

## Online Territorial Consultation Tool

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### 1 ABSTRACT

Spatial planning plays an important role in shaping places and cities in which people live and work. As planning affects the lives of people, it is obvious that people should be involved in the planning process. Based on a complex planning process in the Northern Fringe of Brussels, this paper discusses firstly the data exchange on projects between two Belgian regions: the Project Monitor. Within this initiative a visual overview is given on all the running projects in this cross-border area.

Secondly, it discusses the use and the results of an online public consultation tool. This online territorial consultation tool has been developed in order to let inhabitants and users of the Northern Fringe of Brussels express their opinion on the area. The goal of this initiative is to gather local (territorial) knowledge and to involve and get people enthusiastic about the TOP project. An online consultation has been started where people can indicate on a map which areas within the Northern Fringe of Brussels they like, and which ones they think need a little work. This paper will discuss the results of the online consultation which has been open from the 6th of November 2014 until the 15th of January 2015.

Finally, it investigates how an interactive tool can enhance the collaboration between stakeholders.

### 2 INTRODUCTION

Brussels is the most metropolitan city in Belgium and its influence spreads out in both the Brussels Capital Region as well as in the Flemish region.<sup>1</sup> Issues for this metropolitan area are, among others, future demographic growth, resource efficiency, lack of resilient green infrastructures, congestion and enhancement of the economic development. Cooperation with different partners and stakeholders from different sectors, policy levels and across the regional borders of this area is key to tackling these challenges. Being one of the most dynamic spaces in the metropolitan area, the northern fringe of Brussels was identified as a crucial area and will also serve as a testcase for territorial principles that should be included within the spatial policy plan of the region of Flanders.

#### 2.1 Territorial Development Programme

The Spatial Development Department Flanders has started a Territorial Development Program (TOP Northern Fringe) together with the BrusselsCapital Region, the Public Waste Agency of Flanders (OVAM) and the province of Vlaams Brabant focusing on this northern border of Brussels. TOP Northern Fringe is a collaborative approach to planning, with participation as core principle. It aims at a shared vision for the territory between stakeholders and at a shared plan of actions and projects for the territory for the short term and the long term. Stakeholders are co-producers of the TOP Northern Fringe programme, each organisation whether it is public, private or an individual person that has „something to gain or to lose“ is considered a stakeholder. In order to achieve this co-creation four workshops with a broad set of stakeholders have been organised.

The Northern Fringe is composed of (parts of) the municipalities of Brussels, Evere, Grimbergen, Machelen, Schaarbeek, Vilvoorde and Zaventem.

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<sup>1</sup> Through constitutional reforms in the 1980's, Belgium became a federal state consisting of three Regions (Flemish, Walloon and the Brussels-Capital Region, referring to the name of the territory they represent) and three Communities (Flemish, French and German speaking community, based on the language). Each Region and Community has certain competences. Spatial Planning is a competence for the Regions. "When the borders between the Regions were drawn, most of the urban area of Brussels was incorporated into the Brussels-Capital Region, surrounded by the region of Flanders, but not all. Its Northern Fringe, including Brussels National Airport, "spills over" into Flanders. Both parts of the Northern Fringe have seen diverging spatial policies since the 1980's" (Vandaele, 2014).

## 2.2 Outline of the paper

The first part of this paper will focus on planning, participation and crowdsourcing. It shows how participation can be utilised within a spatial planning process in order to enhance the proposed actions and create a broad support for the interventions. A further zoom will be done on the tool of crowdsourcing within a participative approach and the advantages it can have.

The second part will explain the concept of the Project Monitor: an initiative between the Brussels and the Flemish region to keep each other up to date about the different starting and running projects in the area of the Northern Fringe.

The third part will discuss the online public consultation tool. This tool uses crowdsourcing to acquire local knowledge about the Northern Fringe. It will discuss the setting up and the results of the consultation .

In the conclusion we will summarise the advantages and disadvantages of crowdsourcing and make a critical reflection on both the project monitor and the online public participation tool. Possible further developments for the future will be suggested.

