When it takes a village to raise a child:
The effects of network governance decentralization on liveability in disadvantaged neighborhoods

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Abstract

This master thesis seeks to contribute to the academic debate on the effects of network governance on network performance. More specifically, it takes Provan & Kenis' (2008) theoretical insights and compares and contrasts these with the claims of Wagenaar (2007) who's arguments are derived from complexity theory and within-case analyses. The theories of Wagenaar (2007) and Provan & Kenis (2008) diverge on the issue of what distribution of network governance is to be preferred in the policy domain of improving liveability in disadvantaged neighborhoods. Given the fact that certain key conditions are not met, the work of Provan & Kenis' leads us to expect that decentralization of network governance through citizen participation would be to the detriment of the network's effectiveness. Wagenaar, however, points at empirical evidence that shows that decentralization of network governance through citizen participation has, in fact, been succesful – leading to the use of innovative means to tackle liveability issues. Through predictive modelling (OLS), I estimate the effect of network governance decentralization through citizen participation on liveability in 40 disadvantaged neighborhoods in the Netherlands. I find a positive statistically significant relationship between my independent variable and liveability development between 2012-2016, more specifically via a positive effect on safety developments.

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Chapter 1 - Introduction

1.1 Network Effectiveness

Networks are essential to dealing with the multifaceted nature of many contemporary public policy issues. This idea influenced public administration over the past two decades and is extensively covered in literature that discusses the transition from 'government' to 'governance' (see for example Peters & Pierre, 1998; Robichau, 2011). Naturally, this development also triggered interest in the effectiveness of networks, and research on this topic has been most notably inspired by the groundlaying scholarly contributions of Provan & Kenis (2008). Their categorization of network governance strategies and the corresponding preconditions for success are considered essential to a basic understanding of network effectiveness.

However, Provan & Kenis (2008) only address effectiveness in a general way and do not consider a certain outcome a priori as the right one, since any outcome might be desirable in the eyes of the actors or the relevant constituency. As they acknowledge, the shortcoming here is that it doesn't allow for a comparison of effectiveness of different network governance strategies. The authors consider this to be of importance since as they state "one form of governance may be most likely to produce positive outcomes for some types of [goals]" (p. 248).

Therefore, in line with their future research suggestion, this thesis addresses this gap by comparing the outcomes of different network governance strategies in a policy field in which there is a strong goal consensus. This goal consensus enables the execution of a fair and straightforward effects-based assessment, since the same yardstick can be applied to the performance of various network governance strategies.

In assessing the effectiveness of the network governance strategies in a specific policy field, this thesis does not restrict itself to the demarcated categories as formulated by Provan & Kenis (2008), but embraces the varying degree in which these categories can be observed in practice. Provan & Kenis provide a typology consisting of extremes, as it serves their purpose of clearly distinguishing between the strategy-specific factors for success. They draw from years of personal experience with the empirical observance of public networks, and through inductive reasoning they boil it down to a lean theoretical model. In this thesis, I investigate whether their generalized statements hold in large-N research in a particular policy field. In doing so, capturing variety becomes more important than sticking to ideal types. The coalition of actors and the power relations between them may vary at different stages of policymaking and implementation, and so does the degree to which the configuration resembles the governance network strategies as we know them from the academic work of Provan & Kenis. Therefore, I choose to focus on the variable that best explains the difference

between network governance strategies, which is the degree to which network governance is decentralized (Provan & Kenis 2008). Using this as my independent variable of interest allows me to include network governance strategies that fall in between Provan & Kenis' ideal types, whilst simultaneously retaining the relevance of their model to formulating hypotheses on network effectiveness.

More generally put, the purpose of this thesis is to concretize the claims made on a rather high level of abstraction by Provan & Kenis (2008). Testing their claims on a lower level of abstraction (i.e. a specific policy domain) allows for the inclusion of other, more sector-specific, and potentially conflicting theories about what type of network governance strategies ought to be employed to increase the degree of network effectiveness.

In the policy field of my choosing – improving liveability in Dutch disadvantaged neighborhoods – I find that the theoretical implications of Provan & Kenis' model (2008) are in conflict with the conclusions of a scholarly contribution of Wagenaar (2007). Reasoned from Provan & Kenis' key predictors of effectiveness, the most effective network governance strategy in this domain is one in which network governance is centralized within the network. According to their postulations, the complex and unstable nature of the policy area at hand necessitates that the decision-making and coordination responsibilities lay solely with a single participating member of the network. Wagenaar argues, on the other hand, based on within-case analyses and complexity theory, that a far-reaching form of shared, decentralized network governance is essential to improving liveability in disadvantaged neighborhoods. He pleads for decentralization of network governance through citizen participation for the reasons that their self-organizing potential and their possession of unique informational and creative resources can strengthen the network's capacity to address the social problems that hinder liveability improvements. From these theories, I derive two rival hypotheses, both of which are discussed in more detail in chapter two.

1.2 Contextual Focus

I focus my research on the Dutch government's concern with improving the liveability in disadvantaged neighborhoods, because it lends itself particularly well for all of the earlier mentioned research purposes. First of all, it is a policy area in which we find a strong universal goal consensus. During the seventies, urban renewal strategies laid the groundwork for the improvement of disadvantaged neighborhoods through physical renewal. Over the years, as the scope of the networks broadened, so did the diversity of participants. These rather extensive networks now aim at improving a wide array of social, economic, physical and psychological factors related to the general well-being of citizens. Commissioned by the then ministry of Housing, Spatial Planning and the Environment (VROM), the liveability index (known as the *Leefbaarometer*) is a widely agreed upon instrument in the Netherlands to measure the well-being of a population in a certain area. Most important to note in this regard is that during the introduction of this new measuring instrument in 2007, its

application was strongly supported by the Association of the Netherlands Municipalities (VNG), which still regularly publishes or discusses results of the *Leefbaarometer* related to the disadvantaged neighborhoods (Rijksoverheid, p. 29; see for instance VNG, 2017). The developments in the liveability index therefore function as the dependent variable in my regression model. As of yet, these performance indicators have not been linked to network governance strategies in a quantitative comparative analysis.

Secondly, it is an interesting case of network diversity (and governance thereof). Dutch local government has seen a gradual increase in responsibilities and autonomy in this policy area over the last decade, and municipalities are now at liberty to form public administrative configurations to deal with disadvantaged neighborhoods as they see fit. Decentralisation processes are often applauded for their potential to have local goverments act as 'laboratories of democracy' (Strumpf, 2000). Where centralized systems of government tend to only examine one approach at a time, decentralized systems of government allow for different local governments to execute a wide range of approaches, which is expected to speed up the process of discovering innovative and superior options. As for the Dutch case of disadvantaged neighborhoods, this hope for a wide range of approaches seems to have materialized. When - in the context of the 2007 *Krachtwijkaanpak* - then minister of Integration and Housing Ella Vogelaar required the municipalities to present action-plans (hereafter referred to as WAP's) for the 40 designated disadvantaged neighborhoods, it resulted in a pluriformity of network governance strategies. The observed variance particularly stems from the extent to which the municipalities have heeded the advice of VROM to facilitate citizen participation in their policy network (VROM, 2007; Straatman, 2009). Where some municipalities have shown strong efforts to involve citizen participation in such a way that network governance is significantly decentralized, others have been very reluctant to deviate from the more traditional role of the government and their network governance is more centralized. Research of Hulst et al (2008; 2009) shows that the degree to which citizen participation is facilitated may differ in twelve ways (six in the ideation phase and six in the plan execution phase) and allocates a citizen participation-score to each of the WAP's accordingly. This score forms the main independent variable of interest in the regression model and will be discussed in more depth in the next chapter.

1.3 Research Question

All of the above-mentioned then produces the following research question:

> *What is the effect of network governance decentralization on the liveability in disadvantaged neighborhoods?*

Apart from the contribution to the general academic debate on the effects of network governance strategies on network performance, answering this research question provides insights into the effectiveness of different network governance strategies (characterized by

various degrees of network governance decentralization) in this specific policy area. Since a lot of widely discussed societal issues are directly or indirectly associated with disadvantaged neighborhoods, it is of great importance to find and call attention to the best possible way in which to stop these particular neighborhoods from being a source of pyschological, economic, social and cultural issues. A study on the psychological impacts of growing up in neighborhoods with low levels of liveability has shown that there is evidence of an increased risk of academic failure, teenage pregnancy, depression, anxiety and overall conduct problems (Goodnight et al, 2012). Other studies have revealed the stimulating effects that these type of neighborhoods can have on an individual's decision to pursue a criminal career (for an overview see Sampson, Morenoff & Gannon-Rowley, 2002). Furthermore, Ross, Mirowsky & Pribesh (2001) find that neighborhood disadvantage leads to processes that amplify mistrust among citizens; a phenomena that could well explain the high rates of racism and discrimination in these areas (Uitermark & Duyvendak, 2004). Mistrust also best describes the resident's attitude toward political institutions, which in turn negatively affects their legitimacy (Lühiste, 2006). Moreover, we know that disadvantaged neighborhoods have served as areas of recruitment – if not breeding grounds - for Islamist extremist organisations with terrorist motives (Weggemans et al, 2014; Williams et al, 2016). An important takeaway from all these findings is that it is not only in the interest of the residents, but in the interest of society at large to rid disadvantaged neighborhoods of their negative (and often self-reinforcing) characteristics.

In no way do I pretend that the answer to my research question is an answer to all these multifaceted neighborhood-effects, as this would dramatically oversimply the complexity of this policy domain. Nor do I intend to assess the effectiveness of individual local policies. The societal relevance of this thesis lies in the fact that it takes a first step toward the identification of the manner in which the public policy solutions to liveability issues can be best created and executed. The degree to which network governance is decentralized is, in that sense, a crucial component of which the effect needs to be estimated.

This type of assessment is not exclusively relevant to this particular policy domain. Over the last decades, many domains of public service delivery have been subjected to the decentralization of network governance. As a governance innovation, decentralisation is often presented as an effort to bridge the widening gap between citizens and politics, as an effort to strengthen public bureaucracies' capacity to write policy that is more in line with local preferences and needs, or as a way to utilize local governments as 'laboratories of democracy' that can assist in discovering superior ways to provide public services (Strumpf, 2000; Breton and Scott, 1978; Litvack & Oates, 1970; Buchanon, 1965). No wonder that, as an alternative to centralized - one-size-fits-all - type of public policymaking, it speaks to the imagination of academics, politicians and public administrators alike. It ought to be clear, however, that this type of governance innovation is often primarily driven by the desire to cut down on the costs of public service delivery (Solar & Smith, 2016; Sørensen et al 2011; 2013; 2014). With that in mind, it is not self-evident that this shift in responsibilities will

always go hand-in-hand with an enthusiastic attitude of central government to take follow-up steps to reap the abovementioned (secondary and tertiary) benefits of decentralisation. Monitoring can be costly and/or might reveal results that actually discredit the positive narrative that was employed to rally support for the decentralisation. In addition, assessment of network-level outcomes by local government themselves may be biased and/or will hinder fruitful comparison with the results of networks in other municipalities if the indicators of success are not compatible with each other. The broader societal relevance of my efforts to assess network effectiveness should be considered in the light of these issues.

