

SHARED INFORMATION SPACE BETWEEN CROSS-BORDER CAPITAL REGIONS

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Abstract

This paper is concentrating on the role of digital tools and open data in the planning processes of border-crossing regions in Europe. The research is concentrating on the case study of two capital cities Tallinn and Helsinki in the Baltic Sea Region. Although not an official border-crossing region, these two cities share a multitude of common projects and initiatives, among them an infrastructure project of a connecting tunnel.

This paper is concerned with both sides – the role of ICT in urban planning in general and the formation of a digitally enhanced cross-border space in particular – and is concentrating on the methodological challenges of such research.

This paper argues that for the emergence of a functional cross-border region, the discussion should steer from hard infrastructure and international logistics towards addressing urban values and citizenship ((Paasi and Newman, 1998), with an emphasis on creating common services and projects for a shared urban space. Secondly, the use of digital tools for the planning of border-crossing regions is a matter of understanding the intricate relationship between physical and virtual spaces as well as the dynamics of the relating communities (Augiri, 2008). It is not a matter of choosing applicable tools to use, but rather to outline the needs and goals of a border-crossing space towards a more ubiquitous, augmented version of itself. Such kind of augmentation would take into account the specific characteristics of a border-crossing space in moving towards an interactive use of urban space and more efficient communication. Thirdly, the actors included should encompass knowledge from the fields of cross-border cooperation, urban planning issues and urban informatics. It is relevant that viewpoints from different spatial scales and sectors (Hall, 2008) ranging from private to public are exchanged.

However, the key methodological question in tackling such a topic is how to encompass this complexity of cross-border actors and scales and not to disregard the activities taking place both in the virtual and physical realm. Especially regarding the case study mapping and analysis of an existing digital layer of such a cross-border space in a constant change of flux, also due to the quick change of technology and relation to digital tools, platforms and applications.

To create opportunities for the border-crossing region to develop further through shared knowledge and active use of ICT, would be a benchmark example in planning

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border-crossing regions on an international scale. The use of digital tools in urban planning is a rapidly developing research topic, this research would enrich the discussion with introducing the specifics of a cross-border urban area in creating place-based interaction and communicating shared urban values.

1. Introduction

The influence of information and communication technologies (ICTs) has transformed the ways we communicate and interact with one another. Technological networks have become more accessible, more ubiquitous and more mobile, changing our concept of place by transforming our sense of proximity and distance. Consequently, urban and regional planning and the methods for mapping, data visualization and citizen participation are changing as well. The physical and virtual are no longer perceived as separate dimensions but have come to influence and define each other. Concepts such as augmented spaces, locative media and mediated localities all suggest an increased attention given again to the physical place and the local. However, extensive understanding of the digital tools and methodology in urban planning has not yet emerged. Different disciplines (geography, computing sciences, social sciences and architecture) researching the topic are developing software programs and applications of their own, targeted knowledge and tools are produced only in a certain field of interest. Furthermore, there is a need to move beyond deterministic discourses about the impacts of technological networks on society to understand in rich empirical detail at the complex ways in which ICT technologies are being used in real ways in real places (Graham, 2005). There is a need to develop more integrated urban and ICT strategies that concentrate on digital agendas instead of specific tools and look at larger urban planning processes instead of a single neighbourhood or urban setting. Thus this research is looking at the field of ICTs in urban planning through the framework of regional planning processes, namely the border-crossing city.

Planning border-crossing regions/cities should be about creating transnational social spaces and crossing cognitive barriers not merely transnational exchange and regional politics. A more flexible approach towards planning and visioning border crossing regions/cities has to be developed that would include not only the planning elites (city officials, local cooperation and governance networks), but also the knowledge of the citizens. Cross-border territory needs to be conceptualized as cohesive in the sense of being well-appointed all the way round, so that people will want to attach themselves to them, work in them and develop them (Faludi, 2007). Paasi (2002) has suggested a checklist of forces to evaluate to what degree a border-crossing region does exist and how it might develop in the future. He emphasizes that territories emerge, develop and exist through an “institutionalization” process resulting from the simultaneous and interconnected working of four different forces (“shapes”) that all have to be included in the process of planning a border-crossing region/city.

