spontaneous generation of questions in the natural flow of an interaction" (Patton, 2002: 342). A clear advantage of this approach is that it offers answers in a completely natural context. A weakness however is that such an approach may require a lot more time to collect a systematic set of information and is (therefore) often more difficult to analyze. The standardized open-ended interview can be put on the other end of the spectrum in that it is very systematic. Each question is given to each respondent in the same wording. This makes analysis more easy, the interviews more time-efficient and the instrument open for inspection but it reduces the extent in which specific individual insightful information can be gathered, since there is no room for adding questions to the

query during an interview. When using an interview guide approach one uses a list of questions or issues that the interview should cover (Patton, 2002, p. 343). Such interviews are therefore both more systematic than the informal conversational interview but also leave space for additional and flexible inquiry.

Of course variations, or combinations, of the three are possible and the lines between the approaches are often more blurry than portrayed above. When asking people to name aspects of neighborhood design they feel are important for their neighborhood satisfaction a certain level of systematization is of course required. Important herein is the word 'design'. Since I am interested in how the neighborhood design, and not some other aspect of the neighborhood or the design of an area outside of the neighborhood, influences people's satisfaction with the neighborhood, the list of aspects that people give should all be elements of this neighborhood design. To make sure every respondent has a similar comprehension of this neighborhood design it makes sense to introduce what is meant (and not meant) by neighborhood design. It, however, makes no sense to simply leave it at that when people give an answer. People will name the aspects that first pop up in their mind, but it is the task of the interviewer to make sure that all the relevant aspects are named. Furthermore, the answers might be unclear and it is the task of the interviewer to clarify exactly what aspects of neighborhood design the respondents might mean²². A combination of a systematic introduction and the flexibility of the interview guide approach therefore seems best suited for the job at hand.

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This leaves open the question of analyzing the massive amounts of data that ten interviews will produce. Within an hour or so of interviewing, much will be said to describe the aspects of neighborhood design that the respondents feel are relevant. There are a lot of ways in which qualitative data can be analyzed (see Patton, 2002, p. 429-500) and at the same time qualitative analysis lacks a clear set of rules. According to Miles and Huberman (1984, in Patton, 2002), "we have few agreed-on canons for qualitative data analysis, in the sense of shared ground rules for drawing conclusions and verifying their sturdiness". There are no clear methods to maintain a high level of reliability and validity, no mathematical measures of significance and no clear and strict rules that work well in every situation. As Patton (2002, p. 433) states: "because each qualitative study is unique, the analytical approach used will be unique".

What then would be a method of analyzing that would seem intellectually sound? After the before mentioned introduction the respondents have time to think about the aspects of neighborhood design they feel are relevant and I, as interviewer, hope to spark and illuminate their

²² This has been done via the introduction which explains what is meant by 'neighborhood design'. This introduction can be found in appendix A.

thought process. The question is simple, but the answers given need to be made clear before they reach the same level of simplicity. The interview will be a process of trying to make these answers, the said to be relevant aspects of neighborhood design, clear. During, but also after the interview, the given answers can be interpreted for what is meant by them. If someone says: "I like the way the world seems prettier here, and I like that in a neighborhood" it is first of all my task to clarify exactly which aspects of the neighborhood design he or she feels makes the world seem prettier. For the given answers to be able to be used in a survey they have to be clear and able to be put into a few words.

After the interview, I can continue to interpret what has been said and feed my interpretations back to the respondents to see if I have interpreted them correctly. There is no clear methodology for interpreting what is meant; here there is room for the intellectual creativity of the researcher. Via feeding my interpretations back to the respondents I will, however, be able to make sure that my interpretations are not distant to what the respondents actually meant, while at the same time making sure that the answers are ready to be used in a survey.

There is, however, a limited number of questions that can be asked in a survey. Every aspect used will double the amount of questions in the survey since they have to be a) researched for their relative weight and b) evaluated for the neighborhood of the respondent. To keep the number of aspects manageable for survey purposes, it is therefore possible that the aspects that people name in the interviews should be reduced. However, one can distinguish an infinite number of aspects of neighborhood design, but when they are put into more broad terms there can only be so many. In this case, again, I will try to keep the answers as close as possible to what the interviewed themselves feel are the relevant and correct broader terms. An overview of the answers will be sent back to the respondents to see if they feel broader terms adequately cover the otherwise too large range of answers.

Validity and reliability carry different connotations depending on the research being either qualitative or quantitative (Creswell, 2009, p. 190). According to Gibbs (2007, in Creswell, 2009), qualitative validity entails the check for the accuracy of the findings and the qualitative reliability entails the approach is consistent across different researchers and projects. The reliability of this research is protected since there is no strong reliance on the interpretations of the researcher and even if there were, they are protected by the feedback process to those that have been interviewed which ensures that the end result is strongly dependent on those being interviewed. Considering the fact that ten people are interviewed, which should provide a reasonably broad insight into the relevant aspects of neighborhood design, the reliance on those chosen to be interviewed is not disruptive.

According to Creswell and Miller (2000, in Creswell, 2009, p. 191) validity in qualitative research is based on the findings giving an accurate picture from the standpoint of the researcher, participants and reader. The findings should be trustworthy, authentic and credible. The validity of this research is preserved in a similar manner as the reliability. Via what is called *member checking* (Creswell, 2009, p. 191), the validity of the findings can be checked through having the participants determine if (preliminary) findings are accurate. With these checks the authenticity will be strengthened since it are the respondents themselves who, on multiple occasions, will judge the chosen words. The findings are credible because the respondents agree with them. They are trustworthy because the influence of the researcher can only be limited and that there is (therefore) little room for bias. Considering all the before-mentioned aspects of this research method, it should prove a reliable, valid, doable and effective way of getting a list of aspects of neighborhood design that people feel are important and are taken from the field, not from abstract and arbitrary theory or discourse.

4.7 The second phase of research

The second phase of research should establish three things. First of all the list of supposed relevant aspects of neighborhood design needs to be established for a representative group of people. It is not known to what level the aspects of neighborhood that the interviews brought forth would influence the Quality of Place for all of the residents. They, therefore, need to be checked to see if a representative group of people feel that these aspects indeed are relevant to a measure of Quality of Place, so as to make sure that the said to be relevant aspects of neighborhood design are supported by a representative group of people.

Secondly, these aspects need to be weighed. To have an adequate image of what entails a Quality of Place one needs to know more than simply what aspects are relevant. One also needs to know the extent in which these different aspects are relevant and thus how they would, relatively, influence the Quality of Place. Both the level of green and parking space can be seen as relevant, but that does not mean that people could not feel that either green or parking space is of more importance in a concept of Quality of Place. Thirdly, both neighborhoods need to be evaluated for the level in which they provide what people feel makes a good Quality of Place; we need to know how satisfied its inhabitants are.

To make sure the findings are based on the subjective opinions of the residents, these residents need to be asked about their opinions for what they feel for themselves is important in neighborhood design, how important they think those aspects of neighborhood design are for a measure of Quality of Place, and how well they believe that these important qualities are achieved in their own neighborhood. These questions should be based on the first phase of research and

there should be room for the respondents to express different feelings about what is important in a neighborhood, so as to make sure that the elements of a Quality of Place are covered for every respondent. In short, the method should have as little as possible influence on the final evaluation of a Quality of Place other than making sure that this evaluation is based on what the residents feel is important in neighborhood design and on how good the residents feel these important elements are present in their own neighborhoods.

The advantage of quantitative research is that it can capture the empirical world, for as much as possible, in numbers. Numbers make math possible and math provides with a clear set of objective ways of establishing (probabilistic) facts (Gregory et al., 2009, p. 607). Quantitative analysis can create measures with which to measure the invisible, in this case people's opinions on place quality. With such a measure precise, easy to understand, numeric empirical representations can be given of the complex social world that surrounds us (Neuman, 2006, p. 171, 174). A survey design, the most frequently used quantitative method, can provide with a numeric description of opinions of a group of respondents which can be generalized for a larger population (Creswell, 2009, p. 145). This is exactly what is needed: to have a measure and evaluation of Quality of Place that is not and does not seem subjective and can, as strongly as possible, influence policy via a numeric description of opinions of the general public.

[73]

There are broadly two types of surveys (Creswell, 2009, p. 146). A survey can be cross-sectional in that it involves observation of a representative subset of a population or longitudinal in that data is collected over time. The advantage of the latter is that causality can be established and that changes over time can be observed. The disadvantage is that it takes more time and money to collect (more) data over a longer period of time. Since differences over time or causality are not relevant to my research questions a cross-sectional survey should prove sufficient.

But this still leaves many questions. First of all there are multiple ways in which such a survey can be administered (Neumann, 2006, p. 289-300), of which one needs to be chosen. Secondly, for the results to be generalizable the survey should be representative, which makes sampling an essential part of a survey. Thirdly, the way the questions are asked and categories for answers are given need to be chosen and these choices substantiated so as to acquire insightful and unbiased findings. Fourth, the method of analysis needs to be made clear and substantiated.

These four as of yet unanswered questions have four strong guidelines: they need to be insightful, doable, reliable and valid. As within qualitative research, reliability and validity are important to establish that the findings are truthful, believable and credible. In quantitative research, reliability suggests consistency and stability of results. According to Neumann (2006, p.

178) it suggests “that the same thing is repeated or recurs under the identical or very similar conditions”. The characteristics of the measurement process and instruments should have little to no influence in the results for the reliability to be high; the findings should not be influenced by chance.

Validity suggests the truthfulness of the findings and therefore the relation between the way in which the researcher conceptualizes ideas into constructs and the actual measuring of social reality. According to Neumann (2006, p. 179) it refers to “how well an idea about reality “fits” with actual reality”. To achieve a high level of validity the conceptual and operational definitions within the research should be very close to each other; that what is meant and that what is the real world is what should be measured. There are many threats to a valid and reliable research and when relevant these threats will be discussed.

A survey can be administered via mail, telephone, internet and face-to-face contact. These four methods of administering a survey have clear advantages and disadvantages when it comes to validity and reliability, but also when it comes to the extent in which they are doable. There is a limit to the money and time I can spend, since I do not have access to additional funds or time other than my own, which will have a strong influence on the choice of how to administer this survey. I will discuss the alternatives from the most valid and reliable to the least and, to a large extent, from the most expensive and time-consuming to the cheapest and least time consuming.

[74]

Via face-to-face interviews the researcher can make sure that every respondent understands the questions (and answers) the same way as well as gain a high response rate (Neumann, 2006). However there is the danger of researcher-bias and socially desirable answer since the researcher is actively there and participating. In any case these interviews are much too time consuming to acquire a representative sample in an acceptable time-frame.

Telephone interviews are estimated to be about half the cost and much less time-consuming (Neumann, 2006, p. 289-290), as well as less prone for researcher bias and socially desirable answers. However they limit the amount of questions that can be asked because of the number of minutes one can keep people to stay on the phone. Also, open ended questions are difficult to use and the costs are still high (Neumann, 2006, p. 290). Mail surveys are cheaper and reduce the incentive for socially desirable answers and leave no room for interviewer bias. Furthermore they are not suited for the illiterate, there is no way to see how people react to questions and if they might be lying and it is difficult to get the questionnaires back in a set time-frame (Neumann, 2006: 289).

The fourth method is using the internet to administer the survey. A problem with internet surveys is the possible coverage error because of the lacking internet access. According to the CIA World Factbook there were 245 million internet users in the United States in the year 2009 on a total of 313 million citizens (CIA, 2012). Considering the fact that people in Gaithersburg, Maryland are well educated and have comparatively high incomes one can assume the internet access not to be an issue. Since the questions, as will be shown, are quite self-explanatory and there is no room for interviewer bias, the reliability and validity seem protected in both a mail and internet survey. For purposes of affordability an internet survey is the most obvious. On the basis of a sampling people will be sent a letter in which they are informed about the internet survey. Creative use will be made of the Dillman Tailored (or: Total) Design Method (Dillman, 2000) to heighten response via, amongst others, secondary letters to remind the respondents about the survey.

There are about 6,000 people, in total, inhabiting both neighborhoods (Eby, 2012). On the basis of the number of inhabitants it has been determined that a survey sample of around 350 to 360 respondents is required for a 5% margin of error at 95% confidence (Bartlett, Kotrlik & Higgins, 2001; Green, 1991). This would mean that my results are within 5% of the true answer in 95% of the time that a survey is run²³. To ensure a high level of comparability only those living in condos or family houses are approached, since there are no other types of housing to be found in Orchard Village. Although there is no theoretical basis from which to expect people living in different houses to have different views of a Quality of Place I would rather not take that chance in this research; there is some plausibility in expecting people living in different housing types to have different housing and perhaps even neighborhood needs. There will be no prior stratification of the population. If need be results will be weighed during the analysis.

[75]

The questions that the respondents need to answer should provide insight into three things. First of all the relevant elements of neighborhood design that the first phase of research brought forth need to be checked to see if a representative group of people feel that these elements indeed are relevant according to this group. This will offer extra reliability and validity to the research since a representative group of people went over them. Secondly, these elements need to be weighed by the respondents so that their relative influence, their importance, in the Quality of Place can be established. Finally, both neighborhoods need to be evaluated for the level in which people are satisfied with the relevant elements of neighborhood design as to evaluate the Quality of Place in both neighborhoods.

²³ If the desired margin of error and/or level of confidence declines, the required N decreases. For regression analysis the rules of thumb are to have an N that is a tenfold of the number of regressors (Bartlett, Kotrlik & Higgins, 2001) or – what I believe to be a better rule of thumb – to have a minimum of around fifty respondents plus eight for every regressor (Green, 1991).