This MA thesis is structured as follows. The next chapter elaborates on the theoretical framework and presents the rival hypotheses in more detail. Chapter three discusses the research design, case selection, operationalization, validity and other aspects of my research methodology. Chapter four starts out with the descriptive statistics of the dataset used and the main results of the OLS regression. In chapter five, I discuss the results, limitations and further research options.

Chapter 2 - Theory and Application

The first section of this chapter discusses 'network governance' and the variation of network governance strategies as observed by Provan & Kenis (2008). To familiarize the reader with both the concept and its application to the policy area at hand, I added a subsection in which I use their insights to provide a brief historical analysis of network governance in the Netherlands' spatial planning and housing policy. The second section of this chapter conceptualizes and defines 'liveability' with the help of a literature analysis conducted by Kamp & Leidelmeijer (2003). Finally, section 3 will introduce the rival hypotheses that are derived from Wagenaar (2007) and Provan & Kenis' divergent statements on the preferred form of network governance in this particular policy domain.

2.1 Network Governance

The terms 'network' and 'governance' represent two strongly intertwined concepts that cause much confusion in the academic literature (Robichau, 2011). Within the science of public administration, an often heard - but immensely broad - definition of governance is the one offered by Lynn (2010) : "the action or manner of governing—that is, of directing, guiding, or regulating individuals, organizations, or nations in conduct or actions" (p. 671). Networks are often considered to be a 'mode' of governance (just as 'hierarchy' and 'markets'), but at the same time they are often perceived as voluntary, collaborative arrangements in which hierarchical intervention is inappropriate (Robichau, 2011; Kenis & Provan, 2006). Kilduff and Tsai (2003) provide a way to disentangle these perspectives by marking the latter perspective as referring to 'serendipitous' networks, whereas the former perspective refers to

more ‘goal-directed’ networks. These ‘goal-directed’ networks are common in public and nonprofit sectors where the frequent occurrence of complex issues requires (rapid) collective action from a multitude of actors. The complexity that is inherent to this type of problem solving comes with an increased need for coordination through some sort of formal mechanism of control - or in the words of Provan & Kenis (2008): “the use of institutions and structures of authority and collaboration to allocate resources and to coordinate and control joint action across the network as a whole” (p.231). They refer to this mechanism/configuration of control as ‘network governance’.

Provan & Kenis (2008) distinguish between three (most) different types of network governance strategies. These types are derived from a variable (decentralization of network governance) that can be split up along along two dimensions: the degree to which governance is brokered *within* the network, and the degree to which the network is *externally* governed. Now, when a network is fully externally governed, it means that a separate entity - a network administrative organization (NAO) - is created to steer and lead the network’s activities. When run by government, these types of configurations often emerge in the first phase of network formation with the intention to boost the network’s potential through funding, facilitation and goal setting. These goals are generally of a rather broad nature, such as stimulating regional economic development. As a mode of network governance it exemplifies the traditional top-down public administrative organisation, in which other participants have either little or no say in important matters.

Then, there are networks in which the governing capacity resides within the network itself, but in the hands of a highly centralized network broker (Lead Organisation). In Lead Organisation-Governed Networks, this central actor (e.g. a municipal department) is a participating member of the network and administers all key decision-making and network-level activities. The financial costs that come along with the network coordination may be covered by the lead organisation itself, through resource contributions from other network participants or via access to external funds in the form of grants or (state) government funding (Provan & Kenis, 2008).

When the power within the network over key decision-making and network-level activities is more symmetrical, it will lean more toward the strategy of Shared Governance. Even though some managerial and administrative tasks may be carried out by a section of the network, there is in theory no distinct formal administrative entity that represents the network as the network acts collectively. Members participate on an equal basis, regardless of their differences in terms of actor capacity, resources or performance. This type of network governance is a subject of growing interest among public managers, scholars and politicians, as these participant-governed networks (can) act as vehicles to involve citizens in public policy-making.

All three classifications of network governance strategies pop up - albeit in varying degrees - when we observe the historical development of the policy area at hand. In many ways, the general discernible trend from 'government' (in the sense of stable and well-buffered hierarchy) towards 'governance' (flexible, non-hierarchical network-based public service delivery) corresponds with a transition from NAO to Lead Organisation and Shared Governance strategies. For the reason of analytical convenience, I will stick with this categorization in the historical description of network governance in the Dutch policy area spatial planning and housing. From then onwards, the variation in network governance is referred to as the degree to which network governance is centralized, as this constitutes my independent variable of interest.

2.1.2 Network Governance in the Netherlands' Spatial Planning and Housing Policy

The NAO configuration particularly resembles the network governance strategy employed in the field of housing and spatial planning in the Netherlands between 1945 -1995. In the first postwar decades, state involvement by directly steering policy was deemed necessary to deal with both the damage and destruction caused by WW2, and the demographic consequences of the baby boom. Up till the early years of the 1970s, the state-led policy prioritized the stimulation of urban economic development through the creation of large office buildings, parking lots and modern shopping malls in the inner city. Citizens living in the designated clearance areas had to make way by moving to newly constructed houses around the edge of the city (Uyterlinde et al, 2017; Blom et al, 2004). Naturally, dissatisfaction grew among the citizens whose housing preferences were ignored during the entire process; they desired policy that had more eye for the preservation of the authentic aspects of the city and its corresponding social structures. In what has become known as 1970s shift from urban *reconstruction* to urban *renewal* (*stadsvernieuwing*), these citizen preferences were translated into public policy. But whilst the general procedures and goals themselves had incorporated some changes due to citizen complaints, the state government maintained its network governance role and continued to define both the direction and the details of the housing and spatial planning policy.

This did not change until a decade later, when the demand for a departure from the strict focus on physical renewal had taken its toll on the legitimacy of the state as the sole governor of the network. Its lack of responsiveness and the absence of tailor-made solutions were held responsible for the insufficient progress in disadvantaged neighborhoods on the areas apart from physical renewal. Other strongly worded criticism pointed at the state governments fixation on low-income groups and called for more differentiation in housing in order to meet the demands of citizens with a higher income (Uyterlinde et al, 2017). Since the state was not able or willing to finance such a two-pronged approach on its own, it explored the possibilities of cooperation with private investors. However, the investors' interest in the disadvantaged neighborhoods was nowhere near the level of interest they had in the unpopulated rezoning areas, simply because it was expected to be an easier and more

profitable investment (Schuiling, 2007). What followed was the gradual shift of financial and governance responsibilities toward local government, and this had its effects on the network governance strategies employed. Whilst on paper the state still had oversight over the municipalities' network-level activities and they required them to deliver Multiannual Development Programs (MOPs) that allowed for measuring results, in practise this did not amount to much and they did not interfere in the local policy content (Schuiling 2007).

So from 1995 onwards, we witness an increase of internal network governance capacity at the expense of the external network governance role of the state. The municipalities are increasingly on their own when it comes to giving direction to whatever solutions they can find to deal with the disadvantaged neighborhoods. Within the context of the Big City Policy (*Grote Steden Beleid - GSB)* the state initially kept the important role of financially supporting the local policy, but with the introduction of the ISV-budget *(Investeringsbudget Stedelijke Vernieuwing*) in 2000, new funding would only act as 'trigger money' with an assumed multiplier effect of 1:10. Due to a lack of observed progress, the state did assume its previous role temporarily by narrowing the focus on a smaller subset (first 56, then 40) of the disadvantaged neighborhoods, but the 18 municipalities involved were granted considerable freedom in defining their approach during the course of this 2007-2015 *Krachtwijkaanpak*. As mentioned in chapter 1, this resulted in variation in the degree to which governance within the local networks was brokered, with some municipalities leaning more toward the Lead Organisation Governance strategy, in which network governance is centralized within the network, and others leaning more toward a Shared Participant Governance strategy, in which network governance is highly decentralized.

I base this statement on the observation that there is considerable variation in the extent to which the municipalities have heeded the advice of the ministry of Housing, Spatial planning and the Environment (VROM) to facilitate citizen participation in their policy network (VROM, 2007; Straatman, 2009; Hulst et al, 2008). I decide to use this as an indicator for network governance decentralization for the following reason. All municipalities have had to formulate policy under circumstances that required the (voluntary) cooperation of real estate investors, housing corporations, businesses and homeowners (Uyterlinde et al, 2017). I argue that - from the municipalities' point of view - the neighborhoods' inhabitants are the only optional actors of the network to be given network governance capacity, and thus facilitating citizen participation in every possible way would be an indication of highly decentralized network governance. What adds to this expectation is that Wagenaar (2007) states that citizen participation is inherently about "collaboration among citizens, elected politicians, local administrators, and other social actors" (P. 44). Elsewhere in his study, he describes the team of participating citizens as a "partner for elected officials, administrators, and private actors such as housing corporations" (P. 20). So full facilitation of citizen participation only makes sense if collaborative governance is already to be found in a network's DNA. When networks show no or only little inclination to include citizens, this attitude is presumably rooted in their nature of being configured in a way that reflects more of a traditional top-down public

administrative organisation. Hence, instead of only reflecting one particular way in which network governance can be decentralized, citizen participation facilitation can also be said to reflect the broader network governance configuration of such a network.

2.2 Liveability

'Liveability' (or livability in American-English) is a widely discussed concept in the academic literature. For an overview of the literature on this concept and more or less related terms such as 'quality of life', 'environmental quality' and 'sustainability', I refer to van Kamp & Leidelmeijer (2003). Most important to note here is that in this context, in one way or another, these terms all refer to the relation between people and their surroundings.

In developing the Leefbaarometer, Leidelmeijer et al (2008) use a number of basic principles to arrive at their definition. Firstly, they connect liveability to the idea of human ecology (Lawrence, 2001), meaning that liveability encompasses the idea that the unity of humankind and its surroundings are part of the larger whole of other ecosystems. Secondly, the surroundings are considered in its widest sense, so physical (natural and man-made), social-cultural and economical. Thirdly, the determinants of liveability are found on the one hand in the people's wishes, the possibilities and the limitations, and on the other hand in the qualities of their surroundings. This combination makes liveability a meaningful concept. And fourthly, the conditions that determine liveability are partly 'hard' and partly 'soft'. The hard conditions are the circumstances that determine whether or not a healthy life is possible in that particular area. The soft conditions refer to the presence of qualities that make life more enjoyable. The working definition of liveability that follows from these basic principles is "the extent to which the conditions, needs and wishes of humanity are met by the actual surroundings" (Leidelmeijer et al, 2008, p. 14).

The factors that contribute to liveability can be categorized into roughly five dimensions: the availability of neighborhood facilities and services (for educational, recreation or medical purposes); quality of housing; demographics (including socio-economic status, age distribution and social cohesion); physical surroundings (infrastructure and distance to green spaces); and finally safety (ranging from burglaries to anti-social behavior).

