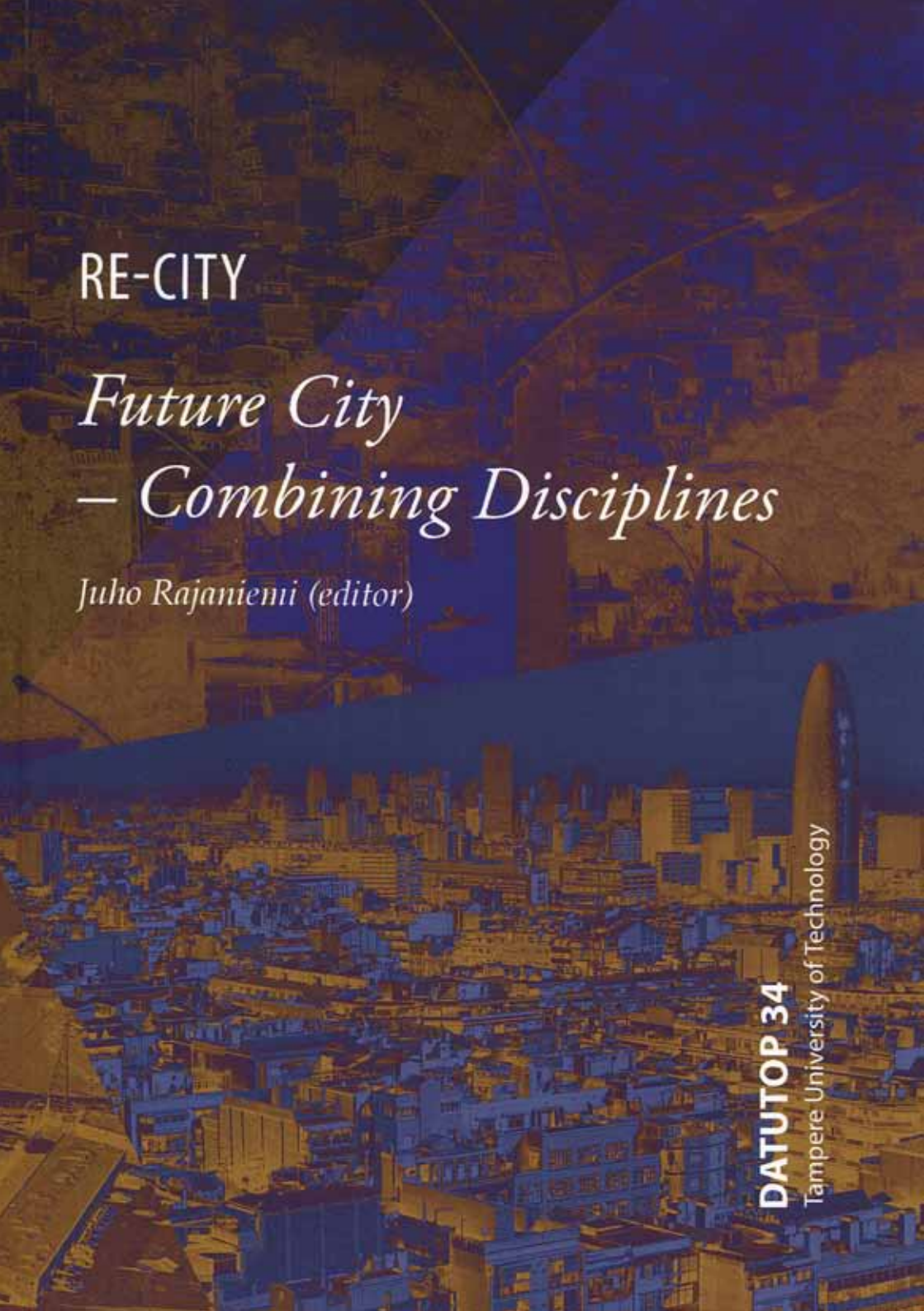
Re-city. Future city - combining disciplines



RE-CITY

Future City – Combining Disciplines

Juho Rajanieni (editor)

DATUTOP 34
Tampere University of Technology

RE-CITY

Future City
— Combining Disciplines

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Tampere, 2014. Photo by Mikko Vares, used with permission.

INTRODUCTION

The first international city regeneration congress, *Re-City 2015*, was arranged under the theme *Future City – Combining Disciplines* in Tampere, Finland, on September 3-4, 2015. The congress was organized as a collaboration between Tampere University of Technology and the University of Tampere, and with a total of 81 participants arriving from all continents and around 20 countries. As the congress was designed to provide an interdisciplinary forum for researchers and practitioners from various fields, the participants represented urban planning, architecture, traffic planning and logistics, urban history, economics and business, political science, the social sciences and the humanities.

The word "regeneration" implies that cities today have problems with regard to, for instance, aesthetics, growth, citizen participation and functionality. Solving these challenges, that is, "city regeneration", requires a greater awareness from citizens and governing institutions. One particular aim of the congress was to ascertain how this can be achieved and how different disciplines in planning practice or urban research can be combined within the context of city regeneration. The topic was, of course, highly multi-disciplinary, but at the same time it allowed a wide range of approaches concerning the regeneration of future cities.

The congress was organised around the following five themes:

Theme A: Urban regenerative strategies, methods and tools
Theme B: Mobility and urban planning in city regeneration
Theme C: Economics and power in city regeneration
Theme D: Citizens and their milieu in city regeneration
Theme E: The 3Rs in city regeneration (rehabilitation, reconstruction, renovation)

The spring 2015 call for abstracts invited new approaches to these themes. Over 80 abstracts were submitted and almost half of them were presented in the congress. The scientific committee consisted of 13 peer reviewers representing different sciences. The members of the committee also made recommendations for the papers to be included in the present publication. Several criteria were used in selecting the articles, including the paper's overall quality, scientific value, novelty value, clarity, international appeal, how it matches the congress theme and other accepted papers, and how ready it is for publication. Consequently, there were many excellent congress papers that could not be accepted for publication.

The end result is a publication with 12 articles from different sciences, and gathered together under three sections. Section One, *Cities' Growing Pains*, emphasizes the problems of city growth or the lack of growth. In this section, examples from the United States, Finland and Poland also tackle economic issues. Section Two, *Managing City Regeneration*, includes examples from India, Latin America, Spain and Finland. As a whole, this section shows how different – and also how similar – the issues of city regeneration are in these different countries. Section Three takes a look at the future under the theme *Shaping the Future City*. All the articles in this section are rather different from each other, which only confirms the complexity of city regeneration and the need for different approaches.

SECTION ONE: CITIES' GROWING PAINS

In his paper, Lance Owen, a PhD student from the University of California, Berkeley, USA, examines the Country Club Plaza district in Kansas City. The Plaza is an apartment and retail district built originally as early as 1922-1930 and ranked by many historians as the first suburban shopping centre in the USA. Owen offers an interesting view of a highly important area development during the roaring 20s and shows, quite surprisingly, that all the main elements of area development we have today existed already in Kansas City almost one hundred years ago. His viewpoint is thus a historical one and serves well as a starter in the publication. According to Owen, "To build better cities of the future, we should examine the suburbs of the past – not for their shortcomings, but rather the opposite."

Urban regeneration researchers and urban planners often deal with the infill of growing and wealthy areas. In their paper, university teacher Hanna Kosunen, post-doctoral researcher Sari Hirvonen-Kantola

and Professor Helka-Liisa Hentilä from the University of Oulu, Finland, show that urban infill is even more problematic in areas with a low market interest. Private developers are not very interested in these areas because of the low profits and the various stakeholders involved in the development projects. The authors concentrate on three urban regeneration strategies (state-led, property-led and community-led) and demonstrate how prevailing political ideologies affect urban regeneration. They also call for the integration of these three strategies.

The article by Jaakko Vihola and Antti Kurvinen, PhD students from Tampere University of Technology, Finland, contributes to the ongoing debate on whether infill development (building urban environment within existing urban areas) is more profitable than greenfield development (building urban environment outside of existing urban areas). The authors present three case studies in Tampere: two infill developments and one greenfield development. Even if public transportation economics or state subsidies are not included in the calculations, the outcome is still convincing. The article supports the claim that urban infill is far more profitable than greenfield development, at least from the municipal economy point of view. It is easy to agree with the authors' conclusion, namely that this fact should certainly be taken into consideration in political decision making.

Jakub Zasina, a PhD student from the University of Łódź, Poland, shows in his data analysis of the 51 largest Polish cities how the number of small and non-traditional households has increased in the majority of urban areas, even if the total population has decreased. This is a significant issue not only in Poland, but also elsewhere. This *second demographic transition*, as the phenomenon is known in academic discourse, is very familiar at least in developed countries. It includes many demographic changes, such as the deinstitutionalization of the nuclear family, the decline in the fertility rate, the delay in childbearing and postponement of marriage. Zasina also assumes that a higher proportion of small households may result in a more compact urban form, because the inhabitants of these households favour the urban amenities of city centres. For contemporary cities this development can affect significant economic changes as well as transformations in city form.

SECTION TWO: MANAGING CITY REGENERATION

In her article, Bhawna Bali, Assistant Professor at TERI University, New Delhi, India, concentrates on Indian heritage cities. She finds in such cities four important areas in the successful implementation of

regeneration policies, namely community participation, legal and institutional set up, financial support, and capacity building. In addition to the problems all cities face in their regeneration, heritage cities in India are also dealing with the magnitude of the local population and the floating population comprising tourists. As Bali puts it: "In heritage cities an overarching difficulty is the choice between development and heritage protection." Bali shows – by using a case study from the city of Mathura – how a national level urban renewal program has tried to solve some of these problems in India. Bali concludes her article by listing seven recommendations to enable a more holistic approach towards heritage development.

Urban poverty still exists, and there is something we can do about it, we are reminded in the article by Susana Restrepo Rico, a Colombian architect with an M.Sc. in Urban Agglomerations from Technische Universität Darmstadt, Germany. Restrepo Rico has explored the best practices in urban upgrading processes in Latin America. She argues that top-down interventions might have little or no positive impact on the livelihood of the residents in the favelas. According to her, urban planning needs to be transformed from rational and power-coercive processes into a form of social change. She also writes that the challenge of participation is not just to motivate involvement but also to sustain the collaboration after the main objectives are already achieved.

The *smart city* has been a topical subject in urban planning during the last decade. Most cities claim to be smart in one way or another. In their article, postdoctoral research fellow Luca Mora and assistant professor Roberto Bolici from the Politecnico di Milano, Italy, open up the process of becoming a smart city. They have carefully researched the development of Barcelona's smart city strategies. They found five phases in the process: starting, planning, development of projects, monitoring and evaluation, and communication. The analysis of the Barcelona case confirms the assumption that traditional planning processes are inadequate in supporting smart city strategies. According to the authors, their roadmap for Barcelona's smart city strategy is a useful tool for future comparative research of smart city strategies in large cities.

Ari Hynynen, Professor of Architectural and Urban Research at Tampere University of Technology, Finland, seeks vitality through integrative design, and in his article combines two previous approaches to the topic created by Kimmo Ylä-Anttila (2010) and Nan Ellin (2006). To clarify his ideas, Hynynen uses plans and implementations from three different Finnish cities: Tampere (pop. 223 000), Seinäjoki (pop. 60 000) and Alavus (pop. 12 000). As a result, he draws together four

different integrative urban design tactics: connectivity, compression, conversion and multiscalar integration. All four tactics are useful in most cities. Indeed, they would form a small toolbox for city regenerators throughout the world.

SECTION THREE: SHAPING THE FUTURE CITY

Professor Joseph E. Hummer, Chair of the Department of Civil and Environmental Engineering at Wayne State University, Detroit, USA, presents in his article the concept of the *synchronized street*, an urban arterial of the future. In fact, the concept was invented by Richard Kramer as early as 1987, and there are already around 50 synchronized street intersections in the USA. Hummer argues that streets where this kind of solution is needed will be fairly common in cities in the future. His article reminds us that the future of our cities is constructed not only by better participation processes and strategic approaches, but also by innovations. A virtually small innovation such as a synchronized street can turn out to be quite important. Each synchronized street intersection makes movement in the city a little bit safer and more efficient for thousands of people.

Lieven Ameel, a lecturer at the University of Tampere, Finland, offers in his article an interesting way to approach urban planning issues via narratives. The key concepts he employs are emplotment and metaphor; the former encapsulates the meanings of both spatial plot (location) and narrative plot (narrative intrigue), while the latter is used here as a tool to look at the conscious or even sub-conscious intentions of planners and developers. Ameel has researched closely the Kalasatama area in Helsinki, an ongoing development case with several interesting dimensions. The article shows how urban development happens also on a linguistic level. Moreover, this level seems to be far more important than we generally tend to think.

Hanna Mattila, a lecturer at Aalto University, Finland, discusses in her paper the uses of architectural designs in the planning process. She raises the question of whether architectural designs respond to the need of communicative rationality or whether they are part of the "non-rational rhetoric". The latter, or "darker side of planning", is approached in the article via a Habermasian planning theory. Mattila chose as a case study the Guggenheim Museum project in Helsinki, a very real and multifaceted topic that has generated a lot of discussion not only in Finland but also internationally. She argues that while one could say that the museum plans may be sold to the public by means

of impressive designs that reveal the strategic intentions, the design proposals can also be helpful in triggering public debate.

Nazli Amin Farzaneh, an Iranian architect based in Canada, brings the publication to a close with a future-orientated article based on her thesis at Université de Montréal. In the shortest article in the collection, she demonstrates how text and figures can complement each other. Amin Farzaneh presents a new concept of space organization in high-density and large-scale projects. As a point of departure, she uses the concept of "group form" first presented by the famous Japanese Metabolist architects Fumihiko Maki and Masato Otaka. She also defines a *frame tree structure* with a sequential penetration of open public space, and which takes into consideration the notions of self-improvement and development of future needs. These two notions are crucial, she argues, for all city regeneration projects.

As the attentive reader will notice, the majority of the articles here deal with case studies. This seems to be a natural way to approach the different phenomena in city regeneration. Fortunately, the researchers are also willing to draw conclusions, which provide an essential basis in forming new scientific theories. And they are surely needed in the field of urban regeneration. Overall, this publication embodies the international, multi-disciplinary and open-minded spirit of the *Re-City 2015 Congress*. I sincerely hope that we manage to provoke a fruitful debate on the topic. In doing so, I wish all readers an enjoyable journey.

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1

Cities' Growing Pains

High-Rise Living on the Periphery: Learning from Kansas City's Country Club Plaza District

Lance Owen

ABSTRACT

A rigorous analysis of functional and lasting built environments should be a prioritized task for proponents of city regeneration. To this end, this paper investigates the iconic Country Club Plaza district ("the Plaza") of Kansas City, Missouri, a carefully planned, multi-use area begun in 1922 that has accommodated change in the urban landscape for nearly a century while maintaining a sense of financial, social, and civic importance. Initially conceived as a retail district, the Plaza included multi-unit housing as a key feature of its early development; between 1922 and 1930, builders constructed some twenty-five apartment towers in the area, which altogether housed over a thousand families and individuals. While these buildings were located in a suburban area far from the city center, they were key to shaping a comparatively dense district that accommodated multiple lifestyles, mobilities, and ways of negotiating the contradictory impulses of the era. Taking into account the location, planning, design, and marketing of these buildings, this paper takes stock of the ways in which these residential towers offered an experience of modern urban life, with its new technologies and spatial grammars, while simultaneously accommodating a desire for traditional aesthetics and a sense of remove from the urban core. Indispensable in helping shape the Plaza as a resilient area, these apartments helped the area sustain a flavor of quintessential urbanism while accommodating a varied range of suburban impulses—a mixture that translated into a resilient expression of modernity in the modern metropolis.

Keywords: architecture, history, suburbs, Kansas City, 1920s

1. INTRODUCTION

To build better cities of the future, we should examine the suburbs of the past not for their shortcomings, but rather the opposite. When Lewis Mumford wrote in 1961 of "a multitude of uniform, unidentifiable houses … inhabited by people of the same class, the same income, the same age group … conforming in every outward and inward respect to a common mold," he expressed a widely-held yet myopic view that caricatured America's suburban landscape as devoid of the variation that made for an "authentic" urban experience (Mumford 1961, 486; Jacobs 1961, 4). Recent scholarship on the suburbs has done much to problematize such judgments, and illuminated the complexities and variations of suburban life (Kruse and Sugrue 2006, 1-10; Nicolaides 2006, 96-97). Among the strongest voices is architectural historian John Archer, who argues that suburban spaces, while formulaic in many ways, are far from uniform, and function as "a complex mosaic of places where people do their best to work out responses to the conflicting claims and opportunities that our culture ... presents" (Archer 2005, 350). Understanding how suburban spatial variety has accommodated the contradictions of modern life will, he argues, do much to illuminate why their environments remain popular and important for many groups (Archer 2005, 361).

This paper pursues this line of investigation by looking to the 1920s, a formative period of suburbanization during which a new scale of spatial variety one that accommodated the contradictions of modern life more than ever before appeared on the urban periphery. After World War I, new land development practices, social changes, and the rise of technologies such as the automobile began to transform the ways in which people lived in and around cities (Douglass 1925, 3-4). At the same time, developers and government officials, armed with extensive capital and the demands of a major housing shortage, sought inventive ways to expand, enrich, and jettison the residential domains of the rapidly growing middle-to-upper-middle classes (Loeb 2001, 5-6; Wright 1981, 196-197). The result is what contemporary sociologist Harlan Paul Douglass called the "suburban trend," a notably complex landscape of clear patterns but ample variety. Large, developer-built subdivisions of single-family homes emerged as evidence of new scales of standardization, but these homes were supplemented by a heightened diversification of the landscape. The decade saw an unprecedented decentralization of many elements of the central city and its streetcar suburbs, including retail spaces and high- and mid-rise multi-unit housing (Douglass 1925, 84-86; Lasner 2012, 57-58; Outlying

Figure 1: An aerial view of the Country Club Plaza area in 1930, showing the presence of high-rise apartments in an otherwise low-rise, suburban landscape. Courtesy of the Missouri Valley Special Collections, Kansas City Public Library. (Hereafter MVSC-KCPL)

1928, 32) features that permitted new ways of living in and relating to the expanding metropolitan periphery.

One of the most impressive examples of this diversified suburban domain was located on the southern periphery of Kansas City, Missouri, where a series of developers shaped a new apartment and retail district between 1922 and 1930. Within the decade, the area welcomed some twenty-five mid- and high-rise apartment buildings, all clustered around the perimeter of the Country Club Plaza, a new commercial district deemed by many historians as the first suburban shopping center in the United States (Jackson 1985, 258; Longstreth 1986, 121; Worley 1990, 6). (Figures 1 and 3) In its diversity of multi-unit developments, this new landscape offered multiple ways of relating to the greater suburban environment, particularly for those not interested in or eligible for single-family homeownership. These buildings exhibited a series of appealing contradictions shaped both by developers' visions and a collision of social and economic forces. They offered urban efficiency in a suburban environment, modern features with traditional aesthetics, and individualized character within a coherent architectural program paradoxical but workable tensions that were not only characteristic of the time, but that would also translate into economic and social longevity in subsequent years.

2. THE 1920s AND THE PLAZA LANDSCAPE

More than any decade before or since, the 1920s in America harbored a constant tension between the impulses of modernity and traditionalism a tension whose defining objects and symbols pervaded every

Figure 2: The initial buildings of J. C. Nichols' Country Club Plaza. Courtesy of the State Historical Society of Missouri, Kansas City. (Hereafter SHSMO-KC)

dimension of metropolitan life. In the wake of World War I, technologies like the automobile, radio, and motion picture were transforming metropolitan life and the value systems attached to it (Goldberg 2003, 83-100), just as new land-development strategies like planning and zoning were transforming the ways cities looked (Douglas 1996, 83; Willis 1995, 23). Yet the transformation was equally marked by conservative packaging, as designers were regularly housing innovations and technologies in Old World styles, seemingly to abate cultural anxieties regarding society's rapid pace of change (Susman 1984, 108). Traditional design conferred charm and elegance, of course, but it also served "as a talisman, protecting the future by identifying with the past" (Loeb 2001, 6-7).

In this cultural climate, it was the new suburbs that bore the most compelling blend of new and old, and no large-scale suburban space in America did so as overtly as J. C. Nichols' Country Club Plaza in Kansas City. Nichols was a developer obsessed with control and cohesive design that would appeal to the social and financial interests of the middle-to-upper-middle-class residents buying houses in his thousand-acre Country Club District development (Rose 1986, 44). Convenience and style were paramount concerns for this demographic, and when Nichols announced a new commercial district that would join "beauty and business," he unveiled a suburban village of street-level shops, wide streets built for automobiles, and a European flair bestowed by a loosely adapted Spanish-Mediterranean architectural theme all of which would offer a calmer and more accommodating shopping experience (Millions 1922, 12D). (Figure 2) This new area would also, in the spirit of the era's growing practice of "community building" (Weiss 1987, 2), serve a paradoxical function: to diversify the space and activities of the suburb in the name of a sense of cohesion

and communal independence.

On the surface, the Plaza seemed to appeal more to tradition than modernity (Rose 1986, 50). Architect Edward Buehler Delk's low-rise Spanish buildings replicated the village feel of a European town center while also recalling the scale and intimacy of smaller American towns appealing evocations for suburbanites with prairie roots and worldly tastes. Beneath the surface, however, the Plaza was a marvel of technological innovation. Suburban shopping had been around since the turn of the century, but the Plaza's scale and organizational ethos was unprecedented (Longstreth 1986, 127); no shopping center had ever accommodated the automobile in terms of movement, parking, and storage, nor had any made such managerial demands on its tenants to attract customers. Harnessing en vogue "scientific principles," Nichols grouped shops in ways that encouraged an optimal flow of patrons, and old-fashioned service came with modern interiors and up-to-date logistical systems (Rose 1995, 134-135; Worley 1990, 244-259). Even the overall architectural program so seemingly traditional pointed to a modern employment of style; Spanish buildings evoked a sense of exoticism and vague historical value, but that sense of history served primarily to buttress property values. The style was also incredibly pliable ideal for adapting quickly to changing market demands (Longstreth 1986, 131-132; Rose 1986, 50). This deployment of style resonated with the contemporary practice of what Carolyn Loeb calls "entrepreneurial vernacular," an emerging method of home building that was simultaneously flexible and controlled, and consequently produced planned landscapes that looked organic in composition (Loeb 2001, 5-9).

The apartment buildings that would eventually cluster around the Plaza's perimeter were in many ways an outgrowth of a similar developmental logic, albeit with an explicit goal of demographic engineering. When Nichols realized that the immediate population density of the Plaza was insufficient to guarantee financial success, he opted to sell the peripheral plots of land to apartment developers who possessed the necessary capital and specialized knowledge to design and construct large residential buildings (Pearson 1994, 104; Worley 1990, 223/245; Worley 1997, 32). Apartment buildings consisting of upwards of forty units were typically associated with life in the central city rather than the urban periphery (Douglass 1925, 72), but large apartment buildings were becoming a common feature of suburban landscapes, where families, working women, young professionals, and the elderly were turning apartment life into a mainstream, middle-class dwelling practice (Allen 1931, 83-84; Lasner 2012, 57; Outlying Apartment Hotel 1928, 32). Kansas City's first zoning ordinance had even designated the Plaza's

boulevard frontages for apartments in 1923 a development that made Nichols' plan all the more feasible (Zoning 1923).

Luckily for Nichols, Kansas City's apartment developers were also looking to build larger buildings with greater amounts of capital in the suburbs, especially as the decade wore on. A 1924 ordinance began requiring fireproof construction for multi-unit buildings over two stories (Apartments, 46), and developers began opting for bigger buildings (Ehrlich 1992, 66-67). Luckily, recent advancements in elevator technology had made high-rise construction more affordable, with the introduction of automatic-control elevators opening up a new frontier for modestly priced buildings (McKenzie 1933, 223; Plunz 1990, 123). Still, building proposals had to be doubly competitive to win over investors, and as such target stable tenancies. In response, Kansas City's developers banded together to form the Apartment and Homebuilders Association in 1927, "seeking in concert to devise more efficient … apartments and to hit on satisfactory construction economies" (Apartment and Home, 24). In a time when incomes and spatial standards were rising, higher-end buildings for more affluent renters seemed the surest route to financial stability, and the Plaza area would doubtless be a prime locale for this demographic. And while competition for capital investment among builders was more intense, banks, bond houses, and insurance companies the primary lenders for big building projects were engaging in unprecedented levels of urban real estate speculation in the later years of the decade (Goldberg 2003, 131-132).

The large, modern buildings that resulted from these conditions nonetheless catered towards a suburban demographic interested in tempering the present with the past. To capture the middle-to-upper-middle-class demographic that demanded optimal levels of comfort and convenience, architects would have to adopt the same blend of old and new that characterized the Plaza and its nearby homes (J. C. Nichols, Book 6, 238; Rose 1995, 133-134). In the same way that the area's houses combined new technologies like electricity and spatial efficiency with traditional architecture and designs, the Plaza apartments wrapped modern infrastructures with conservative styles. Architects produced buildings that boasted the latest in spatial organization and utilities, but that wore an array of interior décor and exterior designs that resonated with the sensibilities of a public fixated on wealth and "good taste." Far from the nation's crucibles of high design, Kansas City boasted no architects who preferred a conspicuously modern style, but even so, traditional facades could evoke the flavors of lineage and prestige far more decisively than modern forms could.

Despite their high-styled demands, many middle-class residents

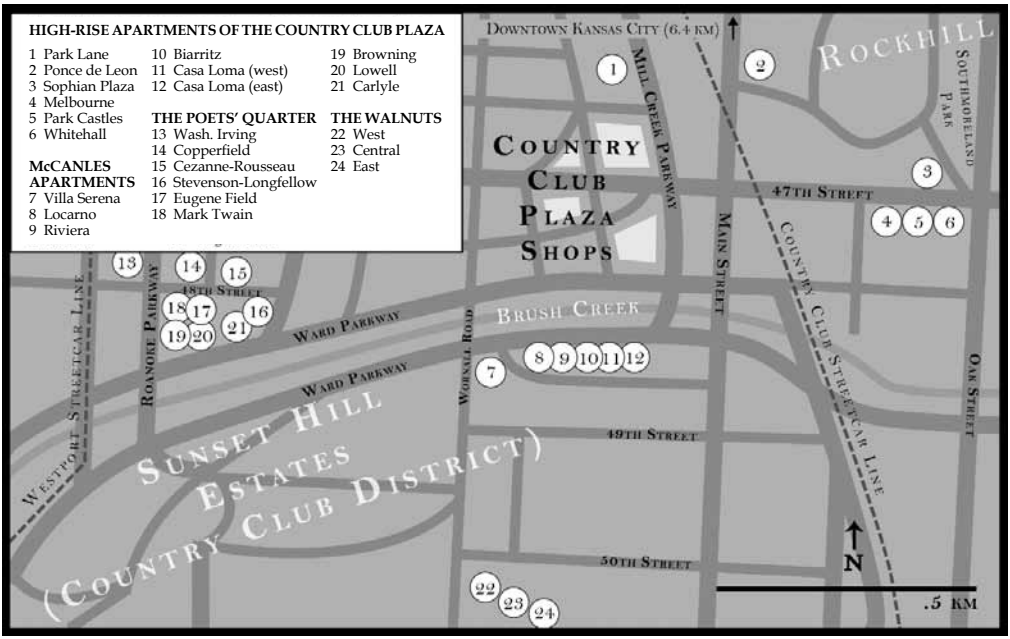

Figure 3: The Plaza's high-rise apartments in 1930. (N.B. The Melbourne, Park Castles, and Whitehall are indicated but not discussed in this paper.) Map by the author.

required properties that they could rent rather than buy, as renting was still a popular and necessary form of housing tenure, even in new suburbs. The rising cost of home construction and financially difficult terms of mortgages kept many otherwise middle class individuals and families from buying, even as their wages rose significantly (Lasner 2012, 58-59; Wright 1981, 199). At the same time, these newly prosperous middle classes yearned to imitate the tastes of the upper-middle classes and wealthy in a culture that constantly stressed elements of status, self-presentation, and self-image (Drowne and Huber 2004, 55-61). Living in multi-unit housing that was aesthetically and spatially tied to Kansas City's prime residential landscape was one way to claim at least partial membership in the expanding suburban experience, without the prospect of committing financial suicide. And for those who were simply uninterested in the stipulations of home ownership and maintenance, these expanded rental options offered increased mobility, a more immediately engaging set of surroundings, and more manageable spaces.

Highly coordinated marketing a key element of 1920s consumer

Figure 4: The Park Lane, one of the earliest examples of peripheral high-rise apartment buildings in Kansas City. Courtesy of SHSMO-KC.

culture presented these new apartments as being able to offer the best in urban efficiencies and suburban gentility. Ads appeared not only in the *Kansas City Star*, but also in publications like *The Independent* and *The Blue Book*, which targeted and spoke to the interests of the elite set. In March 1929, the *Kansas City Star* introduced a new "Apartments of Distinction" page in the Sunday real estate section that would feature the city's finest buildings most of which were in the Plaza area. Around the same time, the J. C. Nichols Company, with its sights still set on using apartment development as a financial buttress, opened an apartment leasing office in the Plaza shops to help prospective tenants locate appropriate housing in the area (Apartment Homes 1929, 5D).

As one might expect, the appeal of this suburban landscape did not rest solely on benign concerns. Prejudicial impulses were a key element of metropolitan life in the 1920s, and increased anxieties about the vice of the central city and its symbols of unsettling social upheaval in flappers, speakeasies, and nightclubs made suburbs a seemingly safe haven, particularly for the well-being of children (Wright 1981, 210). Even more significant was the nefarious association between the urban core and African-Americans, a group whose population swelled in the 1920s in Kansas City due to the Great Migration. In an era when many whites unfairly connected African-Americans with crime, vice, and disinvestment, peripheral suburbs and the Country Club District in particular became increasingly attractive to white homeowners and renters due to their formalized discrimination measures (Schirmer 2002, 97-107). Nichols had pioneered the widespread use of self-perpetuating

racial restrictions in the Country Club District (Fogelson 2005, 66-67, 101; Gotham 2002, 38-45; Worley 1990, 129-130, 147-150), making it an acknowledged "safe zone" for affluent whites a designation that doubtless carried over to new apartment buildings in the area. This heightened degree of racialization reflected one of the more pernicious dimensions of the new suburban paradox: even as the new suburbs demonstrated a diversification of its built environment and the needs it accommodated, it also reinforced boundaries for other groups more rigidly than ever.

3. NEW BUILDINGS FOR A NEW LANDSCAPE

Three Early Structures

Builders wasted no time in producing new structures at the Plaza that expressed the same sorts of tensions that the retail landscape did, and by 1924 prospective tenants already had their pick of several buildings. The most proximal was the six-story Park Lane, built only a block from the Plaza's first row of shops. With its carefully placed Spanish ornaments, the Park Lane displayed the purest sense of accord with Delk's Spanish buildings, even preserving their sense of restraint. Architect Gregory Vigeant's design implemented a Mission Style parapet over the entrance, carefully placed oriel windows and wrought iron balconies, as well as a tower feature on one of the projecting bays to ensure that the Spanish flavor was decisive, yet reserved. (Figure 4)

The line of connection to the Plaza environment went beyond architectural flair. A sense of spatial accord was apparent as soon as one stepped out of the Park's Lane's lobby onto the broad front terrace, whose sense of openness against the expanse of Mill Creek Parkway gave the feeling that the building was not bluntly cut off from the street as in many downtown buildings, but open to it. Cars approaching the Park Lane could sense this aesthetic of free movement too; the building's front court hugged a circle drive where motorists could pull up directly to the front terrace. Circle drives were common to many apartment buildings, but the Park Lane's fed into an automobile infrastructure unlike downtown's crowded grid. Feeding in and out of the broad stretch of Mill Creek Parkway, the drive seemed less a cloistered unloading zone than an extension of an open thoroughfare where a sense of free movement prevailed. The Park Lane had no designated garage for tenants, but there was no need. The immense Plaza Garage in the obligatory Spanish style was only a block away.

Figure 5: The Sophian Plaza blended Italianate symmetry with pastoral curves, as seen in a 1922 photograph. Courtesy of SHSMO-KC.

If residents walked out the front door of the Park Lane and veered right, they would step into a landscape that catered towards a new set of spatial aesthetics and conveniences. Passing the White Eagle Gas Station, with its red-tiled roof, landscaping, and mowed grass, they would move into a retail world graced with long awnings, wide walkways, sidewalk plantings, and a uniform roofline. In contrast to downtown, this was an environment defined by openness, coherence, calm, and ample sunlight and airflow commonly touted elements of suburban respite. Even the Park Lane's moderately priced studios and one-bedrooms seemed to highlight the abundance of light and air, with the original architectural plans designating the majority of double-exposure corner rooms as solaria.

Advertising for the Park Lane foregrounded the suburban location and flavor as a primary amenity. "The place to live," the Park Lane offered rooms that were "ideally located" in close proximity to the shops, theatre, and respite of the Plaza, "away from the confusion of downtown." And the suburban environment was as much a social phenomenon as a physical one. Residents were promised not only "delightful surroundings," but an abundance of engaging activities, particularly those that appealed to upper-middle class women. In the pages of *The Independent*, the publication by and for Kansas City's elites, the Park Lane advertised frequent bridge games, luncheon gatherings, and dinner parties in its acclaimed dining room. The hotel also claimed to be the locus where the "inner circle" many of whom were residents of the Country Club District chose to take meals.

Across the broad sweep of Mill Creek Park, residents and guests

of the Park Lane would glimpse another Spanish-styled apartment hotel, the Ponce de Leon. With a deeper footprint and a narrower façade than the Park Lane, the Ponce de Leon had more conservative dimensions of interior space. However, the buildings turreted apex boasted a whimsical feature that made up for its comparative lack of ground-level grandeur: an expansive rooftop bungalow, complete with a broad terrace overlooking the verdant surroundings (Jaqelin 1927, 5D). Rooftop terraces had become a key feature of apartment hotels in many places, and particularly in the urban core, where they created a sense of aloof calm high above the street. Yet here was one attached to a full-sized home, already in the suburbs, that gave its lucky residents a sense of domestic calm and spaciousness above an uncommonly calm landscape.

In contrast to the Ponce de Leon's sense of whimsy and Park Lane's convenience to shops, the Sophian Plaza offered a more conventional, aloof brand of elegance. Located a quarter of a mile to the east of Mill Creek Parkway, the Sophian Plaza's Italianate design embraced a Beaux Arts sensibility in style and ornament, but thwarted its axial impulses in its orientation towards the graceful curve of Warwick Boulevard and Southmoreland Park. (Figure 5) Having noted that his building's "pure Italian design" would "not observe the points of the compass closely," developer Harold Sophian declared that it would nevertheless "measure up to its environment out there on the edge of the Rockhill district" (New Sophian 1922, 2B), an area whose pastoral elegance was traced by grand estates and native rock fences (Wilson 1964, 19). The Sophian Plaza contained forty units of grand proportions and offered services characteristic of the finest apartment hotels in the city, yet was proudly advertised as being unhinged from any transit links to the urban core. (A hidden, two-story parking garage of 6,600 square feet catered toward suburban motorists.) The ground-floor layout by local firm Shepard and Wiser bore the hallmarks of suburban interiors; a graceful front courtyard led to an opulent lobby, which in turn opened up onto an immense back colonnade a lineup that emphasized a sense of openness and an optimization of airflow and sunlight.

An Italianate Row

As the 1920s progressed, increased levels of speculative building and free-flowing capital would translate into far more ambitious building projects for the Plaza area. The most remarkable example was the work of developers Guy McCanles and George Miller, who built a set of six

Figure 6: A photograph of the apartment buildings along Brush Creek. With their lush surroundings and automobile accessibility, these buildings were integrated into the Plaza's new spatial program. Courtesy of MVSC-KCPL.

Italianate towers along Ward Parkway, the leafy boulevard running along a small waterway called Brush Creek on the southern perimeter of the Plaza. (Figure 6) This bankside property, offering a commanding view of the Plaza's development, was arguably Nichols choice land for apartments, and McCanles bought the entire expanse with plans to construct a series of nine- and ten-story towers with a total capacity to house 550 families (J. C. Nichols, Book 10, 68).

Construction began in December 1927 with the Villa Serena, whose Renaissance revival plan by architect Alonzo Gentry established a precedent for the subsequent buildings (J. C. Nichols, Book 10, 67). Its modified U-shaped footprint offered a symmetrical façade, with tapestry brick, terra-cotta accents, and two hipped, red-tiled roofs further articulating the Italianate style. Subsequent construction was swift. The neighboring Locarno echoed the Italian style but amplified its dimensions and sense of architectural articulation. An unbroken façade featured a heavily decorated ground level and roofline, and two towers gave the building a greater sense of poise, matched on the interior by far grander apartment dimensions than the Villa Serena. With these two buildings, it became clear that the McCanles buildings would boast amenities characteristic of grand palace hotels. Expansive dining rooms, rooftop terraces with expansive views, and sumptuously decorated lobbies all exuded a sense of luxury and exclusivity. McCanles did not supply dedicated parking facilities for his tenants, but street parking and the Plaza Garage gave apartment residents ample space. "Deluxe units" of four-, five-, and seven rooms were typical in

these large buildings, with rents ranging from $135 to $220 per month (Distinguished New 1929, 3D).

Aggressive advertising for this imposing lineup gave equal billing to the urbane décor, modern amenities, and suburban location. In the spring and summer of 1929, ads in *The Independent* and *Kansas City Star* pitched the Villa Serena, Casa Loma, and Locarno as ideal apartment quarters for those of discriminating taste interested in a prime location with an atmosphere of refinement. Verbiage gushed about building and its modern features all-electric appliances, double- and triple-exposure units, and so forth with several offering photographs of the spacious and sumptuous lobby interiors. Coffered wood ceilings, cumbersome revivalist furniture, chandeliers, and carving and ornament along walls and doorways bespoke a sense of design sophistication in Old World style. At the same time, unfurnished units offered benefits of personalization, giving "free scope to individual tastes" in the interest of "creating a real home" (Distinguished New 1929, 3D). One ad for the Casa Loma underlined the suburban aesthetic, albeit in a clichéd phrasing: "all the city comforts...plus country air." Tradition and modernity meshed between these walls, the ads seemed to say, all in a new metropolitan context.

Of the six McCanles buildings, the 96-unit Riviera opened to the loudest fanfare. Billed by the *Kansas City Star* as the "Aristocrat of Kansas City's New Apartment Buildings," the newest of the McCanles structures offered an unprecedented blend of modern features, urbane elegance, and suburban location. According to one ad, the Riviera was an "exclusive home for discriminating people," with four-, five-, and seven-room units offering "every latest, modern convenience including electrical refrigeration, electric stoves, forced ventilation, [and] complete hotel service" (Tremendous 1929, 9D). And while the building might have been the largest and most advanced in the city, its real amenity was its location. "Situated on beautiful wooded Loma Linda hillside overlooking Brush Creek Parkway and the picturesque Country Club Plaza," the Riviera promised a location proximal to Kansas City's landscape of privilege. Brochures offered inset maps and photographs of the suburban parks, boulevards, and formally decorated gathering areas in nearby neighborhoods. As with the Park Lane and Sophian Plaza, the main selling point for these buildings was the proximity to a non-apartment landscape of suburban isolation (J. C. Nichols, Book 10, 88-89).