To gain answers to these three questions respondents are presented with the list of neighborhood elements that the qualitative, explorative first phase of the research has produced. They are then asked *if* they, in any way, consider these elements important and, if so, *how* important they feel they are. They are also asked if they felt that certain important elements of neighborhood design were missing from the survey. After judging the importance of these neighborhood elements, they are asked to judge their satisfaction with these elements in their own neighborhood. The validity and reliability of these questions is protected because they are not vague, leading, or biased and because the jargon ('neighborhood-design') is explained carefully. Furthermore, the answer categories are clear, exhaustive and mutually exclusive; the answer categories cover lower to highest and one can state to 'not know'. The full questionnaire is added as an appendix (appendix D).

As has been said in chapter two there is a difficult question of causality that lingers, which lies in the question if it is the environment (and people's wishes) that influences people's satisfaction, or (also) people's attributes. One can expect people's attributes to play a role but how this influences the relation between environment and satisfaction is not known. There is no clear way of attaining an answer to these questions via a special (and doable) different methodology for this research (See Leidelmeijer & van Kamp, 2003, p. 71-75 for a discussion). One can, however, try to control for people's attributes, as is done in much social research. By taking such attributes into the analysis potential alternative explanations for results can be controlled for and the (internal) validity of the research safeguarded (Neumann, 2006, p. 351). The important question then becomes: what attributes of people are relevant and should therefore be controlled for? Unfortunately today's level of knowledge cannot provide a full answer to this question. There are, however, some aspects that are proven to be relevant and others that are plausible (and standard) to control for.

One factor that has proven to be relevant is the *duration in residence* (Hur & Morrow-Jones, 2008). When people have been living in a neighborhood for a longer period of time they have had time to adjust, settle and attach to the neighborhood, giving it a sense of place perhaps. A question about the duration in residence will therefore be added. What is not often taken into account but may be influential is having experienced bad things in the neighborhood. A question will therefore be added in which the respondent is asked if he or she has personally experienced crime in the neighborhood within the last five years. This can influence the perception of elements of neighborhood design, because there might be a relation between that and the crime (Hur & Morrow-Jones, 2008). Hagerty (1999) has shown that that the comparisons that people make are relevant when it comes to satisfaction with the neighborhood (environment). The comparison

people could make with others they know would not be, but the comparison people can make with their own situations in the past would be, relevant. Therefore a question is added in which people are asked to compare their current neighborhood to neighborhood(s) they have lived in before.

As is common in much sociological research, the possible influences of *gender, age, education, race, income, marital status* and *having children* will be taken into account. I will check for their relevancy in this situation and, when necessary, control for them. People will be given the opportunity not to answer these questions if they wish not to do so. Finally, people will be asked if they would mind to have lived in the other neighborhood (in Kentlands for those living in Orchard Village and vice versa) for reasons explained in chapter 4.5. The questions and answer-categories are, again, well-constructed (see appendix D).

4.8 Summary

The Quality of Place is based on an evaluation of the manner in which the neighborhood design fulfills the (individual, subjective) needs of its inhabitants. The aim is to find out if New Urban design leads to a higher Quality of Place than conventional suburban design. To assess the *neighborhood design*, and not another element of the place, the comparison is between a New Urban and a conventional suburban neighborhood that lie very close to each other and are seemingly comparable.

[77]

As a consequence of the subjectivity of needs, they first have to be explored using qualitative research – we cannot find them in a textbook. Also, this means that the very real possibility that certain ‘types’ of people have different needs than other ‘types’ of people has to be taken into account (i.e. background characteristics of people are relevant). Since the level of satisfaction with neighborhood design is both dependent on the design itself and the people that do the evaluation, aspects of these people (background characteristics) need to be taken into account.

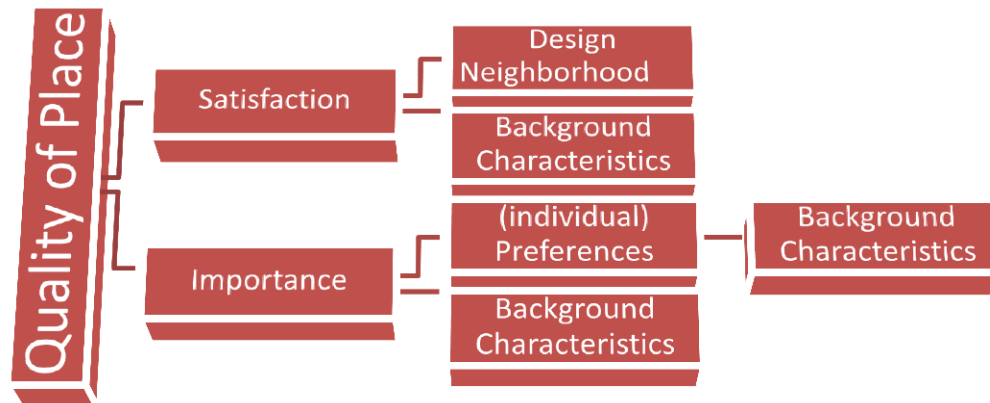
The objective is to come to numeric empirical representations of the relationship between neighborhood design and the fulfilling of needs, so as to come to what is regarded as an objective way of establishing precise and generalizable (probabilistic) facts (Creswell, 2009, p. 145; Gregory et al., 2009, p. 607). That is why I have chosen to use quantitative research for all but the exploration of needs. The survey includes a number of questions on what are considered to be relevant background characteristics, in order to be able to control for them in the analyses.

Finally, since my Quality of Place is time- and place-dependent (precisely because of the subjective and protean character of desires and needs) I have to be careful when generalizing the data. Since it is also individual-dependent, the manner in which needs are satisfied should be

evaluated per individual. Together, all this should provide us with a well-founded answer to the central question in this research: Is the Quality of Place higher in New Urban neighborhoods than it is in suburban neighborhoods?

Figure 19

The structure of (this) Quality of Place research



These different aspects of researching this *time, place and individual-dependent, subjective indication* of the quality of neighborhood design can be visualized in a model, as has been done in Figure 19. The Quality of Place is dependent on how satisfied people are with what they consider important in neighborhood design. The importance of different aspects of neighborhood design is based on individual, subjective preferences. It is furthermore possible and plausible that these preferences have to do with background characteristics: parents probably care more for playgrounds for children than the childless adults. I will take this into account both for the qualitative exploration of individual preferences in neighborhood design, as well as for the specific importance (and ‘weight’) these aspects of neighborhood design are given. Finally, satisfaction is influenced by the design of the neighborhood and, again, the background characteristics of the people doing the evaluation.

5 ANALYSIS

5.1 A reading guide

The research consists of three broad steps. First, there is the qualitative analysis via short interviews in order to know what aspects of neighborhood design are considered important, and should therefore be compared between the two neighborhoods. This will be followed by an in-depth analysis of the differences between both neighborhoods in the subjective importance of, and satisfaction with, the different neighborhood elements. This gives us insight into the specific desires (qua neighborhood design) of the inhabitants of both neighborhoods, and into the specific ways in which the design of the neighborhood fulfills such desires. Finally, the Quality of Place will be constructed and compared for both neighborhoods. This will provide us with a test of the manner in which the neighborhood design of both neighborhoods satisfies the needs of its citizens.

The quality of the results needs to be evaluated and taken into account. For the qualitative phase of the research this means that I need to answer for the list of elements of neighborhood design that will be looked at; is it a representative and complete list of elements? For the quantitative phase I need to establish the generalizability and reliability of the results and the nature and quality of the data. Furthermore, to be able to ascribe possible differences between both neighborhoods to differences in neighborhood design, I need to control for intervening influences. I need to establish that the Quality of Place in both neighborhoods is different because of the neighborhood design, and not some other difference between the neighborhoods.

I have structured this chapter as follows. First (5.2), I will discuss the qualitative inquiry into the aspects of neighborhood design that people in both neighborhoods consider important. I will discuss the sampling and the process of coming to an acceptable, generalizable and manageable number of aspects of neighborhood design. Second (5.3), I will discuss the construction of the survey based both on the preceding qualitative inquiry, as well as on a number of things that should be controlled for or taken into account in order to ensure the quality and interpretability of the data. Third (5.4), the construction of the variables will be discussed, and general descriptions of the data will be given. In the fourth paragraph (5.5) the population and sample will be compared in order to justify the generalizability and external validity of the study. On the basis of the data a discussion will follow on the right statistical tests to execute, given the nature of the data and the questions that need answered (5.6)

In the analyses I have to take the possible influence of background variables into account. In 5.7 I will explore which variables should be taken into account when looking at the importance

of, and satisfaction with aspects of neighborhood design, and the Quality of Place. In the following paragraph (5.8) the differences in importance between both neighborhoods will be looked at. The second to last chapter (5.9) will look at the differences in satisfaction with aspects of neighborhood design, between the inhabitants of both neighborhoods. Finally, the last paragraph (5.10) discusses the most important analysis: the comparison of the Quality of Place. When looking at the individual satisfaction with what they feel is important, aggregated to the level of the neighborhood, which neighborhood creates more satisfied customers?

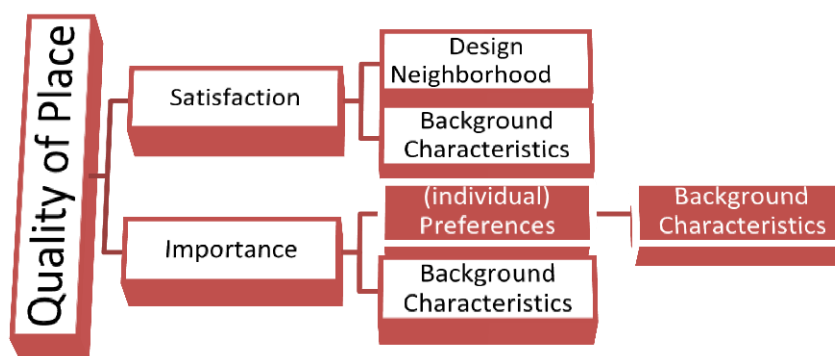
5.2 Discovering what to look at

The aim of this first phase of research is to acquire a list of relevant aspects of neighborhood design that an insightful group of people see as contributing to their satisfaction with the neighborhood. With such a list a survey can be constructed with questions encompassing the range of elements of neighborhood design that are to be taken into account. This first phase has been conducted via a number of interviews with people from both Kentlands and Orchard, the distribution of a small questionnaire containing one, open-ended, question, and finally some mailing back and forth with the interviewed. The study was presented as an effort to understand residents' feelings towards their physical surroundings and what elements of neighborhood design influence the 'liveability' of the environment.

[80]

Figure 20

Exploring the individual preferences for neighborhood design



The interviews were conducted over the three week period between May 16th and June 4th, 2011. The first week after my arrival in the United States was mostly one of orientation and making contacts. In this first week I had an interview with architects of Duany Plater-Zyberk & Company, that have an office within Kentlands. I provided these architects with a spreadsheet of the 'type' of people I would like to interview, and they provided me with people to contact. For Orchard, this

proved a lot harder, however talking to people on the street I managed to end up interviewing people with all the relevant background characteristics (as discussed in chapter four).

A total of 12 people were interviewed, seven of which from Kentlands and five of which from Orchard. During these interviews – which usually took about an hour – many elements of neighborhood design were mentioned. In the end the interviewed encompassed both young (< 35) and old (> 60), male and female, parents and the childless, and one (Latino) immigrant. Besides these interviews, I have spent two evenings and two days in places such as the local farmers' market and shopping center, distributing small 'surveys' asking people to "write down whatever comes up that [they] feel might be important" in the neighborhood design for their appreciation of the neighborhood. People usually took about five minutes (and some a lot more) and wrote down anywhere from five to fifteen things that they thought of.

In these interviews and small 'surveys' a large number of elements of neighborhood design were mentioned. Many of which were vague or closely resembled other elements that were mentioned. For example, one person mentioned that she thought it was important to live close to the shops, and another mentioned that he thought it was important for his children to be able to walk to school. In order to come to a smaller number of questions that still adequately represented the elements that were mentioned, three things were done. First, questions that resembled each other were combined and (some of) the interviewed people were asked if they agreed the questions were part of the same 'construct'. Secondly I have tried to order groups of variables into the common subject, the overall element, of neighborhood design that they addressed and, again, the interviewed people were asked if they agreed. In the above example, both 'needs' were combined into the 'walkability of the community'. Finally, the list of 29 aspects of neighborhood design that was constructed after these first two steps was submitted to the interviewed to see if they thought elements were missing. Of the eight people that responded, all thought the list was adequate. Via this so-called 'member checking' (Creswell, 2009, p. 191), in which the participants were asked if the (preliminary) findings are accurate, the validity of the results has been secured.

Thus, an insightful group of people have given their opinion on what aspects of the neighborhood are important for their feelings about neighborhood design. This group includes people from both neighborhoods, and with a sufficiently broad mix of background characteristics. I have 'captured participants in their own terms' (see paragraph 4.6) by having little to no influence on the answer-categories for the respondents; they were free to answer whatever came up in them. Furthermore, in subsequent phases, the respondents were giving the opportunity to judge the accuracy of my constructs as well as the entire list of neighborhood design-aspects. If these elements of neighborhood design nonetheless prove not to be representative of the whole

neighborhood, the quantitative part of my research should show that since respondents got the chance to state if something important was omitted from the survey-questionnaire. A few comments were given (14), but these had little to do with neighborhood design (“Distance and time to airports”) or were already part of other questions (“sidewalks”, “proximity to schools”). The answers to the open-question in the survey therefore showed that the elements of neighborhood design (as seen below in Table 1) are representative.

