

Learning loops in the public realm. Enabling social learning in communities to tackle the challenges of cities in transition.

A participatory approach to Societal Cost Benefit Analysis (SCBA) as a way to start the debate on transforming residential subdivisions

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Abstract: Residential subdivisions remain the preferred living environment for the majority of the people living in Flanders. But, this mode of living comes at a high societal cost. These costs are paid by society as a whole, whereas the advantages are only experienced by the residents (De Decker, 2011). In Flanders, there is an ongoing debate on how to reduce these costs since the sixties (Anselin, 1967; Braem, 1967; Strauven, 1980). In spite of this debate, the subdivision of open land continues at a rate of 6 ha each day (De Decker *et al.*, 2010). Our hypothesis is that a societal cost-benefit analysis (SCBA) could benefit a more informed debate. A SCBA analyses the costs and benefits of (spatial) scenarios (ECORYS, 2008, p. 15) and relies on heuristics to translate these costs and benefits, in a transparent way, to a number of (monetary) values. As such a SCBA allows to include perspectives from multiple sectors (e.g. planning, ecology, heritage, mobility) and supports a strategic debate among policy makers. The conducting of a comprehensive SCBA is a complex process. We particularly propose to use SCBA as a dynamic and participatory instrument, that evolves along with the debate. As such, it would no longer only be a decision-support tool for policy makers, but also a capacity building tool that helps participants to reflect over the impact of their current (spatial) behavior and over how to reduce the societal cost of this behavior. In the paper, we will discuss how the participatory SCBA supports the definition of values, the composition of the value framework and the construction of the publics.

Keywords: participatory societal cost benefit analysis; dynamic instrument; value framework; constructing publics

Introduction

Residential subdivisions are the preferred living environment for the majority of inhabitants of Flanders for reasons of privacy, presence of green and overall quietness (studiedienst Vlaamse Regering, 2016). But, this low-density and uniform mode of living comes at a high cost, because it is causing inefficient services, congestion, low biodiversity, car-dependency, social isolation... (Johnson, 2001; Holden, 2004; Vestergaard, 2006; De Decker *et al.*, 2010). These costs are paid by society as a whole, whereas the advantages are only experienced by the residents (De Decker, 2011). Already since the sixties there have been a public debate that discusses the societal costs of low-density subdivisions, in particular the (negative) impact of increasing spatial dispersion (Anselin, 1967, Braem, 1967, Strauven, 1980).



Recently this debate has been gaining renewed attention in Flanders, triggered by the approval of the Spatial Policy Plan for Flanders (white paper) in November 2016. The plan sets a clear ambition to reduce the costs of dispersed urbanization as it claims a ‘net-development-stop’ by 2040 (Ruimte Vlaanderen, 2016). From that moment onwards, the net amount of built surface can no longer increase. A new residential subdivision can only be developed if one of equal size is removed.

In spite of this renewed attention, the subdivision of open land continues at a rate of 6 hectares per day in Flanders (De Decker *et al.*, 2010). With each new subdivision, the costs for society increase (Vermeiren *et al.*, 2019). The task of designers and policy makers to initiate this debate with inhabitants of residential subdivisions is difficult and sensitive because people like their way of living. The hypothesis of this research is that this can take place in a more constructive and informed way (ECORYS, 2008). One way to do this would be to make the costs and benefits of alternative modes of deploying explicit. Therefore, we propose to introduce a so-called ‘participatory Societal Cost Benefit Analysis (participatory SCBA).

In this paper we will first describe the methodology of the participatory SCBA, then sketch the context of the cases in which we will test this method and finally discuss how the participatory SCBA supports the definition of values, the composition of a value framework and the construction of the publics; three conditions to make the debate on the future of residential subdivisions more constructive and informed.