By the time these buildings began to loom over the banks of Brush Creek in the late years of the decade, they stood opposite a retail district that had become a modernized competitor to downtown. Residents

Figure 7: Rising above Brush Creek and the new parking lots of the Plaza, the Italianate buildings constructed by the McCanles Building Company offered urbane elegance in a new suburban setting. Courtesy of SHSMO-KC.

could peruse the inventory at the Chandler Florist, M. C. Chisholm's Millinery, or Wolferman's Grocery Store and encounter artistically displayed goods that were as high quality as those downtown, but with far more accommodating interiors (Worley 1990, 249-251). Compared to the cramped quarters of the downtown grocers, Wolferman's was a space where the architectural nostalgia of the exterior gave way to a sense of technological sophistication inside, much like the surrounding apartment buildings. "Practically flooded with daylight," the store featured the newest in methods and facilities, with a refrigeration section that wore an air of sterility and austerity in its white enamel and nickel surfaces (Wolferman's 1924, 3). A similar mix of new and old was apparent in the Plaza Theater, which opened to acclaim in 1928. The newly emerged medium of film had enriched the realm of urban entertainment, and filmgoing had become particularly popular for the city's well to do. And like many movie houses of the day, the Plaza Theater clothed the new technology of film in a traditional style; in keeping with the overall program, the exterior and interior bore the aesthetic flavorings of colonial Spain, complete with imported furnishings (J. C. Nichols, Book 9, 267-272).

With an orientation that emphasized bulk and architectural thrust, these six buildings stood much like the elegant structures of New York's Central Park West or Chicago's Lake Shore Drive, creating an atmosphere of urbane poise in a new suburban order. (Figure 7) Yet residents of the newest lineup of Plaza apartments would experience a sort of walking city and environment that meshed with their residences, whether they were buying groceries, perusing new hats, or catching the newest "talkie" out of Hollywood. Stepping out of elegant lobbies to cross the verdant banks of Brush Creek into the open space of the Plaza was to move through a uniformly aestheticized landscape where the

Figure 8: Charles Phillips' and Nelle Peters' efficiency towers in the Poets Quarter. Courtesy of SHSMO-KC.

experience of commercial interaction bore the same marks of tradition and innovation that the new apartment buildings did.

The Poets' Quarter

The brick lineup along Brush Creek might have been the Plaza's most aesthetically commanding set of structures, but a set of ten smaller buildings constructed by developer Charles Phillips on the extreme west end of the Plaza set a new standard for high-quality and affordable efficiency apartments. (Figure 8) In his ambitious project to house a thousand families in a four-block area, Phillips forged an artistic partnership with female architect Nelle Peters, who saw to it that Phillips' compact buildings all named after famous poets and writers catered to the needs of residents who might have had more limited income and needs, but nonetheless were interested in stylish buildings and modern dwelling spaces in a suburban locale. With their compact efficiency units, these buildings were clearly intended for either singles, newlyweds, the elderly, or small families whose finances would allow them to rent high-style spaces of compact footprints in this growing area of Kansas City.

Phillips' and Peters' earliest buildings in the area were adaptations of the city's ubiquitous two- and three-story walk-up apartments, albeit with whimsical architectural treatments. The Tudor revival David Copperfield building, for instance, featured a quietly playful exterior characterized by parquet brick patterns and irregular quoins of native, uncut stone. Peters also included an amenity that would become an obligatory feature in her designs: open-air sleeping porches that were

Figure 9: Peters' design for the Mark Twain featured a number of Art Deco elements. Courtesy of SHSMO-KC.

integrated into the building facades. Kansas City's sweltering summer nights made outdoor sleeping quarters were a highly desirable element of any dwelling, (Ehrlich and Piland 1989, 172) and Peter's incorporation of them into her efficiency apartments (in addition to the usual technique of encouraging cross-breezes through window placement) without compromising the formality of the exteriors revealed a skillful negotiation of comfort and elegance.

Subsequent buildings were more vertical in profile, and incorporated features of the new "garden apartment" formats, which placed maintained courtyards within a larger mass of buildings (Plunz 1990, 122-124). Seven buildings each of seven stories, and two of eight, offered a variety of efficiency units ranging from compact studios to larger one- and even two-bedroom units. Even in the larger buildings, Peters managed to maintain a sense of domestic quietude that was in harmony with the neighboring areas of single-family homes. Her twin, five-story Cezanne and Rousseau towers framed an interior courtyard that gave residents a sense of peaceful intimacy. Playful aesthetic details on the red-brick buildings enhanced the environment; colorful geometric and floral ornamentations in terra-cotta graced the entrances and roofline, and ornamental brickwork added textural interest in the spandrels. Across Forty-Eighth Street, Peters replayed the spatial arrangement, albeit in more formal architectural terms, in the classically ornamented Henry Longfellow and Robert Louis Stevenson buildings.

Other buildings featured an amplified sense of style in conjunction with larger dimensions. On opposite corners of the intersection

of Forty-Eighth Street and Roanoke Parkway, the Spanish-influenced Washington Irving and Art Deco Mark Twain sat in L-shaped footprints that created semi-courtyard feels. Both included some thirty-five well-designed efficiency units with sun porches, and the Mark Twain even featured a ground-flood solarium offering a space for light and relaxation. Of all the area's structures, the Mark Twain (along with the neighboring Eugene Field) featured an urbane flavor in Art Deco flourishes; angular finials, spandrel panels with geometric lotus figures, and a decorative tower with an ornamental copper dome set the building apart from its more revivalist neighbors. (Figure 9) The compact units in most of these buildings were on offer for around $75 per month decidedly less expensive than in the grander buildings along Brush Creek.

The most grand and formal of Peters' buildings were the twin Thomas Carlyle and James Russell Lowell buildings, both eight stories tall with irregular plan shapes and undulating wall planes with varied bays. Generous yet controlled terra-cotta quoining, parapets, and spandrel ornaments filled out a Jacobean revival theme, and a symmetric arrangement along a grand circle drive gave the pair a sense of grandeur and formality. Apartments ranged from studios to larger four-room units, with prices ranging from $75 to $125 per month (Apartment Homes 1929, 5D). These two structures also faced the upscale homes of the Sunset Hill development across the verdant expanse of Ward Parkway, a position that gave them a more direct sense of landscape connection with the elite residential area, despite housing a different class of people under a different housing tenure.

While Phillips' buildings did not possess the sorts of interior amenities the larger buildings nearby did, Peters saw that they did not skimp on style. Exclusive dining facilities, parking garages, and seating areas were lacking, but lobby interiors were nevertheless of a high standard of design, with marble floors and walls, wrought iron banisters, and polished brass fixtures. Various publications accordingly advertised these structures as "exclusive" and "modern," but without the over-the-top rhetoric of the other buildings. These advertisements also named singles as prospective tenants in addition to families, reflecting the broadening market of Plaza accommodations. (Another Structure 1929, D1) And while it was likely than many of the single workers living in these buildings did not own their own automobiles, their proximity to the Westport streetcar line allowed for sustained connectivity to the central city (Gallup's 1914).

The Walnuts

While the buildings discussed so far bore their unique connections with the Plaza landscape, the construction of three towers just up the hill from the McCanles buildings represented an altogether different echelon of spatial and aesthetic aloofness. According to the earliest promotional brochures, the three towers comprising The Walnuts would be "in their entirety much superior to any apartment precedent established in Kansas City, hence not comparable to local standards" (The Walnuts, 5). The apartments of the Plaza proper offered renters amenities and proximity to the suburban landscape, but The Walnuts would boast an experience of comprehensive luxury for those who could afford to buy one of the cooperative's fifty-four units.

Where the other Plaza apartments invoked their proximity to the seclusion of the suburban world, the Walnuts embodied that seclusion. As the elaborate promotional brochure read, "Home-seekers will find The Walnuts offers the quiet atmosphere of a private residence with the additional advantages afforded in exclusive hotels" (Hubert Perry Wright, Vol. 10, 49). The Park Lane, Sophian Plaza, and Brush Creek apartments might have had park-fronted views, but the Walnuts had a bona fide private front lawn, an undulating sweep of several acres leading to low-slung native stone fences. Gracious apartments offered the space and options of personalization available in private estates. With a maximum of two units per floor, owners could opt to combine units both horizontally and vertically, effectively recreating the manor-like suburban estates from which many of them were moving. "Duplex apartments, with 2-story living rooms in English treatment with heavy oak beams and rafters," some with as many as sixteen rooms, would be offered alongside "compact" apartments consisting of a living room, dining room, breakfast room, kitchen, book room, powder room, two bedrooms, two bathrooms, and a maid's room ("Plans Elaborate Edifice" 1928, 1D).

The builder C. O. Jones also indicated that his buildings offered more than a dressed-up version of the other Plaza buildings. His was no "public hotel or apartment precedent," but a "development...cast along the lines of a cultural residence, to reflect an atmosphere of privacy and quiet elegance." As a cooperative, residents would exact private, if collective, control over interiors. A designated "committee on furnishings," comprised of several future inhabitants three women and two men ensured that a "domestic touch" was apparent in the shared spaces. Viewing their new building as an assemblage of homes rather than as a multi-unit building, they sought to employ "a restraint that

Figure 10: Proximal yet removed, the towers of the Walnuts were the most exclusive high-rise buildings in the Plaza's landscape of variety. Courtesy of SHSMO-KC.

might not be expected in a hotel or club" ("Walnuts' 350-Foot Corridor" 1930, 1D). The appeal of these towers might seem to be their suburban setting, but promotional material implies that these towers were in fact built to accommodate a lifestyle that found the less concentrated, open-lot home experience more trouble than it was worth. "The use of country clubs for entertaining and outdoor recreation; more frequent and extended absence through increased travel; servant problems with kindred household responsibilities; and ever more mounting maintenance costs," were some of the listed deterrents to open-lot estate life (The Walnuts, 12).

Just as The Walnuts emphasized privacy over proximity, they also offered a visage of almost overwhelming traditionalism. Elements of style and status upstaged modern features. In line with pursuing a greater air of exclusivity, The Walnuts broke with the architectural program of the Mediterranean Plaza and instead bore a fully articulated Jacobean style that was, as the brochure suggested, in harmony with the wooded setting. Boillot and Lauck's design harnessed variegated brick, Bedford stone trim, and rough slate to produce a highly textured look conveying a sense of high craftsmanship and lived-in elegance. At the same time, details reinforced a sense of individuality rather than grand coherence. The three towers each of which features an angled geometry in its floor plan sat in a rough row, with irregular styling on the exteriors. Turrets protruded at certain points, and windows were not rigidly organized. Unlike the urbane row of structures along Brush

Creek, these towers would appear as a rambling castle rising from a suburban park. (Figure 10).

In March 1928, before construction had even begun, the Kansas City Star announced that Theodore Gary, owner of telephone manufacturing plants in Chicago and England, had paid $73,600 to reserve a unit on the tenth floor a transaction that set a new record west of Chicago for the size and scale of the luxury suite. With this announcement, it was clear that multi-unit space in the proximity of the Plaza had become not only the territory of middle-to-upper-middle class renters, but the richest members of the elite.

4. WORKABLE TENSIONS AND COHESIVE VARIATION

By the time the onset of the Great Depression put a stop to private building, the Plaza boasted room for at least a thousand families and individuals in its varied multi-unit offerings. And while these structures were built largely on speculation, Nichols, Phillips, McCanles, and Jones had been right in assuming that a substantial cohort of prospective renters (and buyers in the case of The Walnuts) was interested in multi-unit suburban living. Photographs and city directories indicate that these buildings boasted healthy tenancies, and the area quickly became a residential and commercial hub for the southern portion of the city a status that, along with prudent business practices, helped the area navigate the economic turbulence the Depression (Worley 1990, 255-256).

This success and appeal of the Plaza's shops and apartments was synergetic and multivariate. As one entity thrived, so did the other, and vice versa. The high profile of the adjacent Country Club District kept the area's profile high, while the presence of urbane buildings gave many residents of the nearby homes a sense that their new retail world bore marks of urbane sensibility, heightening its appeal even more. Thus while residents of the towers embraced the suburban aspects of their buildings, many nearby residents likely welcomed this new evidence of sophistication in their built environment. And while a quasi-coordinated collection of apartment buildings might have struck some as unusual in such close proximity to a low-density, residential landscape, the development was in line with one of the key features of suburban development of the 1920s: the use of architectural and spatial diversification to buttress the longevity of the new landscape, even if it entailed a controlled densification of residency.

Scholarship on suburban development in the 1920s tends to brush

apartment development aside as a footnote to the development of single-family homes, citing the comparatively meager demographics and net financial inputs, as well as the spatial dominance of single-family housing developments in terms of the land area they occupied (Jackson 1985, 184-185; Loeb 2001, 6). Yet apartments stood as spatially significant elements of the landscape, with their architectural presence significantly altering the feel of the environment in the newly dense commercial areas. Their commanding poise made up for their comparatively modest numbers of residents, and also gave those residents a new sense of metropolitan identity one of suburban, high-rise apartment dwellers inhabiting a domain that managed to feel urbane while being physically removed from the city.

Geographer Mark Rose has written that the new homes of Nichols' subdivisions near the Plaza offered physically secure settings where the various cultural impulses of the era could "reside in a workable tension," pointing to how the dwellings entertained both old-fashioned notions of paternalism and domesticity while embracing technological innovation and the freeing of women from residential labor (Rose 1986, 46). The accommodation of workable tensions was no less discernible in the Plaza's apartment buildings, which arguably accommodated an even greater array of negotiations than the homes. These buildings offered a new set of spaces in which tenants could negotiate the paradoxes of the metropolitan condition. By enjoying high-rise apartment life in the suburbs, technological innovations alongside traditional architecture, and a sense of social cohesion alongside opportunities for independence, the Plaza's dwellers could inhabit spaces that permitted these seemingly incompatible impulses to cohabitate.

The buildings also allowed an expanding tenancy to experience perhaps more than any urban locale had ever done a new sense of environmental cohesion. Whether clustered on the west side of the Plaza, lined up along Brush Creek, or marooned in a wooded glade, these buildings managed to seem unified despite clear differences in style. After all, theirs was a curious sort of unity one based not on stylistic imitation, but rather on a common design ethos and use of materials. Jacobean, Art Deco, Spanish, and Italianate flourishes pulled these buildings in different directions, but their earth-toned brick, cream-hued terra-cotta, red tiles, and a common proportion of aesthetic filigree pulled them back together again. Perhaps this cohesive ambiguity was simply another workable tension another permutation of the pervasive sense of irony that permeated these buildings inside and out. In any case, it qualified them as crucibles of modernity, in the most fundamental sense of the term. These were spaces where people could experience

"a life of paradox and contradiction," and a "paradoxical unity, a unity of disunity" in ways that gave them some semblance of stability to a world that was changing at a breathless pace (Berman 1982, 13-15).

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Preconditions of Urban Infill in Residential Areas with a Low Market Position

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ABSTRACT

Motivation: Creating denser urban structure through urban infill is one of the main targets of urban regeneration in both international and national contexts. Complementing existing urban areas involves challenges related to fragmented land ownership and incompatible interests of authorities, private developers and the local community. Therefore, urban regeneration requires a lot of resources and cooperation.
Problem statement: Urban infill is especially problematic in areas with a low market position. The profit gained from the development projects is insufficient for attracting private developers and landowners to participate in small projects with various stakeholders.
Objective: This article explores the current understanding of the problem through a literature review. It aims to gather up-to-date knowledge of urban regeneration strategies in urban areas with a depressed market and to structure the findings from the point of view of area-based cooperation. By area-based cooperation we refer to the possibilities for authorities, private developers and local actors, such as housing companies, to participate in urban regeneration. The research is conducted as part of a research project called Eheyttämisen edellytykset (Preconditions of Integrative Urban Redevelopment, 2013–2015) at the Oulu School of Architecture and it is funded by The Housing Finance and Development Centre of Finland (ARA).
Results: The results form an initial framework of the preconditions for urban infill in residential areas with a depressed market.

Keywords: urban regeneration, depressed market, cooperation, strategies.

1. INTRODUCTION

The existence of areas with a depressed market has been explained by the relatively disadvantageous development in the position of the areas compared to the wider urban structure, resulting in many economic, social, physical and environmental problems that will continue on a downward spiral without intervention (McCarthy 2007, 7). They are considered to be an outgrowth of the restructuring of the economy and industry that changes the concentrations of wealth in the urban structure. Furthermore, globalization makes these areas compete with each other (McCarthy 2007, 1–2; Jones & Evans 2008, 58; Brindley et al. 1996, 189; van Kempen et al. 2005). The effects are further strengthened by the stigmatization and spatial exclusion of these areas (Andersen 2002; Hall 1997). Turkington and his colleagues (2004) conclude that neighborhoods with a depressed market suffer from a competitive problem. Because of a bad image or low market position, citizens are not attracted to move to or stay in the area (Turkington et al. 2004).

Outcomes of urban policies aiming to improve these conditions are typically referred to as urban regeneration (Tallon 2013, 4–6). Urban regeneration seeks to establish a basis for economic growth and positive social and environmental development in areas with a declined economic position, social problems and poor environmental quality (McGreal et al. 2000; Booth 2005). The possibilities of promoting a sustainable lifestyle by developing run-down areas within the city structure are one of the main motivations for urban regeneration (Tallon 2013, 163–164; Jones & Evans 2008, 110).

In urban regeneration policies, tools for urban infill can mainly be found under the label of physical regeneration. Wassenberg and his colleagues (2007) have explored strategies for upgrading the physical environment in deprived urban neighborhoods through 50 European case studies. They conclude that in Europe physical regeneration is commonly part of a wider urban regeneration strategy and not carried out only for physical reasons. Although urban regeneration schemes emphasizing the physical aspects have been criticized as unsustainable (Tallon 2013, 65; Jones & Evans 2008, 94), it has been argued that the physical aspect is one of the prerequisites for successful regeneration (McGreal et al. 2000; Wassenberg et al. 2007, 55).

Examples of successful urban regeneration can be found in inner city areas that, despite their run-down condition, have an advantageous location near a city center. However, there are also intentions for urban regeneration in housing areas with a depressed market where similar measures are not considered to be as successful (Hall 1997; Brindley

et al. 1996). Hall (1997) refers to these as "peripheral areas" that suffer from spatial isolation, bad reputation among non-residents and social problems among residents. Andersen (2002) talks about "excluded areas": areas that are not only excluded in the meaning of areal concentration of problems, but also in peoples' minds as possible living environments.

Such areas can be found in shrinking regions suffering from economic restructuring as well as in pocket-like areas inside a growth region. In Finland there is an ongoing discussion about the need to approach the urban regeneration of growing city regions and stagnated smaller municipalities using different tools and policies (see, for example, Uudenmaan liitto 2014, 5). However, stagnated housing areas can also be found inside a growth region. A great deal of Finnish urban areas consists of residential districts and suburbs built on the fringes of urban cores between the 1960s and 1980s. Many of these districts feature sparse zoning and a lack of urbanity, and a remarkable potential for urban infill therefore exists. However, the districts are often marked by low property values, and the areas have so far failed to attract developers. Strategies for urban infill in areas with a depressed market are interesting from the point of view of catalyzing positive development in these areas.

1.1 Towards Area-Based Urban Regeneration Policies

Urban regeneration policies have followed social and economic policies. At all times they can be seen as controversial by different political ideologies (Tallon 2013, 148–149; Diamond & Liddle 2005, 7–8; Leponiemi et al. 2010, 3). Van Kempen and his colleagues (2005) have classified recent trends in urban policies under five categories, namely integration of policies, shift from government to governance, involvement of communities, area-based initiatives and the effectiveness of policies. Urban governance, involvement of communities and area-based initiatives are focused upon in this paper.

From government to governance

The shift from government to governance refers to a shift from the state or government as a service provider to the process of delivering political aims (Newman 2001). It is often associated with the retreat of the welfare state and the use of non-state agents as deliverers of public

services (Tallon 2013, 141–142; Jones & Evans 2008, 30–31). It can also be referred to as a shift in power, where the responsibility of welfare distribution is handed down to regions, cities or neighborhoods (van Kempen et al. 2005). In urban regeneration the concept is especially useful for understanding the actors involved in its delivery. Urban regeneration cannot be accomplished by public authorities alone due to its high costs and diverse scopes (Jones & Evans 2008, 31). As a consequence, public authorities do not have a mandate to be the sole deciders about urban regeneration; rather, their situation requires them to make deals with the private sector and communities (van Kempen et al 2005).

Cooperation between the public and private sectors has also increased in Finland. Since 1993 Finnish municipalities have been responsible for their own expenses and income, and they have been granted the authority to draw up statutory local land-use plans (Hirvonen-Kantola & Mäntysalo 2014). Due to their limited budgets, municipalities are now aiming towards more efficient service production and land-use planning by developing their cooperation practices with the private sector (Leponiemi et al 2010, 3; Uudenmaan liitto 2014, 12–15). In land-use planning, municipalities are willing to share the costs of development and therefore go for the public-private arrangements. The developers agree to cooperate because of the municipalities' planning monopoly (Mäntysalo & Saglie 2010).

Community involvement

Besides cooperating with the private sector, a special aim to empower communities to take care of their own issues and thus act as a deliverer of public policies has recently emerged from within the involvement of local communities in urban regeneration (Tallon 2013, 153–155; Wassenberg et al. 2007, 13). A community is often defined as a group of people sharing a location and a common interest (Phillips & Pittman 2009, 5–6). The ideology behind community involvement is to create more long-standing and affordable urban regeneration outcomes by cooperating with local, often non-profit actors, compared to market-led urban regeneration initiated with the private sector (van Kempen et al 2005). Tallon (2013, 155–158), Wassenberg et al. (2007, 13–14) and Jones & Evans (2008, 45–49) discuss community involvement in relation to urban regeneration, especially from the point of view of active citizenship and resident participation. In this approach, the challenges of the community-based initiatives to organize themselves and participate in the urban regeneration process are highlighted.

In Finland, challenges to the public authorities to cooperate with the private sector and community-led actors have been discussed from the point of view of the capacity and resources of the partners to participate in the land-use planning process (Suomen Kuntaliitto 2008, 16). In the context of Finnish suburbs, this challenge is remarkable as land ownership or occupancy is usually divided between resident-owned housing companies that have limited resources and know-how to participate in the urban regeneration process. The cooperation between housing companies in the development of the area would support the municipalities' strategies for urban infill in these areas, but the housing companies currently lack the resources to participate in the process without assistance (Nykänen et al. 2013, 55, 154).

Towards area-based policies

With the public sector aiming to cooperate with the private sector and local community-based initiatives, urban regeneration and governance are thus shifting from more universal to area-based policies. In area-based regeneration, improvements are targeted towards one area, which is considered to create more success and to transfer some benefits also to surrounding areas (Jones & Evans 2008, 67). Area-based policies are also estimated to create synergies because people, organizations and businesses bound to the area can be more easily identified and integrated into the regeneration process (van Kempen et al. 2005). However, critics of the area-based approach have stated that it only causes inequality and the displacement of problems within a city, merely curing the symptoms of deprivation when the cause is to be found from the structures of society (Hall 1997; Andersen 2002; Jones & Evans 2008, 65–67).

Most far-reaching experiments in area-based urban development policies have been conducted in the United Kingdom and United States. Recently, these ideologies have also become relevant in the Nordic countries, albeit in a more moderate form, as the Nordic spatial planning tradition highlights the ideology of the welfare state with egalitarian and redistributive ideas (Leponiemi et al. 2010, 3; Mäntysalo & Saglie 2010). In Finland the area-based approach in urban regeneration and infill projects has recently been discussed, as it is considered to increase municipalities' possibilities to make regeneration projects more visible and appealing to the private sector (construction companies) and community (housing companies and resident's associations). The role of the state in promoting and supporting urban infill projects is also

under discussion. (See, for example, Uudenmaan liitto 2014, 20–24).

It is worth noting that area-based urban regeneration policies regarding the private sector and communities in the Anglo-Saxon context have been controversial, as the community-led regeneration emphasizing locality has its origins in the critique against property-led urban regeneration initiated with the private sector and central state administration (Tallon 2013, 65; Jones & Evans 45). In the Nordic countries there already exists a planning tradition that emphasizes open participation, with local authorities having a strong role in urban planning (Mäntysalo & Saglie 2010; Sager 2009). However, the tools suitable for cooperation with the private sector are more limited. For example, Mäntysalo and Saglie (2010) have noted that there is a gap between public-private negotiations and the open participation process in land-use planning, which affects the effectiveness of both tools. Also, Edelman (2007) and Kuronen (2011) have called for new strategies regarding cooperation between the public authorities, private sector and people in Finnish land-use planning.

2. AIMS AND SCOPE OF THE PAPER

The following paper explores the current understanding of urban regeneration in urban residential areas with a low market position through a literature review. As the interest of this paper is on urban infill, the emphasis in the review is placed on literature regarding physical regeneration. The aim has been to gather up-to-date knowledge of urban regeneration strategies in urban areas with a depressed market and to structure the findings from the point of view of area-based cooperation. By area-based cooperation we refer to the possibilities for public authorities (such as Finnish municipalities), private developers (such as construction companies) and local actors (such as housing companies in the Finnish context) to participate in urban regeneration. Our approach in this paper is explorative, and Anglo-Saxon literature is emphasized because of the strong tradition there in area-based urban regeneration policies.

The process of the literature review has been twofold. The first task has been to form an initial understanding of urban regeneration strategies in areas with a low market position. This was done by exploring compilations regarding urban regeneration and cooperation in the United Kingdom, Europe and the United States, and complementing it with a database search using the keywords of this paper, i.e. urban regeneration, depressed market, cooperation and strategies. The second

task has been to find different schools of thought or lines of knowledge regarding area-based policies in areas with a low market position. The following research questions were addressed:

1. What is the current understanding of urban regeneration strategies in urban areas with a depressed market?
2. How can this understanding be structured from the point of view of area-based cooperation?

The twofold aims of the research were addressed simultaneously but presented in the paper as follows. After introducing the scope of the research and relevant concepts regarding area-based approach in urban regeneration, the paper proceeds by presenting, in Section 3, the regeneration approaches following the found structuring, namely paradigm shifts in urban regeneration related to area-based policies. The found answers to research questions are summarized in Section 4. Finally, the significance of the findings is discussed from the Finnish perspective in particular in Section 5.

3. PARADIGM SHIFTS IN URBAN REGENERATION AND AREA-BASED COOPERATION

Tallon (2013, 134–135) has divided governmental strategies of urban regeneration under three approaches: state-led, property-led and community-led strategies, and he refers to paradigm shifts in urban regeneration policies as examples of these. In the following, paradigm shifts in urban regeneration are examined from the point of view of area-based cooperation. We have used these three strategies of urban regeneration as a starting point, but a fourth trend is also emphasized, namely the aim towards an integrated strategy.

3.1 State-led Urban Regeneration

The state-led strategy considers the planning of larger areas and cooperates with private actors whose intentions fit its master plan (Tallon 2013, 135). This was the prevailing approach in the Fordist era, when the state was typically a provider of welfare and regulated markets strictly. State-led governance allocated urban regeneration especially to less developed areas. The motives of regeneration were social, aiming to help those who were most in need, and also economic in that

developing such areas was considered to create a spin-off effect in the surrounding areas (Oswalt 2006). Although the regeneration was justified by a social-democratic ideology, the projects were often massive and lacked the consideration of local needs, which led to criticism of urban planning and its aims (Raco 2000). This form of governance has also been referred to as a managerial approach because of the strong emphasis on state power, or as a social-democratic model because of the included features of welfare distribution (Tallon 2013, 138–141, 143). Brindley et al. (1996) call it market-critical planning.

Recent examples of state-led urban regeneration schemes have tried to solve the problems of areas with a depressed market by radical restructuring beyond the community or local level. In the United Kingdom, the Housing Market Renewal Initiative regeneration program has aimed to tackle the issue of low demand, falling values and underused housing (Cameron 2010). The main argument for the modernization of these areas has been to bring more alternatives to the outmoded housing stock (Cameron 2006; Webb 2010). In Europe, regeneration strategies based on housing market restructuring can be found under the concept of *shrinking cities*; i.e. an urban area experiencing population loss, economic decline and social problems as an outcome of a structural crisis (Schenkel 2015; Martinez-Fernandez et al. 2012). These policies have led to housing demolition schemes in eastern Germany, for example, where the restructuring of housing markets has been realized under a state-led program (Fontenot 2006; Wiechmann & Pallagast 2012). The actions have been described as a reasonable retreat in areas that would not stand a chance against nation- or region-wide economic and industrial restructuring. Growth-oriented policies are not considered to function in less attractive areas, because every area is competing for the same resources (von Borries & Prigge 2006; Bernt 2009).

Both examples represent a strategy in which rapid changes in global economics are answered with proactive changes in the housing markets (Fontenot 2006; Cameron 2006). They represent an ideology that considers the problems in the low-demand areas to be so massive that it needs top-down restructuring (Cameron 2006; Hall 1997). The engineered gentrification in the United Kingdom also seeks to stimulate economic growth by replacing the existing housing markets with new housing targeted towards higher income groups. The aim is to create regional welfare by attracting these groups, and which has also on some level succeeded (Cameron 2006; Hall 1997). Both Cameron (2006) and Webb (2010) remark that the welfare of the existing community is not within the scope of this strategy. Furthermore, Cameron (2006) remarks that building new housing in these areas is highly speculative

and goes against the understanding that the needed amount of housing is dependent on local employment and economic activity.

In the planning of shrinking cities, shrinkage is not understood as an area-based problem that can be reversed but as a continuous structural process (Martinez-Fernandez et al. 2012). Alternative regeneration strategies emphasizing qualitative local factors and planning for smart shrinkage are proposed to accompany the restructuring (Oswalt 2006; Bernt 2009). Bernt (2009) has examined "governance in the absence of capital" in the context of eastern German cities. The state-led urban regeneration program Stadtumbau Ost has provided subsidies for restructuring the underused housing stock, with a special demand for area-based cooperation between local authorities and private actors to adjust the strategy on the local level. Yet, lacking local strong players and investments, the remaining private actors, such as housing companies, are the only possible partners for the local authorities. Neither of the parties possesses internal resources, and the areas rely on external funding (Bernt 2009). Bernt (2009) remarks that area-based cooperation is thus established merely to gain funding and is not strong enough to create local governance that delivers public policies. This makes area-based regeneration one-sided and geared towards national policies (Bernt 2009).

3.2 Property-Led Urban Regeneration

As the welfare state model underwent a crisis in the 1970s, the prevailing urban regeneration approach shifted to the market-led model, where planning acquires private investment to realize projects. Tallon (2013, 135) refers to this as a property-led strategy, where the public sphere provides the general framework for regeneration but the orientation is market-led. The role of masterplanning and the authorities is minimal, apart from making room for market-led actors to operate in the area (Tallon 2013, 135). This approach is quite the opposite of the previous (welfare) state-led model: those areas that have the potential for development are considered to be worthy of regeneration because the profits there are likely and highest (Oswalt 2006). Property-led urban regeneration policies are often associated with a neo-liberal ideology that assumes public planning to be never as rational as free evolving markets (Rich & Stoker 2014, 39–41; Tallon 2013, 143; Sager 2011). Brindley et al. (1996) call this market-led planning.

Fiscal austerity that restrains national and local authorities promotes market-led planning policies, because the authorities are willing to

share their responsibility of welfare distribution with the private and third sectors. The way cities operate changes towards business-like strategies, alliances to achieve urban competitiveness and public-private partnerships through urban entrepreneurialism (Harvey 1989; Sager 2011). Harvey (1989, 4) noted already over 25 years ago that there seems to be a consensus in the advanced capitalist countries of the world that due to the universal challenge of diminishing public funds, entrepreneurialism has become the prevailing approach to urban development for all political ideologies.

The property-led motivation for regenerating areas with a low market situation is to boost the competitive position of the area in relation to the wider urban structure (Sager 2011; Jones & Evans 2008, 58). The approach to urban regeneration is project-led, and real estate developers and construction companies become important partners for its delivery. Traditionally, developers are unwilling to risk investing in areas with a low market situation (McGreal et al. 2000). Property-led urban regeneration policies aim to reduce these suspicions by site preparation, providing infrastructure, financial support and partnerships. The role of the planning authorities is to enable regeneration in the area by preparing the circumstances and establishing cooperation favorable for economic development. Flexible zoning, speeding up the statutory planning process and relaxation of planning regulations, for example, encourages property-led regeneration (Sager 2011; Tallon 2013, 135).

Turok (1992) has contributed to the discussion of whether property-led regeneration really has an impact on the regeneration of declined urban areas. He estimates that while the impact of attached construction work and the relocation of firms is minor for the local economic situation, the improving image and reputation of the area accomplished by refurbishing buildings and the environment may to some extent have positive outcomes. People are more committed to stay in or move to the area, house prices rise, owner-occupiers are more willing to maintain their properties and new development becomes profitable. Yet, the physical change alone has minor effects on the economic situation of people living in the area, and those suffering the most from social problems are left in the same situation. Moreover, promoting growth by means of physically large projects is not based on the actual needs of the area but on speculation. Providing public subsidies may increase speculation and lead to remarkable failures when the period of additional funding is over. (See Turok 1992).

Brindley and his colleagues (1996) argue that the market-led approach responds to a rapid restructuring of the economy with a rapid restructuring of the urban structure. Its memory regarding past in-

vestments is short, and it does not consider future developments. The market-led approach is also dependent on economic instability and does not provide solutions if the economy crashes (Brindley et al. 1996, 182–183). Jones (1996) has remarked that property-led regeneration projects in the 1980s were successful and profitable for private investors because remarkable public subsidies and a simultaneous economic upturn increased long-term profits for the developers. He estimates that property-led regeneration is not functional during times of economic recession, when property prices sink and the value of the project decreases during the regeneration process (Jones 1996). Brindley et al. (1996) and Hall (1997) have noted that the sustainable effects of publicly subsidized regeneration in areas with a depressed market are questionable because economic and industrial restructuring is simultaneously drawing private and public funds elsewhere (Brindley et al. 1996, 177–178, 180–181; Hall 1997).

The property-led approach has been accused of focusing only on projects and not on comprehensive regeneration of areas, which has been assumed to cause a lack of equity and uneven redistribution of welfare (Sager 2011; Tallon 2013, 64; McGreal et al. 2000). Market-led property developers are often unwilling to include targets with social or community welfare in their plans, and public authorities' possibilities for bargaining are limited in less attractive areas (Sager 2011). Yet McGreal and his colleagues (2000) have remarked that after the economic recession in the beginning of the 1990s, the private sector has started to show more interest in community-based projects. Small-scale projects may provide opportunities for more secure and diversified portions of investment compared to big flagship-projects, although such interest might also reflect the lack of other opportunities during a depression (McGreal et al. 2000).

3.3 Towards the Integration of the Urban Regeneration Policies

After the first boom of the property-led approach in the 1970s and 1980s, the prevailing paradigm for urban regeneration has evolved into a pragmatic mixture of market-led and market-critical approaches. Lessons learned from previous strategies have presented a need for a more holistic approach that also takes into account the ecological and social aspects, not just economic aspects and growth promotion (Jones & Evans 2008, 83–85). In integrated urban regeneration, the market-critical approach evolves to better meet the successful parts of the market-led approach, such as economic efficiency, productivity and competive-

ness. Mutually, the market-led approach is to embrace the dialogical aspects of the market-critical approach (See Brindley et al.1996, 200; Rich & Stoker 2014, 41–42). Brindley and his colleagues (1996) have called this partnership planning. At one end of the spectrum is the cooperation between public authorities and the private sector and at the other end is the cooperation between the authorities and the community and voluntary sector (Brindley et al. 1996, 200).

One example of urban regeneration intending towards a more integrated approach is regeneration funding based on competitive bidding, which encourages local authorities to form partnerships with the communities and the third sector (Jones & Evans 2008, 10–11; McCarthy 2007, 31–34). In the United Kingdom, competitive bidding was a key mechanism in the Single Regeneration Budget and City Challenge regeneration programs in the 1990s. In the United States, Empowerment Zones and Enterprise Communities have been supported via the competitive bidding process. The mechanism has been considered effective in directing funding on the local level and bypassing the bureaucratic hierarchies in between. The bidders are claimed to form partnerships with local communities and businesses in order to qualify for funding (Tallon 2013, 67–79; Sager 2011).

Competitive bidding still has features of market-led regeneration in that it makes derelict urban areas compete with each other. The mechanism has led local authorities to develop those areas that have succeeded in the competition but ignore the other deprived areas. This has again led to discussion and criticism about which areas should be regenerated: those in need or those that have the most potential (Jones & Evans 2008, 10; Sager 2011)? The losing bids were also considered to have a positive impact by introducing new possibilities for cooperation during the bid preparation, but in reality the partnerships and plans collapsed due to lack of funding. The mechanism has also been accused of wasting the resources of local authorities in bid preparations that could otherwise have been used on more sustainable regeneration activities. Moreover, groups with less power, for example local communities, were in some cases used merely as token partners with no actual influence on the urban regeneration strategy. (Tallon 2013, 78–79; Sager 2011; McCarthy 2007, 32–34.)

3.4 Community-Led Urban Regeneration in the Age of Austerity as the Integrated Approach

Apart from the private sector, partnerships with the third sector and

community-based organizations have become important for the authorities in delivering the aims of urban regeneration. Such actors typically do not seek profits but instead try to produce benefits for their members or interest groups, which often are local communities. Thus, their interest in providing welfare resembles that of a public authority (Leponiemi et al. 2010, 30). In the community-led urban regeneration strategy, such actors are seen as an extension to public government and its limited resources (Tallon 2013, 155; Haugh 2007; Raco 2000).

Community-led initiatives have often emerged when market-led regeneration has threatened to take over the existing communities in deprived urban areas that modernistic state-led policies had been unable to regenerate (Brindley et al. 1996, 205–211; Raco 2000). Consequently, the motivation for community involvement has also been to get their approval for regeneration strategies (Tallon 2013, 150). Sager (2007) has discussed whether the role of the planner as a facilitator of the participative planning process actually serves the market-led agenda of regeneration rather than democratic ideologies. Also, Rich and Stoker (2014) have posited that the motivations for community involvement can be twofold. First, it prevents the local community from organizing itself against regeneration actions and answers the critique against neoliberal policy. Second, it helps the community find a more feasible and locally viable approach for urban regeneration. Thus it tries to complement the gaps in the market-led strategy (Rich & Stoker 2014, 41–42).