Table 1:

Considered to be Relevant Aspects of Neighborhood Design

Walkability of the community (access)	Accessibility of recreation, services etc.	Availability of parking space	Buildings aesthetic pleasantness	General appearance of neighborhood	Distinct visual character (neighborhood)
Landscape design and greenspace	Playgrounds for children 2-12 nearby	Recreational paths, roads	Public space, common areas	Outdoor amenities overall	Lotsize including gardenspace
Time and costs of upkeep	View from the dwelling	Sense of privacy at home	Quietness	Distinct boundary of and around the community	Defined community center
Central town square or green	Street-lighting in the neighborhood	opportunities for social interaction street	Size of dwelling	Adequacy of dwelling	Diversity in housing - Diverse demographics
Opportunity to use public transportation	Shops/facilities in neighborhood that supply ordinary needs	Nearness of house to facilities in neighborhood	Street pattern	Safe streets for playing (traffic)	

[82]

5.3 The survey

The second phase – the main phase – of the study should establish three things. First of all, the individual subjective importance of the aspects of neighborhood design needs to be uncovered. Second, the individual subjective satisfaction with these aspects of neighborhood design needs to be established. Together, this allows for the construction of the Quality of Place. Third, this Quality of Place needs to be able to be compared between both neighborhoods whilst taking into account other relevant variables.

To this effect, an online survey has been constructed. The survey is introduced as part of a research being conducted by the Radboud University Nijmegen. The respondents are told that it

typically takes no more than ten minutes to fill out the survey, and are pointed to the complete anonymity of the survey. They are furthermore informed about the structure of the survey. The survey has three sections, the first addressing the importance of neighborhood design elements, the second addressing their satisfaction with them and the third addressing background characteristics of the respondents and more general questions.

After the introduction respondents are asked about the importance of neighborhood design elements. To get to know the importance of the aspects of neighborhood the respondents are asked to rate the importance, *to them*, of the listed elements of neighborhood design. An open ended question was included that asks if there 'are elements of neighborhood design that [they] feel are relevant to your appreciation of neighborhood design that have not been discussed in the questions above.' This allows to check if the list of neighborhood elements is not missing any such important elements of neighborhood design. To get to know the satisfaction, all respondents have been asked to rate their satisfaction (in their neighborhood) with the listed elements of neighborhood design. This is the second part of the survey.

In the third part of the survey respondents are asked to answer some questions on background characteristics so as to be able to take relevant background characteristics into account when comparing the Quality of Place. The respondents are asked about the length of tenure, year of birth, gender, marital status, years of education and the highest degree of education that has been achieved. They were furthermore asked if they had experienced crime in the last five years, and if so, if they considered it to be severe or minor crime. They were asked if they had children or not and if they were the owner (or something else) of the house. Also, they were asked to give an estimation of their annual household income and specify their race and ethnicity. These questions are placed at the end of the survey.

In this third section of the survey, respondents are also asked some questions that have to do with their neighborhood and their satisfaction with it. This gives some extra insight into the data and differences between both neighborhoods. The respondents are asked to answer some extra questions about their appreciation of the neighborhood. They are asked how much worse 'the worst' neighborhood that they have ever lived in, is than their current neighborhood. They were also asked six questions about their neighborhood attachment, and if they would have mind to have lived in some of the surrounding neighborhoods as a final check of the comparability of both groups of people. Finally, they are asked how satisfied they are with their life, and their neighborhood.

To inform people from Kentlands and Orchard about the online surveys some three thousand letters have been distributed to houses in both neighborhoods. This has been done in June, July and September of 2011. To cut costs, all these letters have been delivered from door to door, by me and with the help of some friends. Since the neighborhoods weren't close by, I did not have the possession of a car and there were a few thousand letters to deliver, it was a time-consuming task. In Orchard all (567) houses were approached, in Kentlands the houses of every other street were (meaning about half of its 2,100 homes were approached)²⁴. Therefore, in Orchard the entire population has been addressed and in Kentlands a random sample of half the houses has been approached. People from Kentlands got a letter twice (in June and July) and people from Orchard three times (in June, July and September). People from Orchard got a third letter because the response in this neighborhood was still too low after two rounds, to be able to do any relevant statistical analysis. Since I was no longer in the United States at the time, I found two good friends from the United States willing to deliver this third round of letters.

The letter (see appendix C) introduces the online survey as a survey done for the Radboud University in order to examine which design features of the neighborhood people feel are important. They were pointed to the anonymity and the length of the survey. People were furthermore pointed to the fact that they could win Dutch tulips and Dutch liquorish if they were to participate. Follow up letters were slightly different in that they referred back to earlier letters that they had received.

[84]

About seventy people went to the website. Sixty of them answered enough questions to be useful for the analysis. On a total of about 6,000 people, sixty – one percent – is a low response. A calculation (on the basis of Green, 1991) estimates that the number of 60 respondents to a population of 6000 corresponds with a margin of error of 10 to 12.5 percent²⁵. This decreases the accuracy of the data, increasing the chance that a relationship will be found that does not exist in the true population (type 1 error) and decreasing the chance of finding a significant relationship that does exist in the true population (type 2 error) (Green, 1991). Much has been tried to improve the response, but through a lack of time and funds this response simply 'has to do'. I had overestimated the response I would receive, and underestimated the time I would need to distribute the survey. This has led to a dataset which unfortunately does not lend itself to 'easy' clear-cut statistical analyses, as will be pointed out in paragraph 5.6. Furthermore the margin of error necessitates increased caution when judging and presenting the results; in the conclusion I will therefore adequately address this level of caution.

²⁴ The information about the number houses in each neighborhood comes from Eby, 2012.

²⁵ Depending on the level of confidence set at either 90% or 95%.

5.4 The data

The survey has a total of 59 respondents – after editing - 17 of which from Orchards and 42 of which from Kentlands. These respondents have answered questions about the importance and their satisfaction with elements of neighborhood design, their background characteristics, as well as some other, extra questions. In this paragraph I will discuss what the raw data that was acquired looked like, how they were transformed into valid and clear measurements of constructs, and what the final variables look like. The next paragraph will discuss the generalizability of the data.

Twenty-nine neighborhood design elements are taken into account by asking the respondents twenty-nine times about the importance of certain neighborhood design elements, and twenty-nine times about the satisfaction with these neighborhood elements. All of these variables are constructed in a positive manner, on a scale of 1 to 10, meaning that the higher the score the higher the importance or satisfaction. This is the same for all the variables concerning the neighborhood elements. Respondents could also opt out and state they did not know how important the elements of neighborhood design were to them, or how satisfied they were with it. This opt out ‘no answer’ answer-category was included in all questions. Quality of Place has been constructed by taking, for each individual respondent, his or her satisfaction with an element and multiplying it by how important he or she thinks the element is. By adding up the scores for all the elements and divide it by the number of correct satisfaction scores²⁶ times its importance, we get a new ‘grade’ between 1 and 10 representing the overall Quality of Place.

[85]

Table 2:

The Quality of Place means for Orchard and Kentlands

	Mean	SD
Orchard	6,10	1,69
Kentlands	8,11	0,94

The respondents have been asked to answer a number of questions concerning background characteristics. Of course this includes age, gender, education, income and marital status. They have also been asked about their ethnicity and race (common practice in surveys within the United States), if they have children under the age of 18, if they are a renter or an owner, how long they have lived in the neighborhood and, finally, if they have experienced crime in the last five years. Age has been constructed by asking respondents for the year of birth and detracting that from the

²⁶ On some questions some respondents failed to answer how satisfied they were with a certain aspect of neighborhood design. To ensure that the calculation is not distorted by the denominator the number of correct scores is taken into account. For example, twenty-nine divided by twenty is more than twenty-nine divided by twenty-nine. By taking the number of correct scores into account every individual Quality of Place is based on the same number of importance scores as there are satisfaction scores.

year of survey, 2011. Education has been asked both by the number in years and the highest achieved level of education (bachelor degree, master's degree, etcetera). For income I have asked the respondents to give an estimate of the total household income before taxes. Concerning ethnicity and race I distinguished Latino, American Indian, black or African American, white, Asian and native Hawaiian. Most of these questions are identical to questions in the U.S. census of 2010.

Table 3:

Descriptive statistics for background variables

Variable	Orchard			Kentlands		
	Mean	SD	N missing	Mean	SD	N missing
Tenure	16,00	11,08	4	10,00	5,52	6
Education (years)	17,85	4,85	4	17,43	5,22	7
Household Income	\$239.000	\$183.665	14	\$224.524	\$114.814	21
Age	54	11,58	4	52	11,98	4
% Male	50%	--	3	50%	--	2
% Married	93%	--	3	74%	--	3
% experienced crime	21%	--	3	45%	--	2

In order to improve the interpretability of the results all variables have been coded in the same direction with a higher score representing a better mark, a higher subjective value. Two variables have been recoded into fewer categories. Multiple categories of marital status (separated, divorced, widowed and never married) were taken together as one category of 'not married' people. There were too few respondents in many of the nominal categories, nor is there much theoretical grounding for the distinction, which makes the dichotomy married-not married preferable. There was (only) one respondent who noted to have experienced severe crime; this category has been joined together with the much larger group of respondents who noted to have experienced minor crime, so as to make a dichotomized distinction between having and not having experienced crime in the last five years. There was one respondent who was a renter instead of the owner of a house, he has been excluded from the dataset considering the very real possibility that one would look differently at a neighborhood and his or her own house when he or she is not as materially dependent on it.

Other questions that were asked concerned the 'overall satisfaction' with life and neighborhood, the neighborhood attachment, if and how strongly the respondents would have minded to have lived in any of the surrounding neighborhoods and finally how much worse they considered prior neighborhoods they inhabited to be. The respondents were asked to judge their satisfaction with their life, and their satisfaction with their neighborhood, on a scale of 1 to 10.

How much worse the worst neighborhood they inhabited was, was asked by how much worse they think it was than their current neighborhood, on a scale of 1 (not any worse) to 5 (much worse). Furthermore, they were asked to answer “if social relations and cost were not an issue, would you have mind to have lived in some of the surrounding neighborhoods such as Kentlands and Lakelands / the ones across Quince Orchard road and Damestown road?” with either ‘yes, very much’, ‘yes, somewhat’ or ‘no’.

Table 4:

Descriptive statistics for satisfaction and neighborhood variables

Variable	Orchard			Kentlands		
	Mean	SD	N Missing	Mean	SD	N Missing
How much worse 'worst' neighborhood	3,46	1,39	4	3,56	1,31	3
Neighborhood attachment	3,97	1,42	3	4,85	1,57	2
Satisfaction with neighborhood	7,5	1,7	3	8,64	1,61	3
Satisfaction with life	8,29	1,44	3	8,4	1,36	2

Finally, a factor analysis has been run to create the variable ‘neighborhood attachment’. On a scale of 1 to 7, 1 being ‘I totally disagree’ and 7 being ‘I totally agree’, respondents were asked to judge the following six statements: “this is the ideal neighborhood to live in”; “this neighborhood is a part of me”; “there are places in the neighborhood to which I am very emotionally attached”; “it would be hard for me to leave this neighborhood”; “I would willingly leave this neighborhood” and; “I would not willingly leave this neighborhood”. A factor analysis showed that these variables were part of one factor with a Kaiser-Meyer-Olkin value of .83 and a significant Bartlett’s test, communalities over .5, factorloadings over .7 and an eigenvalue of 4.107 for the factor. This is a scale of neighborhood attachment that has been used in a number of other studies (Bonaiuto et al., 1999; Bonnes et al., 1997; Comstock et al., 2010).).

[87]

It is standard practice to give a general description of the number of cases, mean and standard deviation for each dependent variable given each level of each of the independent variables in the study. Considering the extraordinarily high number of dependent variables that will be looked at (close to sixty), this is added as an appendix (appendix E). The exact questionnaire is also included in the appendix (appendix D). It needs to be noted that many of the dependent variables were proven not to be normally distributed. Quality of Place, however, is normally distributed – probably since the high number and variance of different scores that it is based on regressed to the mean, with a corresponding normal distribution. This has consequences for the types of analysis that can and should be used.

5.5 Generalizability

Generally speaking, generalizability refers to the extent in which the results of a study apply to individuals and circumstances beyond those studied. However, this is a time, place and individual-dependent subjective indication of the quality of neighborhood design. Results based on the subjective feelings of a group in part of the country cannot simply be extrapolated to a population in an other corner of the country. Results based on the subjective feelings in present-day culture cannot simply be extrapolated to that of a different time. This would require research on a large number of groups in an array of different circumstances and times, which this study does not provide.

In this study I am comparing the Quality of Place for the suburban neighborhood Orchard with the new urban neighborhood Kentlands. The time is the start of the second decade of the third millennium. The place is Gaithersburg, Maryland. A city just outside of Washington, D.C. with a relatively high-income, educated population. In order to be able to generalize to Gaithersburg anno 'now', I need to make sure that the Kentlands- and Orchard-samples represent the population in that area at this time.

However – not to limit my study under too much scrutiny - studies are often also considered 'generalizable' when they have relevant implications for more situations and individuals than those in the sample(s) studied. This is something my study *will* provide, since conclusions on the basis of this study provide plausible implications for a large number of American suburban areas. I will come back to that in the conclusion, now it is time to try and compare the samples to the population.

[88]

Zipcode 20878, comprising both neighborhoods and a few others, has a mostly white yet diverse population with a median age of just under 40 (City-Data 20878, n.d.). 53% of the population is white and non-Latino, 12% white and Latino, 25% Asian and 10% African American (ibid.). Of its close to 63000 inhabitants about 51% is female and 49% male (ibid.). About 60% of the population live in husband-wife households and about 40% of the households have children under 18 (ibid.). Montgomery County, comprising both neighborhoods and many more, with a population close to a million, is populated by generally fairly educated and wealthy people (U.S. Census Bureau, 2010). 56.5% of the population over 25 has a bachelor degree and 30.2% has a graduate or professional degree (ibid.). The median income for people over 25 is \$50,831 a year and the median household income is a staggering \$92,213 (ibid.).