2.3 Hypotheses on Network Effectiveness in the Liveability Policy Domain

What is the expected relation between network governance strategies and effectiveness in the policy area at hand? To arrive at the first of the two rival hypotheses, I turn to the work of Provan & Kenis (2008). The formulation of the first hypothesis is then followed by a discussion of the work of Wagenaar (2007), in which he presents a different perspective that serves as the basis for the second rival hypothesis.

Provan & Kenis (2008) provide what they refer to as the 'key predictors of effectiveness of network governance forms' and these are trust, number of participants, goal consensus and the need for network-level competencies. By trust, Provan & Kenis (2008) refer to "an aspect of a relationship that reflects the willingness to accept vulnerability based on positive expectations about another's intentions or behaviors" (p. 237). As they explain, it is not the dyadic relations, but rather the distribution of trust that matters most. Consequently, the extent to which network governance is centralized must be compatible with the overall level of trust that is present in the network. This implies that when trust-levels are high throughout the network, network governance need not be centralized (and vice versa). When it comes to the number of participants in a network, Provan & Kenis (2008) reason that the complexity of networks increases as more actors are expected to join. Because the growth of dyadic relations can produce coordination inefficiencies, the need for more centralized governance becomes apparent. Another predictor of effectiveness is the degree to which there exists general consensus on network-level goals, both regarding goal content and the process to achieve them. For networks without goal consensus to be effective, centralized network governance is required. Then finally, the need for network-level competences. This takes into account all the means (network-level coordinating skills and/or task-specific competencies) that are required by the network to achieve the goals. If this is high, then it implies that there may be called upon individual actors to bring skills to the table they may not possess. Situations like these are expected to favor configurations that include more centralized network governance.

Based on these four key structural and relational contingencies Provan & Kenis (2008) summarize their statements as follows:

> "[Decentralized] shared network governance will be most effective for achieving network-level outcomes when trust is widely shared among network participants (high-density, decentralized trust), when there are relatively few network participants, when network-level goal consensus is high, and when the need for network-level competencies is low.
>
> [Centralized] lead organization network governance will be most effective for achieving network level outcomes when trust is narrowly shared among network participants (low-density, highly centralized trust), when there are a relatively moderate number of network participants, when network-level goal consensus is moderately low, and when the need for network-level competencies is moderate" (p. 241).

When we connect this statement to the general characteristics of the networks in disadvantaged neighborhoods, we find that in this case, expectations point towards the superior effectiveness of centralized network governance. As discussed in section 2.1.2, we witness a gradual expansion of the policy domain of the regeneration of disadvantaged

neighborhoods over the years; accordingly, the number of network participants has grown significantly (see also Priemus, 2004). It has now come to include a wide variety of actors whose expertise spans social, economical, physical and psychological fields.

At the same time, the diminished availability of the competences brought to the table by the state government has increased the need for network members to compensate for this loss by sharing their resources. In addition, solving the multifaceted problems in disadvantaged neighborhoods also requires significant interdependence among members, which means according to Provan & Kenis (2008) that the need for network-level coordinating skills and task-specific competencies is large.

And even though there is widespread agreement on the network-level goals on a *general* level (the enhancement of 'liveability'), there is evidence that on a more *specific* level, the priorities of the actors involved within the policy domain are not necessarily in line with each other. Where housing corporations and local authorities tend to prefer the improvement of the quality and diversification of the local housing stock (often in order to actively to attract new residents with a higher income), residents themselves prioritized dealing with the more short-term liveability issues related to anti-social behavior, criminal activity and garbage disposal (Bortel, 2016).

As for the key predictor 'trust', we can say that the expectations also point toward the Lead organisation governance strategy as the option that is to be preferred over less governance-brokered types of strategies. As I use the degree to which citizens are given governance capacity as an indicator of the degree to which governance within the local networks is brokered, it is of particular importance to take into account the trust among the residents and trust of residents in politicians. Ross, Mirowsky & Pribesh (2001) show in their study on individual-level psychology that residents' trust is especially low in disadvantaged neighborhoods, since disadvantage tends to lead to processes that amplify mistrust among citizens. Besides that, disadvantaged neighborhoods are generally home to ethnic minorities and people with low satisfaction with their economic situation, both of which are statistically significantly negatively correlated with trust in political institutions (Lühiste, 2006). One could argue of course that shared governance strategies can foster trust on the long term, but Provan & Kenis theorizing specifically relates to a static view, instead of a dynamic view, of the concepts used.

So, since this particular policy domain shows relatively low levels of trust; divergent opinions on how to achieve the network-level goal; a need for network-level competencies; and a relatively large number of network participants, we expect networks with centralized network governance to show better network-level outcomes. Hence, we arrive at the following hypothesis:

H1: Decentralization of network governance is negatively correlated with the development of liveability scores in disadvantaged neighborhoods

In the Dutch policy area of disadvantaged neighborhoods, citizen participation plays a very important role in explaining variance in terms of network governance centralization. Therefore, I also consult the academic literature on participatory, deliberative democracy and, more specifically, complexity theory. Here I find support for the opposite of what Provan & Kenis' (2008) theoretical framework predicts; decentralization of network governance (by including citizens in decisionmaking) might in fact be more effective to improve liveability. Besides the normative position that it functions as a vehicle for self-expression, there are certain practical arguments in favour of citizen participation - the general idea being that it increases the capacity to address fundamental social problems of the sort that one can find in disadvantaged neighborhoods (Lowndes, Pratchett & Stoker, 2006).

So what exactly is then the instrumental value of citizen participation? Wagenaar (2007) describes ubiquitous situations in which a lack of knowledge among public officials of street-level events is hindering meaningful policymaking. This is not necessarily due to the unwillingness of public officials to become knowledgeable about these matters, the obstructing factor is most of the times system complexity. One component of that system is the vast number of interrelated internal relationships in social systems such as neighborhoods. Another component is the social system's reactivity. Any policy measure that affects one or two actors, can lead to an almost infinite change of behavioral changes by other actors. Wagenaar (2007) then argues that:

> "Residents [...] not only have a keen sense of the complexity of neighborhoods, but, under certain conditions, they are very well able to deal with this complexity. [....] Citizen involvement gives room to the local knowledge that is embedded in the experiences and practices of ordinary people, in this way collapsing the demarcation between the process of political decision making and the social system on which these decisions operate. Democratic deliberation is a nonreductionist way of solving complex problems. It contributes to the generation of creative solutions and the coordination of divergent interests by establishing open channels of communication between the major actors. Finally, it preempts subversion of agreed-on solutions by narrow self-interests" (p. 28).

Wagenaar arrives at these conclusions after having analyzed two projects that originated from citizen participation in two of the neighborhoods included in this study: Schilderswijk in the Hague and the Rivierenwijk in Deventer. Without going into detail on these specific projects here, the general mechanism observed by Wagenaar (2007) is as follows. When citizens have influence over real decision-making, it allows for dissemination of previously unavailable knowledge and information to administrators and public officials who operate at a distance.

The detailed, experiential (narrative) nature of this knowledge prevents what Wagenaar refers to as 'premature reductionism', which characterizes traditional analytical forms of policymaking. Since there is more interaction among a larger number of actors, this also strengthens the diversity within the system. This in turn enhances potential (creative) solutions. Furthermore, it diminishes the issue of coordination overload. Inherent to instrumental policymaking is the breaking down of planning and coordination function of public officials. The decentralisation of problem-solving offers a good alternative through the 'spontaneous' coordination that is typical to self-organizing complex systems.

Based on Wagenaar's arguments I expect that - through a quality improvement of content- and process-related activities - neighborhoods with a high citizen participation score (and thus highly decentralized network governance) show better liveability development outcomes than neighborhoods with low citizen participation scores. These expectations are strengthened by the fact that liveability as measured by the Leefbaarometer is partially defined by the citizens themselves, any improvement in their eyes should therefore be reflected quite accurately in the results.

From this follows the rival hypothesis:

H2: Decentralization of network governance is positively correlated with the development of liveability scores in disadvantaged neighborhoods.

Because the mechanism as described by Wagenaar (2007) is very much about the general way in which solutions to liveability issues come into existence, it could theoretically impact any dimension of liveability. However, some of the dimensions are more likely to show influence of citizen participation than others. Here, I distinguish between citizen preferences and their resource. I argue that there is an increased chance of citizen participation having a positive effect when a dimension (or aspects of that dimension) is considered a priority in the eyes of the citizens, and involves problemsolving to which the resident's resources are uniquely relevant. We already know that the residents of a neighborhood are typically more focused on short-term liveability issues such as anti-social behavior and (petty) criminal activity (Bortel, 2016). As for the resources, we can undoubtedly say that the experiential knowledge of street-level events stored in informal networks of residents is particularly useful to coming up with creative solutions to the abovementioned (safety-related) priorities of citizens. This is also supported by Wagenaar's within-case analyses, both of which focused on safety-related issues. So above all, I expect decentralization of network governance through citizen participation to have a positive effect on this particular liveability domain. Which brings us to the first subhypothesis:

Subhypothesis 1: Decentralization of network governance is positively correlated with the development of liveability scores in the domain of safety

In the context of budgetary restraints, I expect to see some sort of trade-off between dimensions. Housing corporations and local authorities tend to prioritize quality and diversification improvements of neighborhood housing (Bortel, 2016). The domain of housing is preeminently a topic that involves knowledge of the sort that is exclusively at the disposal of professionals working for municipal governments or housing corporations. Therefore, I expect that this compatibility of preference and resources will show, above all, a positive effect on this particular domain. When financial resources are redirected or redistributed to the likes of citizens, I expect to see an increase of safety at the expense of the liveability score in the domain of housing. Hence, the second subhypothesis is:

Subhypothesis 2: Decentralization of network governance is negatively correlated with the development of liveability scores in the domain of housing

So, the core conclusion here is that the theories of Wagenaar (2007) and Provan & Kenis (2008) diverge on the issue of what distribution of network governance is to be preferred in a policy domain such as this. Given the fact that certain key conditions are not met, the work of Provan & Kenis' leads us to expect that decentralization of network governance through citizen participation would be to the detriment of the network's effectiveness. Wagenaar, however, points at empirical evidence that shows that citizen participation has, in fact, been succesful – leading to the use of innovative means to tackle liveability issues. Subsequently, I reasoned which of the dimensions of liveability would be particularly prone to the effects of network governance centralization, and I accordingly formulated two subhypotheses. The next chapter discusses the research methodology that I employed to test these and, ofcourse, the rival hypotheses.

Chapter 3 - Research Methodology

3.1 Case-Selection and External Validity

The academic literature on network effectiveness consists mostly of studies that employ within-case analyses or small-N comparisons. One of the most commonly discussed issues with these research methodologies relate to external validity (Gerring & Jojocaru, 2016). These issues are less of a concern when N increases, since the sample becomes increasingly representative of the population from which it is extracted. This is certainly not to say that small-N research designs are necessarily ineffective for any effects-based comparative assessment of network governance strategies, but in this particular policy area - in which the mantra 'every neighborhood is different' often returns in speeches and policies (i.e. Vogelaar, 4 april 2008) - it certainly pays off in terms of external validity to conduct research on a larger number of cases. There is, namely, a clear possibility that the discovered effect of A on B in neighborhood C, might not hold in most of the other neighborhoods. An additional

advantage is that predictive modelling allows for the inclusion of multiple dimensions of liveality, whereas in a more in-depth analysis, I would be limited to investigating three networks in a single dimension - at the most.