Thus the case of the border-crossing city forms a rich framework for the research of integrated urban and ICT strategies because of the variety of actors and interests involved as well as the representation of different spatial contexts, ranging from the

international to local. The research is concentrating on the case study of two capital cities Tallinn and Helsinki in the Baltic Sea Region. Although not an official border-crossing region, these two cities share a multitude of common projects and initiatives, among them an infrastructure project of a connecting tunnel. Helsinki-Tallinn case is characterized by the physical distance (80km) between the two cities, slow progress of official cross-border initiatives but a range of informal activities and flows linking the two metropolitan regions. Additionally, both cities take pride in the active development of public ICT services, good access to the Internet throughout the city as well as a high number of Internet users. However, the visioning and planning processes of the border-crossing region are not concentrated on active ICT strategies such as common mobile applications, open data initiatives or even Internet platforms.

Therefore, the aim of this research is to concentrate on the role of ICT in urban planning in general and the formation of a digitally enhanced cross-border space in particular. This digitally enhanced or augmented cross-border space would be a 'shared information space' between two capital regions, thus emphasising not only the shared data and information in cloud format but concentrating also on the importance of creating shared and mediated spaces. This paper is looking into the preliminary findings from the Helsinki-Tallinn case study paving the way towards the development of a cross-border digital strategy supporting the planning process of the border-crossing region. A framework for further research is proposed that would address both the complexity as well as future development opportunities of the case study through the use of the scenario planning method.

The main contribution of this research lies in enriching the discussion of digital tools in urban planning with introducing the specifics of a cross-border urban area in creating place-based interaction and communicating shared urban values. To create opportunities for the border-crossing region to develop further through shared knowledge and active use of ICT would be a benchmark example in planning border-crossing regions on an international scale.

This research proposal is structured as follows. First, Chapter 2 will provide the theoretical framework discussion the relationship between the city and ICT as well as the latest turn towards the locative media and open city concepts. Chapter 3 is concentrating on the thematic of the border-crossing cities of Europe and relating planning processes. The primary case study of Helsinki-Tallinn with its characteristics and problems is presented in Chapter 4 along with the preliminary findings. Chapter 5 will describe the framework for future research operationalizing the scenario planning method. Chapter 6 will provide the conclusions of the paper.

2. ICT City

The "network city" has been presented as a "new" old way of thinking about cities in the ICT (Information and Communication Technologies) age (Drewe, 2005). Cities have always been recombined through new technological networks (Thrift, 1996). Such new technologies (such as the telegraph, telephone or nowadays Internet and mobile devices) are subtly recombined with the spatial and social practices of the workers and managers, operating within the complex material and social spaces of

the City (Thrift, 1996). Thus there is no big picture of the modern City to be had but a set of constantly evolving sketches (Thrift, 1996). Graham (1998) has critically explored the different conceptualizations of the relationship between information technologies and space and place. He identifies three dominant discourses as 'substitution and transcendence', 'co-evolution perspective' and recombination perspective'. The first one is the idea that human territoriality can somehow be replaced by using new technologies. The second perspective argues that both electronic 'spaces' and territorial spaces are necessarily produced together. Most importantly, the final 'recombination perspective' draws on recent work in actor-network theory, emphasizing the fully relational view of the links between technology, time, space and social life. Indeed, cyberspace is not anymore discussed as possibility to replace physical space (Mitchell, 1995; McLuhan, 1964), nor are they considered to be two separate entities, where electronic space helps to deliver us from the current frustrations with the world (Castells, 1996; Boyer, 1996). Opposite to the Internet replacing space or causing erosion of a "sense of place" (Massey, 1993) the ICTs are increasingly more discussed as re-enacting the importance of place and home as both geo-imaginary and socio-cultural precept (Thielman, 2010).