## 3 PLANNING, PARTICIPATION AND CROWDSOURCING

The discipline of spatial planning plays a role in shaping the cities in which we live. But planning should obviously not only be focused on the built environment, as cities are complex systems in “which only some aspects express themselves in terms of physical buildings or locational arrangements” (Reeves, 2005: 51). As people live in the cities that planners modify or design, it is only natural that involvement of those people is required in the planning process. Moreover, the people who live in the city or the users of the city have a valuable specific knowledge of the place. This idea of public participation and involvement is not new. Arnstein identified in 1969 several degrees of citizen participation by introducing a “ladder” of citizen participation. This ladder shows that there can be more or less participation (Taylor, 1998: 89).

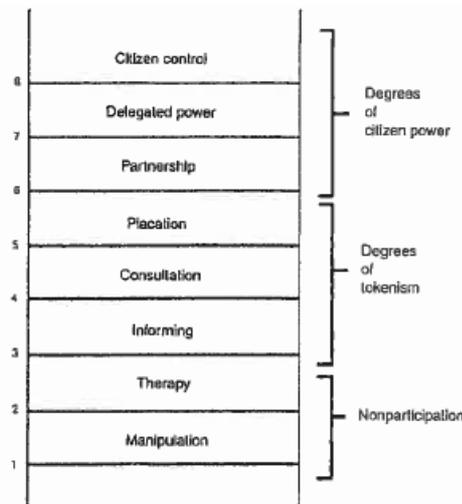


Fig. 1: Participation Ladder, according to Arnstein (1969) (Taylor, 1998: 89)

There are several approaches to planning such as economic, physical, public administration, etc..., but one approach has participation as a core principle and that is the collaborative planning approach (Reeves, 2005: 39 and 131). A collaborative planning approach aims at a relation of partnership with stakeholders from different fields. Collaborative planning “recognizes the need to make use of expertise from both professionals and communities of interest in order to identify key planning problems and appropriate solutions which are owned by everyone” (Reeves, 2005: 59).

An interesting web based phenomenon in the context of knowledge acquisition from the crowd and reliance on the problem solving abilities of the crowd is “crowdsourcing”. There are several definitions for the word “crowdsourcing”. Howe defines crowdsourcing as the act of a company or institution taking a function once performed by employees and outsourcing it to an undefined network in the form of an open call (Howe, 2006). Zhao and Zhu recognize that crowdsourcing can facilitate the connectivity and collaboration of people, organizations, and societies: crowdsourcing is based on the concept that virtually everyone has a potential to plug valuable information and it seeks to mobilize competence and expertise (Zhao, Zhu, 2012).

Estellès-Arolas and González-Ladrón-de-Guevara analyzed several existing definitions and propose an exhaustive and consistent definition: “Crowdsourcing is a type of participative online activity in which an individual, an institution, a non-profit organization, or company proposes to a group of individuals of varying knowledge, heterogeneity, and number, via a flexible open call, the voluntary undertaking of a task. The undertaking of the task, of variable complexity and modularity, and in which the crowd should participate bringing their work, money, knowledge and/or experience, always entails mutual benefit. The user will receive satisfaction of a given type of need, be it economic, social recognition, self-esteem, or the development of individual skills, while the crowdsourcer will obtain and utilize to their advantage that what the user has brought to the venture, whose form will depend on the type of activity undertaken” (Estellès-Arolas, González-Ladrón-de-Guevara, 2012). In short, the process of crowdsourcing is as follows: “the online release of the problem, the generation of alternative solutions by the crowd (participants), the evaluation of the proposed solutions, the selection of the best provided solution and the exploitation of the selected solution by the company or institution that initially posted the problem online” (Papadopoulou, Giaoutzi, 2014: 112). In the context of spatial planning, crowdsourcing introduces e-participation in the planning process and a great number of applications have been designed to serve different planning purposes (Papadopoulou, Giaoutzi, 2014: 115). For example, the impact of environmental characteristics on people’s affective responses can be studied by gathering affective responses (Klettner, Huang, et al., 2013) or psychological maps of inhabitants can be drawn and analysed (Quercia, Pesce, et al., 2013). In some cases the main purpose of the web application is the involvement of stakeholders and the concern is then to reach a consensus among stakeholders, by discussing, sharing content and knowledge and using maps. If the focus of the participation process is mainly on the communal use of maps and sharing knowledge through maps a special form of participation is used: it is called PGIS, or Participatory GIS. PGIS is a form of participatory spatial planning which makes use of maps and other geo-information output, especially using GIS (McCall & Dunn, 2012:82) In other cases, citizens may participate even during the design stage of a platform through which a web community can be created (Papadopoulou, Giaoutzi, 2014: 115). In short, for crowdsourcing in a planning context it is important to stress the important “role of maps as a means of communication amongst users and planners” (Papadopoulou, Giaoutzi, 2014: 116).