The neighborhoods of Kentlands and Orchard together comprise some 2,500 homes. Most of the 63,000 inhabitants of zip code 20878, and certainly most of the 971,777 inhabitants of

Montgomery County, have therefore very little to do with the two neighborhoods that we are looking at. The census data does not provide us with the desired data on a more specific scale, nor does it provide with information on the experience of crime and the length of residency. I will (have to) limit the check for generalizability on the basis of the available data of zip code 20878. Table 5 and 6 show the comparisons.

Table 5:

Comparisons of age and education-distributions

<u>Area</u>	<u>Age</u>				<u>Education</u>	
	% 30-39	% 40-49	% 50-59	% 60+	% bachelor degree	% graduate degree
Kentlands	10,50%	31,60%	26,30%	28,90%	32,50%	62,50%
Orchard	15,40%	30,80%	30,80%	23,10%	35,00%	65,00%
Zip Code 20878	24,55%	30,51%	29,06%	25,63%	27,90%	30,20%

Table 6:

Comparison of distributions in gender, tenure, marital status, income and having children

<u>Area</u>	<u>Gender</u>	<u>Children</u>	<u>Tenure</u>	<u>Marital status</u>	<u>Income</u>
	% male	% children under 18	% owner	% married	median
Kentlands	50,00%	43,60%	100,00%	74,40%	\$200.000
Orchard	50,00%	50,00%	100,00%	92,90%	\$152.000
Zip Code 20878	48,60%	39,30%	72,50%	62,12%	\$92.213

The Kentlands and Orchard sample show strong resemblance to that of the 20878 zip code-area, as well as to each other, on a number of background characteristics. In the older age groups (40-49, 50-59, 60+) the percentages for both the samples and the larger population area are close to identical. The same goes for gender, and the percentage of households with children under 18. However, there are some notable differences. The younger age groups (<40) are a lot smaller in the Kentlands and Orchard sample. Furthermore, Orchard has a relatively high number of married people in its sample. The income and levels of education are a lot higher in both Kentlands and Orchard. Finally, the percentage of Asian, Latino and black people is a lot lower in both samples than the population.

It is hard to judge exactly how generalizable the data are. I do not have specific data on both neighborhoods that I can use, so there is no way to judge exactly how high the number of married people, the number of people with a bachelor degree etcetera, should be. The income and education in both samples are a lot higher than the median income of the zip code, however

Kentlands and Orchard are both very affluent (and expensive) neighborhoods in an already very affluent area. Higher incomes and educational attainment are expected, but the question is if it should be expected to be *this much* higher. In the surrounding neighborhoods there are neighborhoods that seem to have a higher amount of black and Asian people. In the interviews people from Kentlands spoke of the 'very low amount of black people' in the neighborhood, so it is to be expected that these neighborhoods are less diverse.

If one would want to weigh the data, one needs to know exactly what the data should look like (as in: how much more women, older people etcetera there are percentagewise in the true population as compared to the respondents). That information, however, is missing in this case. The data looks to be overall comparable, albeit that the samples (perhaps) have an extraordinarily highly educated and high income population, and perhaps too little black or Asian people. The data are kept as is, and I will limit the conclusions to the possibility that the samples, and thus the study, are skewed towards a white, higher income and educated population. However, since I am comparing the influence of neighborhood design on the Quality of Place, more important perhaps is the fact that both neighborhoods seem comparable on background characteristics. This makes for not completely generalizable data within a neighborhood, but a nonetheless generalizable comparison between neighborhoods. I will come back to that in the next paragraph.

[90]

5.6 Mission and method

Now that is known what the data looks like, I can commence with the analyses. In this research the primary aim is to assess the Quality of Place of Kentlands and Orchard. Second, I wish to gain insight in the nature of the differences between both neighborhoods via an in-depth analysis of the differences in the importance of, and satisfaction with, the elements of neighborhood design. The inhabitants of the suburban neighborhood could have different preferences than the inhabitants of the New Urban neighborhood. The design of the neighborhood could be good in providing one of these preferences, and bad in another. It is therefore insightful and important to look into these differences. To assess the Quality of Place of the neighborhood design I can combine both the importance that people attribute to (all of the) neighborhood characteristics and how satisfied they are with them.

In general, I believe there are three types of tests you can do using statistics. Analyzing differences between groups or conditions is the first one. Analyzing possible relationships between variables is the second. Predicting a score or a membership of a group (as in, for example: what is the chance that a person who is rich and old will vote on a right wing party?) is a third. Depending on the nature of the data and the type of questions that need answered, one or more specific

statistical tests emerge as best. Comparing the importance of, and satisfaction with, specific elements of neighborhood design is possible via descriptive statistics: I can simply look at the mean-scores, and compare these for both neighborhoods. The same goes for the overall Quality of Place.

However, to statistically evaluate the differences, I need to make sure that a) the different means are significant and not the result of chance and b) that the differences are a result of the neighborhood design, and not that of possible intervening and/or covariant influences. The most important one of these possible influences is that of attributes of the inhabitants of a neighborhood. For example, if having children increases your satisfaction with, or the importance of, certain neighborhood characteristics, and if there happen to be more parents in the one neighborhood than the other, this would influence the satisfaction (and, accordingly, the Quality of Place) without being the result of neighborhood design.

Because of the possibility of intervening influences, regression analysis is the preferred statistical method of analysis. With regression analysis one can put multiple independent variables - such as the ones that need to be controlled for - in one model so as to reliably determine the effect of a variable. When people in Kentlands, for example, are generally older than people from Orchard, the difference between both mean scores could (partially) be the result of this difference in sample-distribution, instead of differences in neighborhood design. However, because of the low response, the N is generally insufficient to allow for a regression analysis with multiple independent variables (Green, 1991). Therefore, a different route has to be taken to compare both neighborhoods whilst controlling for possible intervening variables. The N is sufficient to be able to use tests that evaluate if there is a significant difference in mean-scores between groups (although, as has been discussed, with decreased accuracy).

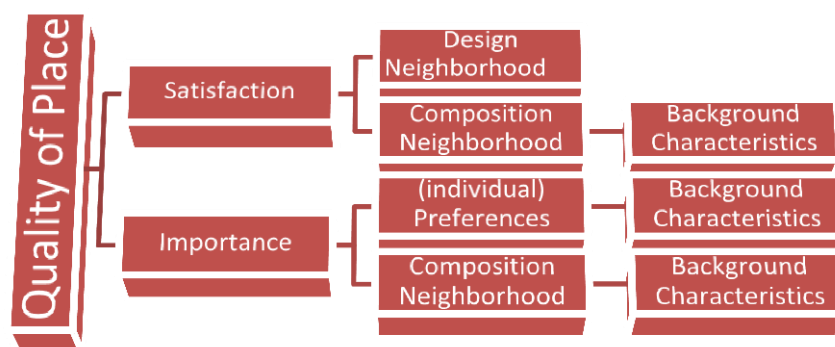
For the in-depth analysis I will compare means via the Mann-Whitney U-test. For the Quality of Place, means will be compared using the independent t-test. The difference in both tests lies in the assumptions that must be met if the test is to be valid. Many of the independent variables for the in-depth analysis - the importance and satisfaction with different aspects of neighborhood design - showed not to be normally distributed. As a result of that the statistical tests need to be 'non-parametric', i.e. tests that do not rely on assumptions that the data are drawn from a given probability distribution. To test the significance of mean differences therefore independent t-tests are not used, and the analysis focuses on the nonparametric alternative: the

Mann-Whitney U test²⁷. The Quality of Place, however, does show to be normally distributed. Therefore, for this analysis, the independent t-test *is* used.

I still need to control for other influences – something that regression analysis would normally be most suited for. To control for other variables, a few steps will be taken. First, the means of both neighborhoods will be compared for all the background variables. This gives us insight into the differences in the composition of both neighborhood-samples. As long as the composition of both groups is the same on background variables, these background variables cannot be expected to account for the differences between neighborhoods in satisfaction, importance and the Quality of Place. For example, when the respondents from both neighborhoods are generally just as old, age cannot account for the differences between both neighborhoods in the levels of satisfaction, Quality of Place or importance.

Figure 21

A research model that includes the need to take neighborhood composition into account



Second, I will see to what extent these variables have an influence on the dependent variables. Even if the distribution of a variable differs between the samples, I only need to take the variable into account when it also has an influence on the dependent variables. For example, if there *is* a difference in age, but age has no meaningful influence on the Quality of Place, age can still not account for the differences between both neighborhoods. This alters the research model somewhat, as can be seen in Figure 21.

²⁷ Although some distributions were normal, the Mann-Whitney U-test is used for all cases, as to increase the comparability and clarity of the results.

To compare both neighborhoods in the means of the background variables, I use a MannWhitney – U test, for the same reasons as before. The variables that will be looked at are age, gender, tenure (in years), marital status, education, crime, having children under the age of 12, the worst and best neighborhood they have lived in and finally if they would mind living in any of the surrounding neighborhoods. To see what influence the variables have, two different methods will be used. First, for the in-depth analysis, correlation analysis will be done using the non-parametric Spearman's rho test. Second, for the analysis of the Quality of Place I will use separate regression analyses for the relevant background variables with the neighborhood type dummy as second independent variable in the analysis.

The N, again, is too small for a full regression analysis. Nonetheless, these smaller regression analyses will give insight into the manner in which differences in Quality of Place between both neighborhoods can be attributed to the neighborhood design. When, for example, age is included and shows not to have any influence on the strength and significance on the influence of neighborhood type, one cannot assume that the differences are a result of differences in age.

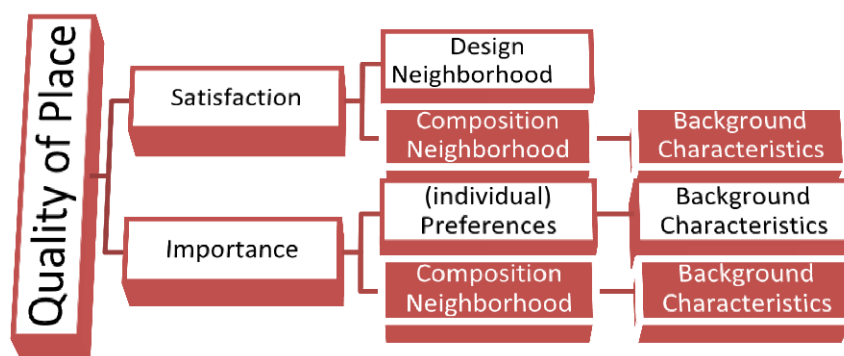
Next, I have to take into account the possibility – which is certainly plausible – that someone's subjective importance of a specific element of neighborhood design, will influences his or her satisfaction with it. First of all, when choosing a neighborhood and house to live in, one probably makes the decision based on their expected satisfaction with what he or she finds important. Secondly, one can imagine a person to be either more forgiving to something he or she finds important, or more critical about that which he or she finds important. To try and take this into account I will look at the influence of importance on satisfaction, via a correlation and regression analysis. I will then see what the difference is, in overall importance per person, between both neighborhoods.

Finally, I will look at two other dependent variables. The neighborhood attachment, and the 'overall quality of the neighborhood' will be compared for both neighborhoods and tested, using a t-test analysis, to see if the differences are statistically significant. With these results I can compare the results of the Quality of Place with another measure of people's satisfaction with the neighborhood, as well as get additional insight into differences between both neighborhoods.

5.7 Possible influences to account for

A (statistical) model of the world is a simplification of it. In this research I am interested in the relationship between neighborhood design and neighborhood appreciation. I cannot, however, simply look at these two things and asses if there is a relationship. Neighborhood design might influence an array of things, just as neighborhood appreciation is probably influenced by an array of things. If one would simply look at the relationship between shoe size and reading performance, one might conclude that people with longer shoes (feet) are better readers, when in fact both increase because of age. It is therefore of utmost importance that the model of neighborhood appreciation takes into account relevant factors, that the model gives a sufficiently proper reflection of the world. If I am to conclude a relationship between the Quality of Place, I have to make sure that this relationship is not based on other influences, or seems more significant or strong than it in reality is.

Figure 22. Checking for differences in neighborhood composition concerning background characteristics



[94]

To what extent does the composition of the sample differ between both neighborhoods, when it comes to possibly relevant variables? To look for differences in the composition of both groups I have run MannWhitney-U tests on the relevant background variables. Table 7 shows the results of these tests. Here, I want to take plausible influences into account, and are not aiming to test hypotheses. Although a chance of 85% that 'A' correlates with 'B' is not seen as a statistically significant relationship, it would be foolish not to take such an influence into account. Variables with a 'high chance' of having a different composition in both groups, are Tenure (sig 0.105), Crime (sig 0.123) and marital status (sig 0.147). People from the Orchard -sample (mean = 16) have lived in their neighborhoods longer than people from the Kentlands -sample (mean = 10) have in theirs. More people from the Kentlands -sample have experienced crime in the last five years (45%) than people from Orchard (21%). More people are married in Orchard (93%) than in Kentlands (74%). In all the other variables the samples are close to identical.