2.1 Augmented City

As most lifestyles are digitally enhanced in many different as well as subtle ways, the 'virtual' and 'physical' spaces are no longer argued to be two separate dimensions (Mitchell, 2005). The physical and the digital environments are defining each other and concepts such as public space and "third place", identity and knowledge, citizenship and public participation are all inevitably affected by this reconfigured urban space, the augmented city and augmented urban spaces (Aurigi, 2008; Manovich, 2006). Furthermore, the sense of continuity and belonging derives from being electronically networked to widely scattered people and places we care about (Mitchell, 2003). While geography tries to characterize the mixing of code, data and physical place as "DigiPlace" (Zook and Graham, 2007), cultural and media studies refer to location based media" or "locative media" (Tuters and Varnelis, 2006). Regardless of the terminology it refers to the spatial turn in media studies and the media turn in geographical studies, also known as "geomedia" (Manovich and Thielman, 2009).

The two emerging technologies – the geospatial web and ubiquitous computing – suggest an intertwining of the network and the local (Varnelis, 2008). The two conceptual formations diverging from this development are locative media and mediated localities. Locative media turn implies that digital media is applied more and more to real places, thus triggering real social interactions (Varnelis and Friedberg 2008). Mediated localities attempt to re-animate the place of thought – mapping as means of expressing self through tagged objects and thus creating places that form a network of relations and connections.

Through the options of tagging and tracking with GPS, Wi-Fi and RFID tags we have seen a mass spread of mapping and geocoding in all areas. We are dealing with places in the form of a network of relations and connections between control space and ludic space (McQuire, 2010). In a nutshell, we can leave our mark on the world

or read the marks others left behind, re-creating place in a Borgesian digital map (Varnelis and Friedberg, 2008). Furthermore, November, Camacho-Hübner and Latour (2010) point out that digital technologies have reconfigured the whole experience of mapping into something else we wish to call navigational platform. The contemporary flâneurs could well be the young digital natives exploring the city through their mobile devices and being copresent with others at a distance through the aid of networking technology (Varnelis and Friedberg, 2008).

It may very well be, that ‘augmented spaces’ and ‘geomedia’ are only new concepts for old discussions about the relationship with consciousness to place and other people? We can also question the necessity of such extensive data production through posting, tagging and visualizing our surrounding space. There are also concerns over privacy matters and most importantly the ownership of the data produced. Finally, there is the question about the further use of the all the continuously produced and reproduced data – how can it support urban planning processes?

2.2 Open City

The merging of digital media technologies and urban life is leading to the creation of new resources in the form of huge volumes of data on all manner of urban processes. The evolution of networked technologies has always come in waves – databases, e-mail, the world wide, web, the social web – all offering new ways for doing things differently and each have posed financial and organizational opportunities and risks to those having to decide on whether to adopt or ignore them, or how adoption should take place (Powell, Davies and Taylor, 2012). The term Web 3.0 is now increasingly more used to describe the increasing emphasis on data and its description. Web 3.0 technologies facilitate new forms of linkage between data (as opposed to links between web pages) and support new forms of manipulation and presentation of data (Powell, Davies and Taylor, 2012). In relation to the Web 3.0 new buzzwords have emerged such as ‘data commons’, ‘open city’ and ‘open data’. ‘Open data’ advocates call on owners to make it available so that it can be easily accessed and discovered, easily manipulated and licensed for re-use. ‘Data commons’ refers to combined data collections accumulated by the citizens either consciously or unconsciously on the use of all manner of products and services (De Lange and De Waal, 2012). ‘Open city’ is used more as a buzzword than a coined term and could be partly linked also to the ‘Smart Cities’ concept. However, in this context the open city rather refers to the city as a platform for data commons. ‘City as a platform’ can thus be viewed as a playground for emergent models of social organization that do not acknowledge any distinction between bottom-up and top-down approaches (De Lange and De Waal, 2012). Like the early Internet, which relied on public funding and open standards to foster innovation (Zittrain, 2008), the open city movement hopes to demonstrate that the sum of individual actions can give rise to more or less coherent forms of knowledge, understanding and behavior. Examples include Open Data Eindhoven², that attempts to open up government data

² <http://www.openeindhoven.nl/>

for meaningful reuse in collaboration with citizens to foster new content and application development. Open Cities Project³ is co-funded with European Union and aims to validate how to approach Open&User Driven Innovation methodologies to develop future Internet services for Smart Cities. The focus here is also on exploring crowdsourcing tools, enabling the use of public data for innovative mobile services and most importantly, the validation of pan-European Platforms for Crowdsourcing and Open Data.