The project TOP Northern Fringe, that initiated the Project Monitor and the online territorial consultation tool, explores the possibilities of a collaborative planning approach. The TOP Northern Fringe project knows several degrees of participation, but it aims at a partnership with stakeholders. In the planning process, several design workshops are organized to bring the stakeholders from different fields (administration, private sector, owners, and organizations) together in order to elaborate a common vision and plan of actions for the territory. Interactive tools, such as the Project Monitor and the online territorial consultation tool are examples of crowdsourcing. The first objective of the Project Monitor is the exchange of information between stakeholders; the second is to find synergies between the projects. The online territorial consultation tool aims at collecting knowledge from the crowd. Ideas for further development are still being discussed and will be elaborated in the final part of this paper.

## 4 PROJECT MONITOR

### 4.1 Exchange of information between partners

A first step towards collaboration between stakeholders is no doubt the exchange of up to date information. Therefore, one of the actions within the TOP Northern Fringe project was to start a Project Monitor. The Northern Fringe is a complex and dynamic area where a huge amount of projects is ongoing or starting up with a multitude of involved actors. All these different projects have their own, sometimes contradictory, goals and their own, sometimes overlapping, territories. In order to streamline these projects and find possible synergies a cross-regional Project Monitor has been started. In this Monitor information on ongoing projects can be found. The major advantage of the Project Monitor is that it works on the basis of a map, so all the different projects can spatially be determined, while specific attributes on the projects can be associated. The final goal is to get a spatial overview of all the ongoing projects and the potential impact they have on each other. The necessary data is collected and distributed by both the Flemish region and the Brussels Capital Region for its respective territory.

## 4.2 Making sense of a complex situation

While the total area of the Northern Fringe is not that large, a bewildering amount of, often overlapping, projects is taking place. In some cases, a masterplan comprehends several interrelated projects. In other cases, for one particular spot several projects can be identified, but they are developed independently. To add to the complexity of the Northern Fringe, many sites are obsolete and vacant –this is due to the industrial history of the area. In order to prepare these vacant and obsolete sites for redevelopment a brownfield agreement is established between the Flemish Government and the private sector. That is why the Project Monitor is not only a list of projects that are taking place in the area, but an interactive territorial tool in which the geographic component is crucial. In order to be able to make sense of all the different projects a good overview on a map is important. Moreover, the background information of all these different projects is made available by simply clicking on a location. A pop-up will then appear showing all the relevant data and providing a link, if available, to the website of that project. In the case of a complex group of projects overlapping each other in one place, like described above, a series of pop-ups will appear each describing one of the several projects taking place in that area. In order to be able to do this the initial descriptive project fiches have been transferred to a geodatabase.

The possibilities as described above are already available with standard GIS systems. But because not everyone has the knowhow or ability to work with GIS software a website is under development to provide a simple map component showing all the different ongoing projects. This will make sure that every stakeholder involved in the TOP Northern Fringe project will be able to get an overview of all the projects, but more importantly, the stakeholders will see for their own project whether or not there are overlapping or neighbouring projects that might give cause for synergies.

## 5 ONLINE PUBLIC CONSULTATION TOOL

There are several goals of the online public consultation tool. First of all, we want to gather the local territorial knowledge of the users (with ‘users’ we mean people who are born there, who grew up there, who live there, who work there or who go to school there) of this area. Secondly, we want to involve the local users and give them the opportunity to participate in the TOP Northern Fringe project. Finally, the consultation tool will be (literally) used to put the Northern Fringe of Brussels on the map and to start creating an identity for this area and a sense of ownership for the people who live there.

It is important to note here that the results of the online public consultation tool did not have the aim of being a representative overview of the opinion of all the people who use the Northern Fringe of Brussels. Most community initiatives have a very small and limited involvement that tends to be biased against poor people, members of ethnic minorities, women, old and young people and others facing particular discrimination (Croft and Beresford, 1992). Although through the communication campaign efforts were made to reach as many people as possible, participating in such an online consultation requires a certain amount of material facilities as well as competences that no doubt exclude a certain part of the population. People need a computer and internet access, should be able to work with them and be able to locate specific sites on a map.