In areas with a low market position, community-led initiatives bring potential actors into urban regeneration with motivations that are not based on economic revenues but rather on creating community benefits and well-being. To accomplish this, the non-profit actor may adopt entrepreneurial behavior, but the revenues are reinvested only to further the aims of the enterprise. Community-led ventures may occur especially in areas with market failure, where the public sector has withdrawn and the private sector is unwilling to invest because of the unforeseeable profits (Haugh 2007; Uski et al. 2010). Community-led regeneration may also have the best chance to survive in areas with a marginal market: otherwise the economic pressure for market-led solutions is too high (Brindley et al. 1996, 180). Yet running activities rejected by market-led actors is extremely risky and makes the community-based initiatives as dependable on the economic situation as market-led initiatives (Bailey 2012).

Public authorities have tried to share their responsibilities in supporting community-based initiatives by providing local services. Hall (1997) remarks that community-based initiatives in the United King-

dom, such as housing cooperatives and residents' associations, have often been encouraged to participate in urban regeneration practices, such as refurbishment and management of housing. In Finland, municipalities have increasingly started to consider small cooperative actors as a useful partner for service production, especially in the welfare sector (See, for example, Leponiemi et al. 2010, 30; Uski et al. 2010; Henrÿ et al. 2014). However, authorities may have too big expectations for the role of these actors in cooperation, as they seek to bring benefits to their own interest groups rather than take the role of welfare distributor (Leponiemi et al. 2010, 30). Too much public support can even be disadvantageous if the local initiatives become heavily dependent on it (Jones & Evans 2008, 33). The possibilities for the community-led initiatives to participate in market-led regeneration schemes have also been questioned, as it might make them compromise their non-profit motives (Tallon 2013, 158–160).

In the context of Finnish suburbs, housing companies resemble community-based actors in many ways. They are run by the residents themselves and are non-profit organizations as they do not pay dividends to their shareholders. By law, they are not allowed to take financial risks or carry on businesses that are unrelated to their purpose; i.e. providing dwellings (Ruonavaara 2005; Nykänen et al. 2013, 55). However, Ruonavaara (2005) has noted that the Finnish housing company model does not include cooperative features of mutual help but is more of an organizational form for funding and transferring dwellings. This has made it a speculative tool for housing construction entrepreneurs (Ruonavaara 2005). Hankonen (1994) has also stated that Finnish suburbs were originally built according to the model that considered future residents only as financiers through the home saving system created by the state administration and financial institutions. The system did not include any role for the residents to participate in the development of their living environment (Hankonen 1994, 428, 457), except for taking care of the building and surrounding yard owned by the housing company.

At the present moment, Finnish suburbs, with their properties owned and managed by the housing companies, are in need of building renovation and urban regeneration. Cooperation between housing companies in renovation and infill projects would be beneficial in order to form spatially and economically viable projects, but the housing companies have so far been incapable of organizing the projects by themselves. There is a need for an actor that would act as a project manager and bring together the housing companies to establish well-functioning cooperation. Both the municipalities and private

sector actors (property managers and construction companies) have been suggested for fulfilling this role (RIL 2012, 11–14; Nykänen et al 2013, 55, 154). Thus, a single housing company, as a community-led actor, currently appears to be too narrow an administrative unit to participate in urban regeneration in Finland. However, as remarkable owners or occupiers of land in the suburbs, they are valuable partners in area-based urban regeneration for both the Finnish municipalities and private sector construction companies.

4. SUMMARY

This paper has explored the current understanding of urban regeneration in residential areas with a low market position. By examining the paradigm shifts in urban regeneration policies, we have shown how prevailing political ideologies have an effect on the approaches of urban regeneration in areas with a low market position. All three strategies respond to the challenge of local market failure, seeing area-based cooperation as a tool to fulfill the urban regeneration strategy.

In order to structure our findings related to the preconditions of urban infill in residential areas with a low market position, we present in Table 1 the different aims, partners and market-orientation of area-based cooperation in the three urban regeneration strategies. The table depicts an initial strategy framework for urban infill in urban areas with a depressed market. Also specific challenges related to these approaches are summarized.

The state-led urban regeneration strategy operates beyond the areal level by restructuring the housing stock, for example. The approaches in state-led regeneration have been both market-led and market-critical, depending on the prevailing political sphere. Area-based initiatives alone are considered to be too narrow an approach, as the problem of market failure has to be tackled at various spatial scales. However, state-led urban regeneration uses area-based cooperation as a tool to deliver its policies. Public-private-people partnerships may be set as a condition for funding in order to enhance the democratic planning process and delivery of the urban regeneration policies. The challenge of state-led urban regeneration in areas with a depressed market is that strong partners have often already left or cannot be attracted, and the partnership is formatted among weak players remaining in the area. With no internal resources, the possibilities to integrate objectives other than those presumed by the state policies are scarce.

The property-led urban regeneration strategy is based on market-

Urban regeneration strategy	**Aims of area-based cooperation**	**-Market-orientation of area-based cooperation**	**Partners in area-based cooperation**	**Challenges of area-based cooperation**
State-led	Adjust the area as a part of regional restructuring	Market-critical/ market-led (depends on prevailing public policies)	Authorities and partners that best fulfill the urban regeneration objectives	Deliver the aim of integrated urban regeneration on the local level. Depressed areas lack potential partners.
Property-led	Create growth and boost competitiveness of the area	Market-led	Authorities and private sector partners (real property developers)	Find the balance between publicly funded regeneration subsidies and profitability of the regeneration. Deliver benefits of urban regeneration to existing communities.
Community -led	Self-help	Mixed?	Authorities and local communities	No valuable assets in the area. Generate from something that others have rejected.

Table 1: Urban regeneration strategies in areas with a depressed market

led objectives. It aims at economic growth created with partnerships between public authorities and the private sector. The fundamental idea is to upgrade the competitive position of the area in relation to the wider urban structure. Successful examples of property-led regeneration have been achieved with publicly funded incentives making the urban regeneration profitable for the private sector. However, the effects of subsidized urban regeneration in areas with a depressed market are questionable because economic and industrial restructuring is simultaneously drawing private and public funds elsewhere. Moreover, property-led urban regeneration has been criticized for not delivering benefits of urban regeneration to existing local communities, and the policies have since headed towards a more integrated approach. Also market-critical actors, such as community-based organizations and the third sector, have been invited to participate in property-led regeneration schemes, turning the attention to the democracy of the planning process.

In the age of austerity, community-based market-critical actors have also been expected to take responsibility for physical regeneration in their own areas. As their function is not based on bringing about economic profit, they may have better chances to survive in areas with marginal markets. For the authorities, the motivation for partnerships has been to share the load of service production in these areas. Moreover, market-critical actors have recently also been expected to take an entrepreneurial approach and fill in the market gap in areas with a depressed market. Improving the competitive position or service provision of the area may be challenging for the non-profit, area-based purposes and principles of these initiatives.

5. DISCUSSION

Trends highlighted by the paradigm shifts in urban regeneration policies are also relevant in the Finnish context. The Finnish spatial planning system is based on land-use planning, and it has evolved from nationally steered policies towards the independence of municipal strategic land-use planning. Since 1993, the municipalities have been responsible for their own expenses and income, and they have had the authority to draw up statutory local land-use plans. The independence of municipalities has emphasized their position as competitive actors and has often led to project-oriented planning with an inadequate strategic approach on the regional and national level (Hirvonen-Kantola & Mäntysalo 2014). This indicates challenges in applying a state-led urban

regeneration strategy. While there are growing disparities between regions in Finland, there are emerging urban regeneration programs but weak strategic national and regional spatial planning. A discussion on selecting areas for urban regeneration is now underway.

In the Finnish municipalities the challenges of area-based cooperation in property-led and community-led urban regeneration strategies are highlighted. This is especially due to housing based on resident-owner-occupancy. Traditionally an apartment belonging to a housing company, which often owns the whole real property including the land, has been considered a good investment. Because of economic restructuring, many former industrial regions and peripheral municipalities, along with their inhabitants, now struggle with outdated properties. The low market situation makes area-based cooperation through property-led regeneration in such areas highly contrived, and also community-led regeneration delivered by housing companies becomes more and more unattractive if the renovation of the housing stock is unprofitable for developers and the resident-owners. Thus the property-led and community-led urban infill developments have seldom been successful. In addition, the role of the housing companies as administrative units representing the local community requires further research within the context of urban regeneration. After all, the Finnish housing companies are market-critical actors, which are expected to take an entrepreneurial approach, and possibly located in a depressed local market context.

The four strategies discussed in this article help identify different approaches to urban regeneration as preconditions for urban infill in residential areas with a low market position. We conclude that the integration of state-led, property-led and community-led urban regeneration strategies is called for in order to boost the competitiveness of an area, catalyze self-help and adjust depressed areas as part of the urban structure. A more versatile approach to urban regeneration could regenerate those depressed areas currently lacking potential partners or other valuable assets in the area, help achieve a balance between publicly funded regeneration subsidies and the profitability of the regeneration, and generate something new from what others have rejected.

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Municipal Economics of Regional Development – Infill Versus Greenfield Development

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ABSTRACT

There is an ongoing debate in academia about the pros and cons of infill development. It has been said that dense city structure can lead to several agglomeration benefits and cost savings, whereas urban sprawl is usually seen as a negative phenomenon supporting an unsustainable lifestyle and leading to increasing municipal expenditures. Contradictive perspectives can also be found. Some studies claim that limiting the land available to build on is raising the prices in housing markets resulting in various problems. It is also alleged that the economic benefits gained through densifying are diminished in cities with a population over 500 000.

In this case study, the analysis is limited strictly to the financial aspects of regional development projects. The main difference when comparing this study to the existing body of literature is that the municipal revenues are considered alongside the expenditures instead of focusing solely on the cost aspects. The Net Present Value method is used to analyze three different regional development projects. An ongoing greenfield residential area development project is compared with two infill development projects in the city of Tampere in Finland. The first infill area is situated in the immediate vicinity of the city center and the second is a suburb about eight kilometers west from downtown Tampere. The analysis provides information not only about differences between infill and greenfield projects, but also about the dissimilarities between different types of infill.

The results indicate that from the perspective of municipal economics, residential infill is more profitable when compared to greenfield development. Two studied infill areas start returning profits 25–30 years after the start of the development, whereas for the studied greenfield project the corresponding value is almost 50 years. Despite the undeniable economic benefits, the practice shows that there are still major obstacles preventing the widespread realization of infill in Finland.

Keywords: infill development, greenfield development, municipal economics, Net Present Value.

1. INTRODUCTION

Urban infill has been recognized as one solution to prevent various undesired effects from urban sprawl. In the context of this paper, urban infill is defined as a form of regional development where the new development is implemented in vacant parcels that are situated in existing urban areas. By contrast, urban sprawl is defined as a phenomenon where a city expands from a central urban area into dispersed low density communities located in the undeveloped periphery. Greenfield development projects where urban environment is built in undeveloped areas contribute to urban sprawl. Despite the indisputable environmental benefits, urban infill has provoked widespread public and academic debate. This research focuses on comparing the municipal economic impacts from these two different forms of regional development.

From the perspective of an enterprise, it is essential to be able to deliver products that meet the customer's needs and both technical and environmental requirements as cost effectively as possible (Asiedu, 1998; Janz & Westkämper, 2007; Niazi et al., 2005). Moreover, similar thinking can be applied to the public sector and its services, such as education facilities or even entire residential areas. Both in the private and public sector, different investment options should always be thoroughly evaluated as the available resources are limited. This particularly applies to regional development projects since those are recognized as really long-term and capital intensive investments. Thus, municipalities should be long-sighted in analyzing the economic outcomes of these projects.

This study uses the Net Present Value method to provide evidence of the economic effects from different forms of regional development. What makes this study unique is the fact that it does not only compare the differences in the municipal economics of urban infill and peripheral development, but also provides information about the differences of infill in different operational environments. The differences are related to geographical locations within the city as well as the landownership in the areas. There is a limited existing body of literature on the municipal economic impacts from regional development in the Finnish context (e.g. Nykänen et al., 2012; 2013). However, this study is the first of its kind in correcting the most fundamental shortcomings of previous studies by considering also the municipal revenue as part of the economic analysis, instead of solely concentrating on costs as the previous studies have done.

All of the studied development sites are situated in Tampere, Fin-

land. Two of the studied development areas can be considered urban infill and the third is a typical Finnish greenfield development project. The first infill site is already under construction, but progress is rather slow. The main reason for this is that most of the buildings, as well as the available land parcels in the area, are owned by private housing corporations. The housing corporations have doubts about the economic feasibility of infill because of the lack of evidence-based information regarding the subject. The first infill district is located in the immediate vicinity of downtown Tampere. The second infill site is a suburb situated 8 kilometers from downtown Tampere. The area is currently under planning by city officials, and thus the big scale development is still pending. The development of the analyzed greenfield area started in 2008. Because of the changes in the global economy, migration into the neighborhood has been notably slower than predicted, thus slowing down the development of the area.

The second section covers the literature on urban infill and how it is justified or criticized depending on the author's point of view. The main focus is on the literature covering the economic effects of urban infill. Also, the case areas of the study are presented in the second section. In the third section, data gathered for the analysis, as well as the analysis method, are described. The fourth section presents the results from the analysis, and this is followed by the final section with concluding remarks and discussion.

2. BACKGROUND

Supporters of urban infill usually justify their opinions by referring to environmentally sensitive areas and the high costs of low-density development in the periphery. The existing body of literature is limited, but contains several examples which recognize well-designed infill as a possible solution to urban sprawl by improving conditions in depressed neighborhoods (Farris, 2001; Paull, 2008; Robinson & Cole LLP, 2002; Urban Land Institute, 2005). However, the public debate is still often fueled more by emotion and misinformation than empirical evidence. Consequently, infill still remains a complex entity which current residents rather perceive as a threat than an opportunity. This is mainly due to the fear of impact from negative externalities of infill. However, infill also imposes positive externalities on local communities, and the total outcome is dependent on whether the positive externalities outweigh the negative ones. To ascertain whether the fears of current residents are justified, more research on the impacts from

infill is needed. In this study, we focus on the municipal economic impacts from infill, and what follows is a review of the most closely related literature.

From the perspective of municipal economics, the existing literature provides a limited outlook on infill development. De Sousa (2002) investigated the environmental, social and economic costs and benefits of greenfield development and urban infill. He studied the Greater Toronto area and found that carrying out industrial development projects in brownfield areas is significantly more profitable than their greenfield execution, whereas residential development should be addressed to greenfield areas. Other identified economic benefits of infill are related to reduced traffic volumes, housing and land costs as well as public infrastructure costs (Burchell et al., 2005, 2002; Young, 2005). Burchell & Mukherji (2003) used statistical modeling combining growth projections and required resource supplies to show that in the US urban sprawl increases governmental costs by 10 percent when compared to managed growth. A Finnish case study found evidence that municipal expenditures per capita on an infill development area varied from 10 to 50 percent as compared to per capita expenditures on two detached greenfield development areas within the same city (Nykänen et al., 2012). Holcombe & Williams (2008) used a two stage least squares regression model to provide information about the effect of population density on municipal government and operational expenditures in the US. They found that there was no statistically significant relationship between density and per capita total government expenditures for cities with a population under 500 000. However, they also found that infrastructure expenditures decline with increases in population density in cities with a population of less than 500 000. Carruthers & Úlfarsson (2008) found in their analysis based on the entire continental US that low-density and spatially extensive development nearly always raises the per capita public investments required.

Criticism towards urban infill concentrates on the negative externalities it may create. Worth mentioning, for example, are findings considering increased crime in the development area (Lin & Yang, 2006). However, also a study with contradictory results can be found (Brown et al., 2004). The fact that requirements for underground parking can create challenges for the feasibility of infill development is widely recognized (Nykänen et al., 2013; Wheeler, 2002). Ladd (1992) claims that increased density in the area has led to the growth of costs related to providing public services. In the same study she states that in the case of a rapid population growth in an area, established residents in the area carry the fiscal burdens in the form of lower service levels.

Another study from Ladd (1994) shows evidence of rising municipal tax burdens in the areas of rapid growth.

The present study investigates three regional development projects situated in Tampere. It differs from the existing body of literature by taking into consideration the municipal revenues as well as expenditures. Only the residential development is considered in the analysis, as it is the predominant development type in all study areas. Tampere is the third largest city in Finland with approximately 223 000 inhabitants and it is one of the major centers of growth in the country. Tampere is situated 170 kilometers north from the capital of Finland, Helsinki. Tampere adopted a new land use policy in the beginning of 2014 (Tampere, 2014b). In this document, it is specifically stated that one of the main focus areas in the city strategy is to provide apartments to new residents by utilizing vacant parcels within the existing urban environment. To achieve this strategic goal, several incentives are presented for property and land owners. By fulfilling specific requirements, these incentives may lead to substantial reliefs on the land use fee claimed by the city in the case of private land development. What follows is a more specific description of the study areas.

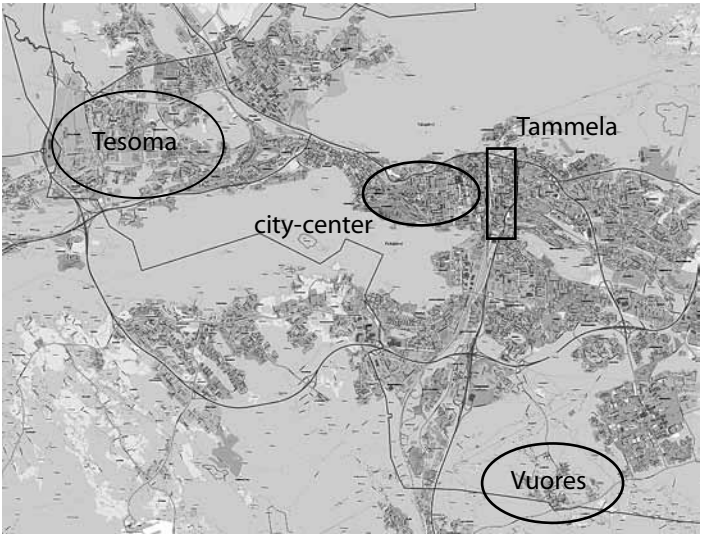

Figure 1. A map of Tampere showing the locations of the city center and the studied development areas. City center is an area located between two lakes. The Tammela district, which is the first studied infill area, is located in the immediate vicinity of downtown on the eastern side. The second studied infill area, Tesoma, is located 8 kilometers west of downtown Tampere. The third studied area, Vuores, represents a typical Finnish greenfield development, and is located approximately 8 kilometers south of downtown Tampere.

Tammela

The purpose of this study is to compare three regional development projects in Tampere. Tammela is a district located in the immediate vicinity of the city center (Figure 1). Because of its central location, different public services are easily accessible to the residents. Tammela was built between 1960 and 1980. The oldest part of the building stock in the area consists mainly of urban blocks built in wood, but nowadays only a couple of these buildings remain in the northeastern part of the district. The rest of Tammela consists almost exclusively of apartment and service buildings built in concrete. At the end of 2012, there were approximately 6500 inhabitants in Tammela.

In 2012, Tampere published a master plan draft for the possible development of the Tammela district (Tampere, 2012). This plan included plenty of infill within the area. The floor area of the modeled potential infill was 130 000 m2. This new building stock was assumed to provide a place of residence for 2400 new inhabitants. The time span of development was estimated to be 2013–2032 (i.e. 20 years). Currently the city is trying to encourage property owners in the area to initiate development projects, but so far with only modest results. This is mainly due to the fact that private housing corporations own practically all of the undeveloped parcels in the area, and thus their agreement is needed in order to run an infill project. However, local residents often perceive infill as a threat and convincing them of the benefits is challenging but crucial. The main financial issue at the moment in Tammela is car parking. Major investments in underground parking are required for the district to develop to a scale as described in the master plan. The costs of underground parking are a major burden on the economic feasibility and benefits of the land owners for developing free land parcels.

Tesoma

Tesoma is a suburb consisting of multiple districts situated in the eastern part of Tampere, about 8 kilometers from the city center (Figure 1). Tesoma is a typical product of the 1960's and 1970's Finnish "suburb boom". This era in Finland was a time of rapid migration from the countryside to the cities. The building stock of Tesoma consists mainly of precast concrete element apartment buildings, but there are also row houses as well as single-family houses in the area. Tesoma is home for 8 000 inhabitants. The demographics of the area show that in 2013 the population of school age children and elderly people was

on average larger than in Tampere. Also, the income level in the area is a bit lower than the average in Tampere. In 2013, the unemployment rate in Tesoma was 16,6 percent, whereas the rate on the city level was 13,8 percent (Tampere, 2013a).

The infill potential analyzed in this study is based on the master plan draft (Tampere, 2013b) published by the City of Tampere. According to the plan, the potential floor area of the residential infill is approximately 208 500 m2. The building volume of this scale would make it possible for 4 450 new inhabitants to move into the area. According to city officials, the development should start in approximately 2020 and reach its conclusion by 2050. The main difference in the area, when comparing it to Tammela, is the fact that in Tesoma the land is almost exclusively owned by the city. This provides opportunities for more rapid development. However, the lower monetary value of building rights in the area, combined with the possible requirements for underground parking, could prove to be a major challenge.

Vuores

Vuores is a greenfield development area situated in the area of two municipalities, Tampere and Lempäälä. However, in this paper Vuores only refers to the land and properties located in Tampere. Vuores is about 8 kilometers south of the city center of Tampere (Figure 1), and consists of several districts, which are in different phases of development. Development started in 2008 and in April 2015 there were approximately 1 400 inhabitants in the area. Tampere is trying to get over 10 000 inhabitants and approximately 440 000 m2 (floor area) of residential development into Vuores by 2025, after which the development process is projected to finish.

Tampere is practically the only landowner in Vuores. As mentioned in the city's land use policy, the main way of granting city-owned land to developers is by using land lease agreements. Due to different reasons, not least the uncertainty surrounding the global economy, Vuores has not grown as rapidly as predicted. However, for the purposes of this study, it is assumed that the development in all three studied areas is carried out as presented in the planning phase material of the projects.

3. DATA AND METHODOLOGY

The present case study utilizes a quantitative modeling approach. We use the Net Present Value (hereinafter referred to as NPV) method to analyze cost data gathered from three investigated development areas. Notably, this is the first study in the Finnish context that evaluates and compares the impacts of different types of regional developments on both municipal revenues and expenditures, whereas previous studies have solely focused on expenditures. For a specific summary of the data gathered for the analysis of each study area, see the Appendix. The main sources for data collection were the master plan drafts for Tammela (Tampere, 2012) and Tesoma (Tampere, 2013b). Also cost data we gathered during a previous research project considering Tammela (Nykänen et al., 2013) was utilized.[1] The data collected for the Vuores analysis is largely based on material produced by Finnish Consulting Group Ltd. (2010). Data on the land value in different areas is based on sophisticated estimates of professionals at the City of Tampere's Real Estate Department.

In this analysis, municipal expenditures include investments in public services and infrastructure (utilities). In addition, operational costs of social and health care services as well as educational services are taken into account. Municipal revenues include income from land leases and/or sells, and property and municipal taxes paid by the new residents. Whether the land is private or owned by the city is a central factor defining potential municipal revenue. As private land is developed, the city claims a land use fee. Entitlement to collection of the land use fee is based on the need to finance the public infrastructure as a consequence of a new real estate development. The magnitude of the land use fee is based on the increase in the value of the lot as more permitted building volume is granted for the land. In Tampere the baseline for the land use fee is 40 percent of the value increase. However, if a project fulfils certain conditions concerning energy effectiveness, volume of infill, parking solutions, etc., it may receive a major reduction in the land use fee. The prerequisites for the reduction are described in detail in the Land use policy of the city (Tampere, 2014b). Naturally, reductions in the fee decrease revenue for the city, but at the same time, reducing the fee acts as an incentive, enabling development in existing urban areas where the municipal investments required are really low. In the City of Tampere's land use policy it is stated that city-owned land is granted to developers mainly by using land lease agreements, meaning that land is sold only on exceptional occasions. The annual lease in Tampere is 4 percent of the capitalized value of land for regional

development and 6 percent for commercial development (Tampere, 2014b). To keep land leases up-to-date, they are annually adjusted to correspond to the development of the consumer price index provided by Statistics Finland (Statistics Finland, 2015).

The development of Vuores and Tammela is currently in progress, and thus there is lots of useful data available, whereas data collection on Tesoma has been more challenging. Due to the limited data availability, sophisticated assumptions have been necessary because many uncertainties still exist as the development process is estimated to begin in practice in around 2020. To get the best possible estimate of development expenditures, the recently collected cost data on Tammela were also applied in Tesoma. However, due to the differences between Tammela and Tesoma, the data could not be directly applied, but some sophisticated modifications were needed. The most essential differences that were taken into consideration are related to land ownership, the share of different types of residential development (state subsidized, privately financed etc.) as well as differences in the market value of land.

The required data were collected and the financial effects of the development projects were estimated using the city's economic calculation model, the validity of which has been tested in practice.[2] To meet the purposes of this study, the model was modified to handle longer calculation periods and also some detected errors in the model were corrected.

The NPV method is based on the time value of money, meaning that a cash flow in the future is less valuable than an identical cash flow today. The two most central reasons behind this phenomenon are inflation and a simple fact that a present cash flow can be invested immediately to earn future returns, whereas a future cash flow cannot be invested yet. The NPV method takes the time value of money into consideration by discounting the future cash flows by an appropriate discount rate. The mathematical form of the NPV equation used in our model can be written as follows:

$$NPV = \sum_{t=0}^{n} \left(\frac{(Revenues - Expenditures)_t}{(1+r)^t} \right) \qquad (1)$$

Where:
t = cash flow period
r = the chosen discount rate
n = calculation period

In the model the cash flow period (t) is one year, whereas the analyzed calculation period of a development project (n) is 50 years. Choosing a proper discount rate (r) is one of the most crucial elements in any type of medium- to long-term investment calculation. The discount rate describes the yield requirement for the investment, including the perceived risks as well as desired profits. As a rule of thumb, the minimum discount rate should be at least high enough to cover the financing costs of an investment. A high discount rate gives more weight to cash flow events at the beginning of the analyzed life-cycle. Thus, usually investments with low initial capital costs seem more tempting when using high discount rates. Instead, the lower the discount rate, the more the impact of the cash flow events occurring further in the future will have on the results of the analysis.

There is an extensive academic literature on the uncertainty related to public investments and selection of a proper discount rate (e.g. Arrow & Kruz, 2013; Arrow & Lind, 2014). Woodward (1997) states that the appropriate discount rate in life-cycle cost analysis varies from 3 percent to over 20 percent, depending on the nature of the investment. In this analysis we use a real discount rate of 5 percent, which equals the one used by the Finnish Ministry of Transport and Communications in analyses, including environmental aspects (Hepburn, 2007). A real discount rate does not include inflation, whereas the so-called nominal rate does. Whenever one uses a real discount rate, the cash flows must be in real values as well. The utilization of real rates and costs is chosen because it is really hard to predict the fluctuation of inflation for long calculation periods. The significance of this matter grows the longer the calculation period is.

4. RESULTS

The results are presented using a unit of euros/inhabitant to make the comparison of projects fluent. The inhabitant part of the unit includes only predicted population growth enabled by development. It should be noted that even though the development projects are in different phases of execution, for the sake of simplicity it was assumed in the analysis that all the projects start on the same date. All the gathered cost data is presented in current price levels. The development projects were analyzed over a 50-year time period, and as Figures 2, 3 and 4 show, there are major differences when comparing the economic feasibility of greenfield and infill projects in the Tampere region.

Figure 2 presents the NPV of municipal investments in the Vuores

development project over a 50-year calculation period when using the real discount rate of 5 per cent. From the perspective of the municipality, the project starts to return a profit at the very end of the analyzed time period. Considering the uncertainty related to cost data, it is safe to assume that the break-even point is reached somewhere between 43 and 50 years after start of the development. Taking into consideration the fact that development in Vuores has been slower than as predicted by the original estimates, municipal per capita costs at the current stage are likely to be even greater than it appears from our analysis.

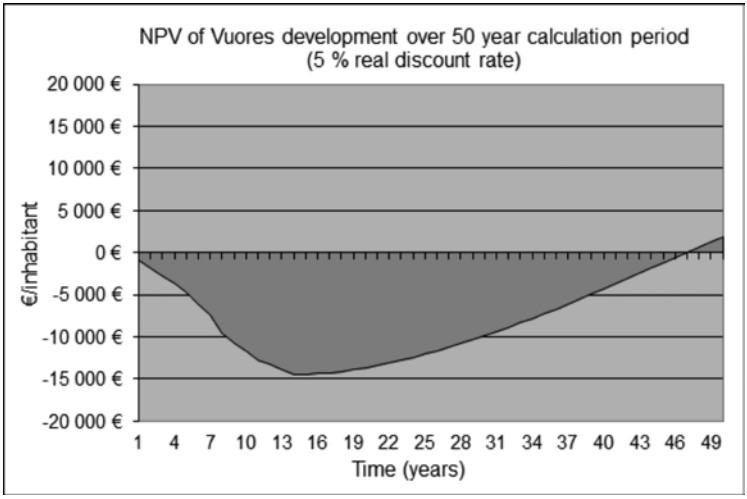

Figure 2. Annual Net Present Value of municipal investments in the Vuores district over a 50-year calculation period.

Figure 2 clearly points out the capital intensity of greenfield development. Although the project seems to return profit at the end of the calculation period, the profits are really small compared to the investments required. This indicates the high risk level of this kind of development. As the development of Vuores has been slower than predicted, and there are lots of vacant condominiums without a buyer, it is probable that the financial break-even point for the project will move several years into the future.

The results regarding the Tammela (Figure 3) development project differ drastically from the results for Vuores. Our analysis reveals the economic benefits related to the use of existing public infrastructure to support new development in the area. Even though there are a couple of major municipal investments planned, such as an underground

parking facility and a major pedestrian underpass, the break-even point is reached less than 30 years after the start of the development. After that the investment starts to return a profit, which could accumulate to as high as 15 000 euros per new resident after 50 years. The difference when comparing estimates from Tammela to Vuores, where the corresponding value is only 2 000 euros per new resident, is substantial.

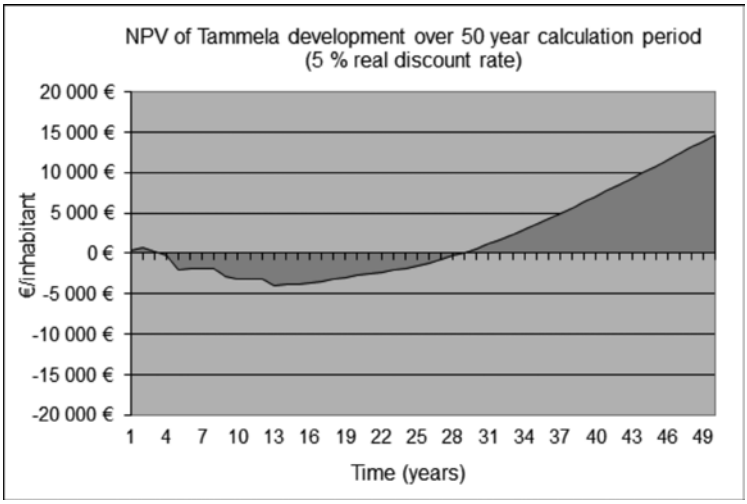

Figure 3. Annual Net Present Value of municipal investments in the Tammela district over a 50-year calculation period.

Although the financial aspects from the municipal point of view seem to be promising, a major obstacle still exists – the land ownership. As all of the lots are private property, the development will remain slow as long as landowners do not see the benefits of infill as sufficiently appealing. The main variables affecting the feasibility of infill projects for housing corporations situated on private land are: the value increase due to the additional permitted building volume, the cost of required parking places,[3] and the land use fee that the city claims based on the value increase. To make infill development more tempting and feasible for housing corporations, city officials should seriously reconsider the requirements regarding underground parking as well as the policies regarding the land use fee. Achieving a win-win situation would be beneficial for both parties involved.

Figure 4 presents the results of the Tesoma development project. Because the development is still at the planning phase, cost data for the area is very vague. To provide the best possible estimate about the

municipal economics of this project, the cost data from Tammela project were used as a reference by applying certain sophisticated limitations. It was assumed that large-scale underground parking and the underpass investment are not required in this low-density suburban area. Other major differences between the areas are that in Tesoma the city owns the land and uses mainly land lease agreements with potential developers to grant building permits. This means that the revenues from the development do not accumulate as rapidly as in Tammela. However, this eliminates the major concern in Tammela –the private landowners' opposition towards infill.

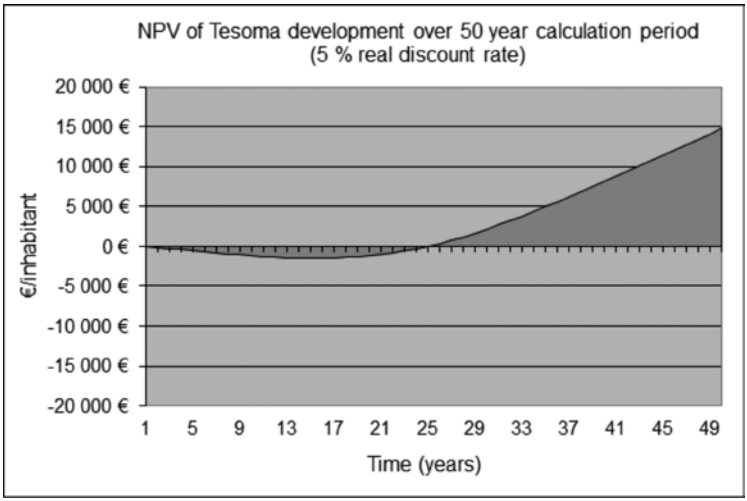

Figure 4. Annual Net Present Value of municipal investment in the Tammela district over a 50-year calculation period.

If Tesoma develops as planned by the city, the break-even point of the investment will be around 25 years after the start of the project. After the 50-year calculation period the profits of the investment could be as high as 15 000 euros per new resident. However, there are a couple of factors that could change the results for the worse. If public infrastructure does not have the capacity to support the new development, the required municipal investments could rise significantly.[4] Also, if Tampere's parking policy is strictly obeyed, underground parking facilities would be required even in Tesoma. The investments in Tammela related to public services are really small because of its location near the city center, where such services are available. In Tesoma providing sufficient health-care and educational services could prove a source of

significant investments. Thus, using the investments in Tammela as a reference can create a moderate bias towards a more positive position.

5. CONCLUSIONS AND DISCUSSION

Finnish municipalities are starting to realize the potential of infill as a viable option for creating functional and user-friendly urban environments. However, due to private land ownership and unsupportive land use policies, achieving large-scale infill development is still challenging. Private landowners have a biased view towards infill because of the lack of reliable evidence of the impacts from infill development, and public debate is often fueled by emotions and misinformation instead of facts. To correct misunderstandings and enable development benefiting all parties involved, more research is required to provide information based on facts instead of assumptions.

The results presented in this paper support the claim that from the perspective of municipal economics preferring urban infill over greenfield development is well justified in the Finnish context. What makes the present study unique is the fact that instead of focusing solely on municipal expenditures also revenues from the development projects are also taken into consideration. This helps to obtain a better understanding about the economic feasibility when analyzing future investment options. The data used in the analysis continues to improve while the development projects progress over the years to come. Thus it is a matter of major significance that the calculations presented here will be updated on a yearly basis to guarantee the best possible validity of the results.

This study is only one step towards more complex modeling of the municipal economics of regional development, and there are still variables missing from the analysis. For example, the economics related to public transportation or state subsidies for municipalities were left without consideration. Also the expenditure on public utilities and services, especially regarding the Tesoma district, should be studied more closely. Every district is a unique entity and creating generic information regarding their properties is practically an impossible task. However, the utilized calculation model is widely applicable to all kinds of development projects.

Finally, the financial resources of municipalities are very limited and they should be allocated to provide society as much added value as possible. Even if decisions on regional development cannot be made based solely on financial aspects, and also value related factors have to

be considered, it is of great importance that decisions are made based on real evidence instead of emotions. This study is the first of its kind providing strong evidence of the positive financial impacts of infill development as compared to greenfield development. The results are widely applicable in the Finnish context and should be taken into consideration in political decision making.

ACKNOWLEDGEMENTS

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ENDNOTES

1. Regarding the infill projects, the data were gathered by requesting sophisticated estimations from utility companies based on the master plan draft of Tammela. The cost data of Vuores development was supplied by the City of Tampere. It is mainly based on analyses made by the Finnish Consulting Group (2010).

2. The utilized calculation model is based on development work of Harri Kauppinen, the retired Director of Real Estate Development at the City of Helsinki. The previous versions of the model have passed a practical long-term validity testing as the model has systematically been used in analyzing municipal economic impacts of regional development projects in Helsinki.

3. Existing ground-level parking is often lost when carrying out infill projects in the existing urban environment. Thus, the lost places, along with the new places required due to the increase in building volume, have to be arranged elsewhere. The City of Tampere's parking policy (under development) states that underground parking should be the primary way of execution when operating in city or district centers.

4. However, this is highly unlikely. During a previous project in which the feasibility of infill was studied, it was discovered that at least in the larger cities in Finland public infrastructure can support large-scale infill development. Nykänen et al., 2012.

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APPENDIX: TABLES FOR DATA

Table 1: Summary of data for the Vuores development
Table 2: Summary of data for the Tammela development
Table 3: Summary of data for the Tesoma development

Area:	**Vuores**	
General variables	*Value*	*Source*
Duration of development	2008–2021 (14 years)	Finnish Consulting Group, 2010
Volume of residential development (floor area)	450 000 m2	Finnish Consulting Group, 2010
Projected amount of new residents	10 200	City of Tampere & Municipality of Lempäälä, 2003
Share of city-owned land in the area	100 %	A. Taura, Assisting Lot Manager from Real Estate Department, City of Tampere (personal communication April, 2015)
Shares of different types of production	5 % of state-subsidized housing production 95 % of privately financed housing	
Way of transferring building rights	Land lease agreements	Tampere, 2014b
Revenue related variables		
Capitalized value of land owned by city (€/floor area)	Privately financed development: 190 €/m2 State-subsidized development: 150 €/m2	A. Taura, Assisting Lot Manager from Real Estate Department, City of Tampere (personal communication April, 2015)
Annual land lease	4 % of the capitalized value	Tampere, 2014b
Annual increase of land lease	1,9 % (10 year average of annual increase of consumer price index in Finland)	Statistics Finland, 2015

Vuores (continued)

Municipal tax revenue	81 €/m^2 (3,1 % annual increase)	Tampere, 2014a
Basis of property taxation for residential building	600 €/m^2	Estimation based on instructions about the determination of property value given by Finnish Tax Administration
Property tax rate	0,50 % of the taxable value of a property	Finnish Tax Administration, 2015
Expenditure related variables		
Operational expenditures on educational services	40 €/m^2 (1,3 % annual increase)	Tampere, 2014a
Operational expenditures on social and health care services	72 €/m^2 (1,3 % annual increase)	Tampere, 2014a; The Association of Finnish Local and Regional Authorities (AFLRA), 2015
Municipal expenditure on planning and communal services (year: amount of investment)	2008: 200 000 € 2009: 500 000 € 2010: 200 000 € 2011: 700 000 € 2012: 4 200 000 € 2013: 7 800 000 € 2014: 7 300 000 € 2015: 20 300 000 € 2016: 5 000 000 € 2017: 5 000 000 € 2018: 5 000 000 € 2019: no investments 2020: 2 000 000 € 2021: 3 000 000 €	Finnish Consulting Group, 2010
Municipal expenditure on public utilities (Distributed evenly for the duration of the development)	Streets and parks: 80 000 000 € Energy networks: 30 000 000 € water supply and sewerage: 10 000 000 €	Finnish Consulting Group, 2010

Table 1: Summary of cost data variables and their sources for the Vuores district.