While the process of applying open data is still in its infancy, the underlying principles of collaboration between multiple stakeholder parties and raising citizens awareness as well as the ownership of this data, propose a new way of creating transparency, simplification and exchange. It is not so much about choosing the specific tools to use, but rather about the goals behind utilizing these data resources – for urban planning, for citizen services, for commercial use or all of the above? More specifically, is the emergence of an open border-crossing city possible?

3. Border-Crossing Cities of Europe

While the last chapter discussed the relationship between the networked technologies and the city, concentrating on the latest development of concepts such as ‘geomedia’ and ‘open city’, this chapter will explore further the cross-border city thematic. The aim is to provide a better understanding of the background for the emergence of border-crossing cities as well as the core problems of the planning process.

Over the last decades, regional cross-border cooperation in Europe has led to the emergence of various forms of interregional and intermunicipal institutional frameworks and operational bodies (e.g. Euregios, Eurodistricts), as the European Union has simultaneously been actively cultivating and encouraging the disappearance of state borders as well as the emergence of border-crossing regions/cities. Cross-border studies have focused on the liberalization of borders and the increasing interaction due to globalization; the changing character of borders has been intensively described (Metroborder, 2010). Political geography as well as political science analyses have almost exclusively focused on organizational and governance issues including barriers to cooperation by mostly actor-centered perspectives (Newman, 2006, Paasi, 2005). As the institutional borders of Europe are not finalized and open to political struggles (Eder, 2006)□, the emerging border-crossing cities of Europe could be considered both the ‘guinea pigs’ and the catalysts in this process.

Although border-crossing cities by definition should foster border-crossing contacts, irrespective of mutual differences, but inspired by common interests and attractive opportunities (Buurisink, 2001), the everyday reality of this cooperation faces a number of difficulties. The territorial dimension of cross-border co-operations often has an almost arbitrary background and unclear political mandates (Metroborder, 2010). Forming border-crossing regions/cities is not only complicated because its rather seen as a pooled territory of the respective domestic institutions, but this lack of territoriality reveals itself also when imagining a common public for the future

³ <http://opencities.net/>

cross-border regions/cities. Furthermore, current research about border-crossing cities (Ehlers, Buursink, and Boekema, 2001) indicates, that linking up and integrating paired border cities is not merely to be deduced from spatial adjacency, it is far more a matter of social relations and mental proximity. The (ir)relevance of spatial adjacency is put to test by a new type of paired border cities, namely '*connected cities*' (Buursink, 2001), that have been paired by new infrastructure, as in the *Sund* between Denmark and Sweden and in the *Channel* between France and Great Britain. It could be argued at least from the spatial adjacency perspective that in the case of Helsinki-Tallinn we are also dealing with connected cities, the relating tunnel project for the future supporting this argument.

Future cross-border planning efforts have also been ensured by the 1999 European Spatial Development Perspective (ESDP) but also with the Territorial Agenda (2007) and Europe 2020 strategy. There are significant differences in the administrative bodies that have been set up to initiate, plan and implement cross-border cooperation among the varied *euregios* of the European Union (Kramsch, 2001; Pikner, 2008; Metroborder 2010). The critics of "EU-phoric" cross-border cooperation argue that hardly any transfer exists between functional cross-border cooperation and processes of social integration (Strüver, 2005). For the emergence of a functional cross-border region, the discussion should steer from hard infrastructure and international logistics towards addressing urban values and citizenship (Paasi and Newman, 1998).

This can be seen as a critical response to the largely uncritical belief, held particularly in the European Union, that border cities and border regions should be seen as micro- scale laboratories for the larger European Union that dominated the debate on cross-border governance. *'People may associate themselves globally with images, brands, destinations but still live their daily lives in political communities. The human imagination is unlimited, but willingly restricted, as it is focused on voluntary associations of comfort, pleasure and adventure that fits its specific identity'* (van Houtum and Ernste, 2001). As a result the border-crossing cities have boost themselves even more inside, to their respective communities. The established of a cross-border region should directly improve inhabitants' opportunities to live, work and leisure. In practice citizens start to cross the border when it is also economically beneficial (work/housing opportunities) and convenient (combined services).