### 5.1 Preparation

The main question within the consultation was to indicate on a map a place that is liked by the respondent or a place that could be improved. Besides this main question several background questions were asked in order to categorise the respondents, like age and connection to the area. This questionnaire was deliberately as short as possible in order to engage as many people as possible without scaring them away with a too elaborate questionnaire. A communication campaign was started once the consultation tool was online. The direct stakeholders in the TOP project were asked through mail to campaign for the consultation tool, a news item was sent to all the main newspapers in Belgium and to the regional news in the area and a Facebook campaign was also started specifically focussing on people who live or work in the Northern Fringe.

### 5.2 Consultation and geo-information

According to McCall & Dunn (2012), the online territorial consultation tool as used within the territorial development programme of the Northern Fringe belongs in the exploration phase of a spatial planning and management proces. In this exploration phase, spatial problems and conflicts are recorded, described and measured. The spatial boundaries and time bounds of these problems and conflicts are recorded by defining

locations, but also by recording the spatial ranges of actors. Working with web-based GIS like google earth but also like the online territorial consultation tool facilitates the potential to interact effectively and cheaply with vast numbers of users (McCall & Dunn, 2012).

If we look more in detail to the different types of participation on the participation ladder (Arnstein, 1969, McCall, 2003) we can see that the online consultation tool can be situated between "information sharing" in which a two-way communication between insiders and outsiders is established and "consultation" in which locals can refine or prioritise external ideas. This last step on the ladder works with mapping local needs and priorities.

### 5.3 Results

A total of 2.500 website views resulted in 322 added places. A number of these places were however double posted (a result of the fact that posts were checked to refuse insulting posts) resulting in a total of 279 posts which will be analysed in the following section.

There is an almost equal division between places which are posted that are liked (139) and places that need improvement (140). Figure 2 gives an overview of the added places that were liked and the places that needed improvement.



Fig. 2: Overview results online territorial consultation tool

#### 5.3.1 Themes

In order to analyse the responses, a number of distinct themes was made on the basis of the responses. A total of 15 themes were determined in which the theme "Green Space" was mentioned the most (84 times). The subsequent places were taken by "Mobility – Car" (32), "Mobility – Bike" (23) and "Safety" (23). In figure 3 an overview can be seen of the different themes, how often they were mentioned and whether it was a place that was liked or if it was a place that needed improvement. A clear distinction can be made between those themes that are associated by the participants with liked places and those themes that are associated with places that could be improved. For the themes "Architecture", "Green Space", "Personal", "Recreation" and "Services" mostly liked places were indicated. For the themes "Noise", "Redevelopment", "Spatial Design", "Airquality", "Mobility – Car", "Mobility – Bike", "Mobility – Public", "Neatness" and "Safety" mainly places that could be improved were indicated. For the theme "Economic development" the distribution was equal.

### 5.3.2 Characteristics of the respondents

Regarding the question of age 265 out of the 279 respondents have answered. The classes 0-10 and 80+ did not have any respondents, the class of 30-40 was the biggest (110), followed by 40-50 (61) and 20-30 (52). If a division is made based on age of the type of places added, the 20-30 year olds are more positive and have added more places which are liked, while the 40-50 year olds added more places that could be improved. Within the category of 30-40 year old an equal number of places have been added.

All of the age categories added the most places in the category "Green space". The 20-30 year old place the theme "Recreation" on second place, while the themes "Spatial Design", "Mobility – Car" and "Personal" are third. Both the 30-40, the 40-50 and 60-70 year old place the theme of "Mobility – Car" second. For the 60-70 year old the theme "Spatial Design" is also on second place. The third places are "Safety" for 30-40, "Redevelopment" and "Mobility – Bike" for 40-50, "Personal" for 50-60 and "Mobility – Bike" and "Mobility – Public" for 60-70 year old age category.

The division of language used is very unequal. The biggest part of the respondents used the Dutch language (237), while only 39 respondents answered in French. Only 3 respondents used the English language to complete the questionnaire. As stated above this result jeopardises the representativeness of the questionnaire. A possible reason for this disparity is the fact that the communication campaign was more intense in the Flemish region as opposed to the Brussels region.