Area:	**Tammela**	
General variables	*Value*	*Source*
Duration of development	2013–2032 (20 years)	Nykänen et al., 2012
Volume of residential development (floor area)	130 000 m^2	Nykänen et al., 2012
Projected amount of new residents	2 400	Nykänen et al., 2012
Share of city-owned land in the area	0 %	Nykänen et al., 2012
Shares of different types of production	100 % of privately financed housing	Nykänen et al., 2012
Way of transferring building rights	-	
Revenue related variables		
The value of permitted building volume in the area (value of lot, building not included)	500 €/m2	Nykänen et al., 2012
Land use fee collected by the city (used when development happens in privately owned land)	40 % of the value increase caused by additional permitted building volume	Tampere, 2014b
Annual increase of value of permitted building volume	1,9 % (10 year average of annual increase of consumer price index in Finland)	Statistics Finland, 2015
Municipal tax revenue	81 €/m2 (3,1 % annual increase)	Tampere, 2014a
Basis of property taxation for residential building	600 €/m2	Estimation based on instructions about the determination of property value given by Finnish Tax Administration
Basis of property taxation for the lots	200 €/m2	A. Taura, Assisting Lot Manager from Real Estate Department of Tampere (personal communication April, 2015)
Property tax rate	0,50 % of the taxable value of a property 1,05 % of the taxable value of a lot	Finnish Tax Administration, 2015

Tammela (continued)

Expenditure related variables		
Operational expenditure on educational services	40 €/m2 (1,3 % annual increase)	Tampere, 2014a
Operational expenditure on social and health care services	72 €/m2 (1,3 % annual increase)	Tampere, 2014a; The Association of Finnish Local and Regional Authorities (AFLRA), 2015
Municipal expenditure on planning and communal services (year: amount of investment)	City planning and zoning: 45 000 €/year Underground parking facility in three phases: 2017: 5 000 000 € 2021: 4 000 000 € 2025: 1 500 000 € Major pedestrian underpass: 2015–2017: 5 000 000 € Day-care center: 2022: 1 500 000 €	Nykänen et al., 2012
Municipal expenditure on public utilities (Distributed evenly for the duration of the development)	Streets and parks: 6 900 000 € Energy networks: 860 000 €	Nykänen et al., 2012

Table 2: Summary of calculation variables and their sources for the Tammela district.

Area:	**Tesoma**	
General variables	*Value*	*Source*
Duration of development	2021–2050 (30 years)	R. Mikkola, Planning Architect, City of Tampere (personal communication November, 2014)
Volume of residential development (floor area)	208 500 m2	Tampere, 2013b
Projected amount of new residents	4 450	Tampere, 2013b
Share of city-owned land in the area	90 %	A. Taura, Assisting Lot Manager from Real Estate Department, City of Tampere (personal communication April, 2015)
Way of transferring building rights	Land leases and selling of lots	Tampere, 2014b
Shares of different types of production	10 % of state-subsidized housing production on city-owned land 10 % of privately financed housing on private land 10 % of privately financed housing on city-owned land (on sold lots) 70 % of privately financed housing on city-owned land (land lease)	A. Taura, Assisting Lot Manager from Real Estate Department, City of Tampere (personal communication April, 2015)
Revenue related variables		
Capitalized value of land owned by city (€/ floor area)	Privately financed: 200 €/ m2 State-subsidized: 150 €/m2	A. Taura, Assisting Lot Manager from Real Estate Department, City of Tampere (personal communication April, 2015)
Annual land lease	4 % of the capitalized value	Tampere, 2014b
Annual increase of land lease	1,9 % (10-year average of annual increase of consumer price index in Finland)	Statistics Finland, 2015
Income from selling a lot (€/permitted building volume)	230 €/m2	A. Taura, Assisting Lot Manager from Real Estate Department, City of Tampere (personal communication April, 2015)
Municipal tax revenue	81 €/m2 (3,1 % annual increase)	Tampere, 2014a

Tesoma (continued)

Basis of property taxation for residential building	600 €/m2	Estimation based on instructions about the determination of property value given by Finnish Tax Administration
Basis of property taxation for the lots	200 €/m2	A. Taura, Assisting Lot Manager from Real Estate Department, City of Tampere (personal communication April, 2015)
Property tax rate	0,50 % of the taxable value of a property 1,05 % of the taxable value of a lot	Finnish Tax Administration, 2015
Expenditure related variables		
Operational expenditure on educational services	40 €/m2 (1,3 % annual increase)	Tampere, 2014a
Operational expenditure on social and health care services	72 €/m2 (1,3 % annual increase)	Tampere, 2014a; The Association of Finnish Local and Regional Authorities (AFLRA), 2015
Municipal expenditure on planning and communal services	19 €/m2/year	Estimation based on Nykänen et al., 2012
Municipal expenditure on the public utilities	68 €/annual production/ year	Estimation based on Nykänen et al., 2012

Table 3: Summary of calculation variables and their sources for the Tesoma district.

The Emergence of Households and Urbanization Patterns in Poland

Jakub Zasina

ABSTRACT

Recent discussion in urban research shows a need to better quantify the trajectories of urban development that go beyond population change. Households – instead of individuals – seem to be a key category. The structure of households and their relation to urbanization patterns seem to play an important role in urban studies. The impact of the household is attributed to changes in the urban economy, while the form of the city still remains partly unexplained. Economic transformation and demographic processes (e.g. the *second demographic transition*) during the last decades have resulted in an increase in the number of small and non-traditional households in European cities. Data analysis shows their increase in the majority of urban areas, even if the total population of a given city decreases.

The following paper provides a brief presentation of recent trends in population development of Polish cities in the wider European context. Furthermore, the data on urban populations are compared with data on households. Using a sample of 51 largest Polish cities, the key aspects of changes in population and categories of households are highlighted. A significant attention is given to small, non-traditional households, which were identified earlier as key actors in the resurgence of Western cities. Finally, the paper provides comments on economic, spatial and environmental dimensions of the identified trends.

Keywords: population, households, urban economics, trajectories of urban development.

1. INTRODUCTION

For the first time in human history, more people inhabit urban environments than rural ones. After years of critical assessment of cities in the 20th century, urban areas have started to be recognized as the greatest invention of mankind (Glaeser 2012, 270). The growing populations of African, Asian and South American cities significantly contribute to the increases in the urbanization index. Moreover, processes identified in the last decades among the largest European and North American cities provide some evidence for concept of urban resurgence. However, while some cities experience an influx of new residents, others are in decline. This two-sided nature of contemporary urban population development is a common feature of European cities (Turok and Mykhnenko 2007). In regard to recent development trajectories of cities, the term *second demographic transition* has gained attention in academic discourse. From the perspective of urban changes, this phenomenon seems to be one of the most interesting processes: in a relatively short time, the average household size has significantly declined, and one-person households have experienced a growth. As a result, the total number of households has increased. These dynamic changes require deep investigation.

The interest in the subject of small, non-traditional households in Polish cities is relatively rare. However, it has been growing since the number of single households started to increase. In recent years preliminary research into such households has been conducted, usually from the sociological point of view (for instance: Czernecka 2011). Additionally, the analysis of the development of household structure is undertaken mainly by demographers and geographers. However, a household may be judged not only as a statistical unit, but also as a basic actor in independent economic decisions. This statement reveals a significant turn in economics, where, just a few decades ago, individual consumers were treated on a par with households (Bywalec 2012, 7). However, a household is often constituted by more than one person; hence its decisions combine to some extent the preferences of each person forming it.

Economists define a city as a spatial concentration of economic agents (Glaeser et al. 2001), among which are households, companies and local authorities (van den Berg et al. 1982, 8). In the theory of economics it is assumed that a household maximizes its satisfaction (not profit, like companies) in the decision-making process (Goodall 1972, 151-152). Furthermore, a household's decisions of an economic nature shape the form of a city and this form usually shapes them. Therefore,

to analyse urban changes it is necessary to understand both: 1) the household structure, its roots and consequences; and 2) the logic and outcomes of the household decisions. The data analysis presented in this paper is limited to the number and structure of the households.

The paper starts with a brief review of the research focused on recent trajectories of urban population development in Europe. In the discussion of the *second demographic transition*, the growing trend of the increase in the total number of households and the widening proportion of small, non-traditional households are highlighted. Further, population trajectories and the development of households in 51 Polish cities between 1988 and 2011 are investigated and compared.

2. TRAJECTORIES OF URBAN EUROPE

2.1. Recent studies on population development in European cities

Consideration of urban population development is a widely applied approach in investigating the trajectories of cities. There are two reasons for using population data. First of all, the data about urban population are commonly available for long time periods and for most urban areas in different countries. Secondly, due to the population analyses conducted in the past, this approach allows for comparisons in time and space (Turok and Mykhnenko 2007). Data concerning population change seem to be a valuable source of information about trajectories of urban development also from the economic point of view. Human capital, especially the most skilled, tends to migrate between cities seeking better employment and life opportunities, even in relatively troublesome European societies. Generally speaking, the bigger the differences among cities, the stronger the incentive for migration elsewhere. In addition, population trends affect the economic life of cities, consistently making them larger or smaller markets of jobs and consumption – and more or less attractive. The general conclusion is that cities with a growing population are often recognized as economically vital places.

The methodology of urban development paths conceptualized in the beginning of 1980s by van den Berg et al. implies four development stages of *functional urban regions* (FURs, or agglomerations) in Europe – urbanization, suburbanization, desurbanization and reurbanization – each dependent on population changes between the cores and rings of FURs, and related to the economic trajectories of the entire FUR. Results achieved by van den Berg et al. suggest that in post-war Europe a grow-

ing number of agglomerations were experiencing the suburbanization stage. The 1960s and 1970s revealed a new trend of enhancement, the desurbanization stage. In general, before the 1980s the cities of Western Europe experienced decline sooner than their Eastern counterparts. At the end of the 1970s European cities were expected to decline further. However, van den Berg et al. anticipated the stage of reurbanization, in which core cities after decades of constant population decline were starting to attract new urbanites, leading to the overall revival of FURs (van den Berg et al. 1982, 37). However, the reurbanization stage in the beginning of 1980s was not statistically proven, being rather a hope for the future based on observations of changes in urban policy towards promoting city centres.

Recent decades in Europe may be described as a differentiation in the patterns of population growth. Tracking the data on population development in 310 cities between the 1960s and 2005, Turok and Mykhnenko revealed that during the first part of the 1990s the majority of European cities were declining. However, the next decade resulted in the outward trend. Although the total number of cities with a growing population was expanding, the cities of East-Central Europe (e.g. Czech, Eastern-German, Polish, Romanian, Russian, Slovakian and Ukrainian cities) were experiencing short- or long-term decline (Turok and Mykhnenko 2007). The recent analysis of 158 European agglomerations provides evidence that after 2001 there is "no consecutive order of the stages of urban development", suggesting that two alternative processes have recently been reinforced in the largest of the European agglomerations: suburbanization and reurbanization (Kabisch and Haase 2009).

Cities of the former communist countries, e.g. Czech Republic, Hungary, Poland, Slovakia and Baltic states after 2001 experienced mainly the stages of suburbanization and desurbanization (Kabisch and Haase 2009). Due to the fact that urbanization patterns are highly related to economic trends (van den Berg et al. 1982, 24-45), the context of the post-socialist transition seems valuable for understanding the trajectories of cities in East-Central Europe. In the age of the communist economy, urban growth was driven mainly by the progressive industrialization. Socialist cities were centrally planned, and their population growth and distribution remained under strict control. However, their economic, social and spatial orders started to change in the 1990s. Former socialist cities have undergone market-based restructuring, which led to the polarisation of societies, the growth of the tertiary sector and the change of the residential composition. According to Tsenkova, the major drivers in the transition of post-socialist cities transition were: 1)

markets (systematic economic change), 2) democracy (systemic political change), and 3) decentralized systems of local government (Tsenkova 2003).

2.2. The widening gap between the total population and number of households

Studies of population changes have revealed that contemporary cities across Europe are becoming diversified: their population sizes are growing, stabilizing or declining. However, deeper analysis into the demographic structure of cities may provide fruitful results in explanation of their recent trajectories. It seems that there is one common trend for the majority of diversified European urban areas, namely the constantly growing number of households, even, if the total population of a particular city is declining (D. Haase et al. 2013). This phenomenon has its roots in the worldwide trend of decreasing the average size of households, affected *inter alia* by the rise in the proportion of small households in societies (Kowaleski 2010). According to Keilman, between 1970 and 2000 more developed countries experienced the decline of this value from 3.2 to 2.5 persons per household. Likewise, developing nations also tended to decrease the average size of household in the same period: statisticians report its decline from 5.1 to 4.4 (Keilman 2003).

The on-going process of the decrease in the average size of households is a result of a combination of socio-economic and cultural factors. Among the social ones, the notion of *second demographic transition* is often cited in the literature. Under this term demographers indicate a range of phenomena, including the deinstitutionalization of the nuclear family, the decline in the fertility rate, the delay of childbearing, the postponement of marriage and the weakening of its payoffs, such as financial security or sexual relations. These factors result in the increase of cohabitation, the rising number of divorces and the growth of people living alone (van de Kaa 2002). Cultural changes – including the rising tolerance for alternative lifestyles (e.g. non-family living arrangements) – influence the trajectory of a decreasing household size. Economic reality also drives this phenomenon in significant ways, due to the transition from industrial to post-Fordist economies, the expansion of the welfare state, rising consumerism or higher participation ratio of women in the job market (Lesthaeghe 2000, Ogden and Hall 2000).

Nevertheless, the rise of small, non-traditional households is being considered as the most significant part of the *second demographic transition* concept, which leads to significant changes in urban areas

(Steinführer and Haase 2007). The proportion of one-person households has consequently risen among European nations. For instance, in 2000 Denmark had a proportion of one-person households equal to 49%. Overall, the highest shares of households of this type are in the Nordic countries, and thus nations of cultures valuing more traditional social habits (e.g. Italy or Greece) tend to have lower proportion of one-person households (respectively 24% and 23% in 2000). In comparison, in both the United States and Canada 26% of all households were the one-person ones (Buzar et al. 2005). According to the 'Urban Audit' Eurostat data collection, among European cites with the highest proportion of one-person households in 2011 were selected cities in Germany, The Netherlands and the United Kingdom, where their value exceeded 55% or even 60% (Eurostat Urban Audit, 2015).

Odgen and Hall, studying the statistics of the 10 largest French cities between 1975 and 1990, revealed the significant growth of one-person households. They argued that this phenomenon may be a result of both the growing group of old or divorced people and the rising tendency of the conscious choice made by young people for solo living (Ogden and Hall 2000). This view on the forces leading to the rise in one-person households is commonly shared (Kowaleski 2010). German researchers conducted a wider analysis of households and population development in European cities. Haase et al. 188 cities for the period 1990-2000 and 118 cities for the period 2000-2006 and divided them into four categories depending on their growth or loss of population and households. The widest group in both periods was represented by cities with increases in population and the number of households. Nevertheless, approximately one-third (1990-2000) and one-fourth (2000-2006) of the cities included in the samples were experiencing a growth in the number of households even if the total population was decreasing (D. Haase et al. 2013).

3. DATA AND METHODS

The analysis presented in this paper focuses on recent trajectories of population and household development in Polish cities. The data gathered for the analysis describe the 51 largest cities (in their administrative boundaries), classified in Poland as *powiaty grodzkie* or *miasta na prawach powiatu*. From the statistical point of view, these cities are the independent NUTS4-level units.

Accurate data on population and household distribution, sizes and structure in Poland are collected under the National Population and

Housing Census by Central Statistical Office (GUS). The analysis presented in the paper employs data from censuses conducted in 1988, 2002 and 2011 and published by GUS via the Local Data Bank. However, it should be noted that the methodologies of Polish censuses in selected years vary: the traditional method of data collection through interviews made by census takers with representatives of all households was applied in censuses in 1988 and 2002. In turn, the latest census results are based on the combination of traditional interviews made on a wide households sample, on-line questionnaires and local sources of data (Wysocka et al. 2014).

The significant attention given in the analysis to one-person households requires further explanation. As Grossmann et al. suggest, the term 'one-person household' may mean various combinations of living (including singles, widow/ers or divorcees) and housing (e.g. living alone or flat sharing) arrangements (Grossmann et al. 2012). Because of this fact, the definition of a household used in this paper is collinear with the definition used by GUS in national censuses of Poland: *a household is a group of people of family or non-family relations, earning and living together* (Wysocka et al. 2014). This definition relates to the economic dimension of a household due to the emphasis on earnings. However, census results may not capture an arrangement where the representatives of two one-person households are in a relationship, but they do not live together (literature describes this phenomenon as LAT – Living Apart Together).

The conducted analysis looks for patterns of population and household number trajectories in relation to the earlier works made by other researchers. Because most of the earlier analyses included mainly the largest cities of Europe, the analysis presented here widens the scope of cities to include also smaller ones. Some commentators suggest that the proportion of people living alone may be a particular barometer of a social change of community (Jamieson and Simpson 2003). Therefore, the proportion of one-person households in rural areas or smaller cities may led to interesting remarks on the on-going processes in the societies. Accordingly, 51 selected Polish cities were divided into five categories: 14 *towns* (with a population size of less than 100 000); 20 *small cities* (with a population size equal or larger than 100 000 and smaller than 200 000); 10 *middle-size cities* (with a population size equal or larger than 200 000 and not higher than 400 000) and 6 *large cities* (with a population size of 400 000 or higher). The capital city of Poland – Warsaw – forms a separate category due to the significant difference in population size compared to the other cities. This classification is based on Polish cities population sizes in the year 2002.

4. POLISH CITIES IN THE AGE OF TRANSFORMATION: THE CHANGING NATURE OF POPULATION AND HOUSEHOLD DEVELOPMENT

The growth of the urban population in Poland between 1950 and 1990 was rated among the fastest in Europe (Nykiel 2011). Furthermore, the socialist economy tended to concentrate people in urban areas due to progressive industrialization. Thus, suburbanization was almost not evidenced in the countries of the planned economy (van den Berg et al. 1982, 31-33). The first signs of suburbanization and the decline of core cities populations in Poland were reported in the 1980s. This phenomenon was strengthened after the political and economic transformation of the country (Marcińczak 2012).

4.1. Trends in population growth in the largest Polish cities

The first analysis investigates how many of the 51 largest Polish cities included in the sample experienced population gains (POP+) or losses (POP-) between the censuses taken in 1988, 2002 and 2011, and what was the distribution of these trends among the indicated city-size categories. In the first period after the political and economic transition of Poland (1988-2002) most of the cities experienced population growths (35 cities). The group of cities, in which the highest proportion of units in their administrative boundaries grew, were *towns*. However, a general pattern may be identified for this period: the larger the city category, the smaller proportion of growth. For instance, only half of the *large cities* increased their populations.

This trend changed significantly in the first decade of the new millennium (2002-2011): every category of cities, regardless its size, was characterized mainly by population decrease and only 8 of 51 cities experienced population gains. In some cases the proportion between growing and declining cities inverted (e.g. *towns* and *small cities*). The nation's capital, Warsaw, underwent a growth in its population during both decades (Fig.1). However, both cities experiencing fast development and those struggling with economic decline are nowadays being reported as undergoing depopulation. Depending on the circumstances in their surrounding area, this process is usually linked with the loss of population due to migration to the suburbs (suburbanization), or the loss of population in the whole agglomeration (desurbanization). In this context, it is worth mentioning that among the cities undergoing an increase in their population, are many that do not have many

'competitors' in their own regions, as well as those that are rather young in terms of demographic structure (Szukalski 2014).

	1988-2002		2002-2011	
	POP+	POP-	POP+	POP-
total sample	35	16	8	43
towns	11	3	2	12
small cities	14	6	4	16
medium-size cities	6	4	1	9
large cities	3	3	0	6
Warsaw	1	0	1	0

Figure 1: Population development trends in 51 Polish cities between 1988 and 2011. Source: Own calculation based on data provided by GUS.

4.2. Urban Poland. Trajectories of households development

Adding one more variable – the growth of the total number of households – should shed more light on the trajectories of Polish cities, in relation to earlier analyses conducted by other European researchers (Ogden and Hall 2000, D. Haase et al. Kabisch 2013). The literature review suggests the hypothesis that – especially in the largest cities – the total number of households is growing, even if the total population of a given city is decreasing. To confirm this hypothesis, the established size-categories of Polish cities were examined and classified in accordance with another four categories used earlier by Haase et al. in their research of 188 European cities (D. Haase et al. 2013). The first category contains cities of positive growth rates for the total population (POP+) and total number of households (HH+). The second category consists of cities experiencing total population gains (POP+) and total number of household losses (HH-). Consequently, the third category contains cities of negative total population growth (POP-) and positive growth values for the total number of households (HH-). The last category consists of cities with both negative growth rates (POP-, HH-).

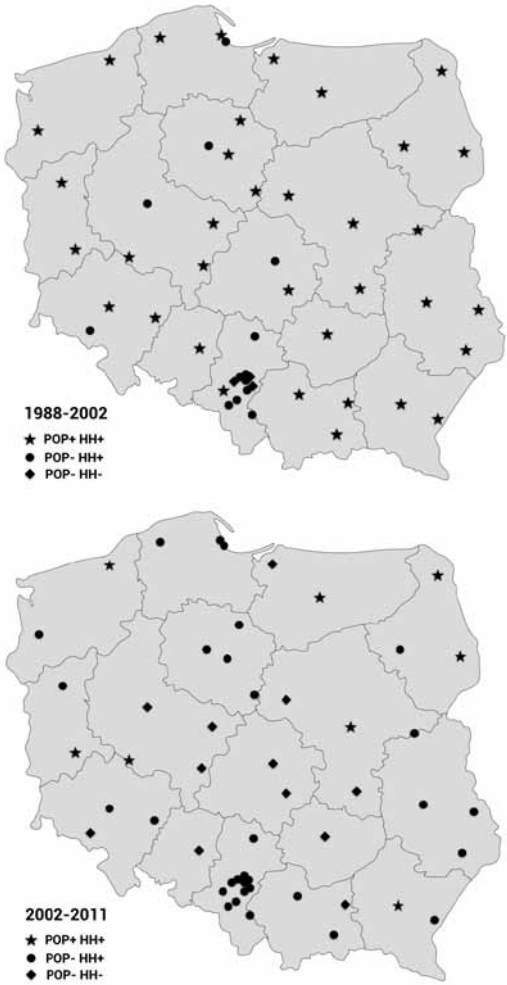
Between 1988 and 2002 Polish cities were experiencing mainly population growth rates and accompanying rise in the number of households (35 cities). However, every fifth city in the 1990s underwent a loss in the total population and a growth in the total household number. This trend was common mainly for *large* and *medium-size* cities. At the

same time, only three cities were characterized by negative growth rates for both total population and total number of households. The next decade (2002-2011) brought a change in the overall pattern. The majority of cities, including *towns*, *small cities*, *medium-size cities* and *large cities* recorded an increase in the total number of households and total population losses, becoming the widest category in the sample (31 cities). Similarly to the previous period, again the proportions within *large* and *medium-size* cities experiencing this pattern were the highest. Besides, between 2002 and 2011 more cities experienced negative growth rates for the total population and total number of households than those with both positive values (Fig.2.). Moreover, the pattern identified in the sampled cities differs in comparison to the data for Poland in general, where population and number of households grew in both periods. No city in the sample recorded simultaneously an increase in both the total population growth and an increase in the total number of households during any of the selected periods.

	1988-2002			
	POP+ HH+	**POP+ HH-**	**POP- HH+**	**POP- HH-**
total sample	35	0	13	3
towns	11	0	3	0
small cities	14	0	4	2
medium-size cities	6	0	3	1
large cities	3	0	3	0
Warsaw	1	0	0	0

	2002-2011			
	POP+ HH+	**POP+ HH-**	**POP- HH+**	**POP- HH-**
total sample	8	0	31	12
towns	2	0	9	3
small cities	4	0	11	5
medium-size cities	1	0	7	2
large cities	0	0	4	2
Warsaw	1	0	0	0

Figure 2: Population and household development trends in 51 Polish cities between 1988 and 2011. Source: Own calculation based on data provided by GUS.



Figures 3 & 4: Population and household development trends in 51 Polish cities: 3. 1988-2002 and 4. 2002-2011. Source: Own preparation based on data provided by GUS.

Furthermore, 10 cities continued to experience negative population growth rates and increases in the number of households during both periods (1988-2002 and 2002-2011). These cities were mainly located in the Silesia mining region in the south-central part of Poland. Another 8 cities were identified as continuing the growth of population and

number of households, including Warsaw and the selected capitals of the Polish regions (*województwa*), namely Białystok, Rzeszów and Zielona Góra (Figs. 3 and 4).

A comparison between growth rates in the mean total population and the mean total number of households provides evidence for the identified changes in scale. Mean growth rates in the total number of households were a few times higher than mean population growth rates in every category of cities in both analysed periods. Remarkably, the highest growth of households between 1988 and 2002 was in the domain of *towns*. Probably, this was supported by the significant and accompanying growth in their total population during the 1990s. Between 2002 and 2011 the overall trend in the mean growth in the number of households exceeding the mean total population gains continued, though its pace slowed down (Fig.5).

	1988-2002		2002-2011	
	POP	**HH**	**POP**	**HH**
total sample	2,00%	16,69%	-2,65%	8,87%
towns	6,27%	21,45%	-2,63%	5,95%
small cities	0,64%	14,40%	-2,40%	12,91%
medium-size cities	0,64%	15,42%	-3,60%	10,75%
large cities	-1,12%	15,07%	-2,51%	0,14%
Warsaw	1,98%	18,29%	0,68%	2,25%

Figure 5: Mean population and households number growth rates in 51 Polish cities between 1988 and 2011. Source: Own calculation based on data provided by GUS.

4.3. Small, non-traditional households and Polish cities

Growth in the number of households is usually associated with the growth of small, non-traditional households types; e.g. one- or two-person households. This part of the analysis investigates the trajectories of households constituted by one and two persons in a pre-defined sample of 51 Polish cities between 1988 and 2011.

First of all, the 1990s were the period of rapid growth of one-person households in Polish cities of all sizes. The highest growth rate in this case was recorded by *towns*; however, these had a smaller proportion of one-person households in 1988 (Fig.7), and thus the high growth rate may be justifiable. Nevertheless, *large cities*, identified as units with the

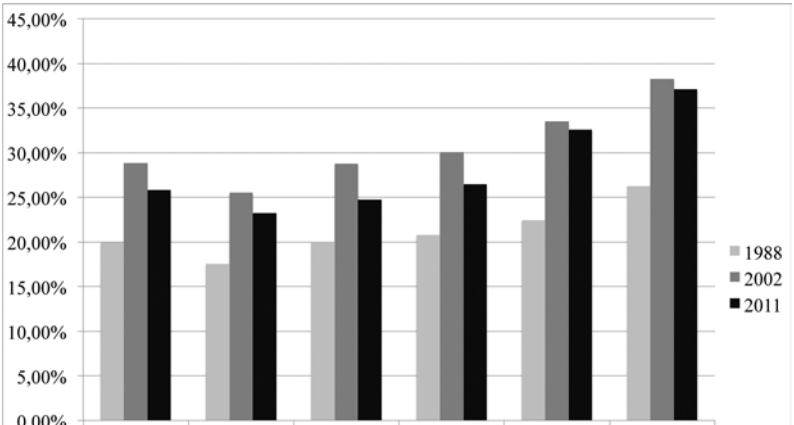
highest proportion of one-person households, experienced comparable growth. At the same time, two-person households increased in number, albeit at a slower pace. For the period 1988-2002, the increase in the city-size category was associated with the decrease in growth rates of two-person households. However, this type of household continued its stable growth between 2002 and 2011, when the number of one-person households decreased in every type of city-size category (Fig.6).

	1988-2002		2002-2011	
	OPH	**TPH**	**OPH**	**TPH**
total sample	71,29%	24,92%	-4,37%	18,64%
towns	79,63%	36,93%	-5,52%	24,37%
small cities	66,57%	21,27%	-4,34%	18,11%
medium-size cities	67,96%	20,32%	-4,21%	15,53%
large cities	72,96%	18,26%	-2,65%	13,21%
Warsaw	72,36%	15,58%	-0,89%	12,85%

Figure 6: Mean growth rates of one- (OPH) and two-person households (TPH) in 51 Polish cities between 1988 and 2011. Source: Own calculation based on data provided by GUS.

The presented growth rates affected the changes in proportions of household types in Polish cities. All the established city-size categories recorded an overall growth in the number of one- and two-person households. For instance, *large cities* and Warsaw had more than a 10%. higher proportion of one-person households in 2011 compared to 1988. Changes in the proportion of one-person households in other cities were on the plus side, but rather lower. However, Polish cities increased their shares of one-person households mainly in 1990s, recording a low decline in their proportions between 2002 and 2011. The identified decline was lowest in *large cities* and in the capital, Warsaw (Fig.7). At the same time, shares of two-person households had slightly risen, in accordance with the overall trend in Poland (Wysocka et al. 2014).

The conducted analysis confirmed that the trend of an increasing number of households in the largest European cities identified earlier (D. Haase et al. 2013) was also present in the case of Polish cities during the last two decades. This trend seems to be a domain not only of the core cities in large agglomerations, because smaller cities also experienced it. Furthermore, a growing number of Polish cities continue to



	total sample	towns	small cities	medium-size cities	large cities	Warsaw
1988	19,87%	17,50%	20,00%	20,80%	22,39%	26,25%
2002	28,85%	25,48%	28,76%	30,03%	33,49%	38,25%
2011	25,81%	23,24%	24,72%	26,42%	32,56%	37,08%

Figure 7: Mean proportion of one-person households in 51 Polish cities in 1988, 2002 and 2011. Source: Own calculation based on data provided by GUS.

show an increase in the number of households, even if their populations record short- or long-term decline. Cities in Poland passed through the steep rise of one-person households in the 1990s. The growth in their number and proportion was much higher than the growth of any other type of household in this period. However, after the rapid change, it seems that the growth in the proportion of one-person households within the overall structure of households has halted. Nonetheless, the share of one-person households in Polish cities in 2011 was significantly higher compared to 1988. This conclusion, however, refers mainly to the largest Polish cities. Cities of other size-categories – *towns, small cities and medium-size cities* – had in 2011 mean proportions of one-person households comparable to each other.

5. DISCUSSION: THE ECONOMIC AND SPATIAL DIMENSIONS OF ON-GOING PROCESSES

The explanation for the formation of non-traditional households lies beyond the scope of this paper, and would require a deeper investigation of demographic, cultural and social phenomena. However, it seems that the on-going processes regarding the rising proportion of

small households and the growth in the total number of households may have a significant impact on the trajectories of cities. Therefore, this section offers comments on the potential economic and spatial dimensions of the presented demographic phenomena within the context of urban development, including Polish case studies.

From the economic perspective, the *second demographic transition*, involving *inter alia* the rise of autonomous, small households and the decline of the nuclear family, leads to the creation of a more heterogeneous set of households, with more diversified needs and fads. Markets gain new types of customers of specified preferences. Therefore, the outcomes of the changes to households (to their structure or average size) may be seen as a powerful force that affects transformations in the city's economy and physical form (Ogden and Hall 2000). Therefore, drawing attention to patterns of household development may support a better understanding of contemporary patterns of development within cities as well as between them (Tscharaktschiew and Hirte 2010).

The key decision of each household is that of location. Further decisions faced by a household, related to employment or consumption, are commonly affected by the place of residence (van den Berg et al. 1982, 8-9). The theory of urban economics provides a framework, according to which a household maximizes its satisfaction by trading off the cost of living and the total utility provided by the location (Goodall 1972, 151-152). Thus a household first chooses where to settle among numerous potential cities and rural areas, and than selects the particular residential area.

Small households tend to concentrate in larger cities, especially those of young people, whose lifestyles favour the proximity to urban amenities. Large cities have a competitive advantage among others in supplying the diverse mix of amenities, due to the benefits of agglomeration economies. These benefits may also be considered from the perspective of the job market. As people favour wide labour markets, which support their economic security and growing aspirations on career paths (Moretti 2013, 129-131), the largest cities accumulating a significant number of companies may offer a favourable habitat for small households, including the single ones. This sort of household seems to be more exposed to failure in the case of being made unemployed, because it is constituted only by a single wage earner. Therefore, it may be easier for such a person to find another job in a city with a wide labour market.

In addition, a widely accepted view among urban economists suggests that the location of households within a city vary depending on household size. To put it simply: small households tend to choose

central locations, substituting higher rent prices for a smaller dwelling space because they favour the close proximity of urban amenities offered by city centres (Słodczyk 2001). This assumption leads to the view that a higher proportion of smaller households results in more compact urban form, as more people constituting small households are attracted to reside in inner cities. The recent debate on reurbanization supports this impression. Small and non-traditional households were identified as key groups of reurbanization agents (A. Haase et al. 2009; Ogden and Hall 2000). The desire for living in proximity to the wide offer of urban amenities and the unwillingness for long commuting distances may contribute to the household's decision to settle in a city centre (Bromley et al. 2007). Although the better access to services is usually linked with the lifestyles of young people, elderly people may want to benefit from this proximity as well (Lever 1993). However, some commentators point out that the demand for smaller but centrally located dwelling space may not be a simple function of the proportion of small-households, suggesting rather that households tend to maintain larger dwelling space if they are able to afford it (Wulff et al. 2004). Besides, in the discussion of contemporary trends in the locations of households, the question of the resilience of inner cities has been raised because some of the smaller households may occupy central locations only temporarily.

The identified trend of the growing number of households has two potential implications for the supply-and-demand game of the housing stock in cities. First of all, in a situation when both the total population and the growth rates for the total number of households are positive, it may be expected that the construction of new housing will proceed to meet the demand of the growing number of economic actors. On the other hand, as it has been identified in the presented case of Polish cities, many urban areas today experience the loss in the size of their population, accompanied by the growth in the total number of households. In this case, the increasing number of economic actors, which households are, may still result in the demand for housing, even if the city population is declining. In the short term this process may lead to the stabilization of the housing market in a given city, diminishing the negative impacts of the loss in population.

However, the housing stock is not flexible; hence it may not be well fitted to the needs and preferences of new generations (Storper and Manville 2006), in which the proportion of small, non-traditional households is higher. Young, smaller households may not need a stock of large flats and houses inherited from their predecessors, not being able to afford it. Thus, in the next decades we may expect the rising

proportion of households sharing their accommodation. Furthermore, the more general discussion on sharing resources among households within cities remains open. As the average size of households decreases, they may not be interested in owning some kinds of appliances, looking instead for opportunities for borrowing or sharing them.

As the number of households increases and more people decide to live alone, the economic effectiveness of resource consumption per capita declines (Tscharaktschiew and Hirte 2010). "Even when the size of population remains constant, more households imply a larger demand for resources" (Keilman 2003). The economies of scale, which are usually associated with households (e.g. flat sharing or use of the same home appliances and transportation vehicles), are lost when the household is constituted by a smaller number of people. This raises questions about the environmental footprints and the sustainability of household consumption. Among the discussed effects of this phenomenon is the growth of land consumption *per capita* (D. Haase et al. 2013).

The worldwide phenomenon of the increase in the total number of households and the rise of small, non-traditional households may lead to significant changes in the economy and the physical form of the contemporary city. However, understanding these possible changes require further research, including investigating the demographic and economic structure of households and their attributes, such as the age of their representatives (considering the overall phenomenon of aging societies), the number of wage earners or average income level.

6. CONCLUSIONS

In this paper the basic trajectories of population and household development in 51 largest Polish cities have been presented. Between 1988 and 2011 these cities experienced trends that had been identified earlier in other European cities. Although the first decade of economic and political transformation in Poland was a period of population gains in the sampled cities, this variable diminished after 2002. Nevertheless, the decrease in population was accompanied by the growth in the total number of households. Moreover, Polish cities were experiencing an increase of small and non-traditional households comprised of one or two persons. The presented findings support, to some extent, the concept of the *second demographic transition* described in recent urban research practice. However, in the paper the 51 Polish cities investigated were limited in regard to their administrative boundaries. This fact limits somewhat the results described here. In further studies the

context of the on-going processes of suburbanization and desurbanization in Polish agglomerations should be taken into consideration. Additionally, the reasons for the formation of the small, non-traditional households are not analysed thoroughly. The paper offers some preliminary comments on the possible impact of the identified changes to the urban economy and city form by discussing the logic behind the choice of household location, the consumption patterns of households and particular implications for the housing market.

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2

Managing City Regeneration

Policy Interventions for City Regeneration: City Development Planning Processes in Heritage Cities in India

Bhawna Bali

ABSTRACT

Heritage helps promote regeneration of a city's identity. Mainstreaming heritage with city development planning processes serves as a tool for both development and revitalization of the local economy. In India, heritage has largely remained peripheral to conventional city development and planning processes and policies. The recently concluded national level urban renewal programme – Jawaharlal Nehru National Urban Renewal Mission (JNNURM, Phase I) aimed at upgrading urban infrastructure, service delivery and governance in so-called mission cities also focussed on heritage cities. This study explores the city development planning process in heritage cities under the JNNURM initiated urban development programme, with Mathura, a city of religious significance, as a case study. Based on an evaluation of the city development plan and related documents as well as field investigations on the progress of urban development projects implemented under the JNNURM in Mathura, this study has found that heritage concerns of this religious city have not been suitably addressed due to a generic approach followed in the identification of development projects, and without a rigorous assessment of their necessity and feasibility for the city. The study highlights four critical areas for successful implementation of any policy for regeneration of heritage cities, viz. community participation as primary stakeholders of heritage assets, legal and institutional set up for heritage conservation, financial support, and capacity building.

Keywords: heritage cities, JNNURM, City Development Plan, heritage toolkit, urban governance.

1. INTRODUCTION

Cities, besides being engines of economic growth and centres of creativity and innovation, are also symbols of the historical and cultural ethos of the society. Dynamic historical, socio-cultural, geographic and economic layering lends a distinct intrinsic character to the urban form, and gets reflected in the city's tangible (monuments, buildings, sites, etc.) and intangible (oral traditions, social practices, festivals, culinary, etc.) heritage assets. They constitute "a key testimony to humankind's endeavours and aspirations through space and time" (UNESCO 2011, 50). In India, the Town and Country Planning Organization (TCPO) under the Ministry of Urban Development, in its document Model Heritage Regulations (TCPO 2011), has defined the term urban heritage as the built legacy of the city's history and includes protected and unprotected monuments, individual and groups of buildings of archaeological, architectural, historic and cultural significance, public spaces (landscapes, parks and gardens), street layouts, distinct neighbourhoods or precincts, which together represent the visual, spatial, cultural and functional character of the city. In the draft policy on National Cultural Heritage Sites prepared by the Archaeological Survey of India (ASI) under the Ministry of Culture, historic and traditional settlements (such as cities with heritage significance) connote cultural landscapes which represent "a living, dynamic manifestation of the harmonious co-existence of cultural ideologies with its natural environment and setting" (ASI 2015).