4. Towards Connected Cities

This research started as an exploration of digital tools contributing to the urban planning and governance of border-crossing regions. After working with the theoretical background of planning practices of border-crossing regions as well as the use of ICT in urban planning and public participation, it was determined that the underlying issue is in the quality and availability of data and information to utilize into digital tools ranging from service platforms to social media based applications. While the concepts of 'data commons' and 'open data' address the problem from the stakeholders' perspective – opening up public databases, inclusion of citizens and their participation as well as the cooperation with the private sector and NGO's – geomeia addresses the importance of inclusion of different spatial scales as well as

the mapping and visualization of various layers. As mentioned, the cross-border territory is not flat and should be regarded as an interactive environment. The latter can be described as an open environment that connects a number of closed systems to one another. The concept of interactivity is thus always in relation to an environment. In addition, interactivity is not a neutral or value-free entity but rather an entrance point to different spatiality, sphere or neighborhood (Jong and Schuilenburg, 2006).

In the case of Helsinki-Tallinn the contextual conditions are of high relevance and case study is a comprehensive research strategy covering the logic of design, data collection techniques, and specific approaches to data analysis. The suitability of the case study method was supported by the fact that multiple sources of data had to be used to collect the evidence needed to solve the research problem. A preliminary data gathering was conducted regarding the case of Helsinki-Tallinn to identify first of all the core planning issues regarding future border-crossing region of Helsinki-Tallinn, the actors involved and the current use of digital tools for planning processes in both core cities. Preliminary research consisted of extensive desk research as well as focus group meetings held as part of cross-border events, both official and unofficial. The desk research consisted of official policy documents about the cross-border project and relating studies. Equally important were newspaper articles, conference presentations and statistical data regarding both metropolitan areas. Additionally to searching materials related to the border-crossing project, the digital initiatives from both cities also had to be mapped. In this aspect, the web presence of any form of cross-border activities or discussion was of relevance, as well as local open data and geomeia initiatives.

In this chapter the Helsinki-Tallinn case study with its key characteristics as well as the preliminary findings will be further discussed.

4.1 Helsinki and Tallinn

The Tallinn-Helsinki case is not what you would consider traditional border-crossing cities. Tallinn and Helsinki are both capital cities and as the primate cities of their countries, they are embedded in the national economies but also in national culture of their respective countries. The friendly relationship between Finns and Estonians has developed on the basis of spoken language and culture, by which Finns and Estonian belong to the same group, but this alone would not cause identity shifts and cultural homogenization (Zetterberg, 2004; Alenius, 1998).

Since Estonia escaped from Soviet-imposed isolation, the connections between the two countries and capital cities have intensified. The physical distance between Tallinn and Helsinki has almost disappeared due to the intensive traffic and communication flows. As Tallinn has become a Nordic gateway and transit destination for Eastern riches and Helsinki locates close to a technology hub, in the land of Nokia, then one could easily envision these national capital cities forming a single functional entity (Berg, 2002; Kurik and Terk, 2000).

The future of Helsinki-Tallinn, city pairs reaching towards each other, has been a topic of lively yet somewhat episodic discussion since the early 1990s, with persistent talks about a twin-city as well of viewpoints emphasizing strong

interaction without twinning (Ruoppila et al., 2007; Raagmaa, 2000). One persistent topic that has evolved in connection with the plans of cross-border cooperation has been the undersea tunnel meant to be uniting and further integrating the two cities. The current overlaying discussion of Tallinn-Helsinki border-crossing region is primarily about infrastructure connecting the cities and the future common region with the rest of Europe. In a situation with two separate capitals with their respective city regions, the physical infrastructure in a form of a tunnel seems to be the common reference point and a shared project to imagine common futures. However, infrastructure is not only about concrete and logistics, it is also about accessibility to information.