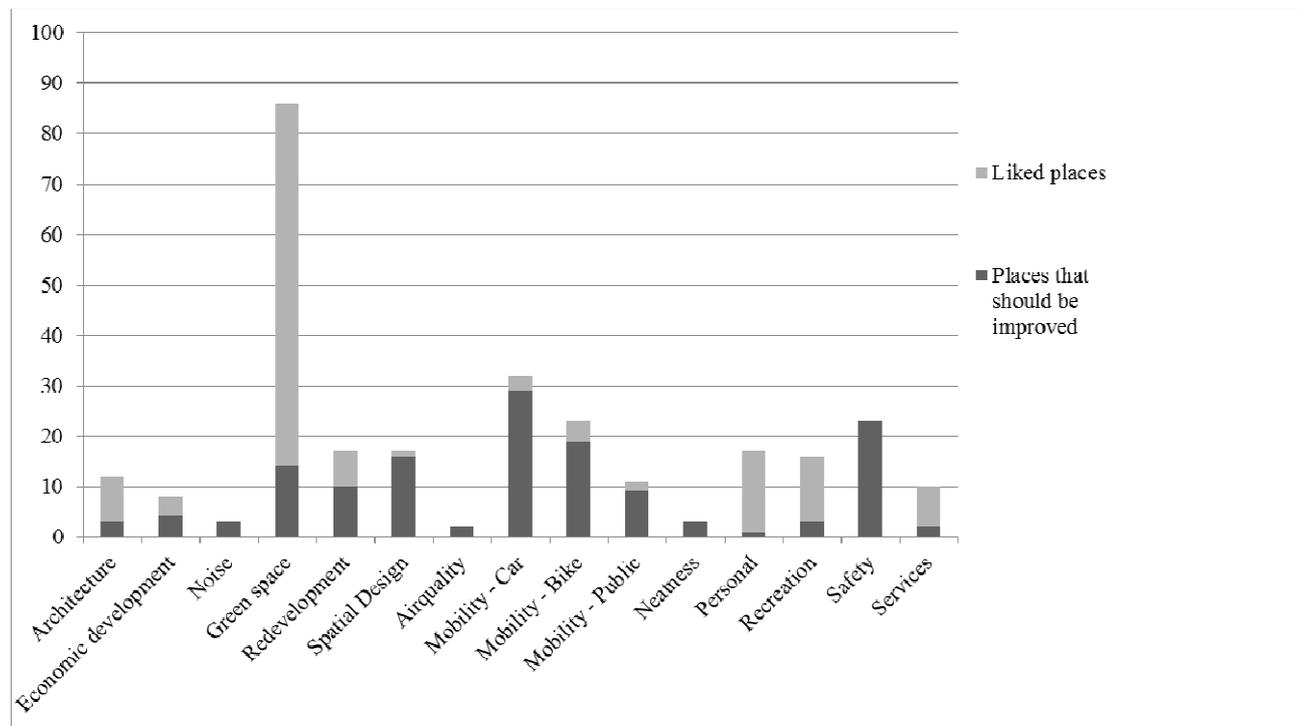


Fig. 3: Overview of places that are liked and places that need improvement by theme

### 5.3.3 Connection to the area

The respondents could indicate what their connection with the area was, multiple answers were possible. 145 people indicated they lived in the area, 63 people worked there, 47 grew up there, 18 were born there and 10 went to school there. 60 people did not fill in this question. It is interesting to see if the type of connection with the area influences the type of response. People who were born there and/or grew up there are more positive about the area and added more places they liked. People who work or go to school in the Northern Fringe added more places that should be improved.

If an analysis is made between the connection to the area and the theme of place that is liked or that should be improved, all of the different connection groups added the most places within the theme "Green space" except the group that went to school in the area they had "Safety" on the first place. The people that were born there had "Personal" second and "Recreation" third. For the people who grew up there this is respectively "Personal" and "Mobility – Bike". People who go to school there have "Mobility – Bike" second and "Architecture" third. The people who work there find "Mobility – Car" and "Security" second and third

most important. The people who live there put "Security" second and "Mobility – Car" third. The people that did not indicate their connection with the area placed "Mobility- Bike" second and "Mobility – Car" and "Redevelopment" third.

One third of the respondents is living in the Northern Fringe, the others are mainly originating from the municipalities directly surrounding the Northern Fringe.

#### 5.4 Spatial Statistical Analysis

Based on the spatial spread of the places added within the online territorial consultation tool a spatial analysis can be done. Visually it can already be stated that more places are added in the North-western part of the area against the South-eastern part.