With over 377 million people living in 7933 urban areas and comprising nearly a third of India's population in 2011, the criticality of urban development through policy interventions cannot be overlooked. Cities in India face innumerable challenges, viz., lack of infrastructure – housing, transport, retail, recreation and tourism, provision of services and extension of existing public works utilities, land speculation and real estate development, limited financial resources, etc. In the case of heritage cities, an additional challenge is the provision of an adequate, well maintained and robust infrastructure which does not collapse under the magnitude of the local population and the floating population comprising the tourists. Thus, on one hand heritage promotes tourism and contributes to the local economy, but on the other hand, tourism impinges upon the inadequate infrastructure of the city, and in turn exacerbates the problems faced by the locals. Therefore, in heritage cities an overarching difficulty is the choice between development and heritage protection. These challenges cut into the cities' identity as they compete over some of the areas that are significant from their heritage

value (Yang & Phares 2003, 9-14). Expansion of cities has also led to enormous pressure on the core areas of the city, which have been unable to keep pace with the rapidity of change. Demolition of historic buildings in order to accommodate new land uses, and sometimes their ill-conceived reconstruction, could lead to an irreversible loss of the original assemblage of historic monuments as well as altering the traditional landscape and leading to a discordant urban fabric, and ultimately a loss of cultural identity. A fine balance between development and heritage conservation, though ideal and desirable, is hard to come by in cities in a developing country like India, which lack even the basic infrastructure and services. There is an emergent need to embed heritage in the development and planning of urban settlements so that it becomes the primary driver of overall socio-economic and environmental development through tourism, recreation and culture based image building.

Rapid urbanization has drawn the focus of urban development policies and programmes to ensure adequacy of basic service provision to the burgeoning masses and infrastructure development in cities across India. Consequently, urban heritage development and management has continued to be at the periphery of mainstream city development and planning processes as well as in urban development policy in developing countries (Steinberg 1996, 463-475). Heritage conservation and promotion must be the starting point for devising development planning in heritage cities (Sang-Leem 2007, 36); otherwise, treating heritage in isolation from the development process would put heritage under the threat of urbanization (Mohan 2010, 8).

Traditional city planning and development initiatives in India have been characterized by a top-down approach with limited or no involvement of different stakeholders, an absence of local development plans specifically targeting heritage assets within cities and a lack of vision for integrating heritage into regional, city and ward level plans. Institutional weaknesses such as a lack of capacity among the key functionaries handling heritage issues, conservation and preservation of heritage assets, multiplicity of organizational authority over the same area, and ineffective intra- and inter-department coordination and deficient management practices are hurdles in integrating heritage development within overall city development. In addition, societal challenges such as a lack of public consciousness, awareness and participation and educational resources for creating awareness are some of the issues that have hindered the process of making heritage pivotal in the development agenda of heritage cities. While heritage cities form a unique category of urban settlements in India, their plan-

ning and development needs to be closely examined for preserving the heritage assets.

Against the background of a massive gap in the provision of basic services and infrastructure to the burgeoning urban population, financial poverty of the urban local bodies in up-keeping and upgrading infrastructure, the Government of India (GOI) launched the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) in December 2005 in 65 cities across the country (out of a total of 3799 statutory towns reported in the Census of 2001). These cities, referred to as the Mission Cities for the implementation of the JNNURM, were identified on the basis of their population and significance as historic, religious or tourist sites: Category A cities with more than 4 million population; Category B cities with a population between 1 and 4 million, and Category C cities with a population less than 1 million. The basic objective of this national level reform initiative was to boost planned urban development, enhance efficiency in urban infrastructure and service delivery, encourage community participation, accelerate reforms, and promote renewal and re-development of inner city areas. The mission rolled out through two sub-missions, viz., Urban Infrastructure and Governance (UIG) and Basic Services for the Urban Poor (BSUP) by allocating central financial assistance to the mission cities for infrastructure, housing development and capacity development. The two sub-missions were respectively implemented by the Ministry of Urban Development (MoUD) and Ministry of Housing and Urban Poverty Alleviation (MoHUPA), GoI. The JNNURM strategy entrusted mission cities with the preparation of their respective City Development Plans (CDPs) in accordance with the guidelines provided for their preparation and enunciating projects under the two sub-missions. Further, performance linked financial assistance was expected to ensure improvement in urban governance and service delivery by the urban local bodies (ULBs). The Mission aimed at creating economically productive, efficient, equitable and responsive cities (Vaidya et al. 2010, 75-82) through mandatory and optional reforms, to be undertaken by the States and the ULBs.

In its mission objective, JNNURM identified the development of heritage areas as a key component of sustainable urban development in India. Among the 65 mission cities are 15 heritage cities (including the case study city of Mathura) identified under the Peer Experience and Reflective Learning (PEARL) (Vaidya et al. 2010, 75-82). These cities were chosen to build their capacity to develop and use planning tools for the protection, use and management of heritage structures and areas. The planning initiatives in heritage cities under the JNNURM emphasize the identification of heritage zones, defining the impor-

tance of heritage in the socio-economic and cultural profile of the city, determining the legal and statutory framework for conserving urban heritage, the role of institutions in heritage conservation, the provision of infrastructure for servicing urban heritage, and providing financial support for heritage.

Objectives and Methodology

The present study emanates from two points of inquiry into the planning processes and policies relevant to urban development in heritage cities, viz. whether the concerns of heritage cities have been adequately covered while planning for improving their infrastructure and governance enunciated in the CDP prepared under the JNNURM; and whether the heritage toolkit stipulates holistic guidelines for the city development planning process of heritage cities. This study therefore aims to explore and assess the city development planning process undertaken as part of the central government sponsored JNNURM, with the heritage city of Mathura as a case study.

The study presents a descriptive analysis and evaluation of the CDP of Mathura prepared under the JNNURM initiative, and also draws inferences from the guidelines enunciated in the heritage toolkit for preparation of CDP, projects identified in the CDP and implemented. A number of documents related to the JNNURM programme have been consulted: JNNURM Overview, Formulation of a City Development Plan, City Development Plan of Mathura; City Development Plan Appraisal Report of Mathura, Supplement to Toolkit on Formulation of City Development Plan with a Focus on Heritage (2006), the Revised Heritage Toolkits (2009 and 2013), and project implementation reports. Observations drawn from field investigations in Mathura on projects implemented under the JNNURM and the progress of those in various stages of implementation, and discussions with implementation agencies (Mathura Nagar Palika Parishad [municipal council], Mathura-Vrindavan Development Authority, Jal Nigam and Tourism Department), and other stakeholders have been incorporated to supplement analysis drawn from secondary sources.

The Regional Setting

Mathura is sited along the right bank of the river Yamuna. It is located on the National Highway 2, about 150 kilometres southeast of the na-

tional capital, Delhi. It is the headquarters of the district of the same name, in the State of Uttar Pradesh. Mathura is a Class I city with a population of 349,909 persons (0.34 million) according to the Census of India, 2011. Mathura is the main centre of the Vaishnav sect of Hinduism in the Braj socio-cultural region, whose heritage value is linked to it being the birthplace of Lord Krishna. The city is also known to have been a centre of Buddhism and Jainism during the early century of the Christian era. Since time immemorial, Mathura has been an important pilgrimage centre, with its economic prosperity intricately linked to the religious attractions in and around the city, including Vrindavan, Goverdhan, Barsana, Nandgaon. Such is the growing popularity of this city as a pilgrim centre, that its population of 0.34 million is a miniscule proportion of the total number of tourists visiting the city (6.6 million annual tourists recorded in 2011). In recent times, Mathura has emerged as a weekend recreation-cum-religious tourism destination for people from the Delhi National Capital Region.

2. HERITAGE CONSERVATION AT THE INTERNATIONAL LEVEL

Heritage has been a theme of worldwide discourse since the adoption of the World Heritage Convention by the United Nations Educational Scientific and Cultural Organization (UNESCO) in 1972. Over the past four decades, and particularly since the Convention for the Safeguarding of the Intangible Cultural Heritage by UNESCO in 2003, the scope of the term heritage has broadened from tangible heritage, which encompasses individual buildings and sites, to include groups of buildings, historical areas, towns, environments, and social factors, to intangible heritage, which includes oral traditions and expressions, language, performing arts, social practices, rituals, festive events and traditional craftsmanship. There have been considerable policy initiatives for the conservation of heritage, including historic cities and urban settlements such as the International Charter for the Conservation and Restoration of Monuments and Sites (Venice Charter, 1964), the Convention for the Protection of the World's Culture and Natural Heritage (World Heritage Convention, 1972), and the Charter for the Conservation of Historic Towns and Urban Areas, 1987 (Ahmad 2006, 292-300). Apart from UNESCO, several international agencies, such the International Council on Monuments and Sites (ICOMOS), Organization of World Heritage Cities (OWHC), and International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM) have led heritage conservation initiatives.

The international conventions have advocated the need for conservation to be integrated within national, regional or municipality's urban development plans, stressed the importance of enforcement and regulation of these plans, and thus set in place the mechanism for conservation of cultural as well as natural heritage. The most significant among these, the UNESCO World Heritage Convention of 1972, brought into focus the concept of World Heritage or places that are of 'outstanding universal value' (OUV) to humanity and are therefore, inscribed on the World Heritage List to be protected for future generations. Under this Convention, which came into force in 1975, a World Heritage List has been established as a means of identifying, protecting, conserving and transmitting to future generations those parts of the world's natural and cultural heritage deemed to be of outstanding universal value and are the concern of the international community as a whole. By ratifying the Convention, State Parties pledge to meet the provisions of the Convention and safeguard World Heritage Sites (monuments, their precincts and buffer zones) in their territories as part of their agreed policy for protecting their national heritage through adequate long-term legislative, regulatory, institutional and/or traditional protection and management, as stated in the Operational Guidelines for the Implementation of the World Heritage Convention published by UNESCO. These guidelines also set out criteria for the assessment of OUV, guidance on nominations and monitoring, arrangements for periodic reporting and the need to facilitate an on-going consultative process between site managers, government officials and professionals. The addition of a site or monument to the World Heritage List does not confer any additional national legal protection. However, it does ensure significant international prestige and also raises the profile of the site within its own country.

Heritage conservation and management strategies have been adopted across different countries, both within the established international frameworks as well as national policies. UNESCO's Urban Regeneration Project for Historic Cairo is a case in point, wherein a detailed heritage management plan for OUV sites is under preparation for the heritage city (UNESCO 2012b). Cultural heritage management is being actualized by using legal, administrative, financial and technical strategies embedded through site management plans for the historic areas in the city of Istanbul, Turkey (Gultekin 2012, 235-243). In the case of Taiwan, a national law, the Cultural Heritage Preservation Law, is being implemented to provide a territorial legal framework for heritage conservation (Chohan and Ki 2005). In Luang Prabang, the erstwhile royal capital city of Laos, decentralized initiatives through the involve-

ment of local institutions and under the ambit of national laws and with multilateral financial aid have helped achieve compatibility between heritage protection and modernisation projects for infrastructure provision (UNESCO 2005). A participatory approach to heritage conservation and development planning in the Spanish colonial town of Vigan in the Philippines, through a holistic Heritage Conservation Program, has enabled the revitalization and management of its heritage (UNESCO 2012a). The international initiatives quoted above are a few examples of an integrated approach to urban heritage management, mostly achieved through local community participation in heritage conservation, revitalization and management, and mediated through international and national legal frameworks, institutional mechanisms for financial support and capacity building of key stakeholders.

3. REGULATIONS AND GOVERNANCE OF HERITAGE CITIES AND HERITAGE CONSERVATION IN INDIA

India, being a signatory to the UNESCO World Heritage Convention of 1972, has as many as 32 properties inscribed on the World Heritage List, whereas the country's heritage assets are innumerable, and of which only a small proportion is under legal protection. Development and planning issues in heritage cities in India have been largely addressed through the conventional approach, which primarily focuses on the conservation and preservation of monuments and sites for future generations, and therefore, involves interventions for prolonging the life of the monuments. In the recent past, there have been attempts by government organizations in India, such as the Archaeological Survey of India (ASI), the Town and Country Planning Organization (TCPO), and the Central Public Works Department (CPWD), to bring out model regulations for heritage buildings and sites (Table 1).

The Model Heritage Regulations (TCPO 2011) is wide ranging in its approach towards heritage conservation as the regulations not only deal with the preparation of listing, criteria for selection and grading of listed heritage buildings, but also look further into the building level development controls. This is significant as it places responsibility of the heritage buildings on the owners, and also vests transferable development rights and provides incentive uses for heritage buildings. The Handbook of Conservation of Heritage Buildings (CPWD 2013) is a very comprehensive document on guidelines for conservation and preservation of historic buildings, which includes sections on criteria and methodology for listing of buildings, grading of heritage build-

Agency	Regulations	Coverage
Ministry of Environment and Forests	Draft Model Regulations for Conservation of Natural and Man-made Heritage, 1995	Listed natural and man-made heritage
Ministry of Urban Development	Model Building Byelaws, 2004 (Chapter on Conservation of Heritage Sites including Heritage Buildings, Heritage Precincts and Natural Feature Areas)	Heritage assets listed in notifications issued by the State governments and/or those identified in the Master Plan
Archaeological Survey of India Ministry of Culture	Ancient Monuments and Archaeological Sites Preservation and Remains (Amendment and Validation) Act, 2010	Listed heritage assets, i.e. sites protected under the ASI and the State Archaeological Departments
	National Conservation Policy, 2013 (Draft)	Listed as well as unprotected heritage assets
Town and Country Planning Organization	Model Heritage Regulations, 2011	Listed heritage buildings not covered under the ASI or the State Archaeological Department and are notified by the State governments to become a part of the master plan, development plan, zonal plan, draft district development plan, metropolitan plan and regional plan
Central Public Works Department	Conservation of Heritage Buildings - A Guide, 2013	Listed as well as unprotected heritage assets

Source: Relevant documents mentioned in the table.

Table 1: Key Heritage Related Regulations in India.

ings, model building bye-laws, and conservation and preservation techniques.

The draft National Conservation Policy (prepared in 2013) follows the value-led approach, which considers the cultural significance of a heritage place to society and professes an integration of public and private partnerships and stakeholders in policy, governance and management of heritage in the urban development process (UNESCO 2013). It aims to provide guidelines on and enunciate contemporary approaches to conservation, management and protection, as well as the principles to be adopted for interventions within and around a monument. The Policy is holistic as it reinforces the integral role of local communities and traditional craftsmanship in conservation process; it brings together heritage related aspects like tourism, development (within and around a monument), is inclusive in making heritage sites disable-access friendly, and also focuses on disaster management, capacity building and public-private partnerships. However, there is a general lack of emphasis on integrating heritage in the planned development of cities and planning policies of cities.

From the foregoing explanation, it emerges that there is a fragmented framework of governance for heritage conservation and management in India. While the existing policy and regulation frameworks seem robust, their implementation, however, is weak, largely due to limited decentralization of powers to the urban local body (despite the 74th Constitutional Amendment Act for empowering urban local bodies), which is the lowest tier of institution of governance at the city level and is the most critical rung for implementation of policies at ground level. Further, as heritage regulations for a city need to be formulated in accordance with the relevant State Acts, there is non-uniformity in implementation of policies across different States. Thus, cities in States like Maharashtra (Mumbai, Pune, Aurangabad, Nagpur, etc.), Gujarat (Ahmedabad, Vadodara, Surat, Rajkot, etc.), Andhra Pradesh (Hyderabad, Puttaparthi, Tirupati, etc.) have made a headway in initiating provisions for heritage regulations by amending their existing regional, town and country planning as well as building byelaws to incorporate the component of heritage. On the other hand, States like Jammu & Kashmir, Haryana, and Bihar have been laggards in incorporating provisions for heritage regulations (Jain 2008). However, there is an increasing focus on heritage and initiatives undertaken for heritage conservation in several cities across the country.

City	Initiatives implemented and/or proposed	Institutional involvement
Ahmedabad	a) Heritage Cell b) Heritage Management Programme for revitalization of the inner city c) Heritage walk through the historic core d) Bye-laws prohibiting pulling down a listed heritage building without permission e) Awareness generation about heritage conservation	Ahmedabad Municipal Corporation
Delhi	a) Heritage Cell: Delhi Urban Heritage Foundation b) Integrating heritage conservation with the draft Master Plan and Zonal Development Plan for the Walled City c) MCD Heritage Cell and MCD Heritage Society d) Listing of historic buildings and identification of conservation area	Delhi Development Authority, Municipal Corporation of Delhi, New Delhi Municipal Council, Delhi Urban Arts Commission, INTACH
Jaipur	a) Heritage walk b) Site Management Plan (Jantar Mantar) c) Proposal for upgrading infrastructure facilities like cobbled footpaths, street lighting and traditional landscaping, local cuisine and crafts bazaars	DRONAH
Kochi	a) Heritage conservation and management action plan b) Proposal for provision of safe lighting in Fort Kochi water edge, model street improvement and revitalization for Mattancherry Street, and model restoration projects for private residential, commercial and public properties	UNESCO, IHCN
Mysore	a) Urban heritage conservation plan b) Rehabilitation of the old commercial hub – Devaraja Market c) Proposal for structural renovations through use of specific building material, improvement in the circulation system through one way street, provision of service roads and underground parking; service up-gradation (electricity wires and connections, sanitary and plumbing systems)	IHCN
Nanded	a) Riverfront development b) Proposal for heritage walk, designated Special Tourism Zone	Nanded Waghala City Municipal Corporation

Source: Details for individual cities collated from CDP Delhi 2006, Nayak 2009 & 2010, Patil 2010, IHCN Mission Report Mysore 2011, Jain 2011, Sudhi 2011, Nair and Nayak 2015.

Table 2: Interventions for Heritage Conservation and Management in Select Cities.

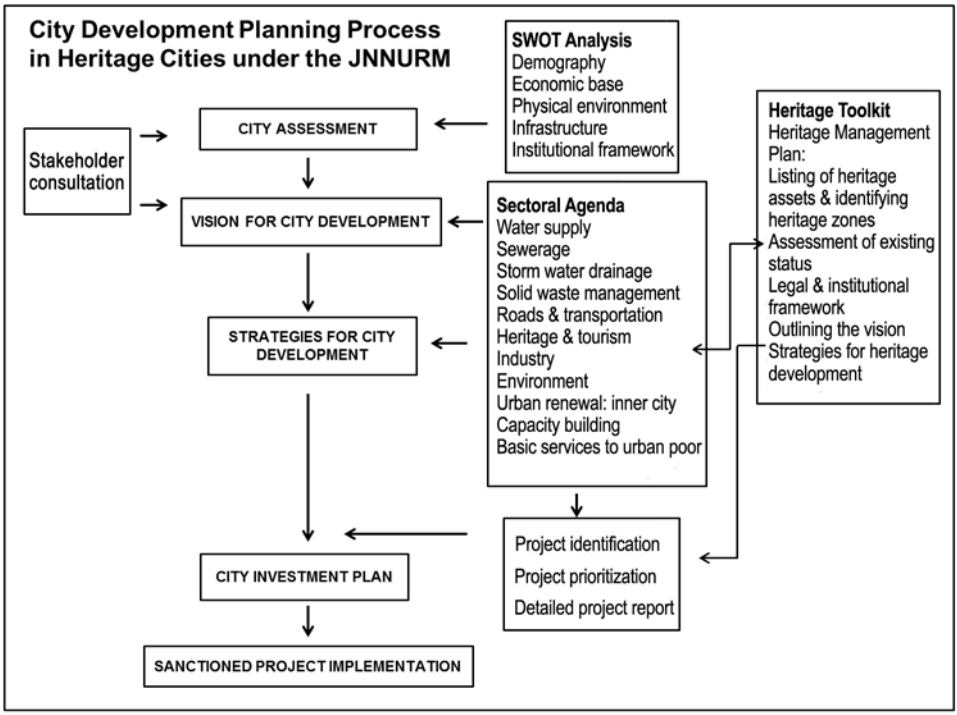
Ahmedabad is the first city to have established a dedicated Heritage Cell by its Municipal Corporation. Similarly, Heritage Cells have also been established in Delhi, Mumbai, Pondicherry and Kochi by their respective urban local bodies (Nayak 2009). Further, the Mysore Master Plan 2031, Hampi Master Plan 2011, and Kochi Conservation Plan are notable examples of integrating heritage within the city master plans. The government of Rajasthan has launched a large scale public-private people's participation scheme for conservation and development of twenty three cities having heritage and tourism importance, with an aim to establish a heritage cell in each of the identified municipalities, developing master plans for heritage sites as well as sustainable programmes based on local heritage for the benefit of local community, businesses, and craftsmen. Many of the above mentioned initiatives have been spearheaded by the Indian National Trust for Art and Cultural Heritage (INTACH), the Development and Research Organization for Nature, Art and Heritage (DRONAH) and the UNESCO-led Indian Heritage Cities Network (IHCN).

Although the efforts to protect our heritage are arguably limited given the vastness and diversity of heritage assets in Indian cities, however, a concerted step in the direction of heritage development within the cities has come through the pan-India JNNURM (2005-14). Under this mission, several cities have moved towards historic and cultural heritage management with the aim to redevelop the historic core of the city, revitalise the city space in terms of built and physical environment and enhance the traditional systems of economic sustainability (Varanashi 2006, 98-100). Some of these heritage cities include Ujjain (Dass 2006, 107-114), Mysore (Murthy 2006, 115-128), Pune (Dengle 2006, 121-137), Panaji (Mascarenhas & Rege 2006, 129-138).

4. CITY DEVELOPMENT PLANNING PROCESS IN HERITAGE CITIES UNDER THE JNNURM

The city development planning process in heritage cities according to the JNNURM is illustrated in Fig. 1. It involved an assessment of the city's existing infrastructure and services against the back drop of key parameters such as its demographic profile, economic base, environment, institutional framework, etc., which would enable the formulation of the city's vision for development. The city development process under the JNNURM is envisaged as a bottom-up, participatory approach in order to give the primary stakeholders of a city (residents, citizen groups, resident welfare associations, traders' association, etc.)

a stake in their city's development issues by engaging with them on the formulation of a vision for the city's development. The strategy for urban development followed a sectoral approach with a number of projects identified, prioritized, and implemented upon sanctioned detailed project reports. In addition to the financial assistance from the Central and State governments, an important component of the entire process is the city investment plan/financial strategies which would catalyse the flow of investment through public-private partnerships in development projects and strengthen the Urban Local Bodies (ULBs).



Source: Adapted from JNNURM Overview, 2006, Ministry of Urban Development and Ministry of Urban Employment and Poverty Alleviation, Government of India.

Fig. 1: City Development Planning Process in Heritage Cities under the JNNURM

An additional process for heritage cities is the preparation of heritage management plans according to the guidelines provided in the supplementary toolkit. As part of building a holistic development plan for cities with heritage value, a supplement to the toolkit on the formulation

of City Development Plan (CDP) focussing on heritage was issued in 2006 in an attempt to institutionalize initiatives in planning for heritage. While this was an afterthought since the CDP formulation guidelines already existed, nevertheless, it was an important step in mainstreaming heritage in the planning process. The purpose of this toolkit was to help in identifying the heritage component in cities and to formulate a strategy for its protection, conservation, and further development. The CDP guidelines were revised twice (2009 and 2013) and the heritage component integrated within the CDP at two levels, viz. as part of all the sectoral plans such as water, drainage, and transport, as well as a heritage sectoral plan in the form of Heritage Management Plan (HMP). As compared to the heritage toolkit of 2006, the HMP proposed in the revised CDP toolkits of 2009 and 2013 is a more comprehensive tool for integrating heritage into the planning process. It is encouraging to note that with provisions for grading of heritage buildings in the HMP, prioritisation of conservation as well as development programmes can be more readily achieved, which is further strengthened by the clause on identifying and prioritising Detailed Project Reports (DPRs). The aspect of prioritisation assumes importance given the financial constraints very typical of municipalities across India. While the HMP has similarities with the heritage toolkit of 2006, however, it does not mention about the financial strategies that need to be identified for heritage conservation and related projects. Nevertheless, both the toolkits provide a framework for mainstreaming heritage within the existing planning mechanism in India.

5. CITY DEVELOPMENT PLAN EVALUATION OF MATHURA

An analysis of the CDP of Mathura reveals that it conforms to the guidelines stated in the heritage toolkit, as shown in Table 3. Broadly, the heritage management toolkit as envisaged in the CDP is relevant for heritage cities like Mathura. However, there are two specific areas which have not been addressed in the CDP, viz. identification of heritage zones within the city (although heritage assets are listed) and prioritization of projects for heritage zones. A Heritage Management Plan prepared in accordance with the guidelines in the toolkit would certainly help in addressing both these issues and in promoting the city's heritage.

Heritage Toolkit Guidelines for CDP	**Mathura CDP**
Setting the boundaries: Identifying the heritage zones of the city	a) Both tangible and intangible heritage listed b) Individual monuments protected by ASI, SDA and those identified by INTACH listed in the CDP c) Heritage zones/precincts not identified
Existing status and assessment of urban heritage: Defining the importance of urban heritage in the socio-economic and cultural profile of the city	a) Stated in the context of religious tourism and religious structures, both protected as well as unprotected b) Limited/general understanding of the importance of urban heritage mentioned in the CDP
Determining the legal and statutory framework for conserving urban heritage	a) The list of heritage monuments is to be processed under the State Town and Country Planning Act to be part of Mathura-Vrindavan Development Authority plan
Formulating a vision for urban heritage	a) Mathura as a prime heritage-tourism and religious focus in the Braj region b) Vision for Mathura stated in the context of Mathura-Vrindavan Master Plan 2021 for conservation of ancient heritage through statutory listing c) Identification of issue of floating pilgrim population for planning and development
Defining strategies	a) Renewal strategy to have municipal wards with a concentration of heritage structures to be earmarked as heritage precincts for restoration and conservation, Yamuna waterfront development, improvement of Mathura Parikrama Marg
Identifying the institutional set up	a) Multiplicity of institutional set up: ASI, State Department of Archaeology, UP Tourism Development Corporation, Nagar Palika Parishad, Private agencies such as INTACH
Planning the infrastructure for servicing urban heritage	a) Infrastructure related projects identified for heritage sector, however, heritage focus in the sectoral projects is not clear
Financing plan and financing strategies	a) Funding through NPP, UP tourism, private partnerships b) Capital investment plan including the yearly investment requirement framed for the heritage projects. c) Agencies identified for capital works of all the heritage projects; and a few agencies identified for operations and maintenance of select projects

Source: Supplement Toolkit for Preparation of CDP with Focus on Heritage, Government of India 2006 and CDP of Mathura, Government of Uttar Pradesh 2006.

Table 3: Consonance between Heritage Toolkit and Mathura City Development Plan

5.1 Relevance of projects identified in the CDP of Mathura to planning and development of heritage, and project implementation

The CDP has identified sector-wise key issues and problems based on secondary data and consultations. Further, it has identified a three tiered spatial scale for the implementation of sectoral projects, viz., regional, city and ward level. While it is interesting to note that projects have been identified at these three spatial scales, however, the CDP does not explicitly highlight the criteria for prioritisation for implementation of various projects at the city and ward levels. The projects listed in the CDP of Mathura fall under two broad categories, viz. (i) Urban Infrastructure and Governance, and (ii) Basic Services for Urban Poor. As many as nine sectors were identified under the Urban Infrastructure and Governance category, within which key projects would be initiated. These included water supply, sewerage, drainage, solid waste management, roads, traffic and transportation, street lighting, urban environment, heritage and tourism, and urban governance. For the Basic Services for Urban Poor category, apart from the first six sectors, four other sectors specific to the needs of the urban poor were listed for initiating projects. These included: basic amenities (public conveniences, etc.), community halls / training centres, housing for below poverty line, and training and capacity building. However, except for three projects under Urban Infrastructure and Governance, all others have so far not even been initiated (Table 4). In the case of Basic Services for Urban Poor, projects have not been detailed.

Field investigations revealed interesting facts and challenges about these projects. Of the nine sectors identified for various projects, work on only three had been undertaken, i.e. storm water drainage, sewerage and solid waste management. Only the solid waste management project on Public Private Partnership (PPP) mode was completed and has been operational since 2010. However, complete coverage of the city for door-to-door waste collection is yet to be achieved. Several issues plagued the progress of these projects, viz. encroachment of land, lack of funds for adoption of technology for water purification and extension of sewer lines, and unavailability of land for setting up a sewage treatment plant. Further, a generic approach had been followed in the Urban Governance projects on capacity building and training of the Nagar Palika Parishad (NPP) officials, which does not lay specific emphasis on a specialized field such as heritage. These projects are important as far as the urban renewal process and infrastructure development in Mathura City as a whole is concerned, whereas their relevance to heritage development and planning depends on prioritization of projects in view of the HMP.

Sectors	No. of Projects Listed in the CDP	No. of Works Proposed	Status as on 8th August 2014
Water supply	15	8	Detailed Project Report sent to GOI for approval*
Sewerage	8	5	Work for Zone II 85% complete; DPR submitted for other 3 zones
Drainage	7	4	89% complete; work in progress
Solid waste management	29	1	Completed
Roads, traffic and transportation	15	-	-
Street lighting	7	-	-
Urban environment	5	-	-
Heritage & Tourism	19	-	-
Urban Governance	11	-	-
Overall status	**116**	**18**	**1 completed, 2 in progress**

Source: Uttar Pradesh Project Implementation Status Report under Urban Infrastructure Governance, JNNURM, Government of India 2014
* Interview with officials of Mathura Nagar Palika Parishad.

Table 4: Sector-wise Projects under Urban Infrastructure and Governance in Mathura

5.2 Relevance and implementation of heritage related projects

While the CDP of Mathura identified as many as 19 projects under the Heritage and Tourism sector, however, their initiation was much delayed due to limited feasibility of implementation of the projects, absence of demarcated heritage zones for prioritization of projects for implementing conservation plans, and lack of specialized training of NPP officials in handling heritage related projects. In addition to the practical challenges noted above, there are institutional and process related lacuna in addressing the heritage development in the established planning mechanisms. The CDP vision is in line with the Master Plan 2021 which includes both Mathura and the adjoining religious town of

Vrindavan. However, the interconnectedness of the cultural and religious heritage of the region is partially addressed in the CDP since the identification and implementation of projects (whether infrastructure or heritage specific) are limited to the administrative jurisdiction of Mathura. The CDP's coverage of heritage assets followed the conventional norms as it is restricted to the listed monuments (temples, ghats and kunds) protected under ASI, the State Archaeological Department in NPP area, and those identified by INTACH. Thus, the heritage assets of Mathura owned by individuals, trusts and ashrams are outside the ambit of CDP, which is attributable to an absence of defined procedures for their vetting and inclusion by the NPP. Broadly, the CDP of Mathura was formulated according to the guidelines stated in the heritage toolkit 2006; however, the heritage concerns of this religious town have not been completely addressed in the CDP. Moreover, the limited funding of a very few identified projects and their poor and shoddy implementation failed to achieve any significant infrastructure improvement in and around the heritage areas of the city. Further, in spite of various conditions imposed by the central government for institutional reforms in the city, the programme could not accomplish any notable successes in this regard.

6. THE WAY FORWARD FOR CITY DEVELOPMENT PLANNING OF HERITAGE CITIES IN INDIA

From the foregoing discussion and analysis of the city development planning process in heritage cities under the JNNURM and highlighted through the case study on Mathura, it is evident that heritage conservation and development has been carried out without any integration with urban planning mechanisms and other socio-economic sectors of the city, and through a 'one-size fits all' approach. While the CDP approach is relevant to city development planning in heritage cities, however, as a 'living' document the CDP must be amenable to mid-course revisions in accordance with the revised guidelines, and by experts and organizations experienced and conversant with handling issues of heritage as well as involvement of ULB officials.

It is also clear that multiple institutions for governance and the unclear regulatory framework for managing urban heritage assets and financing their development, coupled with the weak capacity of ULBs, have created challenges for managing the heritage cities, which are already under intense stress in the provisioning of basic services

and infrastructure for both the local residents and the tourists. A few recommendations that can enable a more holistic approach towards heritage development are:

1. A complete and exhaustive listing of protected and non-protected heritage assets of the city, which includes heritage assets listed by the Archaeological Survey of India, State Archaeological Department, ULBs, NGOs, trusts and ashrams, needs to be done for the notification of heritage zones, initiating a heritage and tourism management plan as well as prioritizing heritage conservation and development measures.

2. A participatory approach in devising a vision and strategies for city development by bringing together all stakeholders (city residents, public sector institutions, non-public sector institutions such as temple trusts, boards, ashrams and other religious organizations), who are the key players in the local economy and important opinion makers in pilgrimage centres.

3. Effective efficient implementation of the strategies with judiciously devised development programmes with the involvement of various stakeholders.

4. A suggested institutional mechanism for this purpose is the establishment of a heritage cell and constitution of a heritage committee comprising the municipal commissioner, chairman of the development authority, district magistrate, representatives of religious organizations, temple trusts, citizen groups, NGOs, experts in heritage conservation, superintendent of Archaeological Survey of India, conservation architects, urban planners, and regional tourism officer who will be empowered to formulate and implement a Heritage Management Plan and foster public-private partnerships for the heritage development.

5. Creating livelihood opportunities for local communities in order for heritage to be economically viable, through the promotion of local handicrafts, setting up of a cultural centre and crafts bazaar for the promotion of local culture and handicrafts items, tying up with NGOs and other promotion bodies for training local youth as guides, etc.

6. Regular and targeted capacity building of ULBs and parastatal officials for the successful formulation, implementation, effective functioning and evaluation of a development plan.

7. Data repository pertaining to the CDP and all sectoral projects completed, under preparation and future tasks, along with GIS based mapping and data sets as a ready reckoner for updating data, and efficient technological interventions.

Heritage cities form an intrinsic part of the settlement fabric in India. Heritage must be fostered as the driver of a city's development agenda in order to unleash the potential underlying tourism and heritage in promoting sustainable development and to make heritage cities vibrant and competitive, while at the same time preserving their unique character. Broadly, four areas are critical to achieving an integrated approach towards planning and development of heritage cities, viz. community participation as primary stakeholders of heritage assets, legal and institutional set up for heritage conservation, financial support, and capacity building.

Given the renewed focus of the present Government on sustainable development of cities and the recently launched programmes, viz. Smart Cities, Swachh Bharat Abhiyaan, Atal Mission for Rejuvenation and Urban Transformation (AMRUT), it is expected that these programmes will promote inclusive urban development in India and drive economic growth in all urban settlements, including heritage cities. The latter are specifically targeted through HRIDAY (Heritage City Development and Augmentation Yojna) and PRASAD (Pilgrimage Rejuvenation and Spiritual Augmentation Drive). It is envisioned that heritage cities will undertake strategic and planned development for improving the overall quality of life, with a focus on sanitation, security, tourism, heritage revitalization and livelihoods while at the same time retaining the city's cultural identity.

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Participatory Upgrading in Latin America: Finding the Balance Between Top-down and Bottom-up Urban Planning

Susana Restrepo Rico

ABSTRACT

Poverty is a characteristic of Latin American cities, manifested in informal urbanisation, informal economies and social exclusion. Upgrading strategies became instruments for improving the quality of life in Latin America; however, urban regeneration is a complex and massive undertaking demanding effective and efficient investment of financial, technical and human resources.

Upgrading programmes developed through top-down rational-technocratic approaches are inadequate in ensuring sustainability of outcomes and with low impact on social development. The challenge for planners resides in producing sustainable projects through holistic urban programmes that bring different actors to establish a common vision for the city. The research studied two best practices in urban upgrading in Latin America, with the intention of understanding upgrading processes and discussing the possibilities for implementing participatory planning practices. The research utilises a strategic planning approach as the means to define actors, objectives, responsibilities and priorities in upgrading projects. Strategic planning promotes consensus building and diversity of stakeholders; however, urban development remains a responsibility of governments, thus the research aims to close the gap between top-down planning and bottom-up initiatives. Participatory practices are essential for project effectiveness, legitimacy and appropriation. A participatory approach to urban upgrading could guide formulation, implementation and sustainability of projects, bring decision-making closer to all actors, giving communities, academic institutions and private sector possibilities to influence urban policy.

Keywords: sustainable upgrading, participatory planning, strategic urban planning, urban poverty.

1. INTRODUCTION

Cities are complex systems which shape societies and define the quality of life for urban communities. The ideal of urban life, combined with industrialisation, pulled rural populations to cities, generating waves of rural migrants seeking to improve their livelihoods and secure a better future (Irazábal 2009). Cities expanded, grew and densified, establishing new urbanisation modes and challenging existing urban infrastructures. Low-income inhabitants settled on unused areas of the city, changing the image of the city, along with the dynamics of housing markets and economic models. The urban poor multiplied and proliferated as the result of worsening economic conditions and an expression of inequalities among urban dwellers. Low-income communities created informal and sometimes invisible societies beyond the reach of the state. This invisibility, combined with top-down policy approaches, kept residents at bay from decision-making processes (Botes & Van Rensburg 2000).

While the Latin American city expanded, national and international governments concentrated efforts on economic development policy as the solution to urban poverty (Ramirez 2003). Economic development is aimed at inhabitants with financial means, and hence poor communities are excluded from influencing urban development (Gilbert & Ward 1984a). Strategies against urban poverty are replicated and implemented under assumptions of homogeneity amongst urban poor populations. Moreover, urban regeneration focuses on spatial improvement, neglecting the real causes of urban poverty. In order to generate changes in livelihoods, the objectives of urban upgrading must be to aim at overcoming stigmatisation, poverty, as well as reducing vulnerabilities and building community capacities. Upgrading strategies should be more than a collection of technical projects to be performed independently of each other (Imparato & Ruster 2003). Interventions in the public realm without social development or a participative basis distort social networks in informal societies, hindering the survival of the urban poor (Batley 1983).

2. THE CHALLENGE OF URBAN UPGRADING

Informality and poverty reduction strategies

The emergence, expansion and consolidation of informal settlements are endogenous processes in the Latin American city. Informal settle-

ments and illegal occupation of public and private land developed as *"a logical product of social and political systems, the historical moment and land markets"* (Coupé 1993, 5). Informality emerged as a response to inadequate development policy, rigid institutional structures, centralised policy, as well as top-down decision-making. Moreover, liberalisation of markets and retreat of the state from social development, paved the way for the incursion of illegal actors in every aspect of urban life for low-income communities. The urban poor live with and from the informal sector, taking advantage of the ability of informality to adapt in size and scope. This flexibility of informality becomes a significant factor as actors in urban development, concentrating wealth, power and population within invisible marginal societies (Pugh 2000).