Methodology

The aim of the research is to develop an operational framework that will support the use of a participatory SCBA to come to a constructive and informed debate among actors involved in residential subdivisions (residents, local policy makers, local organizations) on the societal costs of their mode of living and possible tradeoffs between individual and collective costs and benefits. The development of such operational framework requires an iterative process that invites both researchers and residential actors to test tools and approaches and to reflect over experiments and findings. The proposal is therefore to adopt the method of action research (Wicks and Reason, 2009). More specifically, the proposal is to develop the operational framework in two cases: an urbanized neighborhood in the city of Hasselt and a residential subdivision in the municipality of Diepenbeek. The process in the case in Diepenbeek has not been started, therefore we will only discuss the case in Hasselt.

Participatory SCBA

A societal cost benefit analysis (SCBA) is a method to analyze the societal costs and the societal benefits of (spatial) scenarios (ECORYS, 2008, p. 15). It relies on heuristics to translate these costs and benefits, in a transparent way, to a limited number of (monetary) values. As such a SCBA allows including perspectives from multiple sectors (e.g. planning, ecology, heritage, mobility) and supports a strategic debate among policy makers on, for instance, retrofitting strategies.

Conducting a comprehensive SCBA is a complex process. The estimation of the costs and benefits of a scenario implies an insight in the impact of this scenario on the spatial behavior of all relevant actors, today and in the years to come. Practice has demonstrated that “the quantification of only a part of the impact of a scenario can already provide additional insight for policy making. Even the mere adoption of the mode of thinking of an SCBA can already contribute to the success of projects in the social domain” (ECORYS, 2008, p. 13)

Scholars therefore propose to use SCBA as a dynamic instrument which evolves along with the debate (ECORYS, 2008). The more data are available, the more nuanced the estimations will be, and the more interesting the SCBA becomes as a decision support tool. Interpreted as such, conducting an SCBA is, in fact, a collective learning process (Albrechts, 2004) during which all the involved actors incrementally explore and agree upon how to quantify the impact of spatial scenarios. The learning potential of this process increases from the moment that not

only policy makers, but also developers, residents, non-profit organizations... are invited to participate. In the words of Horelli (2002) this would turn an SCBA into an ‘enabling tool’ that supports ‘communicative transactions’ between all actors involved in a spatial transformation process.

There are examples of research where local stakeholders are consulted in the process of a monetary assessment with the aim to implement local knowledge in order to develop alternatives that are more adapted to the local context and have higher chances to be accepted by the local community (Carolus *et al.*, 2018, Sager, 1979). In this research, however, the aim is not only to add the participative or deliberative aspect in to the assessment in order to make better informed decisions (Carnoye and Lopes, 2015), but to implement the assessment aspect in the participatory process to make the debate on societal costs and benefits of dispersed modes of dwelling more articulated in order to give form to a more constructive and informed debate.

Our hypothesis is that a participatory SCBA can make the debate more constructive and informed in three ways:

1. *Making values visible*: In the first stage of the participatory SCBA, the ideals, the participants are asked to define “what should be”. When the participants formulate an answer to this question, it will reveal their values. (Brown and Lambert, 2013). Values and ideals are closely related: when people express what their ideal neighborhood should look like, they say what they value (safety, green, accessibility ...). These values will be used as a framework to assess the cost and benefits of the alternative scenarios during the process. The debate on the societal costs of residential subdivisions often stops on confused communication. We use the same words but we give it another interpretation, for instance, sustainability: for one person it means a well-insulated house, while for others it means to live close by public transportation. SCBA can help to make these values more concrete by translating them in measurable indicators and let people talk the same language.
2. *Composing a value framework*: a second reason for the roughness of the debate, is the mixture of highly individual and universal arguments. SCBA can help to prioritize the arguments and by doing so, defining a value framework: a hierarchy of values. This is an essential condition for the process of tradeoffs between individual and collective values. In the participatory process is the SCBA used to make the implicit process of defining a value framework explicit in an early stage of the research by bringing the definition of the values in the debate. Not only for the participants, but also for the action researcher who is as much a part as the process as the participants are. As researchers, we are all subject to social mindsets (by our own knowledge and how we act upon it) in which the framework is defined (Swann, 2002) and we have to be clear about the values that inform our everyday practices and our research stance (McNiff, 2017).
3. *Constructing of the publics*: The public is a concept from the pragmatist Dewey and is defined by him as “the public consists of all those who are affected by the indirect consequences of transactions to such an extent that it is deemed necessary to have those consequences systematically cared for” (Dewey, 1954). Publics originate in response to issues related to the specific context in which they are experienced and multiple publics can come from a single issue (DiSalvo, 2009). In the stage of the ‘Facts’, the participants define the bottlenecks and opportunities of the neighborhood and thus define which issues there are at stake. When one alternative scenario is tested in a real place in the neighborhood, this will also have an effect on the daily life of people who were not involved in the process yet and new publics will be constructed.