Table 7:

MannWhitney U analysis of mean differences in background variables

Variable	Mean difference		Orchard		Kentlands	
	Mann-Whitney U	Sig.	Mean	SD	Mean	SD
Age	230,5	.721	53,54	11,35	52,03	11,98
Tenure (years)	162,5	.105	16	11,08	10	5,52
Gender	280	.999	0,5	0,52	0,5	0,51
Marital Status	222,5	.147	0,07	0,27	0,26	0,44
Children under age 18	255,5	.682	0,5	0,52	0,44	0,5
Household income	27	.694	\$239.000	\$183.665	\$224.524	\$114.814
Education (in years)	218	.824	17,85	4,85	17,43	5,22
Crime (in last five years)	214	.123	0,21	0,43	0,45	0,5
Mind living other neighborhood	196,5	.969	2,55	0,82	2,5	1,11
Worse prior neighborhood	246	.870	3,46	1,39	3,56	1,314

Apparently, the Orchard and Kentlands samples differ when it comes to tenure, crime and marital status. If these variables exert an influence on the satisfaction with and importance of neighborhood elements, the difference in the composition could account for (some of the) differences herein. That is why I have also tested the influence of these background characteristics on the importance attributed to certain neighborhood design elements and the satisfaction with them. To asses these influences non-parametric tests of correlations – an analysis based on spearman rho - have been conducted. For the Quality of Place additional regression analyses have been run. The methods and results of these tests will be discussed in the following paragraphs.

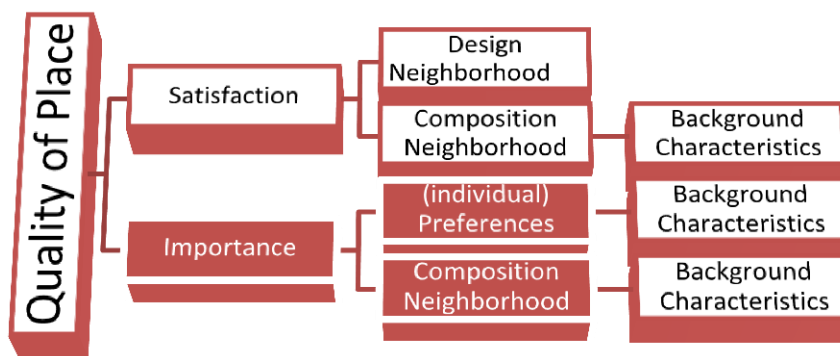
It has to be noted that, although the samples do not differ on other background variables, these variables could still influence the satisfaction and importance levels and the Quality of Place. However, this is not problematic for the analysis, since these variables cannot account for the differences between both groups on these background variables. An example: People with children might feel stronger about having playgrounds for children than people without children, but this would be the same for both neighborhoods. Both neighborhoods have a similar distribution of people with and without children. Therefore both neighborhoods have, *ceteris paribus*, a similar amount of people who feel this or that way about playground for children. Thus, this cannot explain possible differences in importance of playgrounds for children between both neighborhoods.

5.8 What is important in neighborhood design?

To have an adequate image of what entails a Quality of Place one needs to know more than simply what aspects are relevant. One also needs to know the extent to which these different aspects are relevant and thus how they would, relatively, influence the Quality of Place. For example, if people in Orchards feel stronger about the importance of privacy, than their satisfaction with this element is also more important for the overall Quality of Place. I will therefore start the analysis of the Quality of Place by looking at the differences, between both neighborhoods, in the subjective importance of the elements of neighborhood design.

Figure 23

Researching the importance of neighborhood design elements



When we look at the importance of the neighborhood design-elements we see (Table 8 on page 99) that in 13 out of the 29 elements, there is a statistically significant difference between both neighborhoods. For ten of these elements, people in Kentlands feel they are more important than people in Orchard do. In three cases, people from Orchard feel the neighborhood element is more important than people from Kentlands do. People from Orchard feel more strongly about the **lotsize** (Mann-Whitney U = 166.5, N Orchard = 13, N Kentlands = 39, $P < 0.1$ two-tailed), **the quietness** (Mann-Whitney U = 144, N Orchard = 12, N Kentlands = 35, $P = 0.1$ two-tailed) and **sense of privacy** (Mann-Whitney U = 161.5, N Orchard = 14, N Kentlands = 33, $P < 0.1$ two-tailed). The mean differences are 7.69 versus 6.26, 8.75 versus 7.77 and 8.5 versus 7.73 respectively.

People in Kentlands, in turn, feel more strongly about the importance of recreational paths (Mann-Whitney U = 106.5, N Orchard = 11, N Kentlands = 30, $P < 0.1$ two-tailed) with a mean difference of 9.13 versus 8.55; **public space** (Mann-Whitney U = 122, N Orchard = 14, N Kentlands = 32, $P < 0.05$ two-tailed), with a mean difference of 8.53 versus 6.86; **having a defined community center** (Mann-Whitney U = 145.5, N Orchard = 15, N Kentlands = 36, $P < 0.01$ two-tailed), with a mean difference of 6.78 versus 4.73; **having a central town square** (Mann-Whitney U = 120, N Orchard = 15, N Kentlands = 35, $P < 0.01$ two-tailed), with a mean difference of 7.54 versus 5.07 ; **having diverse housing and demographics** (Mann-Whitney U = 175, N Orchard = 14, N Kentlands = 37, $P < 0.1$ two-tailed), with a mean

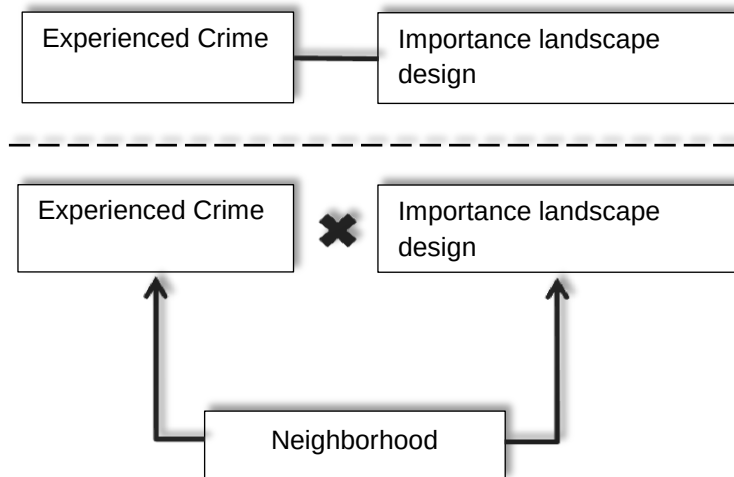
difference of 6.57 versus 4.86; having shops and facilities nearby that supply ordinary needs (Mann-Whitney U = 73, N Orchard = 13, N Kentlands = 23, P = 0.1 two-tailed), with a mean difference of 9.09 versus 7.85; the nearness of the house to facilities in the neighborhood (Mann-Whitney U = 131, N Orchard = 13, N Kentlands = 30, P < 0.1 two-tailed), with a mean difference of 8.43 versus 7.15; the street pattern (Mann-Whitney U = 181.5, N Orchard = 15, N Kentlands = 38, P < 0.05 two-tailed), with a mean difference of 7 versus 5.53; and finally having a distinct, unique, character for the neighborhood (Mann-Whitney U = 119.5, N Orchard = 15, N Kentlands = 29, P = 0.1 two-tailed), with a mean difference of 8.17 versus 7.

There is the possibility that some of the differences between both neighborhoods could be the result of differences background characteristics between the inhabitants of the neighborhoods. Looking at the background characteristics (the bottom rows in the table) it apparently is possible that people in Kentlands believe recreational paths and public space are more important than people in Orchard do, as a byproduct of the fact that more people who have experienced crime live in Kentlands. It is furthermore possible that the higher subjective importance of a defined community center for people from Kentlands, are a byproduct of the fact that, relatively, less married people live in Kentlands.

Since I looked at correlations for the background characteristics – and thus not test the causality of the relationships - it also very possible that any significant correlation is the byproduct of the neighborhood type. The neighborhood type would then correlate both with the background variable and the importance of an element of neighborhood design and the relationship between the background variable and importance would be the result of mere happenstance. For example, crime and the importance of landscape design seem to correlate, in the manner that an increase in the experience of crime corresponds with a decrease in the importance of landscape design. People in Kentlands generally have experienced more crime. It is possible that people in Kentlands also generally care less about landscape design, regardless of the experience of crime. The ‘correlation’ would then actually be the result of people in Kentlands generally caring less about landscape design together and generally have experienced more crime, without there being a relationship between crime and landscape design (see Figure 24 for the visualization of this example). I have run separate correlation tests for just the Kentlands sample – which excludes an influence of neighborhood type – to assess this possibility. These tests showed comparable results. Since the results are comparable, the correlations between the background variables do not seem to be a byproduct of the neighborhood type. Hence the above-mentioned differences in importance between both neighborhoods (that showed correlations with crime, tenure and/or marital status) could still be the result of such correlation differences.

Figure 24

Testing for the possible influence of neighborhood type



This in-depth study of importance is not aimed at providing us with strong tests of relationships, rather it is aimed at giving some insight in differences between the preferences of people from both neighborhoods. Again, in the comparison of the Quality of Place – in the actual *test* - I *will* control for the background characteristics. And, although there are differences in what people from Orchard and Kentlands consider important, this is not a problem for the analysis since the Quality of Place takes this into account. For now it is important that the reader is aware that the relationships that are noted in this paragraph, could very well be different if background variables were to be taken into account.

[98]

All in all, there seem to be quite a number of differences between both neighborhoods. People in Orchard feel stronger about privacy, the size of their own lot and quietness. These are exactly the kind of neighborhood design elements that a typical suburban design is better at providing than the New Urban design model with smaller lots and houses closer together. People from Kentlands feel stronger about the walkability and aesthetic of the neighborhood, having shops, services and facilities nearby, open spaces and recreational paths to enjoy, and things that make a neighborhood unique and are shared amongst its inhabitants. These, in turn, are exactly the kind of neighborhood design elements that New Urban designers aim to provide. The differences are never much more than 1.5 on a scale of ten, implying that although these are quite significant differences, in general what people from Kentlands consider important is still somewhat important for people from Orchard, and vice versa.

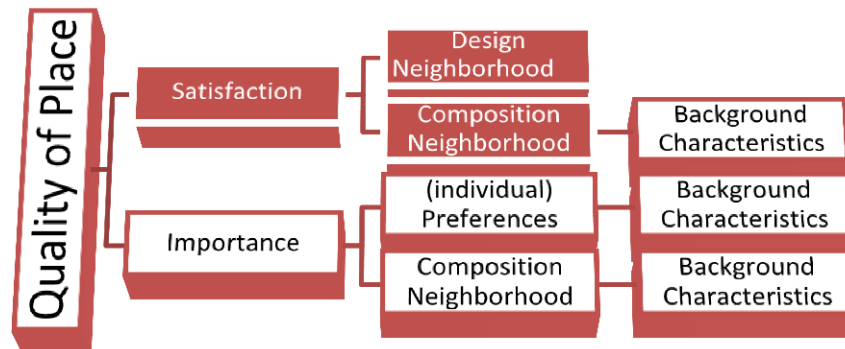
Table 8: Mean comparisons of importance of aspects of neighborhood design												
	Walkability of the community (access)	Accessibility of recreation, services etc.	Availability of parking space	Buildings aesthetic pleasantness	General appearance of neighborhood	Distinct visual character (neighborhood)	Landscape design and greenspace	Playgrounds for children 2-12 nearby	Recreational paths, roads	Public space, common areas		
Mann-Whitney U	103	95	140	178	132	127,5	133,5	187	106,5	122		
Sig. (2-tailed)	0,357	0,384	0,455	0,767	0,663	0,112	0,493	0,668	0,068	0,013		
Mean	8,83	9,5	8,22	8,54	9	7	8,64	7,33	8,55	6,86		
N	12	10	9	13	12	13	11	12	11	14		
Mean	9,24	9,26	7,76	8,79	9,29	8,71	8,79	7,09	9,13	8,53		
N	21	23	37	29	24	28	28	34	30	32		
Correlation Crime (c), Tenure (t) or Marital Status (m)												
						t -.280*	t -.321*		c .414***	c .329**		
	Outdoor amenities overall	Lotsize (including gardenspace)	Time and costs of upkeep	View from the dwelling	Sense of privacy at home	Quietness	Distinct boundary of the community	Defined community center	Central town square or green	Street-lighting in the neighborhood		
Mann-Whitney U	197,00	166,50	212,50	224,50	161,50	144,00	266,50	145,50	120,00	149,50		
Sig. (2-tailed)	0,393	0,063	0,387	0,494	0,095	0,1	0,823	0,009	0,002	0,203		
Mean	8,27	7,69	7,29	7,47	8,5	8,75	6,07	4,73	5,07	7,67		
N	15	13	14	15	14	12	15	15	15	12		
Mean	8,71	6,26	6,89	7,85	7,73	7,77	6,22	6,78	7,54	8,12		
N	31	39	36	34	33	35	37	36	35	33		
	c .392***		c -.254*	m .261*			m .247*	m .265*		m .331**		
	opportunities for social interaction in street	Size of dwelling	Adequacy of dwelling	Diversity in housing	Opportunity to use transportation other than car	Shops/facilities in neighborhood that supply ordinary needs	Nearness of house to facilities in neighborhood	Street pattern	Safe streets for playing (traffic)			
Mann-Whitney U	185,00	262,50	162,50	175,00	108,00	73,00	131,00	181,50	204,50			
Sig. (2-tailed)	0,218	0,828	0,735	0,071	0,013	0,009	0,083	0,039	0,929			
Mean	7,36	7,57	8,75	4,86	6,5	7,85	7,15	5,53	7,62			
N	14	14	12	14	14	13	13	15	13			
Mean	7,91	7,41	8,38	6,57	8,14	9,09	8,43	7	7,31			
N	34	39	29	37	29	23	30	38	32			
	c .265*											
*p < 0.1. **p < 0.05. ***p < 0.01.												

5.9 Satisfaction with aspects of neighborhood design

How do the neighborhoods fare at providing the different elements of neighborhood design that the people from both neighborhoods think are important? In this paragraph I will look at the differences in satisfaction between both neighborhoods.