Although the informal sector signifies survival, the illegal condition of informal urbanisation prevents residents from accessing welfare and urban services, e.g. education, health, transport, etc., and also limiting the opportunities for social and economic development. Furthermore, densification processes in Latin American cities generated dense urban areas with a myriad of environmental problems due to the absence or illegal provision of basic public infrastructure, along with overcrowding and risks created by settlement location. Thus, cities witnessed the expansion of urban perimeters from the hands of private, as well as illegal developers, weakening the position of governments and deteriorating the environmental condition. Furthermore, the incidence of extreme poverty, combined with the incursion of violence, crime and drugs in the 1980s, transformed the image of informal settlements into decadent urban areas, stigmatising low-income communities. Informal settlements are now considered agglomerations of homeless, unemployed, abandoned peoples living in subhuman conditions; *"economically and socially it [the favela] is a drain, a parasite, demanding high expenditures for public services and offering little in return"* and which occupy valuable developable land (Perlman 1976, 15).

The impact of public policy on urbanisation processes

Responding to the problem of informality and planning, the Latin American city became a conflict between two paradoxical realities. On one hand formal economies and laissez faire policies steered markets, evidencing the position of governments: *"an acknowledgement that the government will take only partial or no responsibility for developing working-class neighbourhoods"* (Irazábal 2009, 49). Free trade increased the cost of living, threatened social welfare, reduced wages and marginalised

low-income populations, aggravating the situation of the urban poor. On the other hand, the informal city understood the importance of self-help as the solution to housing deficits which, in turn, overwhelmed public infrastructure and provision of services. As a result of the liberalisation of markets and low investment in social development, the Latin American city transformed into a polarised territory, two societies segregated by social status, economy and access to opportunities.

The needs of the urban poor are defined by location, culture, access to services, employment, and the social composition of the neighbourhood. The specificity of these contexts demands tailored instruments for upgrading, along with flexibility of measures and adaptability to unexpected changes in planning, design or implementation stages. In contrast, the reality exposes the failure of short-term government programmes, as a consequence of the impossibility of projects to adjust and respond appropriately to specific needs. Urban policy in Latin America has been characterised by a sectorial approach that focuses on improving the built environment, while the human element is forgotten in the urban development agenda. Implementation becomes a subject of physical improvement or legalisation, neglecting the social responsibility of urban upgrading.

Anti-poverty or upgrading programmes should differ from traditional development strategies in their main objective. While urban development generally aims at addressing existing problems through rigid project packages that neglect the needs of the population (Nientied et al. 1986), upgrading programmes must pursue community empowerment and integral urban development. In this sense, as observed in the case studies and stated by Imparato & Ruster (2003), integral upgrading is currently understood as improvement of the built environment with a simultaneous, yet not integrated social process. The reason for including a social component in current programmes is facilitating negotiation and implementation. However, the heterogeneity of informal communities, along with the complexity of urban regeneration, demands a holistic understanding of influential actors, social structures, relationships, hierarchies and networks, in order to grasp an accurate idea of the population's dynamics. Furthermore, informal societies exhibit capacities for self-development that could produce sustainable community-based initiatives, if provided with support and appropriate conditions. Incremental construction is an example of self-help, an on-going improvement process that becomes a lifelong project for the household or community involved. Thus, the challenge relies on transforming a top-down planning process into a

participatory upgrading strategy fostering capacity building and learning processes for all stakeholders.

Evolution of upgrading strategies

The reactions of municipalities and national governments to informality were repressive policy and ineffective strategies. Clearance strategies formulated from a top-down process neglected the real causes of poverty, along with the reasons for emergence of informal settlements. Eviction and clearance strategies were endorsed by the need for urban modernisation; i.e. automobile friendly urban areas, and global trends of city *"beautification"* (UN-Habitat 2008, 31). In this sense, policy makers ignored the idea of redevelopment as a tool for regularisation of informal settlements. Clearance achieved an economic objective, satisfying interests of real-estate markets, whilst achieving a political objective of undermining the revolutionary potential of informal dwellers (Valladares 1978).

Later on, eviction was coupled with the relocation of informal communities to inadequate social housing, with the promise of returning to an improved dwelling once settlements were rebuilt and renovated (Gonçalves 2008). In addition to social housing, governments adopted the Sites-and-Services approach, sending informal residents to the periphery of the city, where the municipality built housing shells connected to basic public infrastructure. Although both strategies proved to be ineffective in solving the real causes of informality, these approaches helped the understanding of some of the necessities in low-income areas, such as the need for social services and community facilities. As João Macedo (2004, 177) exposed, *"proletarian parks* [a relocation strategy implemented by the municipality of Rio de Janeiro] *could be considered the first step in identifying, limiting and classifying favela populations."* Relocation strategies evidenced a basic understanding of the housing deficit for low-income populations; however, as the real causes of informality were not addressed, the condition of the urban poor worsened, since accessibility to employment, services and urban infrastructure became more difficult and expensive. Many relocated residents, afflicted by economic pressures, moved again closer to urban centres, reproducing informality on the fringe of formal areas. This is how many of the favelas of Rio de Janeiro emerged, for example Rocinha, Mangueira-Babilonia, Santa Marta, Andaraí, Alemao, Manguinho, that is, informal extensions of high-income areas, where the urban poor find the means for economic survival.

Subsequently, in the decade of the 1980s, as a response to the world economic crises, the World Bank and other international organisations sponsored "*Structural Adjustment Plans*"(SAPs) (Afenah 2009, 2). A public policy approach focused on economic growth and "*laissez-faire*" market trends leading to disengagement of the state from urban issues (Durand-Lasserve 1987, 328). Liberalisation of markets worsened the economic position of the urban poor, boosting the expansion and densification of informal settlements, which transformed them into a critical mass that demanded innovative approaches for addressing different scopes of poverty (Macedo 2004). As a response, the state devised a paternalistic approach based on aided self-help as production of housing (Irazábal 2009). The new approach based on welfarism eliminated eviction polices and acknowledged the existence of informality in the city. Aided self-help meant connection to urban infrastructure along with *de facto* tenure to informal residents. Elimination of eviction fears encouraged incremental construction, which started informal consolidation processes. Although the acknowledgement of informal communities as part of the city is essential for social development, the paternalistic approach neglected the importance of property rights for social development. Thus, the socio-economic condition was not changed, the residents remained informal, preventing access to services or credit for economic development.

In the decade of the 1990s, decentralisation trends and lessons learned from past experiences transformed the role of the state to become a facilitator in the upgrading process (Giles 2003). The strategy was enablement, a "*legislative, institutional and financial framework whereby entrepreneurship in the private sector, in communities and among individuals can effectively develop the urban housing sector*" (Pugh 1994, 166). However, the inclusion of the private sector resulted in provision of social housing on low-priced land, meaning the periphery of the city.

Enablement, supported by decentralisation processes, allowed formulation of upgrading projects based on legality and regularisation of tenure, which translated into housing security for low-income residents and possibilities for spatial, social and economic development; however, lack of participation in project planning and difficulties in communication between government agencies hindered sustainability of outcomes. Moreover, the field research showed that whilst municipalities gathered experience in policy making, urban planning and project implementation, changes in government cycles impeded institutionalisation of procedures, which obstructed knowledge transfer, as well as building institutional capacities.

3. METHODOLOGY

The character of this investigation is applied qualitative research, with the objective of making a systematic description and interpretation of planning processes for upgrading strategies in Latin America. The hypothesis explored by this research relies on the claim that participatory planning of urban upgrading programmes could transform top-down planning processes into sustainable upgrading projects, by means of participation of diverse actors in project stages.

The research implements a mixed methods approach which comprises a historical review of poverty reduction and upgrading strategies; a literature review and empirical study of best practices in urban upgrading in Latin America focusing on two cases: Favela-Bairro Programme in Rio de Janeiro, Brazil, and the Integral Neighbourhood Improvement Programme (PMIB) through the implementation of Integral Urban Projects (PUI) in Medellín, Colombia. Moreover, some features exhibited by both cases suggested the need to make an abridged literature research about other upgrading programmes in Latin America, with the intention to observe the widespread strategies, instruments and typology of projects executed. In total the abridged analysis covered 10 countries and 16 programmes, finding many similarities amongst programmes in terms of spatial focus, actors, financing scheme, etc. (see Table 1).

The main objective of this research is to propose a methodological framework for participatory urban upgrading in Latin America. In order to achieve this objective the research process has been divided into three stages: i) *Learning* from literature review in order to establish the state of the art of informal settlements, community participation, upgrading and planning processes in Latin America; ii) *Understanding* the process of upgrading and potentials of actors for participation. This stage is based on empirical research in Rio de Janeiro and Medellín using participant, direct and indirect observation, qualitative analysis of statistical data and elicitation through semi-structured interviews of residents, community leaders, designers and programme coordinators. The third and final stage is iii) *Theorising*, with the use of grounded theory the research attempts to bring theory and practice together, finding common ground for actors to build consensus about programme objectives, responsibilities, resources and priorities which would in turn produce effective and long lasting outcomes. Furthermore, in order to find a middle point between top-down planning and bottom-up initiatives the research proposes a theoretical framework

			National Prorgammes						Municipal Programmes									
COUNTRY			ARG	CHI	BRA	CR	MEX	PE	COL	BRA	BRA	BRA	VEN	COL	ARG	NIC	COL	GUA
Programme Name			PRO	CB	Hab	PAUP	Hab	MB	PRIM	FB	VB	PT	CAM	INI	Hab	UR	PIMB	UPR
Financing	International		x		x	x	x	x	x	x	x	x	x	x	x			x
	National & Local		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Implementation Date			97	97	99	03	04	04	92	94	97	98	98	00	02	02	04	04
Target Population & Selection	Urban condition	Socio-economic	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x
		Morphology		x		x	x		x					x	x	x	x	x
		Legal condition				x										x	x	
		Deficient Infrastructure	x				x		x					x		x	x	
	Population Size	Inhabitants	x					x										
		Households	x	x														
		Plots				x	x	x										x
	Poverty level	Income	x	x	x	x	x	x						x	x	x		x
		UBN	x		x													
	Feasibility	Regularisation	x	x			x	x			x				x		x	
		Infrastructure						x	x					x	x		x	x
		Environmental risk	x			x			x						x		x	x
	Settlement age		x					x									x	
	Social Organisations		x						x									
	Institutional			x	x			x						x	x		x	
	Other			x														
Actors	Public	National Gov.	x	x	x	x	x	x	x					x				x
		National Inst.		x	x	x		x								x		
		Federal/Region		x	x								x				x	
		Municipal	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		Financial Ag.		x	x	x						x	x				x	
		Housing Ag.							x	x	x	x	x	x	x	x	x	
		Implement. Unit		x							x	x				x	x	x
		Social Ag.					x		x	x							x	
		Environm.											x	x		x	x	
	Community	Residents	x	x		x				x	x	x			x	x	x	x
		Associations	x		x	x		x			x					x	x	x
	External	International	x		x	x	x	x	x	x		x	x	x	x	x		x
		NGO	x						x						x			x
	Private								x	x	x			x	x		x	x
Programme Components	Spatial	Urban Morphology	x	x	x	x					x	x			x	x	x	
		Infrastructure and Public	x		x		x	x	x	x	x	x	x	x		x	x	x
		Mobility Infrastructure			x					x	x	x		x		x	x	x
		Tenure	x		x				x	x	x	x		x		x	x	x
		Housing Provision	x				x		x	x	x		x	x			x	
		Environment	x				x		x	x		x	x	x		x		x
		Public Space	x					x									x	
		Public Facilities	x				x		x	x	x	x	x	x			x	x
	Social	Participation	x						x	x			x			x	x	
		Community-Based Initiatives	x															x
		Capacity Building for				x	x	x			x	x		x				x
		Poverty Reduction		x							x			x	x		x	
		Social Inclusion		x			x								x			
		Social Services				x					x							x
	Governance	Institutional Restructuring			x	x							x	x			x	x
		Institutional Capacity		x	x	x		x	x						x			
		Partnerships				x												
		Participatory Practices				x	x											
Programme Outcomes	Spatial Outputs			x		x		x	x				x	x	x	x	x	x
	Social Outcomes		x			x		x	x		x	x	x	x		x		x
	Institutional Restructuring		x						x	x	x	x	x	x		x	x	
	Planning Process							x							x	x	x	
	Participative Practices								x	x	x				x			
	Knowledge Transfer		x												x			

Table 1: Systematic Analysis of urban upgrading programmes in Latin America.

based on strategic urban planning and participatory practices for the analysis of the case studies and the discussion about how to transform upgrading strategies into participatory upgrading programmes that produce sustainable projects.

4. ASSESSMENT OF UPGRADING PROGRAMMES

The strategies to overcome informality have been evolving through the adoption of diverse planning models, as well as syncretism between rational-technocratic model, advocacy, democratic and participatory planning approaches (Irazábal 2009). Paternalistic approaches to urban development have as a main characteristic the absence of participatory decision-making, supported by the idea that only municipal agencies, official practitioners, or professionals hold the necessary knowledge, expertise and skills to design successful projects (Botes & Van Rensburg 2000). Knowledge became an excuse for hindering participation of communities, preventing local knowledge from reaching designing tables. Moreover, participation in project planning has been restricted not only for communities but also for external actors. Lack of divergent views limits effectiveness, reduces available resources and prevents creative approaches in addressing context-specific issues. Moreover, as municipalities monopolise planning and implementation processes, upgrading strategies are rarely evaluated with a critical perspective about procedures and outcomes.

Misunderstanding participation

Under pressures for fast spatial projects, top-down planning presents many advantages for governments. Top-down planning misrepresents the concept of participation and manipulates communities to facilitate implementation, avoid opposition, secure external financing and create beneficial advertising for political parties (Fraser 2005). Moreover, top-down interventions have minimal positive impact in livelihoods, as these exclude residents' perspectives, overlooking the complexity of relations between inhabitants and the built environment. Likewise, projects designed only from the official's perspective fail in understanding the dynamics of communities, evolution of urban conditions, as well as the role of social networks in collective and individual behaviours. Technocratic, sectorial approaches proved ineffective to respond to rapid urbanisation and impoverishment. Thus, projects and planners lost credibility and legitimacy, creating a trust gap between communities and governments. In this sense, non-participative approaches have a limited time-span, scope and impact, as they ignore the importance of communities, disregard inputs from external actors and are dependent on political will.

In contrast, in bottom-up approaches the role of planning is focused in facilitating co-operation between stakeholders, transforming programmes into learning processes. Urban projects with participative approaches become "self-generating" activities, providing skills training and education, which might result in "self-reliant" and cooperative communities (Nientied et al. 1986, 43). Outcomes extend beyond physical results, generating democratic processes, bringing different sectors of society together, empowering local populations, promoting self-organisation, as well as effective self-help; these are all upgrading processes essential to overcoming poverty, segregation and informality. Local knowledge is developed from life experiences, appears in different forms, and provides practical understanding of phenomena along with relationships between different actors (Eversole 2010). The effective use of local, technical and professional knowledge enhances project outcomes, and builds community and institutional capacity. Urban planning needs to be transformed into an instrument for social change, could redefine social norms, contextualise rational approaches, while allowing adaptation and verification. Participation could create adjustable and flexible solutions to the ever-changing problems of the urban environment (Albrecht 1985).

The outcomes of integral programmes

The research analysed the case studies based on a categorisation of project typology. Thus, projects aimed at upgrading the built environment are classified under Spatial Improvement. Social projects aimed at improving socio-economic conditions, along with legalisation of tenure and community capacity building are classified under *Social Development*. Ultimately, institutional changes, processes or procedures required for project planning or implementation are categorised under *Legitimacy* and *Governance* (Restrepo Rico 2012). Nevertheless, the concept of *governance* is distorted amongst Latin American politicians, understood as the need for institutional restructuring but neglecting the need for implementing real participatory practices for decision-making. Therefore the *Governance* category comprises institutional practices aimed at achieving governance but fall short from the real meaning of the concept.

The main outcome from the aftermath of integral upgrading programmes is a learning process for municipalities, highlighting the need for institutional capacity building, the importance of inter-institutional cooperation and potentials for developing a methodology for upgrad-

ing projects that challenges traditional technocratic-rational planning approaches. Municipalities learned about the relation between successful implementation and efficient coordination. Public agencies learned about the need for inclusion of external actors in design and maintenance stages.

In terms of spatial improvement, the outputs lacked the impact intended due to misjudgements in scopes, undefined responsibilities for maintenance, inadequacy of designs, or schedules setbacks. Implementation or project completion suffered greatly from government changes, electoral cycles, and changes in development focus. Participation of diverse actors is a lesson learned by both case studies. *Tokenism* (Arnstein 1969, 217) and monopolisation of projects by governments prevented public-private partnerships and allocation of maintenance responsibilities on private and civil actors. Likewise, without accountability to other actors, public agencies developing social projects soon retreated from the neighbourhoods, ceasing community capacity building activities, while spatial projects decayed.

Social development is the major disappointment when comparing programme formulation with outcomes. Most programmes executed a community participation component; however, participation is usually carried out as a legitimacy process, where communities are manipulated into accepting projects through consultation, deceptive design meetings, negotiations and information. Plans and projects are predefined by municipal agencies before the participation process takes place and inputs of communities rarely influence designs.

Actors in urban upgrading

Urban upgrading projects often aim at bringing low-income and informal settlements up to the standard of the formal city. Planning processes in Latin America are established following a top-down approach that values professional expertise over empirical local knowledge (Moser 1983). Planning becomes an instrument to control prioritisation of projects, budget allocation and restore the balance of urban areas. These technocratic projects react to existent problems of unsustainable urbanisation via physical improvement, at the expense of equity and democratic interests, without addressing the origins or causes of the decaying conditions of cities (Albrecht 1985). Moreover, control over decision-making is exercised exclusively by governmental institutions and public agencies which endorsed clientelism, paternalism and lack of accountability in urban development projects (Irazábal 2009). Top-

down processes not only prevent participation of other sectors of society in urban planning but also mean that decision-making is made from a governmental perspective based on the viewpoint of experts and their understanding of the city.

The programmes studied in this research present many similar features in the conception and implementation of upgrading programmes in Latin America. The research shows the gradual inclusion of *"soft issues"* (Botes & Van Rensburg 2000, 47) in urban upgrading, but programmes were always focused on the tangible outcomes of projects. Upgrading strategies implemented in the early 1990s focused mainly on spatial improvement. The latest programmes implemented in the late 1990s and 2000s included more public actors and an abridged version of participation.

Programmes recognised by communities as well as the international planning community for their positive outcomes legitimacy or scale are those with higher diversity of actors, where municipalities adopted a facilitator-leader role in planning and financing. Despite the recognition, the civil society and academic institutions are seldom involved in project planning, while residents are usually included in programme formulation as part of a restricted participation process (UN-Habitat 2009, 107). External actors are comprised of international financing institutions and non-governmental organisations (NGOs) already working in the area. They increase accountability in project implementation, prevent corruption in resource allocation, while external financing increases impact and scopes (Imparato & Ruster 2003, 257).

Spatial improvement demands high input of financial resources as well as technical capabilities for the implementation of large-scale urban projects, which results in dependence from international financing institutions (Irazábal 2009). The financing scheme defines investments, decision-making processes, as well as responsibilities of actors and project ownership. The consequences of developing programmes that demand international financing are positive in terms of budget control, scope of action, provision of technical assistance for governmental agencies and continuity. Thus, international financing institutions show a stronghold on poverty alleviation strategies in Latin America as most programmes are co-financed by municipalities and international financing from the Inter-American Development Bank or the World Bank; i.e. on average 40% financed by municipal or national budgets. Moreover, for external financial support, programmes need to adhere to the financial institution's procedures and regulations, which require the assistance of external advisers for programme formulation. Furthermore, external investment might extend programmes beyond

governmental cycles, since municipalities tend to renew loans for project completion or further implementation. Adhering to international standards, however, also signifies lack of autonomy for municipalities. International regulations define programme formulation and project prioritisation, accountability procedures promote bureaucratisation of processes, while rigidity in institutional structures hinders adaptability of projects to emergent problems (Satterthwaite 2001).

Conversely, programmes financed solely by municipalities, e.g. Integral Urban Project (PUI) in Medellín, offer flexibility for adaptation, less bureaucracy in financial resources, as well as the possibilities to generate partnerships, facilitating project implementation. Externally or locally financed programmes have similar objectives and components, aiming for spatial improvement with environmental recovery. Participation of communities is included in project definition, which is expected to result in a sense of place and project appropriation, hence project maintenance. However, the extent of community participation is limited to consultation, negotiation and, in the best case, employment of communities in project implementation. Project definition, prioritisation and design are focused on improving the built environment through the provision of public infrastructure, infrastructure for mobility and community facilities for sports and recreation. Programme components, such as social development, are defined as a concept but considered as *"ephemeral, intangible and unnecessary time-consuming"* (Botes & Van Rensburg 2000, 47). Municipalities believe social development projects hinder implementation of short-term projects, which represents a great disadvantage in continuity and project completion, compared to programmes with external actors involved in formulation. Participatory approaches might extend programme life cycles with agreements and input of resources from external actors. Current approaches depend on political will, emerged from a development plan designed for a short-term governmental cycle.

5. PARTICIPATORY PLANNING FOR URBAN UPGRADING

The analysis of case studies leads to identifying the essential elements for legitimised upgrading strategies, as well as recognising shortcomings and obstacles for continuity. The research has suggested that institutionalisation of participation is crucial in producing sustainable projects; however, the processes in which those actors interact for urban upgrading are yet to be discussed.

Understanding participation

Participation should be recognised as the basis for democratic processes in every sphere of urban life (Arnstein 1969). Several definitions of participation agree on its fundamental nature as an active social process (Paul 1987), in which diverse stakeholders, especially communities, have the possibility to influence decision-making. Participation shapes the objectives of urban development, adjusting projects to context-specific needs, builds capacities for urban actors, while understanding the potential of self-organisation and collective action. In "*A ladder of citizen participation*" Sherry Arnstein (1969) associates participation with citizen power, as the means to engender social change through power redistribution. Likewise, Caroline Moser (1989) defines participation as the means to bring equity back into urban development through mobilisation of communities. Former strategies included communities in urban projects to facilitate information gathering and project implementation. These early upgrading approaches, although not aware of the real meaning of participation, opened possibilities for including communities in urban discussions and started negotiation processes with the beneficiaries of urban development.

The empirical and theoretical research suggests participation should be promoted by government agencies amongst public, civil and private actors. Civil participation is essential for formulating projects that respond to context-specific needs, while improving livelihoods in a city-wide scale. Nevertheless, individual participation of residents could be detrimental to decision-making processes (Guaraldo Choguill 1996). For communities and private actors, motivation for participation relies on individual interests and the balance between effort and benefits (Awortwi 2012). Self-organisation and solidarity are the means of survival for the urban poor; however, urban societies, even within the same neighbourhood, are in essence heterogeneous (Moser 1989). Gender, labour, age, or origin, are factors that define households interests, therefore, Community-Based organisations (CBOs), local associations and NGOs that represent collective interests are essential for participatory upgrading projects, where urban necessities are effectively addressed (Moser 1989).

Degrees of participation

Participation should not be categorised into different forms of involvement, but in degrees of commitment of actors in programme stages,

in accordance to scopes of particular objectives. The misuse of participation distorts the role of communities, compromising the future of upgrading projects. *Manipulation*, *information*, *conspiracy* and *diplomacy* are terms used by some authors to classify the lowest levels of participation (Arnstein 1969; Guaraldo Choguill 1996; Imparato & Ruster 2003; Paul 1987). Categorisation denotes acceptance of restricted participation and serves only the interests of powerful stakeholders. In this way, the hierarchy associated to top-down approaches is softened by the ideal forms of participation. Likewise, *"Nominal Participation"* is an illusion, where stakeholders protect individual interests (White 2010, 8); thus involvement is transformed into a process of indirect participation using communities as surrogates or advocates, never included as part of the planning body (Imparato & Ruster 2003). Other categories such as *consultation*, *conciliation* (Guaraldo Choguill 1996, 437) and *placation* (Arnstein 1969, 217) understand participation as an instrument to achieve project objectives. In these forms of participation, decision-making and planning remain in the hands of governments and powerful actors. Although in this *"instrumental participation"* (White 2010, 8) discussion with communities is useful for planning processes, consultation is implemented through illegitimate or politicised community representatives, which develops into selective participation as it usually excludes residents with low influential power and the poorest tenants.

The purpose of participatory processes is to achieve the appropriate level of participation adequate to the specific circumstances and project objectives, constraints and opportunities (Paul 1987; Imparato & Ruster 2003). The level of participation accepted and adopted by this research is linked to transformative planning processes within communities, creating awareness amongst public, civil, and external actors about causes and consequences of poverty. Simultaneously, projects become learning instruments for communities about possibilities, as well as opportunities for change. *"Transformative Participation"* (White 2010, 8) renovates upgrading processes through partnerships, shared control along with control exercised by communities (Paul 1987; Arnstein 1969; Guaraldo Choguill 1996; Moser 1989; Imparato & Ruster 2003).

Moreover, the degree or intensity of participation and commitment are associated with socio-economic conditions of communities and legitimacy of projects (Sheperd 1983). Household structure, gender, education level, leadership, income, expected benefits of projects and social composition define the capacity for self-organisation and shape the adoption of participatory practices in upgrading projects. However, urban conditions, along with social structures, could be improved and

developed by the project itself. Participatory processes build community capacities, generate social capital and provide skills in management, as well as self-organisation, promoting community-driven initiatives (Imparato & Ruster 2003).

Despite the benefits of including communities as stakeholders in upgrading projects, governments consider citizen participation as a risk for implementation, since real participation means more than information and consultation (Arnstein 1969). Power sharing means increased accountability, along with longer planning stages. Initial diagnostic stages are extended by the need for accurate information gathering and mapping. Project planning and design could be slowed by participatory decision-making, as local knowledge is produced by communities, essential for the definition of priorities, along with measures, resources and responsibilities. However, implementation and maintenance stages would become more efficient with the involvement of private and civil actors. Participation is thus transformed into an egalitarian process driven by diverse actors and different interests, which promotes democratisation and decentralisation. Participatory planning, in the broad sense of the word implies *"consensus building"* (Innes 2004, 7) and interaction between different sectors of society supported by institutional, regulatory and social structures, which allow adaptation to emergent needs, interests and objectives.

6. THE NEED FOR STRATEGIC URBAN PLANNING

Benefits of participatory upgrading

Upgrading programmes aim at reconciling physical, technical, financial and social necessities of informal communities. Though, as exposed by the empirical research, the exclusion of long-term social projects combined with short lived physical improvement have minor impact on the lives of the urban poor. The *"hard issues"* in urban upgrading are tangible, visible, and easier to address; these allow the measurement of inputs and outputs, evaluation simplified from a spatial and material perspective. Conversely, *"soft issues"* – e.g. community processes, social development, capacity building and empowerment – are ethereal, long-term, non-quantifiable within the material dimension, time consuming and difficult to assess in a measurable scale (Botes & Van Rensburg 2000, 46–47). Difficulties in quantifying impacts of social projects became the main obstacles for implementation of holistic upgrading. Nevertheless, the inclusion of soft issues through a participatory

approach brings many benefits by introducing different perspectives to the discussion. Shared ownership and control over human, financial and material resources facilitates cost-recovery; communities build social capital and governments achieve projected objectives, making transferability feasible and desirable for urban development (Moser 1989; Paul 1987; Imparato & Ruster 2003).

Participatory approaches are gradual processes where trust and capabilities grow as a result of joint cooperation and consensus. Applied to planning, participation encourages public, civil and external actors to collaborate through progressive empowerment processes (Dinham 2005). Characterised by flexibility, accountability and transparency in decision-making, participatory upgrading delegates responsibilities onto stakeholders, accordingly with their abilities and potentials for implementation and management. Furthermore, joint action identifies necessities and opportunities, along with the potential of actors and available resources for urban development. Diversity of perspectives and inputs increase the effectiveness, efficiency, responsiveness and accountability of projects (Mitlin & Thompson 1995; Imparato & Ruster 2003), while boosting possibilities for transferability of procedures to other settlements or urban areas. In this sense, the meaning of participation in regard to urban upgrading could be understood as the social process by which citizens are acknowledged as influential actors in urban development, as proactive stakeholders in the improvement of the built environment. Upgrading programmes should become process-oriented approaches, raising awareness and understanding about urban conditions and the role of actors (Mitlin & Thompson 1995). Understanding and learning about local capabilities, strengths and priorities improve projects and increase effectiveness and efficiency. Moreover, the ability to influence decision-making promotes a sense of belonging, the appropriation of urban spaces and, as a result, the enhanced sustainability of projects.

The challenge of participation is not just motivating involvement and commitment throughout projects, but also sustaining collaboration after the main objectives are achieved. Involvement of communities depends on self-organisation, which demands legitimacy, along with management and leadership skills. The success of participatory practices concerning community involvement relies, also, in perceptions of achieving significant improvement in the conditions of the built environment (Gilbert & Ward 1984b). An unattainable or low set of objectives, mistrust, along with mismanaged communication have a negative effect on participation. Therefore, joint planning, cooperative implementation and direct discussion increase possibilities for active

participation and effectiveness of measures, transforming outcomes into valuable social assets for communities. A project becomes sustainable when it generates continuous and incremental improvement in livelihoods, with the capacity to multiply resources found in communities. Hence, participatory planning ensures long-term benefits through social capital, social development and sense of place.

Strategic planning for urban upgrading

In order to answer the methodological requirements of participatory upgrading, the present researcher analysed the best practices of urban upgrading in Latin America in order to understand the planning processes. The lessons learned from the in-depth assessment of the two main case studies led to the selection of strategic planning as the theoretical basis for the definition of a methodological approach to participatory upgrading, which balances the community's interests and necessities with public policy and interests of private actors. The use of strategic planning allows articulation of multi-sectoral upgrading projects towards a common vision for urban development. Furthermore, procedures for participatory planning must be established for the different stages of urban upgrading, while allowing flexibility and adaptation. Florian Steinberg (2005, 70) describes strategic planning as "*a creative participatory and open process which establishes the basis for joint action of all relevant urban stakeholders for a defined period of time.*"

Strategic planning brings actors together and redistributes power by compelling governments to formulate programmes with communities instead of devising a solution for them. At the same time, the approach introduces community-driven initiatives, accepting local knowledge as an asset for project definition (de Graaf & Dewulf 2010). Moreover, through participatory planning, private and academic sectors could support government and communities in search of higher project quality, efficiency, accountability and effectiveness, making the upgrading programme a learning process for all actors. Communities learn about planning, construction and leadership; governments are transformed into facilitators for urban development and promote an inclusive approach for the construction of cities; and the civil society understands the potentials of low-income communities, as well as the importance of local knowledge transfer.

The multiplicity of actors indicates a diversity of perspectives, which enriches the vision and helps project prioritisation. A preliminary identification of necessary projects exposes actors' interests, ca-

pacities, resources and profits. A multi-stakeholder strategy requires the negotiation of expected benefits, resources, inputs, as well as the fulfilment of individual interest, in order to build consensus and establish a common vision and general objectives. Furthermore, actors need to establish a participatory management strategy, a flexible plan adjustable to government changes, project changes or delays. Likewise, actors must agree on maintenance management structures after project completion, in order to guarantee the sustainability of outcomes. In this sense, strategic planning serves as an instrument to define programme milestones, along with timetables for short, medium and long term objectives. Once the milestones and schedules are established, the participation of each actor should be clearly defined, along with general responsibilities and resources. Later, each milestone unit will allocate specific responsibilities within it and define a horizontal organisational structure for the participatory process, aiming for flexibility and successful implementation. The timetable and definition of milestone units are followed by the beginning of implementation as defined in the strategic planning process.

Participatory upgrading programmes

The essential aspect in promoting participation is a realistic, qualitative assessment of actors' capacities to participate, creating an appropriate environment for commitment, as well as collaboration through specialised support frameworks and social structures. Moreover, the participation of actors depends on an array of factors in programme definition; e.g. scope, scales, constituents and objectives.

Scope refers to the territories and segment of society selected for urban development. High and middle-income communities are usually formal, consolidated areas, with ordinary spatial configurations that conform to urban regulations. Informal and low-income areas demand higher commitment of actors, as well as agreement on expected outcomes, as upgrading projects usually have slower cost-recovery processes (Ferguson & Naverrete 2003). Informal morphologies require higher investments in the public domain for mitigation of environmental risks, improvement of public infrastructure, and social development, with low expectations of profit (Trivelli 1986).

The research suggests three action scales (*neighbourhood*, *territorial* and *municipal*) associated with programme constituents and objectives (see Table 2). The scales have been defined by the expected impact of projects on the urban fabric, as well as the necessary competences of

actors for each constituent. The smallest scale corresponds spatially to the neighbourhood and local projects aimed at improving the built environment. At this scale communication, joint action, and empowering decision-making are essential for project definition and effectiveness in improving the condition of the area. Residents, CBOs, legal local government bodies, along with legitimised local leaders, have deeper understandings about the needs of the community; municipal agencies and the academic institutions provide technical and legal knowledge; while private architectural and construction companies need to be legitimised by communities. External actors, NGOs in this scale, exercise a mediator function, facilitating communication and joint action between actors.

The medium action scale comprises impacts on neighbourhoods together with surrounding regions. This territorial scale with a broader scope corresponds to the social development constituent, aiming at improving the socio-economic condition of low-income areas. For social development is essential that communities understand their rights as citizens, as well as responsibilities as individuals and as a collective; i.e. renewed citizenships granted by legitimacy of occupation, legalisation of tenure and participation (Tremblay & Gutberlet 2010). Likewise, communities are liberated from fears of eviction, which translates into higher possibilities for developing community-based initiatives, incremental construction and home-based economic activities. However, for these socio-economic processes to take hold in informal or low-income communities, the state needs to provide social services and welfare to reduce social disadvantages. Community capacities in self-organisation, entrepreneurship and empowerment encourage communities to become active participants in the upgrading process. Including diverse actors in planning is a learning process for residents and institutions. Communities acquire skills for employment, participation and citizenship, resulting in entrepreneurship and employment generation. Institutions build capacities in the management of resources and legal procedures, promoting important partnerships with academic and private actors for project maintenance and continuity.

The third and larger scale is related to the municipal level and aims at the institutionalisation of participatory upgrading as public policy. Establishing policy for the participation of diverse actors in urban upgrading could avoid the misuse of projects for political profits and promote continuity, despite changes in government or electoral cycles. The municipal scale corresponds to the governance constituent and demands intense institutional restructuring in order to open urban development to participatory practices. Planning procedures need to be

ACTION SCALES	*Typology*	*Focus*	*Objectives*
Local scale	Spatial improvement	Urban morphology	Transformation of the built environment
		Infrastructure and public services	Connection to urban infrastructure networks
		Mobility infrastructure	Improve mobility systems to facilitate access
		Environment	Reduce and prevent environmental risks
		Public space	Public spaces for interaction and recreation
		Public facilities	Spaces for basic social services and welfare
		Tenure	Legalisation of informal housing units
		Housing provision	In-situ housing for essential relocation
Territorial scale	Social development	Community participation	Empowerment for self-organisation
		Community-based initiatives	Encouragement and support for grass routes
		Community capacity building	Projects as learning processes
		Poverty reduction	Entrepreneurship and skill training
		Social inclusion	Social services and welfare systems
Municipal scale	Governance	Institutional restructuring	Co-operation for multi-sectoral urban projects
		Institutional capacity building	Staff training for participatory practices
		Partnerships	Joint action of actors
		Participatory practices	Participatory decision making

Table 2: Action scales of upgrading programmes.

transformed from top-down decision-making into participatory planning processes, responding to the individual interests of actors as well as the needs of the urban poor. Therefore, governments must manage co-operation between actors, define decision-making schemes, and establish budgets for urban development, along with adjustments of legal frameworks, allowing partnerships with communities, academic

institutions and private companies.

The objectives, instruments and actions in urban development are as diverse as the interests of the actors involved, demanding use of all capacities and available resources. Moreover, reducing poverty requires creative thinking, along with flexibility in planning in order to adapt to emerging problems. These communities usually are in the process of consolidating housing units, with poverty as an obstacle to implementations of traditional urban projects. Including social development and governance in urban upgrading generates a broader vision that considers human development as the ultimate objective of upgrading. Spatial and social projects differ not only in their tangible or intangible outcomes, but also in project implementation procedures, especially duration. Spatial upgrading can follow a short-term design and implementation plan, but demands a long-term maintenance strategy. On the other hand, social projects and governance are process-oriented, which require medium to long-term planning if the objective is empowerment and real participation.

Participatory governance is described by Canudas & Lorenzelli (2005) as a model that attempts to reconcile top-down processes with bottom-up initiatives. The approach decreases politicisation, inequality and social exclusion, fostering participation, consensus building and conflict resolution (Canudas & Lorenzelli 2005, 221). Involvement of diverse stakeholders, decentralisation of responsibilities, shared ownership, along with shared control, demand active interaction between stakeholders, negotiation and participative decision-making. The tools to influence decision-making are associated with the use of local knowledge for project formulation and a proficient intermediary structure that strengthens and enhances capabilities and potentials of each actor (Imparato & Ruster 2003). Defining these participatory tools requires institutional transformation, a change in the organisational structure of agencies, focusing on creating an empowering environment where participation is understood as an instrument to achieve improvement in the livelihood of the urban poor. Furthermore, participatory upgrading programmes call for institutionalisation of procedures for planning, implementation and maintenance of projects in order to guarantee continuity and avoid dependence of political will.

The institutionalisation of participatory urban upgrading by means of a strategic planning approach prevents the politicisation of programmes, generating a short, medium and long-term plan for projects which would be enforced by community, external and private actors. Likewise, planning for urban development should be an iterative process of evaluation and adjustment (Rider 1983). The formulation of a

long-term plan appropriate for social development and governance projects establishes intangible objectives that could be assessed and evaluated by observing important changes in socio-economic conditions (Birkmann et al. 2014) and adjusted accordingly to the vision and objectives.

7. CONCLUSIONS

Urban development impacts significantly the livelihoods of the urban poor, who represent an increasing sector of societies, but are ignored, neglected, and powerless. Participation has been at the centre of political discourse for decades, used to serve multiple interests of power holders and develop top-down attempts to address urbanisation problems (Soen 1981). However, the unchanged condition of informal settlements evidences the lack of understanding about the real needs of the urban poor, along with the misappropriation of participative processes by institutions and governments.

The decentralisation of budgets and policy are essential for decision-making effectiveness. Municipal autonomy for project prioritisation depends on available funds for implementation. Nevertheless, autonomy should not be a synonym of exclusion from decision-making. The current decentralisation trends hardly reflect on the inclusion of a participation component in any of the programmes analysed. Communities were excluded from decision-making by restricted participation and manipulation, the academic institutions and NGOs fulfilled a consultancy role, while the private sector was employed for project execution purposes. The outcomes and outputs were pre-defined by municipal agencies, leaving limited options for other actors to participate in the planning process. Moreover, the misappropriation of participation might be a reflection of the lack of understanding about the significance of including communities as actors of urban development, along with the absence of a methodology for transforming urban development projects into participatory processes. Therefore, misused participation is evidence of distrust in governments, unforeseen economic burdens for dwellers, and unsustainable projects.