4.2 Preliminary Results

The cross-border territory of Tallinn-Helsinki and their respective regions is already a rather abstract space, relating communities can be transient and dispersed. Information turbulence between the two regions and well as the discussion about a common border-crossing region is very much enclosed in national and municipal information systems. The information space of Tallinn and Helsinki seem to be as separated as the cities by the Finnish Gulf.

International sites bring together information from both cities and citizens, but it is often segregated on a national and language basis. The accessibility to information for the layperson but also for an urban planner or a developer of digital tools is made difficult by the scattered information between various institutions and the small amount of cohesive open data. At the same time Tallinn and Helsinki have the geographical closeness necessary to operationalize information to be used in everyday activities. The access to the neighboring city is fairly good due to geographical proximity (2h by ferry); however, the information about further activities in that urban space is limited. There is a change of a mindset needed in regarding frequent visitors from both sides of the gulf as something more than regular tourists and rather as temporary urban citizens. Secondly, the accessibility of information about various events and activities has to be closely connected to common services and the continuous development of new cross-border applications, thus utilizing data from both cities and using collected data for the further planning of the cross-border region.

Although there is a lot of effort towards developing and popularizing ICT and the use of digital tools in both capital regions, key differences need to be communicated regarding a common information space targeting the cross-border space. These differences include public-private collaboration activities, mentalities towards public participation and privacy as well as the actual use of digital tools in tackling urban issues. Although the creation of a common information space has been referred to as a relevant topic in the projects of networking organization Euregio, it has not been clarified, what is meant by information space, what kind of information is targeted, what would be the goals of a shared information space for the development of a border-crossing region ect.? From the official documents of Euregio, the Euregio 2010 Forum and Demos publication, it appears that information space is broadly understood as media space. While it covers different types of media, it is rather old

media centered, focusing on television and print media. The goals for the development of a common information space are unclear; the focus is rather on media as such and not about its relevance for the border-crossing region.

The publication by Demos, Helsinki situated think tank, is more innovative in proposing possible digital tools for the further development of this „urban union“. They make a division between activities of the administration of a border-crossing region and possible grassroots initiatives. The emphasis is put on a cooperation portal providing service for citizens from both sides. The goal of the portal is to share both everyday information (such as tourism information) or find partners for cooperation projects. Thus, the portal is combining two functions without acknowledging different interest groups. A question emerges if something meant for everyone, from tourists to entrepreneurs, will be actively used by anyone?

The most recent initiative is the Talsinki.net knowledge platform, developed as part of the ongoing Helsinki-Tallinn transport and planning scenarios project⁴. The platform's target is to *“collect and make accessible material that is relevant for the urban and traffic planning professionals, politicians and other project partners, concerned with the development of Helsinki Region, Tallinn Region and the common issues between the two”*, listing actors, media coverage, policies, infrastructure projects, planning documents and other research. So far it's the only public cross-border collection of such materials.

4.3 Towards Common Information Space

In a situation, where technology is rapidly developing and popular applications change on a yearly basis, the challenge for urban planning is not so much about developing its own digital tools to compete with this constant change, but to collect existing information catered by different actors and applications as well as supporting local private and grassroots initiatives in developing their tools in a more systematic ways. Often these initiatives are scattered, lack funding or clear focus. Having an overview of the existing field of digital tools in an urban region supports in finding uncovered areas for development and strategic ways of operationalize existing ones. When discussing a common information space between two capital regions, the focus has to shift from the cross-border networking organizations and entrepreneurs focusing on urban informatics to NGOs and other urban communities focusing on urban issues and working in different spatial scales with the supporting aid of digital tools.