Defined in this way, a participatory SCBA is no longer only a decision support tool for policy makers, but also a capacity-building tool that helps participants to reflect on the impact of their current (spatial) behavior and how to reduce the societal cost of this behavior. Applied to residential subdivisions, to conduct a participatory SCBA would imply to initiate a process during which a diversity of actors, linked to a particular residential subdivision, collectively assesses alternative futures for this subdivision.

To develop a participatory SCBA in this way, we adopt the collective learning framework of Brown and Lambert (2013) who argue that a durable collective learning process requires that the learning collective goes through four stages: ideals, facts, ideas and actions. The four stages form the basis of the operational framework of the participatory SCBA, however, we have adopted it in order to include the different stages of a CBA with key figures (Eijgenraam et al., 2000) and implemented the three ways to make the debate more constructive and informed (Figure 1).

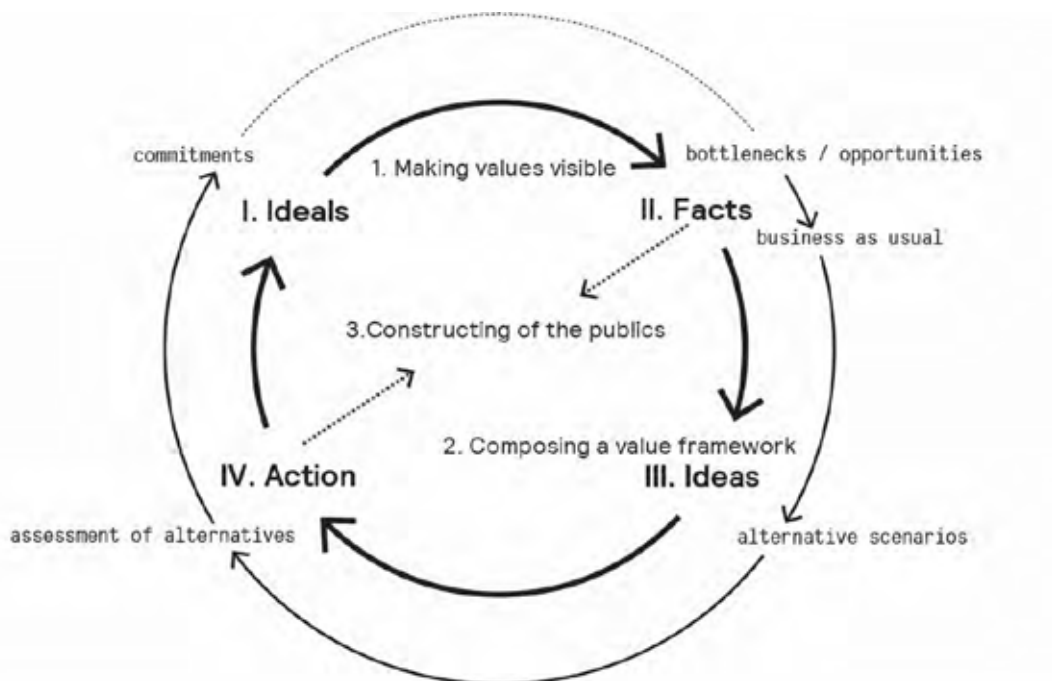


Figure 1: Operational framework participatory SCBA

By going through this process of collective learning, the stakeholders will gain insight in the societal impact of their dispersed mode of living and take action on this situation in order to come to a social spatial change through spatial interventions (DiSalvo, 2009).