Democratic processes are part of citizenship and peoples' rights. However, in informal settlements it is often the case that the concerns of the inhabitants are driven by basic survival, understood in terms of shelter, nourishment, access to adequate water and sanitation, education, employment and mobility. Democracy, public policy and decision-making in political processes are alien concepts for the urban poor,

dominated by powerful actors and social elites; hence the indifference of many and the apathy towards participation.

Participation in urban upgrading is an opportunity for producing effective and efficient projects legitimised by communities, and public and private actors. Participatory upgrading is an urban improvement process aiming for a balance between soft and hard projects in a defined area of the city, with community empowerment and capacity building as ultimate outcomes. Participation advocates for the inclusion of a strong social constituent and a strategic planning approach which fosters participative decision-making processes. Moreover, inclusion of soft issues in programme frameworks together with an adequate management strategy increases possibilities for maintenance; hence the effectiveness of projects encourages a sense of belonging, appropriation of results and improvement in the socio-economic condition of communities. Likewise, participation generates community capacity building (CCB) in participatory processes, leadership and management, which may result in community empowerment and self-organisation and, ultimately, the emergence and development of community-driven initiatives.

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The Development Process of Smart City Strategies: The Case of Barcelona

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ABSTRACT

Smart cities are urban areas in which information and communication technologies are used to solve their specific problems and support their sustainable development in social, economic and/or environmental terms. In recent years, turning ordinary urban environments into smart cities has become a strategic priority for a growing number of municipalities around the world that have decided to launch specific strategies, characterized by different approaches, in an attempt to achieve this aim. However, the available knowledge concerning the possible ways in which the development of strategies for becoming smart can be faced is very low indeed. Within the literature concerning this topic, there is an evident lack of clarity and common approaches based on empirical evidence that can be used to guide the different actors involved in the construction and management of these strategies towards successful results. The research activities documented in this paper have been implemented in order to provide an initial response to this urgent need. Specifically, using case study research with a descriptive approach and focusing attention on large European cities, the strategy proposed by Barcelona City Council has been analyzed in-depth and a step-by-step roadmap in which all the phases and activities considered in this successful case has been defined and illustrated in detail. This roadmap can be considered a first and important step towards establishing a common and empirically valid theory for developing smart city strategies in this type of urban area, because it provides useful knowledge in the consideration of other similar initiatives as well as a possible conceptual framework for future comparative research and theory building.

Keywords: ICT-based urban development, smart city, roadmap, development process, Barcelona

1. INTRODUCTION

The industrial revolution has left a deep impact on urban contexts, causing numerous issues that limit their development, as well as individual and collective wellbeing. The solution to these problems requires the definition of new models of sustainable development and the implementation of urban regeneration or urban renewal initiatives. These are two terms which can be considered as synonymous, used for identifying a series of actions aimed at resolving the multi-faceted problems of urban areas and improving their physical, socio-economic and environmental conditions (Ercan, 2011; Zheng et al., 2014).

In this context, the belief that information and communication technologies (ICTs) can represent a useful tool for helping urban areas to solve these issues has begun to spread rapidly (European Commission, 2010a; 2010b; U.S. National Intelligence Council, 2012; Webb, 2008). In fact, as already observed by Aurigi (2003), "*many commentators […] suggest that the new frontier [of information technology is] to provide solutions for overcoming most spatial and social problems [and] cities [look] like the ideal arena where this revolution would […] show itself, changing economic development, services, and above all community life.*"

During recent years, local and national governments, academic research institutes, businesses and many other organizations have begun to observe and study this perspective with great interest. Over a brief period of time, this exploration has led to experimentation as numerous cities around the world have launched specific strategies with the aim of becoming smart cities, that is, urban areas in which ICTs are used to solve their specific problems and support their sustainable development in social, economic and/or environmental terms.

As a result, smart cities have become a growing phenomenon in the real world (Lee and Hancock, 2012; Manville et al., 2014), and a new but confused research territory that has attracted the attention of many researchers and scholars. This is an emergent and interdisciplinary research area within the field of urban studies (Graham, 2004) that has encouraged further research concerning the management of ICTs in urban contexts. But unfortunately, despite the growing interest and the continuous production of scientific publications (Wolfram, 2012; D'Auria et al., 2014), the level of knowledge concerning this subject is still underdeveloped and characterized by numerous open questions and multiple aspects to be explored. In particular, analyzing the literature produced to date, it is quite evident that there is a lack of clarity and common approaches based on empirical knowledge that can be used to guide the actors involved in the construction and management

of smart city strategies towards successful results (Abdoullaev, 2011; Angelidou, 2014; Chourabi et al., 2012; Frei et al., 2012; GSMA et al., 2011; Hollands, 2008; Kitchin, 2014; Komninos, 2011).

In smart city research the trend is to focus only on individual factors that characterize smart city strategies, rather than on the definition of explicit and holistic procedures to be followed during their development (see for example Beck, 2011; Belissent et al., 2010; Dirks and Keeling, 2009; Gil-Castineira et al., 2011; Hollands, 2008; Moss Kanter and Litow, 2009; Naphade et al., 2011; Paskaleva, 2009; Washburn et al., 2010; Webb et al., 2011). As a result, very few examples of guidelines and roadmaps can be found in the literature and most of them come from the business sector. Moreover, they are characterized by a very low level of detail and a lack of empirical evidence (Berthon and Guittat, 2011; Clarke, 2013; Dirks et al., 2009).

Considering this scenario, it can be stated that the knowledge framework associated with the development processes of smart city strategies must be expanded, and with particular reference to the need to provide a possible answer to the following questions: What are the essential steps to consider for developing successful smart city strategies? How are they organized? In order to provide an initial response to this urgent need, focusing the attention on large European cities,[1] the strategy developed by the City of Barcelona has been analyzed in-depth, and a step-by-step roadmap in which all the phases and activities considered in this successful case has been defined and illustrated. This roadmap can be considered a first and important step towards establishing a common procedure for developing smart city strategies in this type of urban area because it provides: 1) useful knowledge to consider in other similar initiatives; 2) and a possible conceptual framework for future comparative research aiming at building an empirically valid theory able to explain how to correctly develop smart city strategies in large cities.

2. METHODOLOGY

Descriptive case study research as defined by Yin (1984) has been identified as the most suitable research method. This method has been chosen considering the nature of the problem being investigated, the research aim and the present state of knowledge on the development processes of smart city strategies, which is quite limited.

The case of Barcelona has been selected using a theoretical sampling approach (Yin, 1984; Eisenhardt, 1989). With a number of inhabitants

that is slightly above 1,5 millions (Ajuntament de Barcelona - Àrea d'Economia, Empresa i Ocupació, 2013), the city of Barcelona falls within the category of large cities, and its success in the field of smart cities makes its strategy an ideal sample to analyze. This assertion can be easily demonstrated considering the multiple awards that the city has received during recent years and its international positioning as a smart city (Achaerandio et al., 2011; Ajuntament de Barcelona, 2014a; 2014g; Cohen, 2012a; 2012b; 2014; European Commission, 2014; Manville et al., 2014).

After being selected, the case study has been analyzed considering the qualitative data extracted from multiple sources of evidence identified with a series of searches performed in various online databases during the period between April and June 2015. A total of 991 sources has been collected. Archive records and documents produced by public and private organizations directly involved in the development of the smart city strategy have been considered as primary sources (agendas, minutes of meetings, press releases, news and newsletters, conference presentations and conference speeches, reports, brochures, videos, governmental acts, articles and webpages). In addition, a wealth of data has been acquired from other documents produced by organizations not directly involved in the smart city initiative of Barcelona. These sources have been considered as secondary (reports, interviews, journal and online articles, books, as well as research project deliverables). This strategy has allowed us to analyze the case considering the different perspectives of multiple observers. Moreover, the final description of the process and the conceptual framework have gained greater strength thanks to the triangulation made possible by the use of multiple sources of evidence (Yin, 1984; Eisenhardt, 1989; George and Bennett, 2005; Voss et al., 2002).

Coding analysis has been used to facilitate the management of the vast amount of data that has been collected. This phase of research has been developed following the procedure described by Voss et al. (2002) and Strauss and Corbin (1990). Through the coding process, raw data have been reorganized and the activities which characterize the development process of the Barcelona smart city strategy have been listed in a chronological order, allowing us to build a step-by-step roadmap. These activities have been identified thanks to a repeated reading and analysis of the available sources.

The roadmap has been described and illustrated through the production of a *"story"* (Bourgeois and Eisenhardt, 1988), a detailed report in which all the data associated with the case have been summarized and presented in a narrative form (within-case analysis) (Miles and

Huberman, 1994). This is a fundamental step for supporting future comparative research and cross-case analysis (Yin, 1984; Eisenhardt, 1989; Patton, 2012).

3. PRESENTATION AND DISCUSSION OF RESULTS

Through the knowledge accumulated during the analysis phase, a step-by-step roadmap which describes the development process of the smart city strategy proposed by Barcelona City Council has been created. The roadmap, which is composed of 5 main phases and 16 different activities (Figure 1), is described and discussed in the following pages.

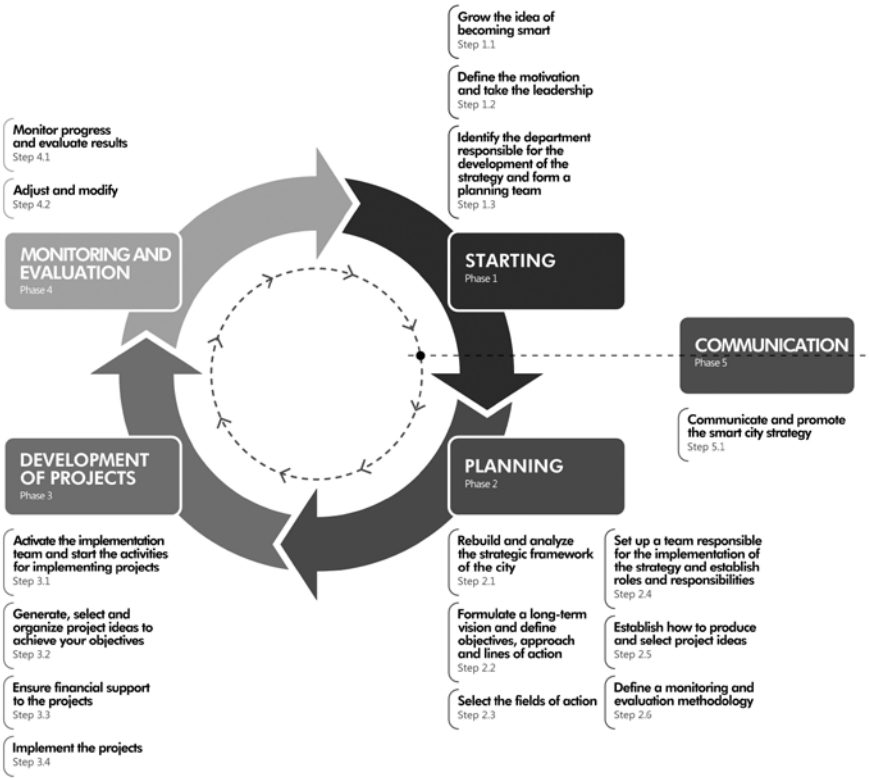

Figure 1: The development process of the Barcelona smart city strategy

3.1. Phase 1: starting

In 2011 the mayor of Barcelona, Xavier Trias, and his municipal administration decided to transform Barcelona into a smart city by developing a single strategy for the entire city, moving away from the risks of a fragmented approach. This intention has become official with the approval of two important governmental measures and the definition of a working group within the Area Urban Habitat, the organizational context in which the Barcelona smart city strategy has been developed.

Step 1.1 – Grow the idea to become smart

Confidence in ICT as a tool for supporting urban development was extremely widespread within the municipality before 2011, and the attempt to transform the city into a smart city were translated into a series of projects and initiatives managed by various executive units of the city administration. For example: the development of a new model for the management of services, relationships and interactions with citizens based on the principles of e-government (Conesa, 2009); the construction of the municipal wireless network called Barcelona WiFi (Ajuntament de Barcelona, 2014d); different pilot projects developed by both the private municipal company 22@ Barcelona and the Municipal Institute of Information Technology (IMI).[2]

This situation was characterized by an evident lack of coordination, a shared vision and a single strategy. There was a gap that various representatives of the city council interpreted as a possible risk of failure and a limit to overcome (Ajuntament de Barcelona - Comissió d'Hàbitat Urbà i Medi Ambient, 2012a; 2012b; Ajuntament de Barcelona - Comissió de Presidència i Règim Interior, 2012). In fact, as explained by Julia Lopez, Strategic Director of the Directorate for ICT Strategy and Smart City of the IMI, the real challenge from the end of 2010 was "*[to create] a global strategy, rather than siloed strategies in different departments*" (Buscher and Doody, 2013). This challenge was accepted by the entire municipality, which became the initiator of the Barcelona smart city strategy, a choice sustained through the political support and guidance of the new mayor Xavier Trias.

Step 1.2 – Define the motivation and take the leadership

During the first months of his term of office, Trias (2011) stated: *"we*

will drive a municipal smart city strategy in order to incorporate advanced solutions for service management within public spaces." This assertion highlights the central role of the municipal administration, which has decided to assume full responsibility for initiating and leading the process of developing a smart city strategy for the entire city of Barcelona. This was a strategy necessary, in Trias's words, "*to enhance citizens' quality of life and reduce the cost of government operations while revitalizing [the] whole community and creating long-term economic growth through high-tech innovation and entrepreneurship"* (Cisco System, 2012). Furthermore, "*Barcelona has a strong commitment to become a smart city and a show-case for the rest of the world in sustainable urban development"* (Cisco System, 2012), and this clearly emerges within the public statements proposed from 2011 by both the mayor and other local government representatives (see for example Ajuntament de Barcelona, 2011b; 2012a; 2012c; 2013c; 2014b; 2014c; Cisco System, 2012). Moreover, this commitment has been officially formalized with the drafting and subsequent approval of two important strategic documents: 1) the Municipal Action Program for the period 2012-2015; 2) the government measure MES (Mobility, E-government, Smart cities), in which the overall ICT strategy for the city has been defined (Ajuntament de Barcelona, 2012e; 2012f; 2012g).

The Municipal Action Program contains the vision, strategic commitments and objectives proposed at the political level, and also the goals and relevant actions defined at the executive level in order to contribute to the accomplishment of the political priorities. In this case, three strategic areas have been identified by the municipal administration in order to "*inspire the organization's actions"* between 2012 and 2015. One of them is called "*urban renewal"* and is associated with a precise strategic commitment: to transform "*Barcelona [into] a sustainable, smart urban model at the service of its residents."* However, as reported in the document, in order to fulfill this commitment, the city has to achieve a significant objective: the definition of a new development model for a healthy and hyper-connected city with zero emissions "*where the environment, urban planning, and ICT infrastructures are fully integrated"* and characterized by "*productive neighborhoods at a human pace*". The responsibility associated with the development of the actions required to achieve this goal has been almost totally entrusted to the Executive Office for Urban Habitat and the various departments located within it (Ajuntament de Barcelona, 2012g).

Conversely, by approving the MES measure, the city administration has been able to: 1) reassert its willingness to use ICTs to contribute to "*the economic and social future of the city*"; 2) establish the cornerstones of a comprehensive ICT strategy defined for the entire city and based

on specific lines of action relating to *"mobility, e-government and smart cities"*; 3) entrust the strategy coordination and responsibility for the proper development of each course of action to the IMI, which has been identified as the point of reference for all the activities of the municipality linked to the ICT sector (Ajuntament de Barcelona, 2012f).

The strategic scenario defined by these two documents shows that the development of a smart city strategy is a priority and an objective of significant importance for the Barcelona City Council. This choice is motivated by the awareness that *"ICTs are with no doubts a fundamental factor to consider in order to come out from [the] crisis"* and *"[they] have become vital to the future of the city and its citizens"* (Ajuntament de Barcelona, 2012f).

Step 1.3 – Identify the department responsible for the development of the strategy and form a planning team

Modifying the organizational structure has been one of the first actions proposed by the new administration. Specifically, a new area called Urban Habitat was set up in 2011 (Ajuntament de Barcelona, 2014f). This area *"works as an umbrella to facilitate departments that used to work in isolation to come together"* (Buscher and Doody, 2013) and consists of two organizational elements: 1) the Executive Office for Urban Habitat, which combines all the departments dedicated to planning, infrastructure, housing, urban services, and environment; 2) the IMI, which encompasses the field of ICTs. This important change has allowed the municipal administration to create an area for interdepartmental work under the supervision and control of the Third Deputy Mayor's Office (Ajuntament de Barcelona – Comissió d'Hàbitat Urbà i Medi Ambient, 2012b).

As previously mentioned, in accordance with the directives of the government, the activities associated with the development process of the smart city strategy have been carried out in the Area Urban Habitat, thanks to the collaboration between the IMI and the various departments brought together in the Executive Office for Urban Habitat. Furthermore, from an observation of the affiliation of the authors of the conference presentations and documents in which the characteristics of the Barcelona smart city strategy have been described, it is possible to argue that the main working group involved in its development and implementation is represented by the Directorate of ICT Strategy and Smart City (Buscher and Doody, 2013; Ferrer, 2013; 2014; Lopez, 2014; Sanromà, 2013).

In addition, it is necessary to consider the support of the strategic partners selected by the municipality which have been involved in specific phases or activities. Indeed, some external subjects have worked as consultants in the planning phase. These certainly include: the multinational company Cisco Systems, which signed an agreement with the city administration committing itself to providing support and advice regarding the approach for developing the strategy (Ajuntament de Barcelona and Doxa Consulting, 2012); and Doxa Consulting, a Spanish consulting firm which has been mentioned in some presentations describing the features of the smart city strategy.

3.2. Phase 2: planning

The first documents describing the Barcelona smart city strategy were drafted between late 2010 and mid-2011. Each presented an initial conceptual model and listed several ICT-based initiatives developed within the city by various working units from the municipal administration. The strategy was poorly defined and characterized by a few reflections of a technological nature (Ajuntament de Barcelona, 2011c; Battle, 2010a; 2010b; 2011). However, it underwent substantive changes during the period between February and October 2012, the same period in which the MES measure and the Municipal Action Program were approved (Doncel and Pons, 2012). During these seven months, the whole strategy was planned within the Area Urban Habitat, and analyzing different documents developed from this period onwards, it has been possible to identify and describe the different activities carried out during the planning phase.

Step 2.1 – Rebuild and analyze the strategic framework of the city

The Barcelona smart city strategy has been properly included in the strategic framework of the city, in line with the objectives, priorities and directives that characterize it. This framework has been reconstructed and analyzed, and represents the result of the convergence of several strategies proposed at the local and European level (Ajuntament de Barcelona, 2013b; Ajuntament de Barcelona and Doxa Consulting, 2012; 2013a; 2013b; Lopez, 2014)

Step 2.2 – Formulate a long-term vision and define objectives, approach and lines of action

The strategic framework has become the point of reference for developing a vision statement that identifies the city's most important principles and values, as well as for defining objectives and lines of action that will make it a reality. According to this vision, the smart city strategy will allow Barcelona to become "*a self-sufficient city, made of productive neighborhoods at human speed, inside a hyper-connected metropolis, of high speed and zero emissions.*" In this long-term vision, ICTs have become an enabler of actions "*[for improving] citizens' welfare and quality of life [and supporting] economic progress*" (Ajuntament de Barcelona, 2013a).

The possibility to build the Barcelona of the future has been associated with two important objectives to be achieved through the implementation of the smart city strategy: 1) the development of a new city model in which ICTs are used "*to provide the city with technological infrastructures [and services] of high added value for Barcelona*" (Buscher and Doody, 2013); 2) "*to acquire the global leadership on the development of smart cities*" (Ajuntament de Barcelona, 2012f), which are considered a "*driving force behind a new urban service economy*" (Buscher and Doody, 2013).

In order to achieve these objectives, three complementary lines of action have been defined (Sanromà, 2013): 1) promotion: the on-going communication and promotion of Barcelona and its approach through participation in international conferences organized by the municipality or other external parties. This course of action is not only aimed at the dissemination of information but also at activating new partnerships with public and private actors; 2) international projection: the development of international projects. The documents cite various projects funded by the European Union, along with other international projects such as the City Protocol (Ajuntament de Barcelona, 2013a; Ferrer, 2014); 3) projects: the implementation of local projects developed primarily on a neighborhood scale, which is the spatial unit of reference for the entire strategy. As suggested by the vision, starting from the neighborhood, the benefits of technology can gradually be extended to the entire city and, with time, to the entire metropolitan area. All this is achieved through a strategy characterized by a transversal approach (working and producing impacts in all areas of the city) and by sharing (collaborating with the private sector and with cities throughout the world) (Ajuntament de Barcelona, 2012f).

Step 2.3 – Select the fields of action

The individual initiatives and projects that characterize the three lines of action have been divided in two categories (cross-cutting and vertical) and grouped into various programs. In turn, these programs have been linked to 14 fields of action associated with the achievement of specific objectives (Ajuntament de Barcelona, 2013a; Ferrer, 2014; Lopez, 2014). The first two are *"network"* and *"platform"* and contain the cross-cutting projects developed for building a *"unified data management platform [and a] unified network covering the entire city and connecting each service"* (Ajuntament de Barcelona and Doxa Consulting, 2012). The technological equipment that results from these projects serves as an enabler for all the vertical projects: *"smart services developed by different City Council […] departments or […] companies operating in the city [that] are independent but work in the same environment"* (Ajuntament de Barcelona and Doxa Consulting, 2012). The vertical projects fall within 11 fields: *"open government, social impact [which include education, health, commerce, security, culture, tourism, sport, and government], public space, built domain, ICT, water cycle, matter cycle, energy, mobility, nature [and] environment"*. The cross-cutting projects also include the international initiatives, which are linked to the field of action called *"international"*.

This approach makes it clear that the *"international projection"* and *"projects"* lines of action form the cornerstone of the smart city strategy. Both are linked to the implementation of initiatives that allow ICT-based services and infrastructures to be developed and integrated within the city in the short to medium term. In fact, the objective of these projects is *"to provide an infrastructure that guarantees the development of a range of services"* linked to multiple fields of action (Ajuntament de Barcelona and Doxa Consulting, 2012). As reported by Buscher and Doody (2013), in Barcelona *"the smart city movement started in energy, but now is spreading across all the sectors. […] The city describes this as a transversal approach."* This is a response to the directives of the MES measure.

Step 2.4 – Set up a team responsible for the implementation of the strategy and establish roles and responsibilities

In order to ensure that the steps linked to the implementation of the strategy are carried out properly, it has been necessary to define *"a new organization oriented towards the goals and objectives of a smart city"* (Ajuntament de Barcelona, 2013a; Lopez, 2014). This implementation team was subsequently activated and characterized by a political com-

ponent and an operational structure. The former is represented by the Third Deputy Mayor's Office, which is responsible for coordinating and supervising the Area Urban Habitat. The latter consists of a series of commissions and a Project Management Office (PMO) (Ajuntament de Barcelona and Doxa Consulting, 2012).

Step 2.5 – Establish how to produce and select project ideas

During the planning phase, the procedure leading to the production, selection and implementation of project ideas has been defined (Ajuntament de Barcelona and Doxa Consulting, 2012). Its description is provided in the section devoted to the implementation phase.

Step 2.6 – Define a monitoring and evaluation methodology

The municipality has decided to use a unified methodology for evaluating the impact of the services produced with the various projects and for monitoring the progress. This methodology is based on the development of two technological tools: the "*situation room*" and the platform called "*Bigov Better City Indicators*" (Ajuntament de Barcelona, 2013a).

3.3. Phase 3: development of projects

The Barcelona smart city strategy is based on the continuous implementation of projects and initiatives in the short-medium term that allow the introduction of ICT-based services and infrastructures within the city.

Step 3.1 – Activate the implementation team and start the activities for implementing projects

According to the Barcelona City Council, "*the definition, deployment and management of projects imply the need to organize a wide range of actions in a multidisciplinary, complex and technologically innovative environment, which includes a variety of activities and multiple agents. This requires comprehensive coordination by a Project Management Office (PMO)*". The PMO supports the activities carried out by the IMI and the various departments of the Area Urban Habitat for all the projects and subjects linked to the smart city initiative. The direction of this office has been entrusted

to Doxa Consulting, but the team of people working in it is comprised of staff from both the company and the municipality. The functions of the PMO include: ensuring the alignment of the projects with the objectives of the smart city strategy; coordinating and monitoring the project development activities; dealing with the project management activities; developing quality and improvement plans; producing informative reports about the progress of the various projects; evaluating the activities and providing recommendations; and resolving any contingencies (Ajuntament de Barcelona and Doxa Consulting, 2012).

Data show that the kick-off meeting of the PMO took place on 30 June 2012. During the first six months, the staff of this office held more than 60 meetings, many of them with business partners or representatives of the various departments of the Barcelona's municipal administration. All these actors were directly involved in the development of projects and activities associated with the smart city strategy. This also includes the projects started before the activation of this new office. In fact, the "*many smart city projects dispersed in various departments across the city*" (Buscher and Doody, 2013) initiated prior to the development of the unified strategy have been mapped, collected and subjected to checks and supervision by the Project Management Office (Ajuntament de Barcelona and Doxa Consulting, 2012).

Step 3.2 – Generate, select and organize project ideas to achieve your objectives

Within the Barcelona smart city strategy, the procedure leading to the implementation of any project is structured in a precise manner (Ajuntament de Barcelona and Doxa Consulting, 2012). The first step is the definition of a proposal. The project idea is formed within the PMO, in which a series of meetings are held in an effort to identify and clearly define the needs to be met, as well as the objectives, scope and functional requirements. In the case of cross-cutting projects, these meetings are only conducted with the representatives of the IMI. For vertical projects, conversely, collaboration and comparison takes place with the departments of the municipal administration and any other external subject. All other phases remain the same for both types of projects, and start by identifying and contacting potential external partners in an effort to form a working group and to analyze the possible technological solutions to be used. The possible partners are selected through specific sector analyses. Whatever the composition of the working group, the IMI is always included as a "*technology consultant*" in all vertical projects (Sanromà, 2013). Upon completion of this phase, it is possible

to proceed with drafting the project and all the documentation related to the planning and preliminary estimate of the budget necessary to implement the project. Finally, by analyzing the documentation, the political component has the task of deciding whether to select or reject the proposal based on the strategic priorities of the city.

The proposal may also be produced by subjects outside the public administration. For example, in the case of the company Schneider Telvent, the agreement included the clause "*selection of pilots by the City Council between 21 proposals made by Telvent*" (Ajuntament de Barcelona and Doxa Consulting, 2013b). In addition, citizens are also called on to propose and carry out project ideas. In this respect, the municipal administration has proposed many initiatives aimed at creating a collaborative environment based on open-innovation. The creation of the OpenData BCN web-portal is a good example to cite, a digital place in which anyone can use public data for producing new services (Ajuntament de Barcelona, 2010b; 2014a). But the most important role has been played by the organization of awards, events to raise awareness of the smart city topic, and hackathons (Apps4citizens, 2014; Ajuntament de Barcelona, 2015a; 2015b).

Step 3.3 – Ensure financial support to the projects

By approving the MES measure, the city administration has been able to allocate 1,2 million euros for the development of the city's ICT strategy, which included the smart city line of action (Ajuntament de Barcelona, 2012f). Other resources have been acquired through the Municipal Action Program, as "*urban regeneration for a sustainable smart city*" (Doncel and Pons, 2012) is one of three strategic commitments approved and funded by the local government (Ajuntament de Barcelona, 2012g). However, these public funds only provide part of the resources needed to support the transformation of Barcelona into a smart city. In fact, by analyzing the key points established during the planning phase it is clear that the financial strategy defined by the city is based on a combination of public and private investments (Lopez, 2014; Olivella, 2012; Sanromà, 2012).

As pointed out by Josep Ramon Ferrer, head of Directorate for ICT Strategy and Smart City at the IMI, the possibility to develop a smart city strategy requires "*changing the traditional model of financing used by the municipality to a model based on collaboration between the public and private sectors in which both assume risks, but it is private enterprise that*

makes the investment" (Col·legi d'Ambientòlegs de Catalunya, 2013). For this reason, the municipality has launched a specific program in an effort to promote "*collaboration with private companies for the creation and development of new and innovative products for a more efficient urban management"* (Ajuntament de Barcelona, 2013a): "*Barcelona has developed a collaborative company-City Council model for companies wishing to carry out research on the provision of services and the smart management of urban space. […] The City Council provides human and material resources that depend on the company's nature, scope and contribution, and the importance of the proposal"*. The private partners guarantee their commitment and resources by signing an agreement with the city government (Ajuntament de Barcelona and Doxa Consulting, 2012)

Step 3.4 – Implement the projects

The last step of this phase is the implementation of the selected projects, an activity that has continued to grow over time. In early 2012, the list of projects included in the strategy was extremely limited, comprising a total of just 10 initiatives (Olivella, 2012; Sanromà, 2012). But this number has increased very significantly following the planning phase and the activation of the Project Management Office. A report published in October 2012 by the City of Barcelona and Doxa Consulting refers to a total of 40 projects, of which 26 were under development and the remaining 14 were in the starting phase (Ajuntament de Barcelona and Doxa Consulting, 2012). Moreover, according to the estimate proposed at the end of 2013 by the Department for Business, Innovation and Skills of the United Kingdom Government, "*there are over one hundred projects considered to be part of the smart city work in Barcelona, and this number is growing"* (Buscher and Doody, 2013).

3.4. Phase 4: monitoring and evaluation

The monitoring of the progress and evaluation of the results achieved through the projects are performed periodically, in part through the use of specifically created technological tools. Furthermore, the strategy constantly undergoes changes aimed at improving its structure and functioning.

Step 4.1 – Monitor progress and evaluate results

During the planning phase, the procedures for monitoring progress and evaluating the results achieved have been defined with each single project. In this regard, a specific program named *"intelligent data"* was launched in 2012, in which the two initiatives that made it possible to develop some technological tools used to conduct these activities have been included (Ajuntament de Barcelona, 2013a).

Step 4.2 – Adjust and modify

The Barcelona smart city strategy is managed with a dynamic approach and characterized by a cyclical trend. This means that the various phases that compose the strategy are never definitively closed but are subjected to a continuous process of review and change, oriented towards on-going improvement. This cyclical trend is particularly evident in the phase of the development of projects, which is constantly active but influenced by possible changes in the strategic objectives or directives from above. For example, following the approval of the city's Master Plan for ICT, a number of standards associated with the technological component of the various projects have been introduced, resulting in a modification of the selection criteria for the possible initiatives to be implemented (Ajuntament de Barcelona – Tercera Tinència d'Alcaldia d'Hàbitat Urbà, 2014). The same consideration can be applied to the fields of action selected by the municipality, with a specific focus on energy and environmental sustainability in the first period, and then the extension to multiple areas of intervention (Buscher and Doody, 2013).

3.5. Phase 5: communication

The communication of data and information connected to the smart city strategy represents a transversal and continuous activity that the municipal administration has performed since the starting phase. The aim is to disseminate and share knowledge, but also promote the strategy in an attempt to attract new potential partners. This phase is linked to the *"promotion"* line of action and its implementation is ensured by an approach that combines three complementary activities: the organization of international events in collaboration with other partners; the participation in international events proposed by other public or

private subjects; and the continued production of informative documents disseminated through the use of web platforms.

Step 5.1 – Communicate and promote the smart city strategy

Conferences are the main communication tool used by the municipality. Through the organization of conference events and participation in those proposed by other entities, the city has been able to disseminate the contents of its strategy and promote its initiative throughout the world, acquiring high visibility within the smart city field. Indeed, these events represent an opportunity for providing information about the activities carried out, but also serve as a promotional tool for *"attracting investment, strengthening economic ties and establishing Barcelona as an example of smart city"* (Ajuntament de Barcelona, 2013c).

Reviewing the various sources of evidence, it is clear that a very high number of international events has been organized by the municipality since the arrival of the new administration. The situation is quite similar with regard to participation in international conferences organized by other entities (see for example Ajuntament de Barcelona, 2011b; 2012b; 2012d; 2014a; Navarro, 2012). However, this is only a part of the efforts made by the city to promote and communicate its smart city initiative outside the administration. These efforts are also sustained through the continuous and steady production and dissemination of different types of informative documents which describe the contents of the strategy, the activities in progress, the achievements made, and much more. All these data and information are transmitted using different digital platforms, such as the website developed specifically for the smart city strategy or the *"e-headquarters"* of the City of Barcelona (Ajuntament de Barcelona, 2014a; 2014e).

4. FINAL REMARKS AND CONCLUSION

According to Aurigi (2006), one *"major limit of far too many ICT-based regeneration initiatives in Western cities has been a somehow enthusiastically deterministic way to see the effects of information technology on urban functions."* In the late 1990s, Graham and Marvin (1999) reached the same conclusion after analyzing a series of international strategies and projects developed by different cities in order to use ICTs for supporting urban development. As pointed out by these two authors, in fact,

these types of initiatives *"are often intimately connected with utopian and deterministic ideas of technology's beneficial and linear impacts upon the social, environmental and spatial development of cities [and their] real benefits […] to localities may be dubious or massively overblown because they remain inappropriate to real local needs."* This situation seems to be caused by difficulties in understanding that integrating ICTs in urban areas is much more than a technological matter and placing too much emphasis and preoccupation on infrastructures and devices can be misleading and dangerous (Aurigi, 2005; 2006; Graham, 2000; Mino, 2000).

For this reason, cities aspiring to become smart need to proceed with great caution and adopt an approach that allows them to look beyond technology and consider other non-technical yet crucial factors. This is what the City of Barcelona has done during the development of its smart city strategy, thanks to an approach in which the technological component has been rightly combined with several *"human factors"* (Nam and Pardo 2011a) that have been essential to the success of the initiative. These include leadership and political commitment (Alawadhi et al., 2012; Chourabi et al., 2012; Hill et al., 2011), which have been provided by the municipal administration since the starting phase. In this way, it has been possible to manage the complex organizational context that has allowed for the planning and implementation of the strategy. And this has taken place within an interdisciplinary environment in which sectoral and departmental separation has been eliminated in favor of cross-collaboration.

The need to create a collaborative and participative environment for supporting the development of smart city strategies has been extensively discussed in scholarly literature (Beck, 2011; Kakderi et al., 2012; Naphade et al., 2011; Manville et al., 2014; Nam and Pardo, 2011a; 2011b; Paskaleva, 2009; Zygiaris, 2012; European Commission, 2012), and it has become clear that in these initiatives, *"success is […] a product of collaboration between a wide range of […] organizations and individuals"* (Kakderi et al., 2012). In fact, the positive results achieved by Barcelona are linked to the continuous stimulation of public-private collaboration, together with citizens' involvement. By using this approach, the Catalan city has created an ecosystem for ICT-based urban innovation. Moreover, it has benefited from *"the enormous innovative potential of grass-roots efforts"* (Ratti and Townsend, 2011), avoiding the risks of an excessively top-down oriented view (Komninos et al., 2012; Townsend et al., 2011).

In addition to leadership, political commitment and collaboration, others important factors discussed in smart city research and successfully managed by Barcelona City Council are: 1) selectivity: defining

procedures for the selection and development of the best project ideas in order to channel resources and efforts more effectively (Dirks et al., 2009); 2) vision: formulating a long-term vision that will help to draw up an action plan (van Beurden, 2011); 3) motivation: defining how to use technology in term of problems to solve and strategic priorities to achieve (Berthon and Guittat, 2010; Zygiaris, 2012); 4) identification and capitalization of past ICT initiatives: mapping and integrating projects initiated or concluded before the launch of the strategy (Angelidou, 2014); 5) monitoring: using performance metrics to measure and evaluate results achieved by projects (Moss Kanter and Litow, 2009); 6) financial sustainability: developing new business and operating models, and attracting external funding to support the progressive implementation of projects (Belissent et al., 2010). This is one of the greatest issues linked to the construction of smart cities (Anderson et al., 2012) and Barcelona has solved it by combing the use of public and private resources, an essential mix which can ensure the long-term sustainability of smart city strategies (Alusi et al., 2011; Schaffers et al., 2012; Singh et al., 2009).

To manage the complex scenario just described, the municipal administration has adopted an approach strongly geared towards strategic urban planning principles. This is the most important lesson to be learned from Barcelona on how to develop smart city strategies in large cities, a lesson which is in line with the results of research proposed by Komninos (2014). According to him, traditional planning processes based on the production of masterplans and comprehensive planning are inadequate to support the development of smart city strategies. On the contrary, strategic planning seems to be the most suitable tool. The analysis of the case of Barcelona confirms this assumption, demonstrating the effectiveness of strategic urban planning when used to govern the complexity of smart city strategies in large urban areas.

However, this is only a single-case analysis, insufficient to fill the lack of knowledge concerning the development process of smart city strategies, but very useful in providing a robust knowledge base and new research perspectives for further investigations. The roadmap presented in this study represents a useful tool for both future comparative research aiming at obtaining a broad generalization of the results achieved and building an empirically valid theory able to explain how to approach the development of smart city strategies in large cities. However, it will be very important not to forget that the absence of procedures and development methodologies is not an issue limited to large cities. On the contrary, it is valid for any type of urban areas, whether small, medium or large in size, precisely as observed by Kitchin (2014): "*presently* [research on smart cities] *has four shortcomings*

[including] an absence of in-depth empirical case studies of specific smart city initiatives and comparative research that contrasts smart city developments in different locales." This means that the field of investigation linked to the development process of smart city strategies will have to be further expanded in the near future.

ENDNOTES

1. In this study, large cities are urban areas with a population of between 500 000 and 1500 000 inhabitants, a definition aligned with the classification system of urban areas proposed by the Organization for Economic Cooperation and Development (OECD) (Brezzi et al., 2012).

2. The Municipal Institute of Information Technology (IMI) is an autonomous local body created by the City of Barcelona which is integrated in its executive structure and has the task to develop and manage all the ICT systems and infrastructures of the city administration (Ajuntament de Barcelona, 2010a).

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Vitality Through Integrative Urban Design: The case of Three Finnish cities

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ABSTRACT

The fragmentation of physical urban structures has a long history. Urban functions have drifted apart since the boom of industrialisation at the end of 19th century as technological infrastructures have enabled the growth of cities. Cities go through continuous transformation processes as production, commerce and households seek more favourable locations for themselves. Traffic and energy networks were meant to connect various resources with places of production, but they have simultaneously splintered cities and weakened their accessibility. Therefore we need strategies for reconnecting urban areas in order to enhance basic mobility. Actually, urban planners and designers have already applied integrative methods, whether strategically or unintentionally. This feature can be easily detected, for instance, in the city centre of Tampere. All the large building projects of the 2000s incorporate the aims of integrative urban design. New connections enable new kinds of interactions, urban spaces and sceneries that might change our perception of the familiar city. Integrative structures form a new morphological typology that provides cities with new qualities. It is important to notice that integrative design and planning does not relate only to big cities. In order to outline a more complete idea of the subject, we need to study cities of different sizes. This study consists of three Finnish cases: Tampere (pop. 223 000), Seinäjoki (pop. 60 000) and Alavus (pop. 12 000).