Therefore, my study includes the largest possible sample for which information of both the liveability developments and the main variable of interest (decentralization of network governance) is available. The number of neighborhoods eventually investigated (45) slightly exceeds the number of neighborhoods that were part of the *Krachtwijkaanpak*. This is due to the fact that some of the municipalities (in particular Amsterdam & Rotterdam) use a different geographical categorization of their city than the state government. The 40 disadvantaged neighborhoods (in 18 cities) are all the neighborhoods from the list that was put together in 2007 by then minister Integration and Housing Ella Vogelaar. These neighborhoods were carefully picked on the basis of 18 liveability criteria and in consultation with experts and the municipalities (ANP, 2007). As the problems (and thus the complexity) is most severe in these neighborhoods, I expect that when one of the hypotheses is confirmed in these neighborhoods, we can draw similar conclusions for the other neighborhoods as well. In addition, this sample includes around fifty percent of all citizens living in disadvantaged neighborhoods, and forms therefore a strong representation of the total number of this type of neighborhoods (Bekkers, 2015).

3.2. Internal Validity and Operationalization

Methodological discussions of cross-case research tend to circle around issues of internal validity. When the sample size grows, the reliability of a study's results increasingly runs the risk of being affected by ommited-variable bias and measurement invalidity. This section addresses these issues accordingly.

Apart from my main independent variable of interest, there are other variables that may impact the liveability outcome. Since the period of time in which I make observations is the same for all neighborhoods, it automatically controls for variables that have an impact on all neighborhoods (such as the variables related to the business cycle). In addition, the financial allocation clause that is used by the state government controls for any public budget effects that may impact liveability (Vogelaar, 2008 February 1).

Market-driven gentrification, on the other hand, is a variable that can be expected to impact liveability, but it can also be expected to take on many different values in different neighborhoods as well. Yet I decide not to control for this variable for the reason mentioned below. Market-driven gentrification can have direct and indirect effects on liveability in roughly two ways. An increase in overall income will be reflected in the Leefbaarometer 1.0 dimension 'demographics (socio-economic)' and in 'demographics' in Leefbaarometer 2.0. Also, higher property values will be reflected by an increase in the score of Housing in both Leefbaarometer 1.0 and 2.0. To control for gentrification-effects through income, it is

possible to use 'Income per earning individual'. By using income per earning individual instead of income per capita, I could avoid overlooking potential effects that my main independent variable of interest might have on liveability via labor participation. It is would also be possible to control for gentrification-effects through higher property values by simply removing the dimension Housing from the liveability score. However, in attempting to control for market-driven gentrification, I risk losing valuable information on the effects of local government-led gentrification strategies on liveability, which are most likely related to the cases that show higher levels of network governance centralization. This is especially important because housing corporations and local authorities tend to prefer the improvement of the quality and diversification of the local housing stock (often in order to actively to attract new residents with a higher income (Bortel, 2016). Therefore, I decide not to control for market-driven gentrication, as this trade-off would negatively impact my research design.

An important confounding variable that I control for is the demographic composition of the neighborhood. The reason behind this is that I assume that the demographic composition impacts the degree to which citizens are allowed to participate and, since it is an integral part of the total liveability score, it also impacts my dependent variable. To check if there is indeed such an effect, I run regressions that include the demographic-score in 2008 as the independent variable and several indicators of citizen participation as the dependent variables. I condition for this effect by adding the demographic-score as a control variable when I test for the effects of centralization of network governance on the total liveability development.

3.2.2 Liveability

Measurement invalidity refers to the use of indicator(s) that do not accurately capture the phenomenon that the researcher wants to measure (Toshkov, 2016). As explained in the introductory chapter of this thesis, one of the reasons for selecting the policy area surrounding issues of disadvantaged neighbourhoods in the Netherlands is the universal goal consensus (enhancement of liveability) that underlies the Netherlands' regeneration efforts. By using the measurement tool that the municipalities' themselves have agreed on (Leefbaarometer) I can rely on their judgement, the judgement of the ministries of (then) VROM and (now) Internal Affairs and the research foundation RIGO, that the Leefbaarometer is in fact an adequate tool to measure liveability developments and an instrument to conduct a fair comparison.

Liveability in the Leefbaarometer is measured by looking at 'stated preferences' (the opinions of citizens on the liveability of their surroundings) and their 'revealed preferences' (available data on their behavior). So it is important to emphasize here that the citizens themselves have a large influence on the results of the Leefbaarometer. This increases validity in the sense that whatever measured is also valid in the eyes of the citizens of the neighborhoods. In this sense, liveability as measured by the Leefbaarometer is approaches

liveability as experienced first hand by the residents themselves. An important contribution in this respect is the fact that their views have served also as the basis for the selection of the (approximately) hundred indicators of the Leefbaarometer (Leidelmeijer et al, 2008; 2014).

The first (1.0) version of the Leefbaarometer (reference years 2008, 2010 and 2012) is developed around the following five dimensions: housing, public space, facilities/services, demographics (socio-economic) and age distribution and social cohesion. Scores for the individual dimensions range from –50 to 50, with 0 representing the national average in a given year. The second (2.0) version of the Leefbaarometer (reference years 2012, 2014 and 2016) is developed around the following five dimensions: physical surroundings, housing, demographics, safety, facilities/services. This version of the Leefbaarometer uses a different way of calculating and presenting the scores, resulting in smaller figures, but it still represents the score and development of the score relative to the national average. Each of the dimensions of the Leefbaarometer 1.0 and 2.0 are weighted, as can be seen in the Appendices 3 and 4. Since the Leefbaarometer 1.0 and 2.0 differ in indicators and do not exactly overlap in terms of dimensions, two separate regressions are run for both time periods (Leidelmeijer et al, 2008; 2014). Given that I am interested in how network governance decentralization affects the *development* of liveability, I generate the dependent variable by subtracting the liveability score at t=1 by subtracting the score at t=0.

3.2.3 Network Governance Decentralization (NGD)

I use the degree to which citizens are granted governance capacity in the WAP as an indicator of the extent to which governance within the local networks is decentralized. As discussed in chapter 2, the neighborhoods' inhabitants are the only optional actors to be granted network governance capacities. Granting them a seat at the table, and treating them as equals in decision-making processes, is evidence of a far reaching form of network governance decentralization. A key assumption here is that networks that already work in configurations in which network governance is shared, are also more inclined to share governance capacity with citizens in their WAP (and vice versa). When networks show no or only little inclination to include citizens, this attitude is presumably rooted in their nature of being configured in a way that reflects more of a traditional top-down public administrative organisation. Hence, instead of only reflecting one particular way in which network governance can be decentralized, it can also be said to reflect the broader network governance configuration of such a network.

Research of Hulst et al (2008; 2009) shows that the degree to which citizen participation is facilitated may differ in six ways in both the ideation phase, as well as the execution phase, which adds up to a total of twelve variables (see table 1).

The 'Available Opportunities' refer to the extent and the method in which citizens had the opportunity to participate in the ideation and execution phase of the WAP. In the second row,

'Invitation' refers to the extent and method in which citizens have been asked by the municipality to participate in the ideation and execution phase of the WAP. Finally, 'Responsiveness' refers to the extent and method in which the municipality (and/or organisations that served the municipality) have offered feedback to citizens and/or deliberated with citizens about the results of the ideation phase, the execution phase and the corresponding input of citizens in these phases.

This analytic model forms the basis for two surveys, totalling 61 questions, as devised by Hulst et al (2008;2009), in which specific scores have been assigned to answer categories.[1] The observations for the ideation phase are made in 2008, right after the moment that the municipalities handed in their WAPs to the then-minister of Housing and Integration Ella Vogelaar. A year into the execution phase of the WAP, Hulst et al conducted the second study, in part because it allowed them to check up on the degree to which the earlier citizen participation-plans were actually realized. Finally, it is important to note here that both civil servants and citizens were part of the inquiry.

Table 1. Facilitation of Citizen Participation in the WAPs

	The Extent Ideation phase	**The Method** Ideation phase	**The Extent** Execution phase	**The Method** Execution phase
Available opportunities	E-1 in %-score	M-1 in %-score	E-4 in %-score	M-4 in %-score
Invitation	E-2 in %-score	M-2 in %-score	E-5 in %-score	M-5 in %-score
Responsiveness	E-3 in %-score	M-3 in %-score	E-6 in %-score	M-6 in %-score

Taken altogether, Hulst et al (2010) roughly distinguishes between three citizen participation-facilitation strategies - each of them being present in roughly a third of the designated disadvantaged neighborhoods. I choose to use the uncategorized data, because the raw data allows me to use each of the scores in these answer categories as continuous instead of ordinal variables. Using these arbitrary cutoffs would have resulted in a loss of information (Ranganathan et al, 2017). I generated a variable 'aggregated citizen participation score', which reflects the average of all scores in both the ideation and execution phase (so E-1 to E-6 and M-1 to M-6). The scores are in percentages, meaning that they range from 0-100. This network governance variable forms the main independent variable of interest in the regression model.

3.3 Conceptual model

This study uses cross-sectional analysis, since both the dependent variable and the control variable are generated in such a way that they express development over time in a single value, and my main variable of interest does not show changing values over time. I run a

[1] For further discussion see Appendix 1 and 2. For the entire list of the 61 survey-questions I refer to the original research reports of Hulst et al (2008;2009).

[2] The subvariable 'Citizen Participation Score Ideation Phase (M-1,2,3)' shows a P-value of 0.014, with a regression coefficient of 0.35 and

multiple linear regression using Ordinary Least Squares (OLS) –method for the following econometrical models.

$$Liveability_i = \alpha + \beta_1 Network\ Governance\ Decentralization_i + \beta_2 Demographics_i + \varepsilon_i$$

In which the dependent variable 'liveability' stands for the change in Leefbaarometer-score that is observed in a given neighborhood (i) in time period 1 (2008-2012) or time period 2 (2012-2016). The regression coefficient of the treatment variable (β_1) represents the causal effect of network governance centralization, measured by the degree to which citizen participation is facilitated in a neighborhood during the ideation and execution phase of the WAP. The regression coefficient of the control variable (β_2) represents the effect of the change in score within the 'demographics'-dimension that is observed in a given neighborhood (i) in time period 1 (2008-2012) or time period 2 (2012-2016).

Chapter 4 - Results

This chapter starts out with a discussion of the descriptive statistics of the dataset. After that, I look into the developments of the total liveability scores in the periods 2008-2012 and 2012-2016 and if - and to what extent - they are influenced by the aggregated citizen participation score. What follows is an analysis of the underlying mechanisms in which citizen participation affects the liveability development scores.