It appears that also the role of the expert planners has started to remind rather the task of an interaction designer concentrated on knowledge management. This means that information and ideas produced by various parties have to be analyzed and the interests of various stakeholders have to be communicated. Information is data that has been given meaning by a way of relational connection. This “meaning” can be useful, but not necessarily. Knowledge is then the appropriate collection of information, such that it's intent is to be useful - it is a deterministic process (Ackoff, 1989). Knowledge management refers to processes that are employed to manage the creation, dissemination and utilization of knowledge and that the organization's

⁴ <http://www.euregio-helta.org/htransplan/>

structures are developed to support knowledge processes (Gupta et al, 2003). However, this means that various data systems and tools supporting it have to be in place. In addition to data collected by the public registries and databases, many other parties produce knowledge in addition to the municipal organizations. Only after having an understanding of knowledge produced by the active urban agents in the region, can further goals be set about the knowledge that is lacking and the digital means to produce it. The competence and willingness of various actors to work interactively is one of the key issues here. Furthermore, the point of view of the inhabitants also has to be stressed as data is often given out on a very functional basis and public participation requires that data is also given back to the citizens and put to further development of common good.

4.4 Future research

For the future development of a shared information space a digital strategy is needed outlining the specific needs and goals for the development of the border-crossing region with an adequate timeframe.

Next stage of this research will concentrate on the variety of cross-border actors from the public and private sector as well as urban NGO's and activist groups to collect opinions of experts working on different spatial scales and sectors, while maintaining a focus on urban planning and 'open city' concept. The expert opinions along with other data gathered will be operationalized through scenario planning method.

The scenario planning method is not about predicting the future, rather about perceiving possible futures in the present (Schwartz, 1996). Any strategy involves a selective focus to identify one of more concepts, images and/or principles that are 'meaningful' and orienting (Healey, 2007). Scenario planning method is about finding new opportunities, storytelling, questioning assumptions and pinning down the critical uncertainties (Verwijnen). The construction of future scenarios helps to determine alternative futures and play out different decisions (Healey, 2007). A set of scenarios can be viewed at least from 3 inseparable viewpoints: the set of relationships, alliances and conflicts; the spatial aspects of these same relationships; the concrete nature of all the materials these relationships utilize and construct (Secchi, 2002). Thus, the scenario planning method is used in the last stage of the research to determine a flexible strategy for shared information space development between Helsinki and Tallinn. While the scenarios themselves are created to depict the range of development paths, the end strategy for a shared information space is the optimal route that is built on the core knowledge gathered from scenario planning method.

5. Conclusions

This paper discussed the preliminary results of the research about the cross-border region of Helsinki-Tallinn for the development of a shared information space between the two metropolitan regions. That shared information space has to stretch further than the occasional turbulence of information between old and new media channels crisscrossing the capital regions, but has to strive to create further

knowledge – intent for the border-crossing region. Furthermore, although there is willingness and initial project ideas from the networking organizations and other stakeholders, they lack a cohesive vision about the impact or the outcome that a cross-border digital agenda should have in the framework of the future border-crossing region. From a more practical side, the confusion stems from the overall definition of digital terminology, knowledge about the use of various digital tools in relation to physical space and experiences with public participation.

For the emergence of a functional cross-border region, the discussion should steer from hard infrastructure and international logistics towards addressing urban values and citizenship), with an emphasis on creating common services and projects for a shared urban space. The concept of ‘open city’ was discussed as a potential strategy component for the future development of the border-crossing region. Establishment of cross-border data commons would support the emergence of wider variety of common services and applications. Re-use of the data could be actively encouraged. The role of geomedia in the data production calls for a renewed consciousness towards place and other people – visualization of previously invisible flows and nodes as well as creating entrance points to different partialities.

The development of the shared information space for a border-crossing region is a matter of understanding the intricate relationship between physical and virtual spaces as well as the dynamics of the relating communities. It is not a matter of choosing applicable tools to use, but rather to outline the needs and goals of a border-crossing space towards a more ubiquitous, augmented version of itself. Such kind of augmentation would take into account the specific characteristics of a border-crossing space in moving towards an interactive use of urban space and more efficient communication. The actors included should encompass knowledge from the fields of cross-border cooperation, urban planning issues and/or urban informatics. It is relevant that viewpoints from different spatial scales and sectors (Hall, 2008) ranging from private to public are exchanged. The scenario planning method is used in the last stage of the research to determine a flexible strategy for shared information space development between Helsinki and Tallinn to prepare a wide range of possible decisions based on an entire range of possible futures.

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