To test this visual observation a density cluster analysis has been conducted using the ArcGIS "Hotspot analysis" function. This function will produce 'hotspots' (areas with relatively more places added) and 'cold spots' (areas with relatively few places added). The resulting map confirms the visual observation by indicating a zone in the Western part of the research area and a zone in the Northern part as "hotspot" while marking the eastern part as "cold spot".

When a more in depth analyses is made by separating the liked places from the places which need improvement the image shifts slightly. In figure 4 it can be clearly seen that the "hotspot" in the North, located above the municipality of Vilvoorde remains. Places which are added in this area mention the green space of "Domein Drie Fonteinen" and the industrial architecture south of the Ring. The redevelopment of the area between the Canal and the Zenne is also appreciated. The hotspot in the West is caused by the great number of places added to praise the green nature of the "Beverbos", the different parks around the Atomium like "Ossegempark", "Park van Laken" and "Bloemist van Stuyvenberg" as well as the Atomium and the site of Expo '50. Areas that obviously lack favourite spots are the military airport, the area around Brucargo and Machelen, the area around the crossing of the highway E40 and the ring road around Brussels and the NATO site together with the area around the cemeteries of Brussels and Evere. This last lack of added favourite places could also be explained by the underrepresentation of participants of the Brussels communities.

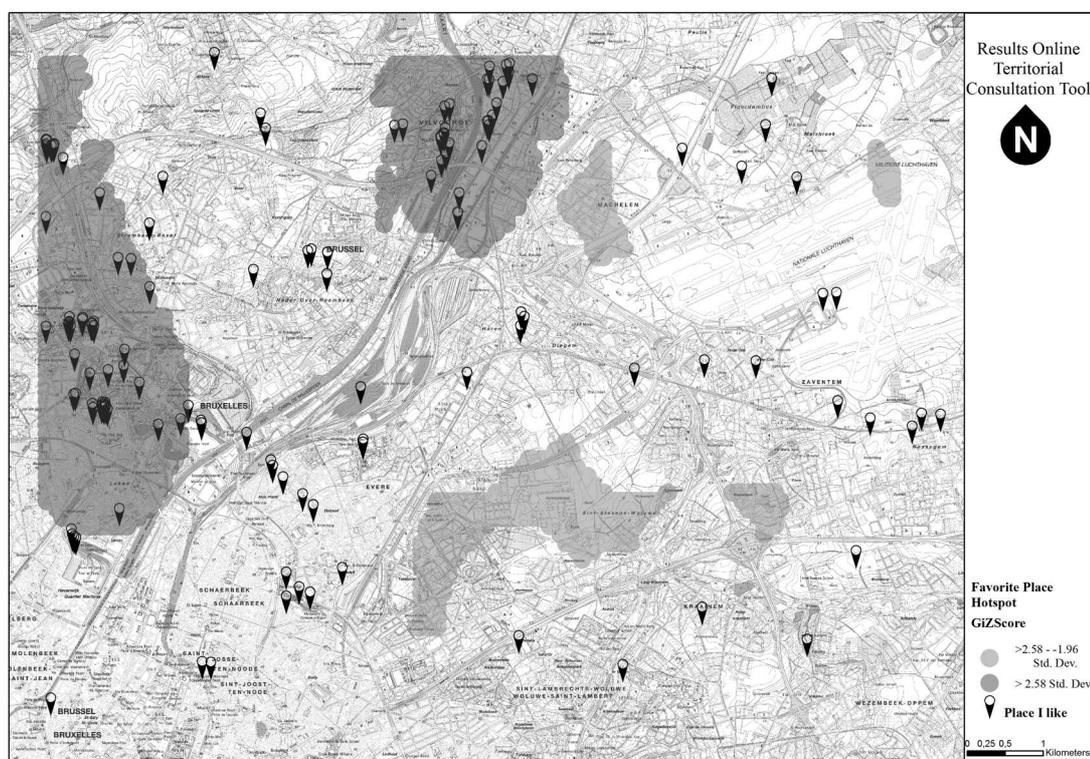


Figure 4: Hotspot analysis for the liked places

These results tell us not only something about the places that people like, it shows us as well which places are generally known by the participants and which places attract little or no attention. Indeed, it is possible to assume that spots on the map with no icons, are not very significant to the participants –or at least they feel

neutral about it. It seems striking that in the North East of the map, there are no icons, whereas there is some green space in that area (“Woluweveld”). This is striking because green space generally received a lot of positive responses.