4.1 Descriptive Statistics

A total number of 45 neighborhoods are investigated for two consecutive quadrennials, but data on citizen participation in the ideation phase is missing in seven neighborhoods. As suggested by statements of Hulst et al (2010), we find large variance in citizen participation scores in both the ideation and execution phases. As we can tell from the minimal and maximum values in the ideation phase, some of the WAPs did not include any or very little facilitation of citizen participation and others used all possible, or many options in a number of categories. The standard deviation in the execution phase is slightly smaller (around 10 percent) than in the ideation phase (around 15 percent). Most relevant to the regressions are the descriptive statistics of the variable 'aggregated citizen participation score', which presents the distribution of the unweighted averages of these scores. On average, the WAP score lies around 50 percent, with a standard deviation of around 10 percent. The lowest score is 29 percent, while the highest score is 72 percent.

When looking at the liveability developments between 2012-2016, we can already tell from the mean (which is close to 0) in combination with the standard deviation that in a number of neighborhoods (13) the overall score deteriorated relative to the national average, whereas the

rest shows an improvement or no improvement. When we zoom in on the individual dimensions, it shows that there has been an overall improvement in the dimensions housing, demographics and safety, with the last of these three being the largest. The dimensions facilities/services and physical surroundings show an overall deterioration of the score. As for the developments between 2008 and 2012 (measured by Leefbaarometer 1.0), all neighborhoods show an improved score, but still produce a relatively large variation around the mean. As mentioned in chapter 3, the strong differences in figures between 2012-2016 and 2008-2012 are caused by the change in indicators and the difference in weights and presentation - basically making them incomparable. Taken together, these differences between Leefbaarometer 1.0 and 2.0 may go a long way in explaining why, for example, we find that during this time period physical surroundings is actually the dimension in which we find most improvement, albeit with the largest variance. We also find an overall improvement (in order of size) in the dimensions safety, housing, demographics, age & social cohesion. The only dimension that shows an overall deterioration of the score is facilities/services.

Table 2. Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Total Liveability Score (2012-2016)	45	.017881	.037138	-.10591	.079981
Housing	45	.009321	.011592	-.025326	.04088
Demographics	45	.000707	.018176	-.052292	.04836
Facilities/Services	45	-.002652	.015869	-.036298	.052178
Safety	45	.011011	.031929	-.063951	.053538
Physical Surroundings	45	-.000505	.007745	-.019152	.0168
Total Liveability Score (2008-2012)	45	3.25616	1.73247	.159767	6.80124
Housing	45	1.959	2.71553	-7.64404	8.33479
Demographics	45	2.23016	3.97686	-9.80351	12.2606
Facilities/Services	45	-2.34248	8.78218	-30.0781	17.3766
Safety	45	1.74207	4.24274	-7.26954	12.4632
Physical Surroundings	45	13.4342	11.1769	-12.7761	41.9854
Age & Social Cohesion	45	2.3169	4.57606	-4.99716	21.6893
Citizen Participation Score Ideation Phase (E-1,2,3)	38	54.7544	17.8959	17.6667	82.6667
Available Opportunities (E-1)	38	52.8421	16.0548	15	80
Invitation (E-2)	38	71.2632	24.4912	8	100
Responsiveness (E-3)	38	40.1579	22.6101	0	81
Citizen Participation Score Ideation Phase (M-1,2,3)	38	25.3225	12.7965	6.28519	58.1
Available Opportunities (M-1)	38	27.1342	12.7094	4.05	56.76
Invitation (M-2)	38	23.4255	20.4844	0	84.21
Responsiveness (M-3)	38	25.4078	14.956	0	55.56
Citizen Participation Score Execution Phase (E-4,5,6)	45	70.3432	10.8077	43.3278	89.1811
Available Opportunities (E-4)	45	68.3062	14.0222	38.2222	90.6667
Invitation (E-5)	45	68.2955	13.7503	43.4555	100
Responsiveness (E-6)	45	74.3254	16.8541	16.9643	100
Citizen Participation Score Execution Phase (M-4,5,6)	45	49.2814	10.9181	25.166	71.9124
Available Opportunities (M-4)	45	58.9287	13.405	19.5219	79.6813
Invitation (M-5)	45	46.8703	16.4066	20.7171	81.8725
Responsiveness (M-6)	45	42.0452	16.2074	15.3386	74.9004
Aggregated Citizen Participation Score	38	50.6135	9.60246	29.4953	72.1211

4.2 The Effect of Demographic Composition on the Facilitation of Citizen Participation

Table 3 presents the relationship between the demographic composition of the disadvantaged neighborhoods and the degree to which municipalities facilitated citizen participation in tackling liveability issues. Its proximity to statistical significance at the 0.05 level and the large positive effect (0.21) are reasons for me to include them in my analysis.[2] It implies that municipalities' willingness to facilitate citizen participation is to a certain extent dependent on the social-economic position and/or cultural background of the residents in the neighborhood. Since this variable is also a component of liveability, I include the development of this variable in the upcoming estimations of the effect of citizen participation on liveability development.

Table 3. Demographic composition as a potential confounder

Source	SS	df	MS	Number of obs	=	38
				F(1, 36)	=	3.99
Model	340.69328	1	340.69328	Prob > F	=	0.0533
Residual	3070.97129	36	85.3047581	R-squared	=	0.0999
				Adj R-squared	=	0.0749
Total	3411.66457	37	92.2071505	Root MSE	=	9.2361

Aggregated citizen participation score	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Demographics (2008)	.2068847	.1035221	2.00	0.053	-.0030679	.4168373
_cons	57.97412	3.976244	14.58	0.000	49.90992	66.03832

4.3 The Effect of NGD through Citizen Participation on Liveability

The main independent variable of interest is the degree to which network governance is decentralized through sharing governance capacity with the residents of the neighborhood. In this regression, I estimate the effect of the aggregated citizen participation score by regressing it with the development of the liveability score over the years 2008 – 2012 and 2012-2016. The results are presented in table 4 and 5.

Table 4. Period 2008-2012

Source	SS	df	MS	Number of obs	=	38
				F(2, 35)	=	9.36
Model	34.4148263	2	17.2074132	Prob > F	=	0.0006
Residual	64.3750637	35	1.83928754	R-squared	=	0.3484
				Adj R-squared	=	0.3111
Total	98.78989	37	2.66999703	Root MSE	=	1.3562

Total Liveability Score (2008-2012)	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Aggregated citizen participation score	.0313168	.0235632	1.33	0.192	-.016519	.0791526
Demographics (2008-2012)	.2286646	.0533939	4.28	0.000	.1202691	.3370601
_cons	1.337501	1.239539	1.08	0.288	-1.178897	3.853899

[2] The subvariable 'Citizen Participation Score Ideation Phase (M-1,2,3)' shows a P-value of 0.014, with a regression coefficient of 0.35 and a standard error of .13.

Table 5. Period 2012-2016

Source	SS	df	MS	Number of obs	=	38
				F(2, 35)	=	2.35
Model	.004233588	2	.002116794	Prob > F	=	0.1103
Residual	.031533342	35	.000900953	R-squared	=	0.1184
				Adj R-squared	=	0.0680
Total	.03576693	37	.000966674	Root MSE	=	.03002

Total Liveability Score (2012-2016)	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Aggregated citizen participation score	.0011297	.0005218	2.17	0.037	.0000705	.002189
Demographics (2012-2016)	.1476323	.3084617	0.48	0.635	-.4785783	.7738429
_cons	-.0357079	.0268299	-1.33	0.192	-.0901754	.0187597

The results show a statistically significant correlation at the 0.05 level between the aggregated citizen participation score and the liveability development between 2012 and 2016. For every percentage point increase in aggregated citizen participation score, we find .0011 percentage point increase in total liveability score. Even though the regression coefficient seems small, in terms of witnessed liveability development over these years it still explains a substantial part of variance. We don't find any statistically significant correlation between these variables in the first four years after the *Krachtwijkaanpak.* A potential explanation could be that it takes time for effects to show, since the problems addressed are inherently complex. Nevertheless, these first results provide support for Wagenaar's theory and the H2 that is derived from it. Another finding is that, as you would expect from a subvariable, the changes in the demographical composition of the neighborhood is statistically significant at the 0.00 level during these years, and shows a large effect on overall liveability developments. The fact that we don't witness the same correlation strength in the time period 2012-2016 may partly be explained by the change in weighted contribution of this dimension in the Leefbaarometer 2.0 (24 %) as opposed to Leefbaarometer 1.0 (34 %). The most important conclusion here is that we find a net positive effect of network governance decentralization through citizen participation on liveability development.

4.4 The Effect of NGD through Citizen Participation on the Subdimensions

The finding in the section above gives reason to zoom in at the effects of citizen participation on the individual dimensions of liveability between 2012-2016, enabling me to test subhypotheses 1 and 2. In total five regressions are run that include aggregated citizen participation score as the independent variable and one of the dimensions as the dependent variable. The results are shown in table 5. We find a statistical significant correlation at the 0.02 level between Safety and the aggregated citizen participation score, which provides support for subhypothesis 1. For every percentage point increase in citizen participation score, we find an average change of the mean of safety of .0015, which shows that the increase in liveability is due to the positive effect on this dimension that citizen participation has.

Table 6. Dimensions of Liveability (2012-2016)

Aggregated Citizen part. score (Independent var.)		Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
(regression 1)	Housing	.000024	.0001721	0.14	0.890	-.0003251	.000373
(reg 2)	Facilities/Services	-.0001943	.0002765	-0.70	0.487	-.000755	.0003664
(reg 3)	Safety	.001465	.0004803	3.05	0.004	.0004909	.0024391
(reg 4)	Physical Surroundings	.0000847	.0001379	0.61	0.543	-.000195	.0003645
(reg 5)	Demographics	-.0002931	.0002777	-1.06	0.298	-.0008562	.0002701

There is no statistical significant (negative) relationship to be found between housing and our main variable of interest, which implies that subhypothesis 2 can be discarded. There is no proof of any trade-off taking placing between the priorities of citizens and housing corporations and municipal governments. For the other dimensions (facilities/services, physical surroundings and demographics) it shows that there is no statisitical significant correlation with aggregated citizen participation score. Together, this supports the earlier observation that decentralization of network governance through citizen participation has a net positive effect on liveability in disadvantaged neighborhoods.

Chapter 5 - Discussion of Results

The main goal of this thesis was to test, on a lower level of abstraction and by means of a large N-analysis, the universally accepted academic claims about the effects of network governance on network performance. I discovered that in the urban policy domain of dealing with disadvantaged neighborhoods, Provan & Kenis' (2008) theory is in conflict with Wagenaar's (2007) use of complexity theory. In the results of the analysis, I found support for the hypothesis (derived from Wagenaar's theory) that decentralization of network governance is positively correlated with the development of liveability scores in disadvantaged neighborhoods. What does this observation tell us exactly about the ways in which public policy solutions can be best created and executed in this policy domain? In which type of policy domains can we expect to draw similar conclusions? In other words, under which conditions can we indeed expect Provan & Kenis' theory to fall short in predicting the most effective network governance strategy? Apart from providing answers to these questions, this chapter mentions the limitations of this study and concludes by discussing future research options.