Figure 25

Researching the satisfaction with neighborhood design elements



When we look at the satisfaction with the neighborhood design-elements we see (Table 9 on page 103) that in all but five of them there is a statistically significant difference between both neighborhoods. In all of these (24) cases, the mean score is higher for Kentlands than it is for Orchards, meaning that when we simply look at the statistically significant differences, Kentlands wins hands down in the satisfaction of its inhabitants with the neighborhood design. However, again, I need to take the differences in subjective importance of these elements into account, before we can truly compare the Quality of Place. This is done in the next paragraph.

[100]

To give a full account of the results: people in Kentlands are more satisfied with the walkability of the community (Mann-Whitney $U = 118$, N Orchard = 15, N Kentlands = 38, $P < 0.01$ two-tailed) with a mean difference of 9.24 versus 6.8; the accessibility of recreation, services etcetera (Mann-Whitney $U = 184.5$, N Orchard = 15, N Kentlands = 38, $P < 0.05$ two-tailed) with a mean difference of 8.95 versus 7.8; having a distinct visual character in the neighborhood (Mann-Whitney $U = 69$, N Orchard = 15, N Kentlands = 38, $P < 0.01$ two-tailed) with a mean difference of 8.74 versus 5; the buildings' aesthetic pleasantness (Mann-Whitney $U = 69$, N Orchard = 15, N Kentlands = 37, $P < 0.01$ two-tailed) with a mean difference of 8.68 versus 6.07; the general appearance of the neighborhood (Mann-Whitney $U = 80$, N Orchard = 15, N Kentlands = 38, $P < 0.01$ two-tailed) with a mean difference of 9.03 versus 6.80; the landscape design and greenspace (Mann-Whitney $U = 123$, N Orchard = 15, N Kentlands = 38, $P < 0.01$ two-tailed) with a mean difference of 8.53 versus 6.33; Having playgrounds for children nearby (Mann-Whitney $U = 84.5$, N Orchard = 14, N Kentlands = 32, $P < 0.01$ two-tailed) with a mean difference of 8.16 versus 4.86 and recreational paths (Mann-Whitney $U = 94$, N Orchard = 15, N Kentlands = 38, $P < 0.01$ two-tailed) with a mean difference of 8.74 versus 6.27.

Furthermore, people in Kentlands are more satisfied with the public space (Mann-Whitney U = 25, N Orchard = 15, N Kentlands = 38, P < 0.01 two-tailed) with a mean difference of 8.76 versus 4.33; Outdoor amenities (Mann-Whitney U = 59, N Orchard = 15, N Kentlands = 38, P < 0.01 two-tailed) with a mean difference of 8.76 versus 5.4; the view from the dwelling (Mann-Whitney U = 176, N Orchard = 15, N Kentlands = 37, P < 0.05 two-tailed) with a mean difference of 7.19 versus 5.73; Distinct boundary of the community (Mann-Whitney U = 111.5, N Orchard = 15, N Kentlands = 38, P < 0.01 two-tailed) with a mean difference of 8.39 versus 5.4; Defined community center (Mann-Whitney U = 13, N Orchard = 15, N Kentlands = 39, P < 0.01 two-tailed) with a mean difference of 8.62 versus 2.87; central town square or green (Mann-Whitney U = 30.5, N Orchard = 15, N Kentlands = 38, P < 0.01 two-tailed) with a mean difference of 8.42 versus 3.07; street-lighting in the neighborhood (Mann-Whitney U = 198.5, N Orchard = 15, N Kentlands = 38, P < 0.1 two-tailed) with a mean difference of 8.11 versus 7.07; Safe streets from traffic for playing (Mann-Whitney U = 126, N Orchard = 15, N Kentlands = 36, P < 0.01 two-tailed) with a mean difference of 7.86 versus 5.27; opportunities for social interaction (Mann-Whitney U = 160.5, N Orchard = 15, N Kentlands = 38, P < 0.05 two-tailed) with a mean difference of 8.11 versus 6.53 and the size of the dwelling (Mann-Whitney U = 174.5, N Orchard = 15, N Kentlands = 37, P < 0.05 two-tailed) with a mean difference of 8.05 versus 7.33.

Finally, people in Kentlands are more satisfied with the adequacy of the dwelling (Mann-Whitney U = 163, N Orchard = 15, N Kentlands = 37, P < 0.05 two-tailed) with a mean difference of 8.68 versus 7.6; diversity in housing and demographics (Mann-Whitney U = 139, N Orchard = 14, N Kentlands = 36, P < 0.05 two-tailed) with a mean difference of 8 versus 5.21; opportunity to use public transportation (Mann-Whitney U = 105, N Orchard = 15, N Kentlands = 38, P < 0.01 two-tailed) with a mean difference of 8 versus 5.13; having services for ordinary needs nearby (Mann-Whitney U = 155.5, N Orchard = 15, N Kentlands = 37, P < 0.05 two-tailed) with a mean difference of 8.7 versus 6.4; Nearness of house to facilities in neighborhood (Mann-Whitney U = 130.5, N Orchard = 15, N Kentlands = 37, P < 0.01 two-tailed) with a mean difference of 8.62 versus 6.13 and street pattern (Mann-Whitney U = 136.5, N Orchard = 14, N Kentlands = 37, P < 0.01 two-tailed) with a mean difference of 8.05 versus 6.14.

Just like with the differences in importance between both neighborhoods, the differences in satisfaction between both neighborhoods could be a spurious result. The higher satisfaction in Kentlands with having a distinct visual character in the neighborhood, the buildings' aesthetic pleasantness, the general appearance of the neighborhood, the recreational paths, the outdoor amenities overall and the street-lighting could be the result of the fact that people in Kentlands have generally lived in their neighborhood for a shorter amount of time. A separate correlation analysis has been run just for the Kentlands sample, which showed comparable results, implying that the correlations are not a happenstance based on the relationship of neighborhood type with both the background characteristics and the level of satisfaction. Furthermore, the higher satisfaction in Kentlands with the general appearance of the neighborhood, playgrounds for children, the size and adequacy of the dwelling and finally the diversity in housing could be the

result of differences in the relative number of people who have experienced crime in both neighborhoods. Here again, a separate analysis for just the Kentlands sample showed comparable results. Therefore, the above-mentioned differences in satisfaction *could* still be the result of differences in the number of people that have experienced crime and in the number of people that have had a longer (or shorter) tenure.

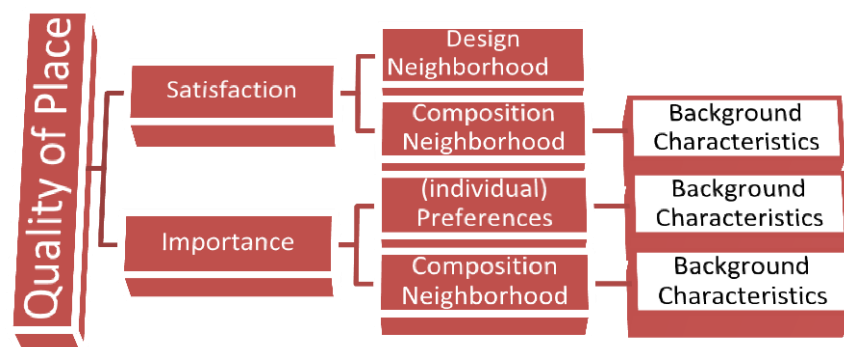
Table 9: Mean comparisons of satisfaction with aspects of neighborhood design											
	Walkability of the community (access)	Accessibility of recreation, services etc.	Availability of parking space	Buildings aesthetic pleasantness	General appearance of neighborhood	Distinct visual character (neighborhood)	Landscape design and greenspace	Playgrounds for children 2-12 nearby	Recreational paths, roads	Public space, common areas	
Mann-Whitney U	118,00	184,50	275,50	69,00	80,00	54,00	123,00	84,50	94,00	25,00	
Asymp. Sig. (2-tail)	0,001	0,038	0,967	0,000	0,000	0,000	0,001	0,001	0,000	0,000	
Mean Orchard	6,8	7,8	8,13	6,07	6,8	5	6,33	4,86	6,27	4,33	
N	15	15	15	15	15	15	15	15	15	15	
Mean Kentlands	9,24	8,95	7,97	8,68	9,03	8,74	8,53	8,16	8,74	8,76	
N	38	38	37	38	37	38	38	32	38	38	
Correlation	Crime (c), Tenure (t) or Marital Status (m)										
			t = -.248*		t = -.261*	t = -.362**		c = .348**	t = -.247*		
					c = .244*						
	Outdoor amenities overall	Lotsize (including gardenspace)	Time and costs of upkeep	View from dwelling	Sense of privacy at home	Quietness	Distinct boundary of the community	Defined community center	Central town square or green	Street-lighting in the neighborhood	
Mann-Whitney U	59,00	251,00	199,50	176,00	222,00	200,00	111,50	13,00	30,50	198,50	
Asymp. Sig. (2-tail)	0	0,496	0,111	0,038	0,207	0,166	0	0	0	0,082	
Mean Orchard	5,4	7,4	6,33	5,73	6,53	6,86	5,4	2,87	3,07	7,07	
N	15	15	15	15	15	14	15	15	15	15	
Mean Kentlands	8,76	7,55	7,27	7,19	7,42	7,84	8,39	8,62	8,42	8,11	
N	38	38	37	37	38	38	38	39	38	38	
	t = -.309*									t = -.347**	
	Opportunities for social interaction street	Size of dwelling	Adequacy of dwelling	Diversity in housing	Opportunity to use public transportation	Shops/facilities in neighborhood that supply ordinary needs	Nearness of house to facilities in neighborhood	Street pattern	Safe streets for playing (traffic)		
Mann-Whitney U	160,50	174,50	163,00	139,00	105,00	155,50	130,50	136,50	126,00		
Asymp. Sig. (2-tail)	0,013	0,033	0,017	0,013	0	0,011	0,002	0,009	0,003		
Mean Orchard	6,53	7,2	7,6	5,21	5,13	6,4	6,13	6,14	5,27		
N	15	15	15	14	15	15	15	14	15		
Mean Kentlands	8,11	8,05	8,68	8	8	8,7	8,62	8,05	7,86		
N	38	37	37	36	38	37	37	37	36		
		c = .393***	c = .330**	c = .248*							
*p < 0.1. **p < 0.05. ***p < 0.01											

5.10 Comparing the Quality of Place

We have seen that with all the neighborhood design elements that the local inhabitants said should be taken into account when assessing the quality of the neighborhood design, people in Kentlands are just as or more satisfied than people in Orchard. Although, as has been noted, these analyses show a lot of depth into the nature of the differences between people from Kentlands and Orchard, they cannot be seen as a real test of the Quality of Place. The Quality of Place is a *time, place and individual-dependent, subjective indication of the quality of neighborhood design*. Although the comparison of mean scores of the importance and satisfaction of the elements of neighborhood design is time and place dependent (the time being now, the place being Gaithersburg), and subjective (the inhabitants decide what constitutes a Quality of Place, and how they rate it), is it *not* individual dependent: it does not look at the relationship between importance and satisfaction per individual, but does it for all of the people of a neighborhood together.

Figure 26

Evaluating the satisfaction of needs in neighborhood design; the Quality of Place



To make the analysis individual dependent, the importance and satisfaction need to be compared per individual. What I have done so far is an aggregated comparison of the importance and satisfaction per neighborhood. A group of people might be generally satisfied with what this group generally finds important, but what I want to know is the extent in which every *individual* citizen is satisfied with what he or she thinks is important. In order to take this next step, I compare the means of both neighborhoods in the manner which, *per individual*, its inhabitants are satisfied with the different aspects of neighborhood design, taking into account what *they individually* consider important. This constitutes the Quality of Place.

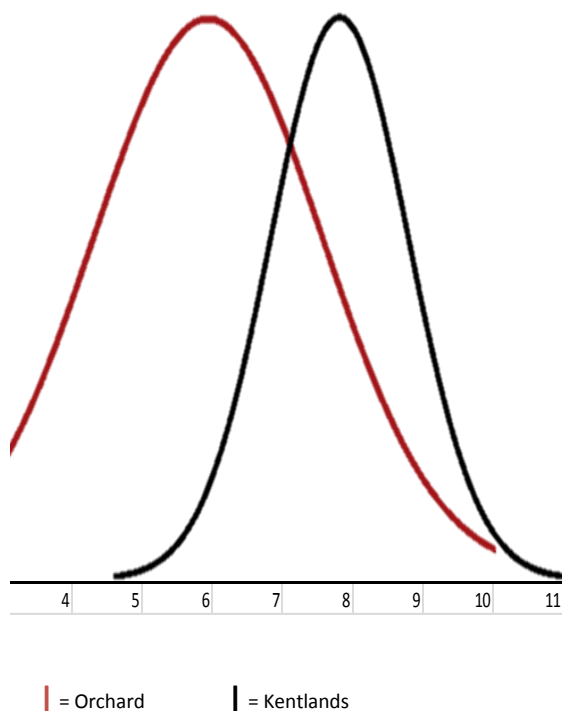
Table 10:

T-test mean comparison for the Quality of Place

	Levene's test for equality of variances				t-test for equality of means		
	F	Sig.	t	Df	Sig.	Mean difference	SD difference
Equal variances assumed	8,958	0,004	-5,341	47,000	0,000	-2,014	0,377
equal variances not assumed			-4,313	17,921	0,000	-2,014	0,467

Figure 27.

Quality of Place distribution



Above (Table 10) you see the results of the t-test comparison of the Quality of Place. The study found that Kentlands has a statistically significant higher Quality of Place than Orchard ($t(17.9) = -4.313$, $P = 0.000$) with a mean difference of 8.11 (± 0.94) versus 6.10 (± 1.70) (as seen in Table 2). On a scale of 1 to 10 – as on a rapport card – Kentlands seems to get an 8, whilst Orchard gets a 6. However, I still need to take the background variables into account. We already know that the samples only differ when it comes to the tenure, crime and marital status. Via a correlation analysis we can see if there is a relationship between these background variables and the Quality of Place. Via separate regression analysis we can see if such relationships would alter the influence of neighborhood design on the Quality of Place.