If the focus is shifted towards the places that need improvement, again a cluster in the North can be distinguished which focuses on the area of the municipality of Vilvoorde around the Canal. Remarks concentrate on the bad state of footpaths and bicycle lanes, the dangerous traffic situation for cyclist, lack of parking space, the amount of cut through traffic, the bad shape of the railway station of Vilvoorde and the lack of facilities in the quarter of Kassei. In the West the cluster stretches from the centre of Brussels, over the Canal and Tour & Taxi until the Heizel. Participants added places that need improvement about the lack of green space, noise of the airplanes, lack of development or unwanted development like the new football stadium or the shopping centres, lack of public transport, the need to make the royal park a public park and too much and dangerous traffic. See figure 5 for an overview.

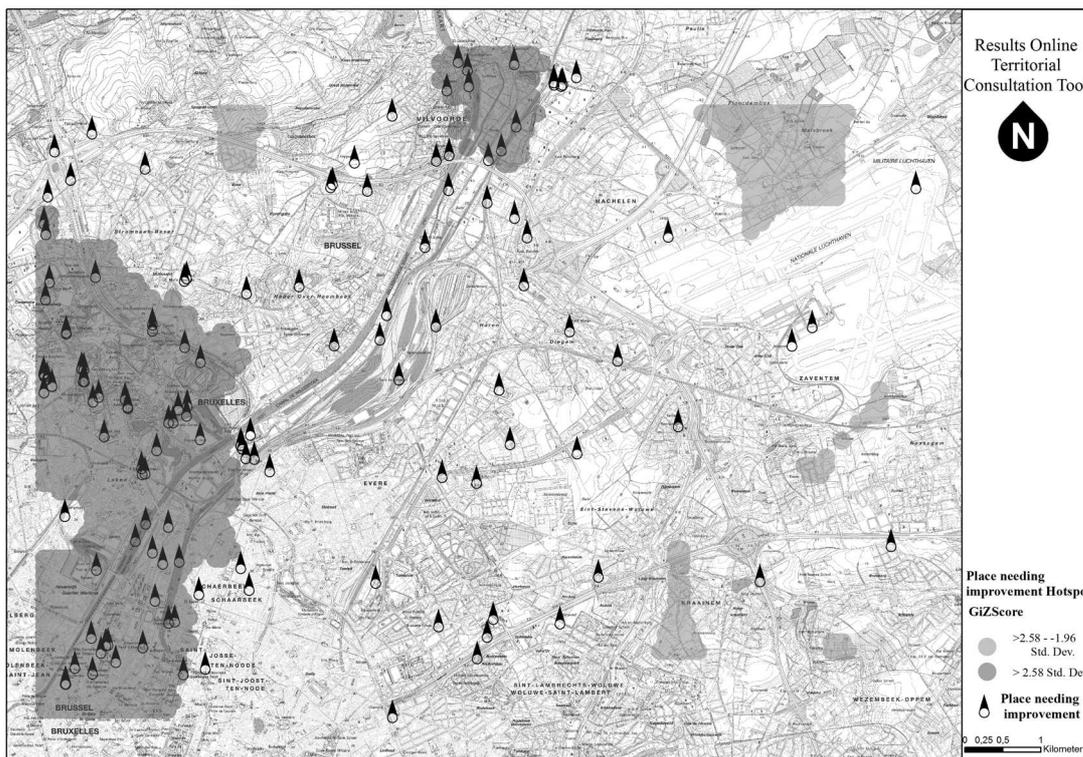


Figure 5: Hotspot analysis for the places that should be improved

The hotspot analysis clearly shows in which areas the most places were indicated, both places that were liked and places that need improvement. We can assume that the respondents are less acquainted with the areas that turned up as Coldspot. Like mentioned above, this could be a result of the communication campaign not reaching the inhabitants of the areas now indicated as Coldspots.

## 6 CONCLUSION AND DISCUSSION

The TOP Northern Fringe project centers around participation, both with selected stakeholders, but also, as explained in this paper, with users and inhabitants of the project area. The arguments for community participation in urban regeneration centre around the principle that local residents do know best what their needs are (Reeves, 2005:134).