5.1 Academic Implications

In its essence, the theory of Provan & Kenis (2008) and Wagenaar (2007) diverge on the matter of how to approach complexity. Suppose that network level-outcomes are under the influence of an increasingly large number of network participants, whose trust in each other is fading, combined with only moderate goal consensus and a rising need for resources. The

unpredictable interactions and their consequences then produce a highly complex social system. According to Provan & Kenis, this complexity is best handled by centralized network governance, which is characterized by highly regulated, hierarchical-instrumental decision-making processes. In effect, it is a strategy to 'tame' complexity. Wagenaar (2007) argues that this futile attempt to mitigate complexity leads to suboptimal results, and that it is more useful to view complexity "[...] as an asset, or at the very least a source of productive inquiry and understanding" (p. 23). It may be useful to think of this contradiction in terms of 'complexity-reducing' and 'complexity-absorbing' approaches (as coined by Ashmos et al, 2000; in their discussion on how organizational strategies deal with environmental complexity). Wagenaar states that an effective method to absorb and exploit this complexity, is the decentralization of network governance through citizen participation - a claim for which I found support in my results.

With this finding in mind, it is of importance to discuss whether they are of any value in predicting the optimal network governance-approach in other contexts. It is therefore helpful to look at the similarities with another study that also incorporates goal-directed networks in a similar situation. Pirson & Turnbull (2015) analyze the effect of network governance on network performance in the field of Corporate Social Responsibility (CSR) and draw conclusions that are similar to mine. They argue that "decentralized governance architecture is required for firms to absorb competently the increased intricacies, variety of variables, and objectives introduced by CSR" (p. 929). More specifically they observe the same benefits when it comes to "[...] the division of labor and division of power in both structure and strategy development, [in which the] division of power created by decentralized/network governance creates a basis for sharing power and influence among stakeholders to discover win–win ways for improving by negotiation outcomes for both shareholders and other stakeholders" (p. 953). Pirson & Turnbull argue that an important way in which this takes place, is through the sharing of previously unavailable information and knowledge. From the perspective of Provan & Kenis' (2008) theoretical model, the domain of CSR has a lot in common with the policy domain of dealing with disadvantaged neighborhoods. As acknowledged by Pirson & Turnbull, there is an increasingly large number of network participants (non-profit organisations and everyone who is involved in the value chain), there is moderate goal consensus (network may agree to react to rising concerns on ethical issues in businesses, but not on the exact strategy to do so), there is a need for network-level competences (especially in terms of gathering data) and finally, low levels of trust (due to the different motives of actors involved). Yet again, the findings are in conflict with Provan & Kenis' prediction of centralized network governance as the optimal strategy in a domain such as this.

I argue on the basis of the findings in these domains and Wagenaar's (2007) use of complexity theory, that Provan & Kenis' (2008) prediction about the optimal internal network governance strategy is likely to be *wrong*, whenever the network shows all of the abovementioned characteristics and additionally meets the following two conditions. First,

the network is characterized by high levels of complexity. In other words, there are many unpredictable interactions among a large number of network members. Secondly, stakeholders that are affected by network-level outcomes possess over knowledge, information and workcapacity that is unavailable to the current 'governers' within the network. If these two conditions are met, then decentralizing network governance can improve network effectiveness in the ways described in chapter 2.

Apart from the examples of CSR and the specific urban policy regarding safety in disadvantaged neighborhoods, it explains why decentralization of network governance is also a popular governance innovation in the wider field of urban development (see for instance Healey, 2008; Torfing & Sørensen, 2008; Booher, 2008). An example here is the subject of dealing with office vacancies, in which architects, developers, citizens and civil servants can have shared influence over converting these vacant buildings into locations that are of use to society (www.crowdbuilding.eu). Also in the social domain there is reason to believe that network performance might benefit from a decentralization of network governance through citizen participation. Examples of such developments can be found in the Netherlands, where citizens participate through drafting, executing and evaluating government policy, typically in the context of the Social Support Act (Wmo). This participation takes place in Wmo-councils, via citizens consultation, as well as through citizen initiatives (Doelman-van Geest, 2016). All of these examples concern policy domains that are characterized by high complexity and in which stakeholders that are affected by network-level decisions can invest knowledge, information and time, to strengthen the network's capacity to absorb, rather than reduce, complexity.

5.2 Practical Implications

This section confines the discussion of the results' implications to the domain of liveability improvement in disadvantaged neighborhoods. Network governance decentralization through citizen participation has a positive effect on safety, and in turn, on the liveability of disadvantaged neighborhoods. I found no proof of the existence of a trade-off with other dimensions of liveability. Therefore, the straightforward policy implication is for municipalities to invest, as discussed, in complexity-absorbing approaches, in which network governance is decentralized by means of citizen participation. This is then expected to have a positive impact on the safety in a neighborhood. Examples of how this can be materialized are found in the descriptions of neighborhood watch schemes by Wagenaar (2007), and many other authors such as Sims (2001) and Bennett, Holloway & Farrington (2006).

If the aim is to get local government to act on this knowledge, it is of the essence to identify the potential obstacles. Section 2 of chapter 4 discussed the effect of the neighborhoods' demographic composition on the degree to which citizen participation is facilitated by local government. The proximity to statistical significance at the 0.05 level and the considerable size of the effect (0.21) is, in my opinion, reason to consider this variable as a potential

impediment to citizen participation. Whatever the underlying reasons may be, it is without a doubt undesirable if citizens with a different cultural background or with certain socio-economic statuses are less often encouraged/invited to participate than others. An argument that would be especially invalid is the expectation that ideas or views would diverge too much. As Booher (2008) states: "It is in this tension that stakeholders are forced to re-examine some of their cherished biases, and creativity is nurtured" and argues therefore in favor of " [...] creating opportunities and making connections between groups with diverse perspectives and interests" (p. 390).

It is also these observations that inspired the title of this thesis. The old proverb "it takes a village to raise a child" goes a long way in capturing what it takes to increase liveability in neighborhoods; a collective effort of different people - in terms of age, background and role in the community - that all interact with each other (and with other network members) to foster a safe living environment.

5.3 Limitations of research

Despite the fact that there are a number of reasons to use facilitation of citizen participation as an indicator to network governance decentralization, it must be noted that having more data on the influence of other important network participants would have significantly strengthened my ability to measure this variable. It would also provide me with an opportunity to find support for my key assumption that the degree to which citizen participation is facilitated also roughly reflects the broader network governance configuration of a network.

When it comes to the measurements of Hulst et al (2008; 2009), a limitation that needs to be mentioned is that their observations do not include potential divergence from the WAP after 2009. It is plausible that some municipalities reconsidered their strategy when the state government announced in 2011 that they were going to cut back on subsidies (Bol, 2011). As of yet, I am unable to include this effect in the calculations.

As for the use of the Leefbaarometer, I believe that some 'intangible' aspects of liveability are not sufficiently covered by this instrument. In addition to all the dimensions that the Leefbaarometer takes into account, decentralization of network governance can also have the beneficial effect of letting residents within the neighborhood (as individuals or as part of an organization) experience that their voice is being heard. Instead of implicitly regarding them as passive components of a range of problems, they can actually be valued as members of a society who can come up with creative solutions to the issues in their neighborhood.

5.4 Future Research

Future research can either be directed toward the aim of investigating further the relation between network governance decentralization and liveability enhancement in disadvantaged neighborhoods; or toward the broader aim of analyzing, and perhaps reconciling, network governance theory and complexity theory.

In the first case, an important first step is to find or create the data to overcome the abovementioned limitations to this study. A possible option would be to conduct new surveys that include all actors within the network, and perhaps another one that could accompany the Leefbaarometer in measuring network performance. Since shared governance networks are still relatively new and of a rather experimental nature, it is interesting to see if future developments will positively affect the network-level outcomes. Growing experience with different types of collaboration might also have a positive impact on the willingness of citizens (but also other private actors) to respond to the invitations and opportunities to participate in decision-making processes. This would then also provide an opportunity to test the conclusions of this thesis.

In addition, future research should include not only the internal but also the external configuration of network governance. In the policy domain of my choosing, the little involvement of central government did not distinguish significantly between any of the selected neighborhoods. Therefore, future research could focus on selecting cases that actually allows for the incorporation of the 2 dimensional model of variation by Provan & Kenis (2008). As we know from the work of Sørensen & Torfing (2009) on metagovernance, its impact on network effectiveness is considerable and it certainly justifies more attention in terms of empirical research.

Finally, when it comes to reconciling network governance theory and complexity theory, I took a very modest first step in exploring the possibilities by adding two conditions - derived from Wagenaar's (2007) insights – to the theoretical model of Provan & Kenis (2008). It remains to be seen, through future research on the effect of governance on network performance, whether or not this actually suffices as a theoretical approach to a wider range of policy domains. Perhaps there are cases that show a nonlinear relationship (in the form of e.g. U-shaped curve), in which both highly centralized and highly decentralized network governance configurations produce better network-level outcomes than hybrid configurations. Such a finding would certainly challenge the general conclusion of this thesis that centralization of (internal) network governance is only desirable when the tasks and issues involved are inherently simple.

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Appendix 1.

Citizen Participation in Ideation Phase
Hulst et al, 2008

	Mate waarin	Wijze waarop
1. Gelegenheid	1-M	1-W
2. Invitatie	2-M	2-W
3. Respons	3-M	3-W

Tabel 1: Aspecten en dimensies van participatiebevordering

Hieronder zullen wij per onderdeel aangeven welke vragen kunnen worden gesteld:

1. Gelegenheid: In hoeverre en op welke wijze hadden bewoners de gelegenheid om te participeren in het totstandkomingsproces van het wijkactieplan?

Mate waarin:

- 1-M: In welke fasen van het totstandkomingsproces konden bewoners participeren? Hierbij maken wij een onderscheid tussen het aanwijzen van problemen, het bedenken van oplossingen en het beoordelen van (concept)rapportages. In hoeverre konden bewoners deze stappen 'meezetten'?
- 1-M: Op welke thema's konden bewoners inbreng leveren? Hierbij maken wij onderscheid tussen de vijf door Vogelaar aangegeven thema's – wonen, werken, leren, integreren of veiligheid – en andere thema's, die in de wijken kunnen zijn benoemd.

Wijze waarop:

- 1-W: In welke rol konden bewoners participeren in het totstandkomingsproces van het wijkactieplan? Kregen zij een beslissende of slechts een marginale rol in het proces? Anders gezegd, speelden ze een hoofdrol of een bijrol?

3. Invitatie: In hoeverre en op welke wijze zijn bewoners gevraagd te participeren in het totstandkomingsproces van het wijkactieplan?

Mate waarin:

2-M: Welke (kringen van) bewoners (of bewonersorganisaties) zijn gevraagd te participeren in de totstandkoming van het wijkactieplan? Hoe ver hebben gemeenten 'hun net uitgegooid'?