Our aim is to test this operational framework by implementing it into the participatory processes of two cases.

Context



Figure 2: situation cases in Belgium

The research will take place in two cases studies both situated in the eastern part of Belgium, in the province of Limburg (Figure 2). The context of the cases is different in order to test the possibility of transformation strategies on multiple levels: from the level of the subdivision to the level of the region. The later would allow us to examine the potential trade-offs between municipalities in decision-making on where and how to build or to remove built space. In this paper, we focus on the level of the subdivision and more specific the Heilig-Hartwijk in Hasselt.

Case Heilig-Hartwijk in Hasselt

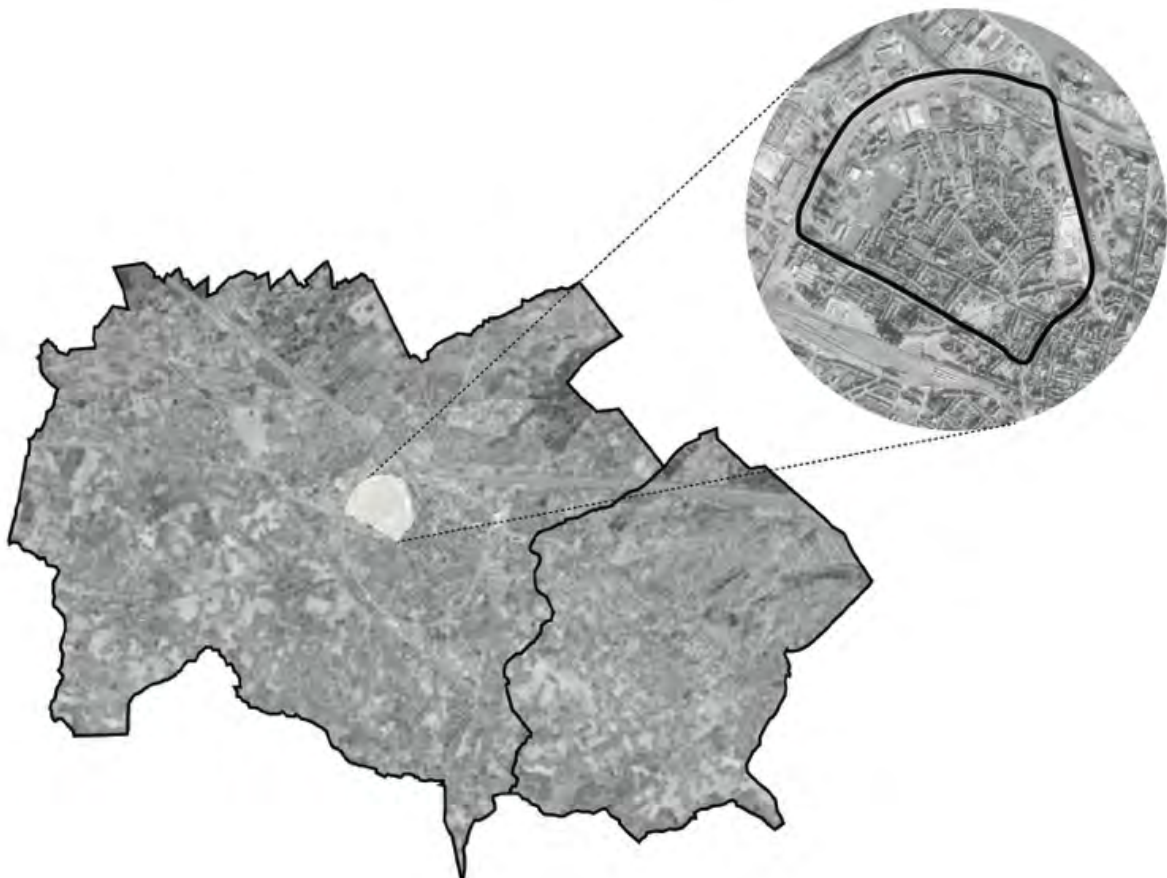


Figure 3: location Heilig-Hartwijk

The Heilig-Hartwijk is located close to the city center of a Hasselt, the capital of the province of Limburg (Figure 3). The neighborhood is surrounded by a railway station in the south, a larger ring road in the west and north part and a former industrial site (in transformation to a residential area) and a smaller ring road in the east part. The morphology of the neighborhood is diverse: detached-houses, row houses, apartment blocks... and services that go beyond the scope of the neighborhood (three schools, a mosque, a church, a sports center, SME's ...). The process of the Heilig-Hartwijk is part of a bigger project "Werken aan Wijken" (Dutch for Building on Neighborhoods) and is formalized in a contract between the Hasselt University and the city of Hasselt to conduct participatory processes in three different neighborhoods. The aim is to organize a collective learning process during which the policy makers, the city administration, key stakeholders, the developers, designers and inhabitants together learn how to coop with the tensions between societal and individual agendas. In this neighborhood we particularly work on the tension between the ambition of the city to densify this neighborhood (located close to a public transport hub) and the fear of the residents that this densification will reduce the livability of their neighborhood caused by increased car traffic and reduced open space.

Before the participatory process was started, there were already two groups of citizens active in the neighborhood: "Achter het Lijmfabriek" (Dutch for "behind the glue factory") and the group we named "The Parents". Achter Het Lijmfabriek originated in a reaction to the difficult communication with the city. They want the city to guarantee the livability of their neighborhood, until then they will fight against every new urban project in their neighborhood. Their strategy is formal: they organize public debates, submit appeals, ask formal questions about projects... Their main values are safety, mobility (in specific car accessibility) and authenticity. Although they were only recently established (end of 2017), they already have a large number of followers of mainly older inhabitants who have lived in the neighborhood for quite some time and have seen 'their' neighborhood change at a high speed.

The Parents are formed by the parent committees of the schools in the neighborhood and the neighborhood committee of one specific street. They are not all parents of young children, but their normative framework is defined by the place of the children within the neighborhood: they are concerned about sustainability, quality of life, safety... They have consciously chosen to live close to the city center because it aligns with their values. The future transformation that they see, depends more on the global tendency towards a sustainable lifestyle in a livable city and depends less on the ideology to conserve the existing characteristics of the neighborhood. They are organized in a more informal way.