The two tools described above, the Project Monitor and the online consultation tool, are used in the project of TOP Northern Fringe as participation tools. Both tools have potential for further development. In case of the Project Monitor, this further development is already under way. In case of the online territorial consultation tool, the first step will be to undertake action with the results of the consultation. In this part, a critical note will be made on both tools about the advantages and disadvantages of using these types of tools for participation. We will also outline some potential further development of both tools.

Regarding the Project Monitor, the first critical remark that can be made is that this type of monitor is only usable when it is constantly kept up to date. This implies a commitment and a clear agreement between partners. In this case, the Project Monitor is a joint project between two different regions, each responsible for their own territories. Although the TOP Northern Fringe project is a joint effort with several stakeholders, the administration leading the process is the Spatial Development Department of Flanders. Therefore, it is not unthinkable that the Spatial Development Department of Flanders will put more energy into keeping the Project Monitor up to date than other stakeholders.

As stated above, steps are undertaken to put the Project Monitor online. An even further step would be to allow stakeholders to add their own project into the Project Monitor by indicating on the online map the site where their project is starting or taking place and by filling out a form with information. Like the online territorial consultation tool, the Project Monitor would in this way make use of crowdsourcing in order to add information on the Project Monitor. Working in this fashion, however, implicates that a bigger communication campaign would be necessary in order to reach all the potential contributors.

If we look at the online public consultation tool, the fact must be stressed that this is the first time that the Spatial Development Department tries to engage the public with a map as a means of communication. The whole online territorial consultation tool was therefore seen as an experiment to discover whether or not this type of participation process could work. Like in most countries or regions, there is in Flanders no legal obligation, no mechanism, no framework and no resources for considering community ideas and initiatives (Reeves, 2005:135). The initiative of the online territorial consultation tool was therefore the first step to experiment with participation in general and with crowdsourcing in particular. The outcomes, however minor, have raised the enthusiasm within the Department to continue with this project. In a nearby future, the results of the participation will be published on the website. On the long term, we want to develop the website as a platform for further discussion, sharing and mapping that can be used by the crowd. This consultation tool has the potential to grow towards a more active tool that allows further participation.

The biggest drawback of the consultation tool, as it was used, is the lack of respondents and the uneven distribution of respondents. Due to the limited communication campaign and the bigger focus of this campaign on the Flemish side of the project area, only a small number of people actually consulted the website and, even fewer, posted ideas. This resulted in a biased participation. Moreover, the part of the population that is not able to work with online material or is not familiar with maps, is excluded from participation. The lack of added places in the Region of Brussels, revealed by the hotspot analysis, can partly be explained by the equal lack of Brussels participants. A further explanation could be that the participants originating from the northern and western part of the project area are not familiar with the eastern part of the area. An interesting question is then why they are less familiar. Is it because the connection between these two parts is not good? Are people not interested in neighbourhoods outside their own? Does the neighbourhood around the NATO have a bad reputation causing less people visiting it? Or did the campaign not reach the users of this area, because they use other information channels? These questions could be answered with more in depth qualitative research.

According to Papadopoulou and Giaoutzi, this paper is the third step in the process of crowdsourcing: evaluation of the proposed solutions. Next steps will be to generate a long list of potential projects based on the input of the consultation. This long list should then be judged by the direct stakeholders of the TOP Northern Fringe project and after defining a shortlist, projects should be selected which would actually be developed. This would be an answer to the places added in the tool that need improvement. This is then step four: “the selection of the best provided solution and the exploitation of the selected solution by the company or institution that initially posted the problem online” (Papadopoulou, Giaoutzi, 2014: 112). Therefore, the challenge for the project leaders will be to show how the public’s comments are taken on board and to help sustain longer term public involvement.

To conclude, we can ask ourselves if TOP Northern Fringe is an example of collaborative planning. To some extent, it is: stakeholders have been involved as partners. The planning process includes several design workshops with stakeholders, recognizing the need to make use of their expertise and problem solving abilities. Regarding the users and the inhabitants of the area, there has been participation, thanks to the online consultation tool. The suggestions made by the participants will be put into actions. However, this participation was limited and cannot be called representative. By further developing the website, by making

the Project Monitor public, we hope to enhance the participation of the users and inhabitants of the area, bringing the TOP Northern Fringe a step further towards collaborative planning.

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