Wijze waarop:

2-W: Op welke wijze (in welke vorm) zijn bewoners gevraagd te participeren in de totstandkoming van het wijkactieplan? Is er bijvoorbeeld gekozen voor een 'lichte' vorm van vragen via een algemene oproep, of is gekozen voor een meer intensieve wijze van invitatie (bijvoorbeeld persoonlijk, in de wijk).

· *Respons*: In hoeverre en op welke wijze heeft vanuit de gemeente terugkoppeling plaatsgevonden richting bewoners over het wijkactieplan en de totstandkoming daarvan?

Mate waarin:

- 3-M: Aan welke (kringen van) bewoners en op welke momenten vond terugkoppeling over het wijkactieplan plaats?
  Terugkoppeling kan vanzelfsprekend verschillende vormen aannemen. We onderscheiden tussentijdse terugkoppeling en terugkoppeling van het eindproduct (het wijkactieplan). Terugkoppeling kan aan alle bewoners, aan betrokken bewoners of aan bewonersorganisaties worden gedaan. Daarnaast vragen we ook of gemeenten aan bewoners of
  bewonersorganisaties hebben aangeven wat er met hun inbreng is gedaan.

Wijze waarop:

- 3-W: Op welke wijze vond terugkoppeling aan bewoners plaats? Bijvoorbeeld via het opsturen van wijkactieplannen aan betrokkenen, of het huis aan huis verspreiden van het wijkactieplan, eventueel met bijgaande verantwoording.

Aan de hand van de bovenstaande vragen is een vragenlijst opgesteld die de drie onderzochte aspecten van bevordering dekt, zowel wat betreft de mate waarin als de wijze waarop. Aan de antwoordcategorieën zijn scores toegekend.

Appendix 2.

Citizen Participation in Execution Phase
Hulst et al, 2009

	Mate waarin	Wijze waarop
1. Gelegenheid	1-M	1-W
2. Invitatie	2-M	2-W
3. Respons	3-M	3-W

Aspecten en dimensies van participatiebevordering

Passen we de verschillende aspecten en dimensies toe op de hoofdvraag van het onderzoek, dan komen we tot de volgende vragen:

1. *Gelegenheid:* In hoeverre en op welke wijze hadden bewoners de gelegenheid om te participeren in de uitvoering van de wijkactieplannen tot aan 1 augustus 2009?

Mate waarin:

- 1-M: Welke (kringen van) bewoners (of bewonersorganisaties) kunnen participeren in de uitvoering van het wijkactieplan? Bij de uitvoering van welke onderdelen van het uitvoeringsplan konden bewoners participeren? Gedurende welke periode is participatie mogelijk? Zijn er afspraken gemaakt over de manier waarop bewoners kunnen participeren in de uitvoering van de wijkactieplannen?

Wijze waarop:

- 1-W: In welke rol konden bewoners participeren in de uitvoering van het wijkactieplan? In welke vormen van uitvoering konden de bewoners een rol spelen: toeziend overleg op uitvoering, samenwerking in de uitvoering en/of zelfstandige uitvoering? Is de inbreng structureel van aard of meer *ad hoc*? We vragen ons hierbij ook af of, hoe en waar die rol formeel is vastgelegd. Kregen bewoners een beslissende of slechts een marginale rol in het proces? Anders gezegd, speelden ze een hoofdrol of een bijrol?

2. *Invitatie*: In hoeverre en op welke wijze zijn bewoners gevraagd te participeren in de uitvoering van het wijkactieplan tot aan 1 augustus 2009?

Mate waarin:

- 2-M: Welke (kringen van) bewoners (of bewonersorganisaties) zijn gevraagd te participeren in de uitvoering van het wijkactieplan? Hoe ver hebben gemeenten en andere organisaties onder regie van de gemeente 'hun net uitgegooid'?

Wijze waarop:

2-W: Op welke wijze (in welke vorm) zijn bewoners gevraagd te participeren in de uitvoering van het wijkactieplan? Is er bijvoorbeeld gekozen voor een 'lichte' vorm van vragen via een algemene oproep, of is gekozen voor een meer intensieve wijze van invitatie?

4. *Respons*: In hoeverre en op welke wijze heeft vanuit de gemeente en andere organisaties onder regie van de gemeente terugkoppeling richting en overleg met bewoners plaatsgevonden over de resultaten van de uitvoering van de wijkactieplannen tot aan 1 augustus 2009 en de inbreng van bewoners daarin?

Mate waarin:

- 3-M: Aan welke (kringen van) bewoners en op welke momenten vond terugkoppeling en/of overleg plaats over de afspraken die zijn gemaakt aangaande de uitvoering van het wijkactieplan en over de resultaten van de wijkaanpak? Terugkoppeling kan vanzelfsprekend verschillende vormen aannemen. Terugkoppeling kan aan alle bewoners, aan betrokken bewoners, aan bewonersorganisaties of in reguliere overlegvormen waarin bewoners plaatshebben. Daarnaast vragen we ook of gemeenten en andere organisaties onder regie van de gemeente aan bewoners of bewonersorganisaties hebben aangeven wat er met hun inbreng is gedaan. Als partijen met elkaar samenwerken aan stedelijke vernieuwing, is dat echter idealiter geen eenrichtingsverkeer. Zoals het ministerie aangeeft in haar stappenplan voor samenwerking in stedelijke vernieuwing: "Zorg steeds voor afstemming. Blijf tijdens de uitvoering met elkaar in gesprek. Wees helder over verwachtingen."[8]

Wijze waarop:

- 3-W: Op welke wijze vond terugkoppeling en overleg plaats aan bewoners over de resultaten van de uitvoering van de wijkactieplannen tot aan 1 augustus 2009 en de inbreng van bewoners daarin? Is er sprake van een periodieke terugkoppeling of worden bewoners *ad hoc* geïnformeerd?

Het bovengenoemde analysemodel vormt de basis voor de dataverzameling en voor de analyse van de onderzoeksgegevens. Aan de hand van de bovenstaande vragen is een vragenlijst opgesteld die de drie onderzochte aspecten van bevordering dekt, zowel wat betreft de mate waarin als de wijze waarop. Aan de antwoordcategorieën zijn scores toegekend.

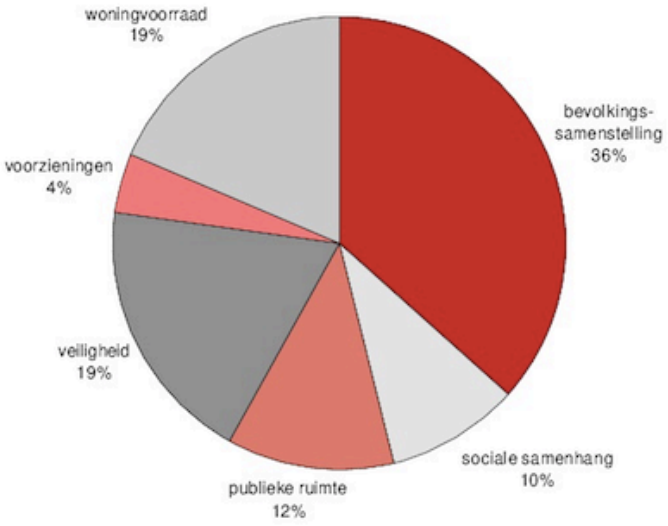
Appendix 3.

Leefbaarometer 1.0

Indicatoren van omgevingscondities	Omschrijving	bron	Jaar[9]
Fysiek			
woningvoorraad			
1. dominantie vrijstaand	Aandeel van de 6ppc-gebieden in een straal van 200 meter waarbinnen dit woningtype het meest voorkomende woningtype is, gewogen naar het aantal woningen in de afzonderlijke 6ppc gebieden.	WDM	2006
2. dominantie tweekappers		CBS: Kerncijfers postcodegebieden	2004
3. dominantie flats met meer dan 4 verdiepingen		Woningmutaties	2006
4. dominantie etagewoningen			
5. dominantie boerderijen en tuinderijen			
6. dominantie stedelijke statuswoningen	Woningtype: grachtenpanden en herenhuizen binnen bestaand bebouwd gebied.	bewerkingen RIGO[10]	
7. dominantie suburbane statuswoningen	Woningtype: vrijstaand en 2/1 kap; dominantie binnen straal van 200 meter		
8. dichtheid	Aantal woningen (berekend o.b.v. CBS 2004 en de woningmutaties t/m 2006) binnen een straal van 200 meter, gedeeld door de som van de oppervlakken van de betreffende 6ppc-gebieden of de feitelijke cirkel van 200 meter als het 6ppc gebied groter is dan de cirkel.	CBS: Kerncijfers postcodegebieden	2004
		Woningmutaties	2006
		bewerking RIGO	
9. percentage sociale huurwoningen	Aantal sociale huurwoningen (corporaties) als percentage van de totale woningvoorraad.	ABF-Vastgoedmonitor	2005
10. dominantie 1940-1959-bouw	Aandeel van de 6ppc-gebieden in een straal van 200 meter waarbinnen dit bouwjaar het meest voorkomend is, gewogen naar het aantal woningen in die 6ppc gebieden.	WDM	2006
11. dominantie 1970-1979-bouw		CBS: Kerncijfers postcodegebieden	2004
12. dominantie vroegnaoorlogs(1945-1960)		CBS: Woningmutaties	2006
13. dominantie vooroorlogse bouw (tot 1940)		bewerking RIGO	
Publieke ruimte			
14. waarde verkochte huurwoningen	Gemiddelde verkoopwaarde van aan zittende bewoners verkochte huurwoningen (eengezins én meergezins) binnen een straal van 200 meter.	Kadaster (K-data), bewerking RIGO	2006
15. aandeel sloop	Aantal in een periode aan de woningvoorraad binnen een straal van 200 meter onttrokken woningen als percentage van de woningvoorraad in 2006.	CBS Woningmutaties, Kerncijfers postcodegebieden, bewerking RIGO	2006 2004
16. Geluidbelasting railverkeer	over alle woningen binnen 6ppc-gebied gemiddelde geluidniveau (dB(A)), railverkeer	MNP/LOK	2006
17. Geluidsbelasting totaal	Over alle woningen binnen 6ppc-gebied gemiddelde geluidniveau (dB(A)), cumulatief		
18. (Uitzicht op) binnenwater	Het oppervlak binnenwater (totaal meer dan 1 ha) als aandeel van het oppervlak van de gesloten 6ppc polygonen.	CBS bodemstatistiek, bewerking RIGO	2003
19. interactie groen en vroegnaoorlogse bouw	Combinatie van aandeel vroegnaoorlogse woningen en oppervlak groen binnen de gesloten 6ppc polygonen in een straal van 200 meter als aandeel van het oppervlak van deze polygonen.	CBS bodemstatistiek, bewerking RIGO	2003
		WDM	2006