Besides these two groups of citizens, there are also the groups we named "The Church", "The Lost Souls", the politicians and the experts. The Church is a diverse group of people who still attend the mass, the people that live in the direct surroundings and the ones that are interested in thinking about a new function for it (as the church will be available soon due to the decrease of people attending the mass). They have a shared concern: keep the church as a meeting place for the neighborhood. Finding a new function for the church is part of the participatory process, but follows its own methodology and plays a smaller role in this research. The Lost Souls are the ones that are not represented (yet) in the participatory process: the future inhabitants, the visitors, the ones that do not have the time or need to participate ... The politicians are the alderman and the mayor of the city. The experts are the people that define the process by content and approach: the city administration of several departments (mobility, spatial planning, communication, culture...), the researchers and the design team.

Discussion

The research is still in an early stage: we are half way the process. However, it is possible to describe to what extend our participatory SCBA, as defined in our operational framework, may support to make values visible, to compose a value framework and to construct publics.

Making values visible

The participants reveal their values in the first stage of the participatory SCBA when they express what their ideal neighborhood should look like. This process of defining values continues the second stage, when we collect the facts because their values define which facts the participants want to talk about and which fact they do not want to talk about. The interaction between expressing the ideal neighborhood in the first stage and collecting the facts in the second stage results in a more precise definition of their values.

Already from the start, the process in the Heilig-Hartwijk was value-driven as the representatives of 'Achter Het Lijmfabriek' were very explicit about their values. By dividing the participants in different groups, we tried to let all the participants look at the neighborhood from different perspectives (visitors, children, inhabitant ...) in order to let them bring their own values to the table and define what a livable neighborhood means to them. The different values were defined in general terms and therefore did not lead to tensions between the different groups of participants. When the process continued, it became clear that the participants do have a different interpretation of the same generic values: some participants value green space because the current green space disappears as the neighborhood is becoming denser (and they are against it) while others value green space because it improves the livability of the neighborhood. We also observed that, after every meeting, participants narrowed down their arguments to one central value in order to make their case: they only talk about the livability of the neighborhood in terms of "how easy can I park my car in front of my house?". The SCBA helped, each time, to re-introduce alternative values and open up the process again.