[105]

Table 11:

Correlations between background variables and Quality of Place

		Crime (in last five years)	Marital Status	Tenure	Gender	Age	Income	Education (in years)	Children (under 18)
Quality of Place	Pearson Correlation	0,31**	0,168	0,34**	0	0,009	-0,04	-0,183	-0,168
	Sig. (2- tailed)	0,034	0,265	0,026	0,999	0,955	0,868	0,252	0,265
	N	47	46	43	47	44	20	41	46

* $p < 0.1$. ** $p < 0.05$. *** $p < 0.01$

Table 12:

Correlations between life-satisfaction, neighborhood attachment and Quality of Place

		Mind living in surrounding neighborhoods	Life Satisfaction	Neighborhood Satisfaction	Neighborhood Attachment
Quality of Place	Pearson Correlation	-0,084	0,29**	0.602***	0,562***
	Sig. (2- tailed)	0,596	0,048	0,000	0,000
	N	42	47	46	47

* $p < 0.1$. ** $p < 0.05$. *** $p < 0.01$

Although the samples differ only when it comes to tenure, crime and marital status, Pearson correlations have been run for all background variables. Of the three relevant variables (crime, tenure, marital status), crime and tenure show a statistically significant ($P < 0.05$) and fairly strong relationship (> 0.3) with the Quality of Place. Age, gender and household income show a completely non-significant ($P > .85$) weak to non-existing relationship. The years of education and having children might have a relationship with the Quality of Place although the chance that this is not the case is large ($P > .25$). Finally, Quality of Place shows (as seen in Table 12) to have a strong positive relationship with life-satisfaction, neighborhood satisfaction and neighborhood attachment (never below .29) whilst at the same time not measuring the same thing (never above .602). This makes clear that Quality of Place is both a distinct variable, addressing a different concept than neighborhood satisfaction or neighborhood attachment. It also shows that the Quality of Place has a clear relationship with the satisfaction with and attachment to a neighborhood. People from Kentlands showed a neighborhood satisfaction of 8.64 versus Orchards 7.5, and a neighborhood attachment of 4.85 versus Orchards 3.97²⁸.

[106]

We have seen that, out of the variables in which the samples differ, crime and the length of residency have some influence on the satisfaction. Although I can run linear regression on Quality of Place, the amount of cases still limit the analysis. I have run separate regression analyses with a neighborhood type dummy and either crime, tenure or marital status as second independent variable. By running separate regression analyses I can deal with the problem of a small N. Although I cannot run a valid, reliable 'model' of the world with just two independent variables, it does allow us to judge if the effect of neighborhood design on the Quality of Place is an independent and significant effect.

²⁸ The differences between both neighborhoods for these two variables showed to be significant after running a Mann-Whitney U test. For Neighborhood attachment the results were Mann-Whitney U 182, $p < 0.1$ ($p = .054$). For neighborhood satisfaction the results were Mann-Whitney U 153,5, $p < 0.05$ ($p = .013$).

Table 13:

Regression analyses of Quality of Place and relevant variables

Model	R-square	Std. Error	F	sig.	Variabes	B	Std. Error	t	sig.
Neighborhood	.378	1	29	0,000	Constant	6,100	0,314	19,423	0,000
					Kentlands	2,014	0,377	0,615	0,000
Neighborhood, Crime	.414	1,215	15,53	0,000	Constant	5,918	0,335	17,581	0,000
					Kentlands	1,932	0,396	4,884	0,000
					Crime (yes)	0,623	0,377	1,654	0,105
Neighborhood, Tenure	.393	1,265	12,932	0,000	Constant	6,437	0,550	11,706	0,000
					Kentlands	1,924	0,450	4,270	0,000
					Tenure	-0,027	0,026	-1,027	0,310
Neighborhood, Marital Status	.376	1,265	12,947	0,000	Constant	6,039	0,340	17,772	0,000
					Kentlands	2,028	0,414	4,894	0,000
					Married (no)	0,168	0,481	0,350	0,726

The regression analysis shows a statistically significant (< 0.01) and strong ($B = 2,014$, on a scale of 10) effect of neighborhood type on the Quality of Place. Furthermore, the statistically significant model ($P < 0.01$) appears to account for close to 40% of the variation in the Quality of Place. We should take care not to take these numbers as much more than indicators of the strength and significance of a relationship, since not all relevant independent variables are included. If I include crime, marital status or tenure to the model the prediction value of Kentlands hardly alters (from 2,014 to 1,932, 2,028 and 1,924 respectively), the explained variation hardly increases (from 38% to 41%, 39% and 38% respectively), and the model and predictor stay statistically significant ($P < 0.001$). Thus, although the samples differ on three background variables, two of which are expected to have some influence on the Quality of Place, it is safe to assume that these will not change the fact that the Quality of Place is higher in Kentlands than it is in Orchard. Separate regression analyses with the inclusion of the other background variables showed similar results, with a predictor value of 2 or more for Kentlands, and a statistically significant model ($P < 0.001$) and predictor ($P < 0.001$). Though we cannot conclude on the exact influence of the neighborhood type, we can conclude that there is a significant influence of neighborhood type on the Quality of Place that is not the result of happenstance. The Quality of Place is higher in Kentlands than it is in Orchard, and this is because of differences in neighborhood design.



6 CONCLUSION

New Urban design seems to fulfill its promise of improving the Quality of Life. This research shows that the inhabitants of the New Urban neighborhood are significantly more satisfied with the design of their neighborhood, than those living in the conventional suburban neighborhood. In spite of the century-long current of decreasing housing-density and increasing car-dependency the high-density, walkable design of New Urbanism lead to comparatively more satisfied customers.

I have shown that those inhabiting the New Urban neighborhood generally feel more strongly about the walkability and aesthetics of the neighborhood as well as having shops, facilities, open spaces and recreational paths to enjoy; people from the suburban neighborhood feel stronger about the size of their lot, quietness and privacy. But even with these differences, there was no element of neighborhood design in which the New Urban neighborhood Kentlands lost the battle: people in Kentlands were just as, and generally more, satisfied with these elements than people from the suburban neighborhood Orchard.

The new method of measuring the Quality of Place has proven its merit. In contrast to a lot of other research on the relationship between Quality of Life and the environment, it is not the result of an arbitrary measure nor is it the result of a notion of Quality of Life that a researcher happens to impose on the inhabitants. The Quality of Place is based on the individual and subjective fulfilling of everybody's individual needs, since we are all different in our wishes and desires. It takes into account that today's wishes do not have to be tomorrow's wishes, and that just as wishes can differ from person to person they can vary from place to place, by carefully defining what has been researched.

[109]

As the suburbs continue to expand on a rapid pace, this research adds power to the thesis that actually the wrong template is being used. Today, New Urbanism accounts for only a small portion of current suburban development. However, I have proven that it fares better in satisfying the wishes of its inhabitants than its conventional suburban counterpart. If indeed, New Urban design can also be more profitable (Eppli & Tu, 1999), healthier (Jackson, 2003), be better for the sense of community (Kim & Kaplan, 2004) and be more sustainable (Garde, 2004) than conventional suburban design – as a reminder, all these claims are in dispute – there is a strong argument to review today's planning practices.

The potential for Quality of Life measures is enormous. Economic measures do not suffice as an indicator of people's wellbeing, whereas Quality of Life measures could. A recurrent problem with Quality of Life measures, however, is that they are either ambiguous or imprecise. I believe to

have constructed a measure of the Quality of Life in relation to the environment that conquers both these faults. Such a measure is needed in order to be able to dive deeper into the relationship between urban design and Quality of Life. Furthermore, by using the framework provided by Pacione, I have made a contribution to an effort towards more conceptual clarity in a subject area that continues to know a lot of conceptual confusion. I furthermore believe that I have made the argument that in contrast to most current research on the relationship between place and Quality of Life, not only the evaluation, but also the determination of relevant elements of the neighborhood – of place – should be based on the subjective notions of the inhabitants. Hereby I have made a useful instrument available that can help build our knowledge on this relationship. Furthermore, it can be used – as has been done in this thesis – to add facts-based insight in the design process: I have now tested the claim of New Urban planners that their design would improve the Quality of Life.

Great care has been taken to ensure the quality of the analysis. The two neighborhoods that were the focus of my attention are comparable and clear examples of New Urban and conventional suburban design. To construct a Quality of Place that is based on the subjective needs in neighborhood design, I have first explored what the inhabitants felt the design of a neighborhood should provide for using open-ended interviews and questionnaires. Second, I distributed a survey in which people could declare how important they thought these aspects of neighborhood design were, and how satisfied they were with them, so as to come to a numeric and generalizable insight. By taking every individual's needs (importance of neighborhood elements) together with their satisfaction, whilst controlling for background characteristics, the Quality of Place could be constructed and compared.

[110]

However, this research is not without its limitations. Since the findings are based on a comparison of only two neighborhoods, the generalizability of the results is limited. Although it is probable that New Urban design leads to a comparatively higher Quality of Life even outside of Gaithersburg – these suburbs are alike to many other suburbs in the United States - I do not yet have enough information to fully support that claim. The United States is a huge country, with many different cultures, ways of life and obviously many different notions on what a satisfying neighborhood should look like. Perhaps New Urban design does not meet those notions in all parts of the United States, but the case has nonetheless been made that in some parts of the country it is probably the better alternative in terms of satisfying people's desires.

A second major limitation of this research stems from the response-rate. The analyses are based on a comparison between sixty people which is low for a population of six-thousand. This has a strong influence on the accuracy of the data. As any research in the behavioral sciences, the

results are not set in stone. However, in this research the results come with an increased level of uncertainty. Furthermore, the response rate precluded the simple use of regression analyses as a way to control for influences other than that of neighborhood design. By first looking into differences in the sample-composition of both neighborhoods I have found a way to nonetheless control for the influence of background characteristics. However, this method makes the results less precise. The Quality of Place is higher in Kentlands, but I cannot give an exact estimate of this difference with Orchard. People from Kentlands seemed to be more satisfied with every aspect of neighborhood design, but some of those results *could* be the result of differences in the number of people that have experienced crime, had a longer or shorter tenure, and/or are married. Again, this makes the results less precise, but it does not take away the fact that the New Urban neighborhood has a higher Quality of Place.

A study that would acquire a higher response-rate is highly recommended as it will lead to a more precise comparison: how much higher is the Quality of Place in the neighborhood of New Urban design *exactly*? With the framework of the research already laid out in this study, it should prove a more manageable task to (re)do such a Quality of Place comparison. Not only should this research be repeated to acquire more precise comparisons, it should also be used to further test the claim that New Urbanism leads to a higher Quality of Life. This research is based on the comparison of only two neighborhoods, in only one place: there is still much ground to cover for a strong test of the merits of New Urban design.

[111]

However, research using this Quality of Place framework should not limit itself to comparisons of New Urban and suburban design. A measure has been made available to truly test people's satisfaction with urban design, now let us use it to continue and acquire more insight into the relationship between people, environment and the Quality of Life. What design is a better fit for people's desires, in the Netherlands, in Australia, in Turkey? How satisfied are people in different cities and neighborhoods, and how so? Is our often increasingly car-dependent suburban world truly the best road to progress? This new measure of the Quality of Place can and should be used in as much research as acquired to give a full insight into the relationship between urban design and people's satisfaction with it. This research has made a start by showing that New Urban design leads to more satisfied inhabitants than today's dominant conventional suburban design.

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Appendix A

Introduction for the interviews

“You reside in the community called [Kentlands/Orchard]. This community has been designed by planners that thought carefully about almost every aspect of the neighborhood within the community’s borders. These neighborhoods have been designed to offer you the most pleasurable living conditions for affordable costs (and, of course, to make a buck). I want to ask questions about the design of YOUR neighborhood. I am not interested in the invisible infrastructure or services of the neighborhood such as the sewerage or the quality of the internet connection, or elements that are outside of the design of the neighborhood such as the weather, your neighbors, the level of criminal activity or the highway to Washington D.C. I am interested in the visible, tangible aspects of the design of the neighborhood that increase or decrease the manner in which you are satisfied with the neighborhood: the streets, the parking space, the public space, the houses, etcetera.”

Appendix B

Survey handout (for qualitative phase)



Radboud University Nijmegen

This 'survey' is meant to give insight into the elements of neighborhood design that you feel are relevant in your appreciation of the neighborhood. 'Neighborhood design' would include all tangible elements of neighborhood design. You can think about things such as (able)parking space, (good) public space such as parks, the size of the lots, the size and design of the houses, walkability and accessibility of shops and services, etcetera, etcetera, etcetera.

The weather, the friendliness of your neighbors and the accessibility of Washington D.C., are all elements of your neighborhood that I feel the designers of the neighborhood cannot be held responsible for and therefore I'm not as much interested in such things. However, write down whatever comes up in your mind that feel you might be important.

Everything will be kept anonymous. This survey is the first part of my research for the Dutch Radboud University on the 'liveability' in some of the Gaithersburg' communities.

Please take two or three minutes and write down what comes up:

- ...1.....
- ...2.....
- ...3.....
- ...4.....
- ...5.....
- ...6.....
- ...7.....
- ...8.....
- ...9.....
- ...10.....
- ...11.....
- ...12.....
- ...13.....
- ...14.....
- ...15.....

Appendix C

(One of the) Invitation(s) to participate in the survey (for the quantitative phase)

Radboud University Nijmegen



Dear Sir/Madam,

My name is Sybren Kooistra and, for the second time, I want to ask you a favor. Some have seen this letter before. However since only about two percent of the people responded, the need arose to go around and deliver these letters a second time.