voorzieningen			
20. nabijheid supermarkt	Afstand tot de dichtstbijzijnde supermarkt	WDM	2006
21. nabijheid bankfiliaal	Afstand tot het dichtstbijzijnde bankfiliaal		
22. Nabijheid groot winkelcentrum	Afstand tot het dichtstbijzijnde winkelcentrum met meer dan 100 winkels		
23. Nabijheid natuurgebied	Aantal ha natuurgebied binnen voor recreatieve doeleinden acceptabele reistijd.	Atlas	2005
24. Nabijheid bos	Aantal ha bos binnen voor recreatieve doeleinden acceptabele reistijd.		
25. Nabijheid kust	Reistijd tot de dichtstbijzijnde kust		
26. Nabijheid groot water	Afstand tussen 6ppc centroïde en grens van 'groot water' (Waddenzee, Eems, Dollard, Oosterschelde Westerschelde Noordzee, IJsselmeer/Markermeer Afgesloten zeearm Rijn & Maas Randmeren Spaarbekkens) tussen 50 en 200 meter		
27. Aandeel water	Het oppervlak binnenwater (overig binnenwater(>1ha), nat natuurlijk terrein (vennen etc.) (>1ha), recreatief water (>1ha), grote rivieren) binnen de gesloten 6ppc polygonen in een straal van 200 meter als aandeel van het oppervlak van deze polygonen.		
Sociaal			
Sociaal-economisch			
28. Aandeel niet-werkende werkzoekenden	Aantal bij het CWI ingeschreven niet-werkende werkzoekenden als percentage van de potentiële beroepsbevolking	CWI	2005
29. Dominantie inkomens tot 2x modaal	Aandeel van de 6ppc-gebieden in een straal van 200 meter waarbinnen deze inkomensgroep het meest voorkomend is, gewogen naar het aantal woningen in die 6ppc gebieden.	WDM	2006
30. Dominantie minimum inkomens		CBS: Kerncijfers postcodegebieden	2004
31. Dominantie inkomens meer dan 2x modaal		CBS: Woningmutaties	2006
		Bewerking RIGO	
Bevolkingssamenstelling			
32. Aandeel niet westerse allochtonen	Aantal inwoners van niet-westerse afkomst, als percentage van het totale aantal inwoners	CBS/ GBA	2005
33. Hoogopgeleiden	Aandeel hoog opgeleiden op een schaal van extreem weinig tot extreem veel	WDM	2006
Levensfase			
34. Dominantie levensfase middelbare paren zonder kinderen	Aandeel van de 6ppc-gebieden in een straal van 200 meter waarbinnen huishoudens in deze levensfase het meest voorkomend zijn, gewogen naar het aantal woningen/huishoudens in die 6ppc gebieden.	WDM	2006
35. Dominantie levensfase jonge paren zonder kinderen		CBS: Kerncijfers postcodegebieden	2004
36. Dominantie levensfase oudere paren zonder kinderen		CBS: Woningmutaties	2006
37. Dominantie levensfase jong alleenstaand		Bewerking RIGO	
38. Dominantie levensfase middelbaar alleenstaand			
39. Aandeel ouderen	Aantal inwoners van 65 jaar of ouder als percentage van het totaal aantal inwoners	CBS/ GBA 2005	
40. Aandeel (gezinnen met) kinderen	Aantal inwoners van 9 jaar of jonger als percentage van het totaal aantal inwoners		

figuur6-3 De gemiddelde bijdrage van de verschillende dimensies aan de score op de Leefbaarometer



Appendix 4.

Leefbaarometer 2.0

			Dimensie	Indicator	Variabelen
A	1	1	Woningen	aandeel woningen voor 1900	aandeel_voor_1900_200m
	2	2		aandeel woningen tussen 1900-1920	p19001920_200m
	3	3		aandeel woningen tussen 1920-1945	p19201940_200m
	4	4		aandeel woningen tussen 1945-1960	P4560_200m
	5	5		aandeel woningen tussen 1961-1971	P6170_200m
	6	6		aandeel woningen tussen 1971-1980	P7180_200m
	7	7		aandeel woningen tussen 1991-2000	P9100_200m
	8	8		aandeel woningen na 2000	P2000_200m
	9	9		historische woningen	dominantie_voor_1900_200m dominantie v
	10	10		dominantie vooroorlogs	dominantievooroorlogs
	11	11		dominantie vroegnaoorlogs	dominantie_vroegnaoorlogs
	12	12		dominantie laat naoorlogs	dominantie_laatnaoorlogs
	13	13		dominantie recent bebouwing	dominantie_recent
	14	14		aandeel eengezins rijwoningen	stedelijkrij
		15		"	nietstedelijkrij
	15	16		grote vrijstaande woningen en tweekappers	stedelijkgrootvrij
		17		"	nietstedelijkgrootvrij
	16	19		middelgrote vrijstaande woningen en tweekappers	midvrij
	17	18		kleine vrijstaande woningen en tweekappers	kleinvrij
	18	20		dominatie vooroorlogs eengezins	dominantievooroorlogs_eg
	19	21		aandeel kleine eengezinswoningen voor 1900	aandeel_klein_eg_80_voor_1900_20
	20	22		aandeel kleine vooroorlogse eengezinswoningen	aandeel_kleinEGvooroorlogs
	21	23		aandeel kleine eengezinswoningen, 1900-1945	aandeel_klein_eg_80_1900_1945_20
	22	24		aandeel kleine eengezinswoningen, 1970-1990	aandeel_kleinEG7090
	23	25		aandeel kleine meergezinswoningen na 1970	aandeel_kleinMGna70
	24	26		aandeel eengezins sociale huur	pegsochuur_dec
	25	27		aandeel eengezins koop	pegkoop_dec
	26	28		aandeel meergezins koop	pmgkoop_dec
B	27	29	Bewoners	aandeel westerse allochtonen	res_westers
	28	30		aandeel Moe-landers	sapmoe
		31		"	res_moelanders
	29	32		aandeel niet-westerse allochtonen	res_nietwesters
	30	33		aandeel Marokkanen	sapmarok
	31	34		aandeel Surinamers	sapsurin
	32	35		aandeel Turken	sapturk
	33	36		aandeel overige niet-westerse allochtonen	res_ntwestov
	34	37		eenoudergezinnen	saphhnee
		38		"	RES_eenouder
	35	39		gezinnen met kinderen	saphhnmpmk
		40		"	res_sapmpmk
	36	41		gezinnen zonder kinderen	saphhnmpzk
	37	42		aandeel arbeidsongeschikten	aandeel_ao_2011_200m
	38	43		aandeel bijstandsgerechtigden	aandeel_bijstand_2011_200m
	39	44		ouderen	ntsted_resbev65
	40	45		ontwikkeling huishoudens	pbevkem9812
	41	46		ontwikkeling 15-24 jarigen	res_ontw1524
	42	47		mutatiegraad	res_muthh3jr
C	43	48	Voorzieningen	afstand tot station	totaal_station2012_afst
		49		"	Totaal_station2011_afst
	44	50		afstand tot overstapstation	overstapstation2012_afst
	45	51		afstand tot oprit snelweg	hfdweg2011_afst
	46	52		aantal huisartsen binnen 3 km	huisarts2012_3km
	47	53		afstand tot dichtstbijzijnde ziekenhuis	ziekenhuis_incl2012_afst
	48	54		aantal bassischolen binnen 1km	basis2012_1km
	49	55		onderwijs en gezondheid (samengestelde index)	FAC3_1
	50	56		aantal café's binnen 1 km	cafe2012_1km
	51	57		café's en cafetaria's (samengestelde index)	FAC2_1
	52	58		aantal restaurants binnen 1 km	restaurant2012_1km
	53	59		aantal winkels dagelijkse boodschappen binnen 1 km	winkelsoverigdagelijks2012_1km
	54	60		horeca en winkels (samengestelde index)	FAC1_1
	55	61		kleinere winkels	kleinerewinkels
	56	62		afstand tot dichtsbijzijnde pinautomaat	pinautom
	57	63		bibliotheek binnen 2km (dummy)	d_bibl_2km
	58	64		aantal podia binnen 10 km	podiumall2012_10km
	59	65		(terrein voor) sociaal-culturele voorzieningen	ligging23_aan25m
	60	66		(terrein voor) dagrecreatieve voorzieningen	ligging43_aan25m
	61	67		stedelijke voorzieningen (niet-stedelijk gebied)	nietsted_fac4
	62	68		stedelijke voorzieningen (stedelijk gebied)	sted_fac4
	63	69		aandeel leegstaande winkels	pverkleeg
	64	70		(toename) afstand tot dichtstbijzijnde zwembad	zwembad_afst20082011
	65	71		supermarkt verdwenen	supermarkt_verdwenen

D	66	72	**Veiligheid**	overlast (samengestelde index)	overlast
		73		"	overlast_kwad
	67	74		ordeverstoringen	ordeverstoring_dec
	68	75		vernielingen	mphksh5
		76		"	vernieling_dec
	69	77		geweldsmisdrijven	geweld_dec
	70	78		berovingen	saphkss2
	71	79		inbraken	sqrt_inbraak
E	72	80	**Fysieke omgeving**	aandeel rijksmonumenten	monumenten_2012_200m
		81		"	monumenten_dichtheid_200m
	73	82		aandeel gebouwen met industriefunctie	aandeel_industriefunctie_200m
	74	83		aandeel gebouwen met bijeenkomstfunctie	aandeel_bijeenkomstfunctie_200m
	75	84		dichtheid	dichtheid_200m
	76	85		ligging aan woonterrein	ligging20_aan25m
	77	86		nabijheid bossen	wbos
	78	87		aandeel groen	oppgroen_pct_200m
	79	88		ligging aan park of plantsoen	ligging40_aan25m
	80	89		ligging aan agrarisch terrein	ligging51_aan25m
	81	90		ligging aan bos	ligging60_aan25m
	82	91		ligging aan open, droog natuurlijk terrein	ligging61_aan25m
	83	92		ligging aan IJsselmeer/ Markermeer	ligging70_aan25m
	84	93		ligging aan recreatief binnenwater	ligging75_aan25m
	85	94		ligging aan (overig) binnenwater	ligging78_aan25m
	86	95		ligging aan Noordzeekust	noordzee
	87	96		nabijheid Noordzee	WNOORDZEE
	88	97		water in de wijk	gwater_dum
	89	98		hoogspanningsmasten	d_hoogs_aan500m
		99		"	d_hoogs_aan500_1500m
		100		"	afstand_hoogspanningskabel_cat
	90	101		windturbines	d_wint_aan500m
		102		"	d_wint_aan500_1500m
		103		"	d_wint_aan1500-2500m
	91	104		geluidsbelasting	geluid_totaal
	92	105		afstand tot hoofdwegennet	afstand_hoofdweg_cat
	93	106		afstand tot snelweg	afstand_autosnelweg_cat
	94	107		aantal treinen (stedelijk gebied)	sted_aantaltreinen
	95	108		ligging aan spoor	ligging10_aan25m
	96	109		ligging aan wegen	ligging11_aan25m
	97	110		nabijheid traject chloortrein	d_cltrein500m
		111		"	d_cltrein500_1500m
	98	112		industrie in de buurt	nietsted_industrie
		113		"	sted_industrie
	99	114		overstromingsrisico	overstromingskans
		115		"	ovrisico
	100	116		aardbevingsrisico	AARDBEVING

.1 **Gewicht per dimensie in de Leefbaarometer**