Composing a value framework

In the third stage of the process, the Ideas, will the participants define alternative scenarios for the transformation of their neighborhood. The next step is to choose which alternative scenario will be used for the test set-up, in the Action stage. In order to make this choice, they have to take all their values in consideration and prioritize them, thus composing a value framework.

In the Heilig-Hartwijk it was difficult to prioritize the values because some groups will only talk about one value. And they only use the value framework (or in some cases only one value) for the assessment. The participants did not take it one step further and used it to make tradeoffs between benefits and costs. Although we tried to do this exercise, the participants only define alternatives that apply the costs to the ones that are not (yet) involved in the process without any tradeoff beneficiary for the community. They want, for instance, to ban unwanted traffic out their neighborhood by literally let them pay when they still drive through the neighborhood and it is less prior to them if a new or bigger public space is implemented in the alternative scenario.

Constructing publics

The constructing of publics is related to the stage of the Facts, when the different groups define the bottlenecks and opportunities or the issues that are present in the neighborhood. But also in the Action stage, when we will create a test setup of the chosen alternative scenario for at least one month in an actual location in the neighborhood and intervene in the daily life of the participants but also, and even more important, in that of The Lost Souls.

Achter Het Lijmfabriek is a public that was already formed before the participation process, in reaction to the difficult communication with the local policy. The Parents share a same value framework; however, they are still in the process of constructing a public. The participatory SCBA can help The Parents to define their public by making their value framework explicit and in doing so, increase their impact in the process.

As researcher we try to facilitate the creation of these alliances. That is why, for instance, we will try to elicit the different value frameworks of Achter Het Lijmfabriek, The Parents but also The Lost Souls, during the test setup. When the issue is identified and articulated, it can help the public to be formed (DiSalvo, 2009). By doing so, the

participatory SCBA is used to facilitate the constructing of different publics. The researcher as facilitator of the constructing of a public is essential to emphasize: we can only facilitate a public by an action, the action of the formation of a public is a task of its own (DiSalvo, 2009).

When the different publics use their value framework to assess the test setup and define which cost and benefits are for whom, it establishes how they and the other publics are affected (Sager, 1979) which can trigger the discussion on tradeoffs and take the debate to the level of the societal costs and benefits.

Conclusion

We started from the hypothesis that a participatory SCBA could benefit a more constructive and informed debate on societal costs of a dispersed modes of living in three ways: making values visible, composing a value framework and constructing publics. We have developed an operational framework for the participatory SCBA that departs from the principle of collective learning for transformational change (Brown and Lambert, 2013) and tested this framework it in the Heilig-Hartwijk in Hasselt.

These are the findings of this first test:

1. Making values visible: we used a collective approach to define the values of the participants in the first stage (Ideals) of the process. The Participatory SCBA indeed helps to define the values, but at the same time makes clear that the interpretation of the values can change throughout the process: they can become vaguer, the meaning can change... People are not trained to elicit their values and apparently do not have a clear image of their ideal living environment and thus this will require some help (of designers).
2. Composing a value framework: The participatory SCBA enables to make the different value frameworks explicit already in the beginning of the process but the participants of the Heilig-Hartwijk case did not use it to make tradeoffs up till now. We observed that after every meeting participants narrow down their arguments to one central value in order to make their case. The participatory SCBA helps to re-introduce alternative values and open up the process again.
3. Constructing publics: the participatory SCBA facilitates the construction of different publics in two ways: it helps existing publics to become more organized to increase their voice in the participatory process and it can lead to the formation of new publics if the consequences are experienced in a concrete action. These are '*light publics*': they exist during the action but disappear afterwards (Soenen, 2006)

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