I am a graduate student in Human Geography at Radboud University Nijmegen in the Netherlands. I am visiting Gaithersburg to conduct research on different types of suburbs, and levels of satisfaction of their residents. In this research we expect to examine which design features of the neighborhood people feel are important. We also want to look at the amenities and organizations that would characterize your neighborhoods to see what aspects contribute to your lifestyle and satisfaction. We feel this could contribute to improvements in local neighborhood design and general knowledge about the relationship between the type of neighborhood and people's satisfaction with the neighborhood.

Over the past two months I have conducted interviews with a number of people with a perspective on your neighborhood. I have learned a lot from that experience. But now, I would like to ask you to help with the final (and most important) phase of this research by responding to an **online survey**.

[121]

The survey is completely anonymous and will take less than ten minutes to complete. As an incentive and to encourage your participation, we promise that the first one hundred respondents will be entered into a drawing (the count right now is 30 respondents). When the survey is completed, we will select a winner. The award will be mailed upon my return to the Netherlands, when I will send a package of authentic Dutch tulip bulbs. Or, if so desired, a package of Dutch delicious licorice. **With just 10 minutes of your time you could therefore very well end up with some beautiful blossoming Dutch tulips next spring.**

But that is small recognition compared to my appreciation for your participation. I know many are reluctant to take the time to respond to surveys, but I certainly will appreciate those that do.

If you would be willing to participate, simply type or copy the following link into your web-browser to reach the survey: <http://neighborhooddesign.questionpro.com>. If there are any questions or comments, please contact me at the e-mail or phone below.

Sincerely,

Sybren Kooistra

Radboud University Nijmegen

www.ru.nl/english/general/radboud_university

Sybrekooistra@gmail.com

Local phone: 703-321-6553

Appendix D

The (online) survey (Orchard version)

First page

Radboud University Nijmegen



This survey is part of research being conducted through the Radboud University Nijmegen, Netherlands. The survey typically takes no more than ten minutes to complete.

This survey will be kept completely anonymous. One way of ensuring your anonymity is by not asking for your name or address. Another is by presenting the results only by use of summary statistics and not the individual cases.

If you are uncomfortable with a question, you may decline to answer and proceed to the next question. Thank you.

This survey has three sections. In the first section we would like for you to tell us how important you think the stated elements are for a neighborhood. In the second section we will display the same set of elements and ask you for your level of satisfaction with them in your neighborhood.

For example, one may find the "level of safety" very important but be very unsatisfied with leading to a high score in the first section and a low score in the second section.

In the third section some general questions will be asked about the neighborhood and your background.

[122]


[⏪ Back](#)

In this first section (of three) we would like to know how important you feel the listed elements of neighborhood design are for you. In a perfect neighborhood, how much emphasis will be paid on the elements listed below? Please rate it on the following scale from 1 to 10 with 1 indicating the lowest level of importance and 10 the highest. You can answer with '0 - none' if you feel the element is in no way important for a good design of the neighborhood.

	0 - none	1 - lowest	2	3	4	5	6	7	8	9	10 - highest	No answer
Walkability of the community (access to schools, shops, greenspace etc)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Walkability of the community (attractive pedestrian environments)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Accessibility of places for shopping, services, schools and recreation	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Availability of parking space	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Distinct visual character of neighborhood	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Buildings aesthetic pleasantness	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
General appearance of neighborhood	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Landscape design and greenspace	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Playgrounds for children 2-12 nearby	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Recreational paths, roads (for running, walking the dog, etc.)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Public space, common areas	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Outdoor amenities overall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Lotsize (including gardenspace)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Time and costs of upkeep of homes and yards	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
View from the dwelling	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Sense of privacy at home (from that which is outside)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Quietness	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Distinct boundary of and around the community	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Defined community center	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Central town square or green	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Street-lighting in the neighborhood (incl. illumination at night)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Safe streets for playing (in relation to traffic)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

[123]

Many of us want a large enough lawn and house to suit their comfort. However, sometimes this can have an effect on the human activity on the streets and the level of casual social interaction. Again, please rate the importance of the following elements.

	0 - none	1 - lowest	2	3	4	5	6	7	8	9	10 - highest	No Answer
Amount of and opportunities for (casual) social interaction on the streets	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Size of dwelling	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Adequacy of dwelling	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Size of lawn	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Diversity in housing (apts, condos) in relation to the Diverse demographics that result from it	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Opportunity to use transportation other than car (accomodation to various modes of transport, including walking)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Having shops and facilities in the neighborhood to supply ordinary needs (like a post office, a convenience store)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Nearness of house to facilities in neighborhood	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Street pattern	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Distinct character of spaces and buildings; features that give the community a unique identity	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Are there elements of neighborhood design that you feel are relevant to your appreciation of neighborhood design that have not been discussed in the questions above?

Continue


[« Back](#)

In this second section (of three) we would like to judge your satisfaction with the listed elements of neighborhood design in your neighborhood. This would include giving a low rating to an element of neighborhood design that you would like in your neighborhood but which the neighborhood doesn't or barely provides.

Please rate it on the following scale from 1 to 10 with 1 implicating the lowest level of satisfaction and 10 the highest.

	1 - lowest	2	3	4	5	6	7	8	9	10 - highest	No Answer
Walkability of the community (access to schools, shops, greenspace etc)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Walkability of the community (attractive pedestrian environments)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Accessibility of places for shopping, services, schools and recreation	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Availability of parking space	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Distinct visual character of neighborhood	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Buildings aesthetic pleasantness	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
General appearance of neighborhood	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Landscape design and greenspace	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Playgrounds for children 2-12 nearby	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Recreational paths, roads (for running, walking the dog, etc.)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Public space, common areas	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Outdoor amenities overall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Lotsize (including gardenspace)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Time and costs of upkeep of homes and yards	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
View from the dwelling	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
the sense of privacy at home (from that which is outside)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Quietness	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Distinct boundary of and around the community	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Defined community center	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Central town square or green	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Street-lighting in the neighborhood (incl. illumination at night)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Safe streets for playing (in relation to traffic)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

[125]

Many of us want a large enough lawn and house to suit their comfort. However, sometimes this can have an effect on the human activity on the streets and the level of casual social interaction. Again, please rate your level of satisfaction from 1 (lowest) to 10 (highest).

	1 - lowest	2	3	4	5	6	7	8	9	10 - highest	No Answer
Amount of and opportunities for (casual) social interaction on the streets	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Size of dwelling	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Adequacy of dwelling	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Size of lawn	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Diversity in housing (apts, condos) in relation to the diverse demographics that result from it	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Opportunity to use transportation other than car (accomodation to various modes of transport, including walking)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Having shops and facilities in the neighborhood to supply ordinary needs (like a post office, a convenience store)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Nearness of house to facilities in neighborhood	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Street pattern	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Distinct character of spaces and buildings; features that give the community a unique identity	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Continue



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In this last section we would like some final questions on your satisfaction with neighborhood design and some general background questions. We would like to remind you that if you feel uncomfortable answering any of the questions you can proceed without answering them.

How many years have you lived in this neighborhood?

Have you experienced crime in the neighborhood in the last five years?

- ☐ Yes, severe
- ☐ Yes, but minor
- ☐ No

Many will have lived in other neighborhoods. We would like to see how they rank up against your current neighborhood by asking you the following two short questions

Considering 'the worst' neighborhood you have ever lived in (excluding your current one), how much worse do you think it was than your current neighborhood?

- ☐ 1. Not any worse ☐ 2. ☐ 3. ☐ 4. ☐ 5. Much worse ☐ No answer

Considering 'the best' neighborhood you have ever lived in (excluding your current one), how much better do you think it was than your current neighborhood?

- ☐ 1. Not better ☐ 2. ☐ 3. ☐ 4. ☐ 5. Much better ☐ No answer

What is your gender?

- ☐ male
- ☐ female

In what year were you born?

What is your marital status?

- ☐ Married ☐ Widowed ☐ Divorced ☐ Separated ☐ Never married ☐ No Answer

What is the highest degree or level of school you have completed? If currently enrolled, mark the previous grade or highest degree received)

- ☐ Did not graduate from high school
- ☐ High school graduate-high school diploma or the equivalent(for example GED)
- ☐ Associate degree (for example AA, AS)
- ☐ Bachelor's degree (for example BA, AB, BS)
- ☐ Master's degree (for example MA, MS, MEng, MEd, MSW, MBA)
- ☐ Professional degree (for example MD, DDs, DVM, LLB, JD)
- ☐ Doctorate degree (for example PHD, EdD)
- ☐ No Answer

Number of years of formal education (in full time equivalents)

Do you have children under the age of 18 living at home?

- ☐ yes
- ☐ no

What is your estimation of the total household income before taxes? (fill in 111 if you prefer not to answer this question)

Are you renting or the (partly) owner of the house?

- ☐ Owner
- ☐ Renter
- ☐ None of the above
- ☐ No Answer

Alltogether how satisfied are you with your present neighborhood?

- ☐ 1 - lowest level of satisfaction
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7
- ☐ 8
- ☐ 9
- ☐ 10 - highest level of satisfaction
- ☐ No Answer

Alltogether how satisfied are you with your life?

- ☐ 1 - lowest level of satisfaction
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7
- ☐ 8
- ☐ 9
- ☐ 10 - highest level of satisfaction
- ☐ No Answer

Please rate the extent to which you agree with the following statements

	I totally disagree - 1	2	3	4	5	6	I totally agree - 7	No Answer
This is the ideal neighborhood to live in	☐	☐	☐	☐	☐	☐	☐	☐
This neighborhood is a part of me	☐	☐	☐	☐	☐	☐	☐	☐
There are places in the neighborhood to which i am very emotionally attached	☐	☐	☐	☐	☐	☐	☐	☐
It would be very hard for me to leave this neighborhood	☐	☐	☐	☐	☐	☐	☐	☐
I would willingly leave this neighborhood	☐	☐	☐	☐	☐	☐	☐	☐
I would not willingly leave this neighborhood	☐	☐	☐	☐	☐	☐	☐	☐

Please indicate your ethnic and/or racial background. Again you are not obliged to answer and all of the results from this survey will be kept anonymous.

Please specify your ethnicity

- ☐ Hispanic or Latino
- ☐ not Hispanic or Latino
- ☐ No Answer
-

Select one or more races to indicate what you consider yourself to be

- ☐ American Indian or Alaskan Native
- ☐ Black or African American
- ☐ White
- ☐ Asian
- ☐ Native Hawaiian or Other Pacific Islander
- ☐ No Answer
-

One final question. If social relations and cost would not be an issue, would you have mind to have lived in some of the surrounding neighborhoods such as the ones across Quince Orchard Road and Damestown road?

- ☐ Yes, very much
- ☐ Yes, somewhat
- ☐ No, those neighborhoods would have been fine
- ☐ I don't know
-

Thank you for participating! You can send an email to sybrenkooistra@student.ru.nl for questions or if you would like to see the results.

We have tried to keep this survey as anonymous as possible. However in order to to distribute the Dutch Tulip bulbs amongst the winners and do a drawing we need some sort of contact information. You will have to send an email to sybrenkooistra@student.ru.nl with your own email-address in order to enter the drawing. Some people might feel uncomfortable sharing their email. For that we are sorry.

Appendix E

Table 14:

Descriptive statistics dependent variables

Variable	Importance			Satisfaction		
	N	Mean	Std. Deviation	N	Mean	Std. Deviation
Walkability of the community (access'	53	8,55	1,937	33	9,09	1,042
Accessibility of recreation, services etc.	53	8,62	1,701	33	9,33	,645
Availability of parking space	52	8,02	1,788	46	7,85	1,699
Buildings aesthetic pleasantness	53	7,94	1,834	42	8,71	1,215
General appearance of neighborhood	52	8,38	1,623	36	9,19	,889
Distinct visual character (neighborhood)	53	7,68	2,368	41	8,17	1,974
Landscape design and greenspace	53	7,91	2,031	39	8,74	1,093
Playgrounds for children 2-12 nearby	46	7,15	2,740	46	7,15	2,716
Recreational paths, roads	53	8,04	2,094	41	8,98	1,172
Public space, common areas	53	7,51	2,554	46	8,02	2,155
Outdoor amenities overall	53	7,81	2,313	46	8,57	1,515
Lotsize (including gardenspace)	53	7,51	2,118	52	6,62	2,336
Time and costs of upkeep	52	7,00	2,401	50	7,00	2,259
View from the dwelling	52	6,77	2,228	49	7,73	1,835
Sense of privacy at home	53	7,17	2,351	47	7,96	1,719
Quietness	52	7,58	2,080	47	8,02	1,763
Distinct boundary of and around the community	53	7,55	2,382	52	6,17	2,542
Defined community center	54	7,02	3,087	51	6,18	2,447
Central town square or green	53	6,91	3,059	50	6,80	2,611
Street-lighting in the neighborhood	53	7,81	1,942	45	8,00	1,954
opportunities for social interaction street	53	7,66	2,192	48	7,75	2,037
Size of dwelling	52	7,81	1,704	53	7,45	1,907
Adequacy of dwelling	52	8,37	1,387	41	8,49	1,630
Diversity in housing - Diverse demographics	50	7,22	2,866	51	6,10	2,737
Opportunity to use transportation other than car	53	7,19	2,410	43	7,60	2,280
Shops/facilities in neighborhood that supply ordinary needs	52	8,04	2,441	36	8,64	1,743
Nearness of house to facilities in neighborhood	52	7,90	2,277	43	8,05	2,023
Street pattern	51	7,53	2,139	53	6,58	2,627
Safe streets for playing (traffic)	51	7,10	2,532	45	7,40	2,615
Quality of Place	49	7,50	1,426			

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