Keywords: urban integration, mobility, urban morphology, urban design, urban planning.

1. INTRODUCTION

The growth of cities and their structural disintegration go hand in hand. This relation is readily seen if we follow the development of industrial cities from the beginning of 19th century until the present day. Increased production required efficient transport of labour, energy, raw materials and finished products among places and countries. Horse-drawn transport and steamships had to give way to railroads and combustion engines. Electrical power, transmitted by copper cables, detached production sites from natural energy sources, thus relieving the whole urban geography of manufacturing. The growth of production also gave rise to the growth of urban areas, since the increasing worker population had to be settled in the leftover areas of urban fringes. Long distances between home and work would have decreased work efficiency without new traffic innovations: trams, cheap bicycles and – later on – the motor car. So it seems that urban disintegration has been coupled with mobility from the very beginning of industrial development. While technological innovations enabled growth, they also caused problems elsewhere that were resolved, yet again, with new technology (Goodman & Chant 1999; Graham & Marvin 2001; Hynynen 2009).

This simplified example gives a brief idea of the basic dynamics of urban transformation that produce new potentials as well as distances and barriers. The two latter points tend to decrease economic productivity, the time-space-economy of households, and consequent well-being. Moreover, inconvenient distances and various barriers degrade public space, and the attractiveness of living and operating environments. Consequently, everyone benefits from finding solutions to the flip sides of urban growth, and this, in fact, has been on the agenda of modern urban planning and design since the end of the 19th century. The cycle of disintegration and integration forms an important part of the transformative dynamics of cities (Graham & Marvin 2001).

In practice, disintegration problems have never been resolved by technology alone. Technological solutions have been included in urban innovations together with means and devices from diverse disciplines such as sociology, urban economics and architecture. Usually these are bundled together under the umbrella of urban design and planning (Carmona 2014). For instance, the introduction of tramways required the redesign of street spaces, and the growth in the number of private cars forced planners to create a totally new urban system – and landscape – with differentiated traffic networks. However, these solutions, though originally meant to be integrative, started to have disintegrative

impacts later on.

Many urban visionaries have tried to resolve urban congestion and hygiene problems by introducing new city concepts. These include, for example, Ebenezer Howard's (1965) Garden City, Le Corbusier's (1925/1980) "Ville Contemporaire", Frank Lloyd Wright's (1958) "Broadacre City" and, of course, Eliel Saarinen's decentralisation model (Saarinen 1958; Chudoba 2011). All these models placed an effort on controlling growth by relieving concentration pressures through different strategies of decentralisation, and dealing with urban design and mobility in mutual interaction.

Not all disintegration problems relate directly to the increased dimensions of growing cities, although they might originate from the same process. With urban expansion, the flows of people and goods were also multiplied, which increased the through-traffic in cities. First the old arterials were broadened, but after the critical points were reached, ring roads started to be built. As a result of this operation, remarkable barriers arose that blocked the organic growth of the urban tissue and hindered mobility between districts (Graham & Marvin 2001).

On the other hand, ring roads created easily-accessible zones and nodes, and were immediately utilised by retail and production. The factories that had not moved abroad after the 1980-90s because of cheaper labour, moved from city centres to locations with better accessibility and logistic facilities. As a result, old industrial sites and premises became problematic "brownfields", kinds of dead spots within the urban system. Later on, after realising their multifaceted potential for overall urban development and regeneration, researchers started to call these sites "urban fallows" (Ylä-Anttila 2010a; Oswald & Baccini 2003). Here we can see, in a way, a cycle of integration and disintegration once more.

The need for urban integration manifests itself in many geographical scales, from city blocks up to the scale of the urban region. The discourse of network cities in the 1990s and 2000s characterised disintegration mainly as an issue on the level of the urban region. Before this, from the 1960-70s, the discussion revolved around urban infill, emphasising the compactness of urban tissue (Maijala 2009). Now, in the 2010s, there is a need for more efficient land use in city centres, as cities are striving for vitality through density of population, services and work places. This will be supported by improved conditions for car-free traffic and public transport, enhanced by evolving smart city facilities. From this standpoint, under-used railroad yards or dock areas appear to have great potential for further development, albeit quite challenging ones (e.g. Bruinsma & al. 2008).

It is important to notice that disintegration and integration are not exclusively issues for big cities. If we are able to understand the growth of larger urban regions and the changes in geographically wider territorial structures as the results of the same transformation of the human built environment, then it is easy to see how those processes have impacts on small and remote cities and towns as well. For example, increased regional traffic flows have forced some small cities to build ring roads, after which retailers have realised the accessibility potential of the new road intersections. The results might include declined services in the city centre, vacant premises and degraded public spaces. Also, the impact of railways could be dramatic on small towns if the line has been built a few kilometres from the centre. And vice versa, if a railway yard splits the city centre, the impacts can be wide-ranging, as will be seen later in one of the case studies. So, disintegration does not necessarily relate directly to urban growth and consequent fragmentation of urban structures.

In summation, the impacts of disintegration on the functionality and attractiveness of cities force them to find solutions, either piecemeal and reactive, or more strategic and proactive. In any case, a deeper understanding of the cycle of disintegration/integration would help planners and designers to apply tactics that support each other, as well as match better to the general development strategies of the city. As already mentioned, urban integration relates almost exclusively to mobility. However, if the implementation rests too one-sidedly upon traffic planning, the qualitative potential of integrative solutions might remain unexploited.

In this article, theories and practices of integrative urban planning and design will be investigated from the standpoint of urban morphology. The aim is to provide starting points for more strategic planning, as well as to develop tentative concepts and tools for everyday planning practices. A morphological approach also enables more in-depth analyses due to its concepts and traditions that have been through some 70 years of evolution. The concepts are relatively static, since traditional morphological analysis was created to identify especially long-term historical cycles. Along with traditional concepts, we need devices for describing more accurately the transformative dynamics of urban structures and tissue. A morphological approach as such applies very well to the mindset of professionals, for the concepts are familiar to planners and designers (Moudon 1994; 1997).

The empirical objects of this study are three Finnish cities, their recent plans and implementations that clearly strive for finding solutions to problems of disintegration. The analysis will focus on city centres,

since the subject has been tackled elsewhere in the contexts of the urban region and suburbia, though not always explicitly under the title of "integration" (Sieverts 2001; Oswald & Baccini 2003; Lukez 2007; Ylä-Anttila 2010b). The approach introduced here applies equally well to different scales and urban environments. The object cities are Tampere (pop. 223 000), Seinäjoki (pop. 60 000) and Alavus (pop. 12 000).

2. URBAN SPLINTERING AND ITS ANTIDOTES

The previous section gave an idea of the urban dynamics that cause fragmentation and consequent disintegration. In reality, the dynamics are based on many more multifaceted factors that have forced researchers to lean on complexity and network theories in their reasoning. In this article those theories will be not scrutinised in depth, but a couple of points need to be made, since the interpretations that deal with contemporary cities as systemic and networked assemblages easily support the idea of integration.

2.1. Explanations for disintegration

The discourse on network cities started in the 1990s as the hierarchic models were no longer able to explain the modes of perceived growth that had emerged. The seemingly chaotic fragmentation was better grasped when cities were conceived in terms of interplaying networks that consisted of physical structures, functional nodes and flows of people and goods. According to certain theories, different networks relate dynamically to each other. For example, some parts of traffic networks are better integrated than other parts. Good integration generates accessibility potential that will then be utilised by certain urban functions such as, for instance, retail. So here we now have a strong functional node that, in turn, attracts flows of people. However, people might change, for some reason, their behaviour as consumers, and start to favour a different retail node. So, the changes in fast-moving consumer flows have the power to restructure the slower node network which, in turn, might cause changes in the slowest network of physical structures (Dupuy 2008).

The example above is a crude simplification, but it tells something about the interdependence and dynamics of different networks. The network theory explains quite well the emergence of the "Zwischenstadt" beyond the organically grown urban areas. It consists of miscel-

laneous land use, technical infrastructures and ecosystems. This kind of unconventional in-between city lacks identity and character, which makes it an extremely problematic subject for urban design. Due to the lack of a determined effort in planning and design, there have been opportunities for self-organised growth, which partly explains the hybridity so specific to the Zwischenstadt (Sieverts 2003).

As soon as we understand the logic of the birth and growth of the Zwischenstadt, we are able to develop concepts and devices for planning and design. These tools should apply to the specific features of this urban type, so as not to make it something it does not withstand. A good starting point is to recognise the type and approve its basic substance. Scholars have proposed a strategy that could create new qualities and a new form for a banal, hybrid urban environment, to make it socially, culturally, economically and ecologically acceptable (Sieverts 2003; Bölling & Christ 2006).

An excellent complement for the Zwischenstadt theories is the model of Steve Graham and Simon Marvin (2001) of the neoliberal dynamics of technical networks. According to them, technological infrastructures mediate flows of people, goods and information that are crucial for the present economy and production system. In the present globalised world, the distances between different resources, production and markets have grown enormously, which makes efficiency of technical networks a significant asset in global competition. Due to this fact, technical networks tend nowadays to be developed with a business-centric view, whereas during the heyday of the welfare state, social and regional equality and accessibility were given more emphasis in infrastructural policies. Françoise Ascher's (2004) view is more positive, as he considers new technology and networks an enabling platform for not only the new economy, but also for individuals who are now able to make choices ever more freely regarding their private life-projects.

2.2. Integrative tactics

Urban planning or design, if based on the conceptual framework of the network city, is fundamentally integrative. A systemic approach emphasises the multiscalar dimension of a city. In other words, the total form of the network not only has impacts on the qualities of its parts, but also vice versa. Kimmo Ylä-Anttila has, in his doctoral thesis (2010b, 190-204), created an interesting typology of integrative urban design tactics that are based on different network theories (Sieverts 2001; Oswald & Baccini 2003; Dupuy 2008; Bölling & Christ 2006). He

has combined the qualitative objectives of Zwischenstadt theories with more technical integration operations based on physical network elements. Combining these two dimensions is reasonable because both disintegration and integration are based on the tensions and dynamics of the interaction between land-use and mobility. As urban integration deals with human living and operating environments, we are acting in a quality-laden world of urban design and architecture.

Ylä-Anttila's tactics for integrative urban design are as follows: 1) connection, 2) compression, 3) appropriation of the unconventional, 4) innovation of traffic spaces, and 5) conversion of the code. "Connection" describes mainly physical connections between urban places or areas that are meant to improve accessibility between them, but connections can also be visual and symbolic, created by means of architecture and/or landscape design. "Compression" uses the potential of different densities. For example, new urban nodes with diverse functions and flows of people might generate fruitful encounters and urban vitality. "Appropriation of the unconventional" strives for reclaiming spaces that have been occupied by urban technosystems or, on a more general level, it could be a planning strategy that merges together building, technical infrastructures and ecosystem in the manner of landscape urbanism (Waldheim 2006). "Innovation of traffic spaces" adds new qualities to urban traffic corridors and zones by, for example, reducing speeds and controlling car traffic so that a street could have multiple uses. "Conversion of the code" refers to the modernist principle of functional zoning and the separation of different traffic modes that later turned out to be morphologically disintegrative. Actually, the functionalist innovation of the open urban block applied the same code-convertive tactic by taking the preceding closed block type and inverting it.

Integrative urban design can also be approached from the "softer" direction of *urban life*. Jane Jacobs (1961) is the self-evident pioneer, although she did not use the term "integration". As early as the 1960s Jacobs paid attention to the functional and social decay of cities, partly caused by the scalar change of urban development. Nan Ellin (2006) draws on Jacobs as she elaborates her own theory of integral urbanism. Like Ylä-Anttila, Ellin sums up her theory in five tactics: 1) hybridity, 2) connectivity, 3) porosity, 4) authenticity, and 5) vulnerability.

Ellin believes in a more organic and holistic approach. By "hybridity" she means a diverse intermingling of people and functions in order to allow symbiosis to occur. "Connectivity" comes close to the "connection" described by Ylä-Anttila, but in her typology connections between people and ecosystems are also considered important. "Porosity" is

quite a versatile and open-ended category with its many dimensions such as, for instance, spatial, temporal, visual and ecological porosity. Nevertheless, the basic idea is comprehensible enough. Porosity aims to deepen and augment our urban experience by creating different "translucencies" through which we are able to get new sensations and see the city more multidimensionally by, for example, allowing vistas into places where we are not permitted to enter, or exposing historical layers of the city. The aim of "authenticity" is to remove fake stagings and imitations to reveal the "true" city that is worth belonging to and being responsible for. Urban design that supports authenticity does not negate unpleasant urban and social conditions. Instead it leaves space for the city to define itself and change in the course of time. "Vulnerability" is a close relative to authenticity as it gives up excessive control and lets the city emerge. The aim is to surrender to change, not to resist it. Vulnerability accepts things that are impure, broken and unsolved.

These two approaches have similarities and differences. According to Ylä-Anttila, integrative planning and design aims at governing urban structures, whereas to Ellin it stands for communal urban life and urban experience. While the epistemological starting point of the former is based on the analysis of urban networks, the latter relies more on empirical knowledge. When Ylä-Anttila approaches integration from the domains of systems theory and comprehensive expert planning, Ellin draws on incrementality, project orientation and urban acupuncture (see Frampton 1999; Lerner 2014), and thus her planning-theoretical background comes closer to ideas of co-evolution and the self-organisation of cities (e.g. Marshall 2009). Ylä-Anttila operates with morphological network elements, whereas Ellin's list includes, in addition to morphology, also architecture, atmospheres and processes. These two strands of thought differ also in their relations to urban mobility. Network orientation tends to emphasise accessibility and consequent efficiency, but from the standpoint of urban life the emphasis is on a vitality based on diverse urban flows. And finally, Ellin points out, quite interestingly, the amount and balance of integration. In other words, too much integration might have disintegrative impacts if we consider, for example, increasing hybridity or connectivity to the level of chaos.

In this article, the two typologies of integrative tactics will be combined in order to create a tool for analysing case studies. Both writers draw on various sources and research traditions, which makes the conceptual framework somewhat incoherent when put together. However, the approaches in question complement each other quite well, which make them relevant starting points for empirical analysis, as the combination covers various urban situations.

Figure 1. Case cities on the map of Finland

3. THREE FINNISH CITIES UNDER SCRUTINY

All the case cities are located in Western Finland (see Figure 1), but they differ from each other in size, economic structure, culture, urban structure and milieu, as well as their historical developments. Some common features, nevertheless, still exist; Tampere and Seinäjoki are both regional capitals, and both belong to the small group of Finnish growth cities. Although most Finnish cities are presently struggling with economic problems, Tampere, Seinäjoki and Alavus have no real difficulties.

The plans and implementations analysed in this article represent many stages of urban development. In the case of Tampere, fully implemented and uncompleted projects will be shown in addition to future plans. Seinäjoki and Alavus will be analysed only through future plans. The main point, however, is that all three cases allow a study of the objectives and tactics of integrative planning and design.

Figure 2. Integrative urban design in Tampere. Above left: map of the projects. Black lines represent the lakeside road (1), railway yard (2) Tammerkoski rapids (3) (map: The City of Tampere / Ari Hynynen). Above right: deck over the railway yard, featuring Libeskind's design (illustration: Studio Daniel Libeskind for NCC). Below left: new lakeside housing area of "Ranta-Tampella" (illustration: The City of Tampere). Below right: deck over the railway yard, the winning proposal in the architectural design competition (illustration: COBE Aps & Lunden Architecture Oy / The City of Tampere).

3.1. Tampere

Tampere is the third largest city in Finland with 223 000 inhabitants, but if we include the urban region, Tampere is second after the Helsinki metropolitan area. The growth of Tampere began in the 19th century due to rapid and strong industrialisation. Like in other industrial cities, Tampere's growth has structured the urban morphology in a way that has led to subsequent problems of disintegration (Hynynen 2006). The structural change to industry in the 1980-90s struck the city very hard, but due to its relatively versatile economic structure and two universities it succeeded in regenerating its economy. In the 2000s, Tampere was twice ranked in annual surveys the most favoured city to live in Finland.

Technical infrastructures and extensive production sites from the industrial era have left a trail of long-standing structures that have later proved hindrances to growth and development (Figure 2). Some of these problematic sites have been subjects for urban design since 1990s, but implementations have had to wait until the city leaders were able to point out the productivity of the planned projects.

Figure 3. Integrative bicycle and pedestrian bridges and tunnels in Tampere, built in the 2000s. Above left: "Palatsinsilta". Above right: "Laukonsilta". Below left and right: tunnels beneath the railway yard (Photos: Ari Hynynen).

For example, the project "Ranta-Tampella" could be considered productive from at least two standpoints. First, it resolves the traffic problem and, second, excavating a new tunnel for the lakeside road leaves the surface free for new development. In practice, it would now be possible to extend the city centre all the way to the shore of the Näsijärvi lake. Built in the 1980s, the lakeside road had initially resolved chronic traffic problems, since before then by-passing traffic was conducted through the city centre, which is located on a narrow neck of land between two lakes. But later on, as the traffic flows continued growing, the lakeside road could no longer handle them due to the many intersections and traffic lights. So, in turn, the tunnel was introduced as a solution for this new traffic problem.

Now considering integrative tactics, it seems that this case has a threefold character. First, it applies compression tactics, as it builds a new node that complements and regenerates the city centre. Although the node is a relatively mono-functional housing area, it still brings new kinds of urban qualities to Tampere. Second, it integrates the traffic network by improving connectedness. And third, it also applies symbiotic connectivity by bringing people to the lakeside ecosystem.

Another project that applies compression is the large deck that will cover the main railway yard. A new dense node will be built on top, consisting of multiple urban functions. Unlike the lakeside node, this

is not an extension to the city centre, but an actual part of its core area. Completion of the railway line in 1876 improved the logistical capacity of Tampere and contributed to the industrial boom. At that time, the railway line and the station were situated on the eastern edge of the city, but soon the city grew beyond the railway yard. When logistical functions moved away, the wide railway yard became a development barrier in the very core of the city centre. Now in the 2000s, the city leaders of Tampere and construction firms have tried to attract property developers to invest in the deck project by commissioning impressive designs from architect Daniel Libeskind, as well as organising an international competition for selected architect studios.

Both of these cases have similar aims in facilitating mobility and regenerating the city centre, but compression tactics have also been applied in creating economic surplus value that, in fact, is necessary for financing large projects. In addition to this, the deck can be seen as an innovative traffic space, as it is, strictly speaking, a very wide multifunctional bridge over the railway yard.

Other projects (Figure 3) that aim to solve the disintegration problems of the railway yard are the new connective tunnels that are meant to improve the integration of the bicycle and pedestrian traffic network. On the other hand, the tunnels have partly been provided with commercial functions, so there are also some compressive tactics involved.

Also, the Tammerkoski rapids that split the city centre of Tampere form one part of the industrial infrastructure. Although the channel of rapids is morphologically disintegrative, it has historically been the lifeblood of the city's industry by enabling energy production. The most iconic industrial landscape of Finland is undoubtedly Tammerkoski with its protected historical milieu. Due to these historical and scenic values, the bridges over Tammerkoski have always had functions other than merely connective ones. The bicycle and pedestrian bridges built in the 2000s especially utilise these "extra" qualities by opening beautiful vistas towards the historical heart of the city. So in addition to connectivity, they also apply the tactics of porosity.

Some of the projects introduced above have been realised, and some are still in the planning stages. The bridges over Tammerkoski, and the tunnels under the railway yard have already been implemented. The lakeside tunnel is under construction, and the lakeside housing area will be built after the tunnel has been completed. The deck over the railway yard is awaiting funding.

Figure 4. Left: aerial view of the station area of Seinäjoki (photo: The City of Seinäjoki). Right: the concept plan constructed on the basis of the "SmartStation" project (Hynynen & al. 2014).

3.2. Seinäjoki

Seinäjoki, with its 60 000 inhabitants, is an exception among the other Finnish growth cities, which are clearly larger in size. The growth of Seinäjoki is based on its status as a regional capital, with excellent traffic connections and a vibrant entrepreneurial culture. The city originates from the Östermyra manor house, which was the centre of an old industrial community at the end of the 18th century. In addition to being at the centre of the early metal industry, the manor house also became an agricultural centre. However, Seinäjoki never developed into real industrial town, but is now the central city of a prosperous agricultural region. The city does not have a university of its own, but in the 1990s a university centre was established that hosts research units from six universities from western Finland. Due to the consequent knowledge base, along with spirited entrepreneurship, the region is known nowadays for its high-grade systems that cover the entire food chain from agricultural machines to logistical systems to molecular gastronomy. In addition, there are also a number of successful firms in the metal and building industries.

The urbanisation of Seinäjoki truly began at the end of the 19th century, as the Tampere-Vaasa railway line was completed. The significance of the railway for the overall development of the city was, and still is, remarkable. But also vice versa: Seinäjoki was an important node in the rail network, which was proven in 1975 when the first travel centre in Finland was opened in the city. Originally the railway line was built, as in Tampere, on the edge of the city, but later the urban tissue expanded to the other side of the railway line as well. Today there is a 200-metre wide by one-kilometre long railway yard

that splits the city centre dramatically into two parts. Freight logistics and personnel traffic can no longer be handled in common yards due to the differentiation and specialisation of traffic technologies. Hence, the logistic functions have moved to new areas outside the Seinäjoki city centre (Hynynen & al. 2014).

Seinäjoki strives hard to achieve economic development, but the city leaders are not happy with the urban image of their city. They consider it too rural for a modern growth city. The main problem is the small number of inhabitants in the city centre; in other words, there is not enough critical mass for sustaining high-quality urban amenities. City planners and developers have addressed this flaw in their recent strategies by proposing new housing and higher building densities in the city centre (Seinäjoen kaupunki 2013; 2014). The station area (Figure 4), with its 20 hectares of free space for future development, seems to be an excellent solution for all of the problems. In 2013 the city launched a project in order to define the objectives for programming a forthcoming architecture competition. The project was carried out collaboratively with central stakeholders of the area and a team of researchers from two universities. The project was organised around three workshops, which produced a concept plan for the development of the station area (see Figure 4, right).

The station area plan applies quite similar compressive tactics as the railroad deck in the Tampere station area. Obviously the solution in Seinäjoki is lighter, as new building takes place on the ground level. But the main objectives converge, nonetheless: the new station area will be a densely built, multifunctional complement to the central business district that bridges the city centre, presently split in two. It aims to achieve mixed functions and diversity, which are supposed to generate a new vitality in Seinäjoki. Bridging is, of course, a connective tactic which, in practice, can be realised by building tunnels or bridges – or both – between the central business district and the Pohja district on the eastern side of the railway yard. Both in Tampere and Seinäjoki "connectivity" means good connections between different geographical scales and modes of mobility. A seamless interplay between global and local networks is vital for both of these cities, which makes the qualities of the physical interfaces or transitional zones of the networks noteworthy.

One of the many lines of discussion in the workshops stressed the *identification* of the new station area, and its ability to support a regional identity. Interestingly, Ellin has addressed "authenticity" among other integrative tactics, as it fulfils important qualitative aspects of urban integration. But, seen from the other direction, we can talk about the

Figure 5. Above: aerial photo of the centre of Alavus (photo: The City of Alavus). Below: a part of the development plan (illustration: Jonna Heikkinen).

recognisability of the new area, and what kind of images the new "façade" of the city arises in the minds of visitors and passers-by. Here we can apply Ellin's "porosity", which in this case refers to such urban qualities that allow travellers to "look inside the city"; in other words, to experience something very quintessential of the city's character. Drawing on Juhani Pallasmaa, Ellin's concept of "translucency", which she links with porosity, can be understood also in a multisensory manner, although present design discourses have a visual dominance (Pallasmaa 2012).

3.3. Alavus

Alavus falls into the category of small towns, with 12 000 inhabitants. The surrounding region is sustained by forestry and agriculture, but as a regional specialty there are plenty of small and middle-sized firms in the town. A quick glance at the history of Alavus gives an idea of the

factors that have formed the urban structure of the town. The completion of the Ruovesi-Uusikaarlepyy road at the end of the 17th century was the starting point for the growth of Alavus. The accessibility of the town was further improved as the Haapamäki-Seinäjoki railway line was opened in 1883. Unfortunately the railway line and station were placed 3,5 kilometres north of the centre of Alavus. The distance between them was enough to move some development resources from Alavus to the station district. This structural duality characterises Alavus even today, although most of the rail traffic moved to the new Tampere-Seinäjoki railway line in 1971 (Hynynen 2015.).

More recent factors that have structured Alavus morphologically are, for instance, the development of the so-called Tuuri village shop in the neighbouring municipality of Töysä in 1995. Nowadays this "village shop", with its annual revenue of 150 million euros and 6 million visitors, is also one of the most popular tourist attractions in Finland. In a small town like Alavus this kind of nodal growth has had negative impacts on its service structure. However, the situation changed once more, when the municipality of Töysä was unified with the City of Alavus in the beginning of 2013. As a consequence of this consolidation, the urban structure of Alavus will be extended towards the direction of Tuuri to the east (Hynynen 2015).

The changes in traffic and retail are dramatically reflected in the development of urban structures. This global phenomenon also has local impacts in Alavus. The dominance of private car traffic has splintered its small-scale urban milieu, resulting in over-sized streets and large parking lots (Figure 5, above). New streets and lakeside development have cut off the visual and functional connections between the town centre and the lake ecosystem. Traffic planners have emphasised car traffic, whereas the bicycle and pedestrian network has remained somewhat shapeless. Extensive parking lots have conquered central squares, leaving traditional market functions to "float" and seek free spaces outside their "natural" locations. "Natural" refers here to the most accessible intersections of historical trade routes that have traditionally been birthplaces of market squares (Hynynen 2015).

In the 2010s the city leaders of Alavus awoke to the disintegration problems in the city centre as manifested in the poor profitability of the shops, traffic problems, and a degraded urban environment due to excessive asphalted fields. In order to improve the situation the city commissioned the TUT School of Architecture to prepare a development plan (Figure 5, below). The main focus of the plan was in reclaiming the public spaces for people. The plan applied connective and compressive tactics by forming a series of small squares from the main street down

to the lakeside. This strategy required demolishing the town hall, but the building needed heavy and expensive renovation anyway due to ventilation problems. In the plan, the squares were framed by new small-scale housing and shops. The quality of the overall design of the public spaces was meant to be high grade (Heikkinen 2015).

The plan aimed at creating an attractive, dense and vital cluster of diverse urban functions that would also entice passers-by to drop in for shopping and relax in the multifunctional lakeside park. The chain of squares was also an application of porosity tactics by opening vistas from the urban core towards the lakeside. It also applied Ellin's connectivity tactics in creating a link between people and the lake ecosystem. In order to make this link more efficient, the lakeside street was removed and transformed into a park. Traffic spaces were innovatively changed by making the main street into a multimodal shared space.

Some might consider the plan too radical for a small town. However, the project is meant to be implemented in several stages over a long time span. The first phase comprises the lakeside park with its many amenities, which expectably gives a positive signal and promotes the development among citizens and local politicians. So far, the plan has received a warm reception from them.

4. TACTICS & TYPES OF INTEGRATIVE URBAN MORPHOLOGY

It seems that the two typologies of tactics introduced in Section 2 cover quite well the different cases of urban design that aim for morphological integration. Inclusion of the qualitative dimension recreates the "lived city" that does not manifest itself very easily in purely cartographic analyses, or when operating with traditional morphological elements such as, for instance, street spaces, plots, building or block volumes, or different land use modes; or with network elements, such as links, nodes or node fields.

Another consideration deals with the static character of the traditional morphological approach. If the aim is to analyse urban integration by using morphological methods, we need more dynamic devices that are able to handle shorter temporal cycles than historical ones. Urban transformation processes might produce relatively fast-circulated premises for varying functions. In order to be able to make use of this flexible potential for urban regeneration, we should be able to conceive and direct the transformation as part of more general urban development strategies.

This all requires that we should also bring mobility into the domain

of morphological analysis and urban design. Presently, urban vitality is often based on the ability to convert global flows into local development impulses. To do this successfully we need to link together networks of different scales with the support of surrounding urban structures, spaces and services. Intermodal transitional nodes are, in fact, concentrations of potentials based on flows of people. The salience of these nodes among other basic urban elements is continuously increasing along with the increase of mobility.

Based on these thoughts, it seems necessary to broaden the selection of morphological devices with more dynamic concepts and elements. Transformation is an inseparable aspect of vital urban processes, and it is manifested in built spaces or areas that are subject to pressures for alterations of use. These kinds of "brownfields" or "urban fallows" are typical objects for urban *conversion*, which deserves to be included in the typology of integrative tactics due to their intrinsic character in urban processes. The corresponding morphological type is "converter". In this article, the Seinäjoki station area represents a typical converter, although it is very extensive in size.

At first glance, multiscalar integration seems to be only one aspect of connectivity, but it is just the multiscalarity that provides this integrative tactic with its own peculiar character. Linking together geographically diverse mobility networks as an integral assemblage requires seamless collaboration of traffic planning and urban design. Successful intermodal places and transitional spaces enable efficient flows of people, goods and information and, further, the flows enable successful development of places, if we consider, for instance, the supply of services or architecture. Sanford Kwinter (2011) has highlighted how contemporary architecture has adopted increasingly infrastructural features. Also, Martin Pawley (1998) has noticed that some post-war building types can be understood only in connection with global networks. And vice-versa: Kelly Shannon and Marcel Smets (2010) have pointed out that different kinds of contemporary technical infrastructure are quite often objects for architectural and landscape design. Based on this reasoning, the corresponding morphological type for multiscalar integration is "multiscalar interface". For example, intermodal transitional places and zones of station areas with their services, amenities and technologies are typical multiscalar interfaces.

The compression tactics of Ylä-Anttila and the hybridity of Ellin are useful as such. However, as the empirical cases point out, they seem to complement each other, such that they could be combined to form a single type. Both tactics strive for diversity and its consequent potentials by increasing density, encounters and activity. The corresponding

morphological type is simply "compressor". These can be found in all three case studies described in this article. A good example is the series of squares in the Alavus plan, which was meant to create favourable conditions for a symbiosis between people and urban functions.

Both Ylä-Anttila and Ellin introduce connectivity, which is undoubtedly the most commonly used of all the tactics mentioned in this article. Although connectivity refers almost self-evidently to mobility and its ability to move people, goods and information between places, connectivity can be also conceived in more versatile terms. Interestingly, Ellin's porosity also deals with connectivity, although it has a strong experiential twist. Integration that is generated by translucency is based on visual or symbolic connectivity that does not allow physical connection but, instead, extends our urban experience to the mental level. If we are ready also to understand connectivity in social, visual and symbolic terms, then we would be able to combine connectivity with porosity in order to make it more practical for morphological analyses. The corresponding morphological type could be "connector". The bridges over Tammerkoski in Tampere enable the crossing of the channel of rapids, but they also make possible symbolic connections by offering breathtaking vistas towards the iconic industrial and historical landscapes of the city.

We are now able to list a new typology of integrative tactics, which consists of four basic tactics: connectivity, compression, conversion and multiscalar integration. The corresponding morphological types are: connector, compressor, converter and multiscalar interface (see Table 1).

It is important to notice that these kinds of classifications are always more or less analytical, reflecting the complex urban reality only in a rough and simplified manner. Also, one or more integrative tactics can be applied simultaneously in a single case. A good example is the station area plan of Seinäjoki, which applies all four tactics.

5. INTEGRATIVE DESIGN AND URBAN VITALITY

Nan Ellin's (2006) "integral city" is an organic and symbiotic assemblage which has a vitality that emanates from the synchronised pulse of its diverse parts and elements. The synchronisation is founded on efficient flows of people, goods and information, not only between different parts of the city but also from one city to another. In addition to this, the flow should also connect people and ecosystems. Ellin goes even further by suggesting that urban integration needs to be realised

Typology of integrative design tactics	Contribution to vitality	Morphological type
Connectivity: increases and improves spatial, visual and symbolic connections between urban places and areas.	Extends the possibility spectrum of citizens. Strengthens urban experience. Makes it easier for users and services to find each other.	Connector
Compression: creates spatial, functional or social combinations and densities by building a new node, or by increasing activity in existing spaces or places.	Enables different encounters and helps to realise their potentials. Creates economic value.	Compressor
Conversion: appropriates in-between spaces or inverts spatial codes for decreasing spatial, economic or social barrier effects.	Creates flexible space for urban regeneration (functional, economic, social, cultural or architectural).	Converter
Multiscalar integration: decreases friction between diverse geographical scales or traffic modes and creates new development potential by designing special transitional places and zones.	Makes everyday travel chains more efficient. Creates new development potential by utilising intermodality.	Multiscalar interface

Table 1. Integrative tactics and morphological types.

on an experiential and emotional level to deepen citizens' commitment and responsibility for the city. All of this could be supported by the right kind of urban planning and design.

If this sounds slightly metaphoric, we can talk on a more technical level about accessibility and consequent functional efficiency and flexibility. Efficiency entails vitality, as people, services and jobs meet each other with minimal friction. Flexibility is an asset in a constantly transforming multiscalar city, as it allows functions to move to optimal locations without heavy and slow structural changes. In growing cities, good morphological integration decreases the drawbacks caused by agglomeration. The impetus in the background of integration is the increasing demand for energy and resource efficiency, which will focus ever more strongly on the built environment. We can no longer afford

the modernist attitude of building everything anew (Kohler & Hassler 2002). Instead, we should be able to understand the built environment as a resource in the first place – not only in the ecological and economic senses, but also as a supporting framework for individual and societal life-projects (Rieniets 2014).

The four morphologically integrative tactics introduced in Section 4 can be evaluated from the standpoint of urban vitality (Table 1). For example, connectivity extends the people's spectrum of possibilities and strengthens urban experience. It also makes it easier for users and services to find each other. Compression enables different encounters and helps to realise their potential, which might create, for instance, economic value. Conversion creates flexible space for urban regeneration that could be functional, economic, social, cultural or architectural in nature – or any simultaneous combination of them. Multiscalar integration makes everyday travel chains more efficient and creates new development potential by utilising intermodality.

The purpose of this article is not to fix the introduced concepts and typologies in a final position, but simply to contribute to the discussion on the urban development of our cities by providing starting points for planning and design. We need further studies on different aspects of the subject such as, for instance, planning processes and property development. Different cities, with their diverse projects, should be investigated. Also different research material, such as interviews with planners and architects, would open a new outlook on morphological integration.

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3

Shaping the Future City

Synchronized Street: The Urban Arterial of Future City

Joseph E. Hummer

ABSTRACT

Arterial streets are important in cities across the globe. Many of those arterial streets work very poorly, with many crashes and much delay. They are also often difficult to walk along or across, and are often not desirable places to live or work.

Fortunately, a new urban arterial design has emerged in the past few years that could serve future cities well. The new design is called a synchronized street, a.k.a. superstreet, j-turn, restricted crossing u-turn, and reduced conflict intersection. A synchronized street intersection reroutes the minor street left turn and through movements to u-turn crossovers that are 100 to 200 meters downstream from the main junction. Intersections may be signalized or controlled by stop or yield signs. There are now about 50 synchronized street intersections in the US.

This paper will summarize a series of research projects for the US Federal Highway Administration and other agencies on the virtues and drawbacks of the synchronized street. The design has many benefits, including safety, signal progression, vehicle speed control, driveway access, pedestrian crossing opportunities, and transit service.

A synchronized street does not require much extra space compared to a standard arterial, and is not difficult for road users to learn. The main limitation of the synchronized street is its ability to handle large volumes of traffic on the minor street, and the design also has a limited ability to process large volumes of crossing bicycles. In the future, synchronized streets will not be universal—major intersections will need specialized designs and minor intersections will largely employ roundabouts, for example. For many arterials, though, the synchronized street should be a safe, efficient, pedestrian-friendly arterial solution for future cities of all sizes worldwide. The prospect of a future city with synchronized streets on the arterials guiding safe and smooth traffic flows at appropriate speeds, many pedestrians, and frequent transit vehicles is exciting.

Keywords: synchronized street, RCUT, superstreet, arterial, urban.

1. INTRODUCTION

For years to come, cities will host many motor vehicles and will need arterial streets to move those vehicles and other street users safely and efficiently. In many places, current urban arterial designs often serve no one well, with slow and unsafe motor vehicles making the walking, bicycling and living experiences miserable for many (see Plowden, 2015, for example).

Fortunately, a new urban arterial design has emerged in the past few years that could serve future cities well. The new design is called a synchronized street, a.k.a. superstreet, j-turn, restricted crossing u-turn, and reduced conflict intersection. A synchronized street intersection reroutes the minor street left turn and through movements to u-turn crossovers that are 100 to 200 meters downstream from the main junction. Intersections may be signalized or controlled by stop or yield signs. Synchronized streets were invented by Kramer (1987) and also developed independently in the State of Maryland about the same time. Progress in implementing the design was slow for many reasons (Shumaker, et al., 2013) but has picked up recently and there are now about 50 synchronized street intersections in the US. Although the author does not know of synchronized streets in other countries, many countries in Africa and Asia use medians and u-turns to control left turns in a very similar way. There is nothing in the concept that limits its implementation to just the US. Figure 1 shows a sketch of a signalized synchronized street intersection, Figure 2 shows a photo of the main junction at an installation in the US, Figure 3 shows a photo of a u-turn crossover at an installation in the US, and Figure 4 shows a corridor of five such intersections in the US.

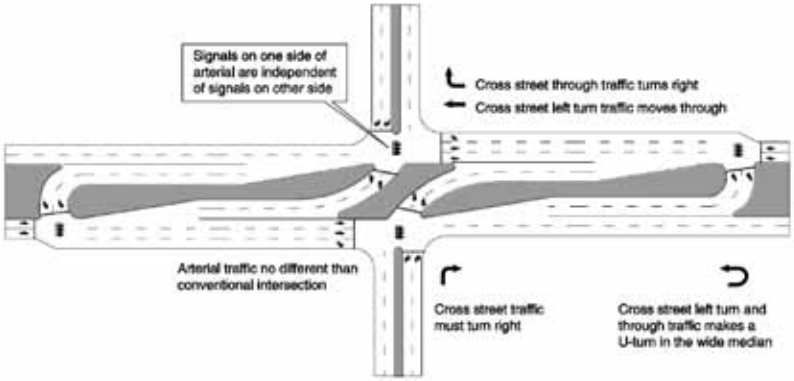

Figure 1. Sketch of a signalized synchronized street intersection (Hummer, et al., 2014a, 15).

Figure 2 (top left). Aerial photo of the main junction at a synchronized street in Austin, Texas (google.com).
Figure 3 (bottom left). Aerial photo of a u-turn crossover at a synchronized street in Leland, North Carolina (google.com).
Figure 4 (right). Aerial photo of a synchronized street corridor in Leland, North Carolina (Hummer, et al., 2014a, 86).

Synchronized streets have great potential to improve safety, operations, and quality of life on and near urban arterials. This potential arises because of several inherent features of the design, including:

- A reduction of the number of conflict points compared to conventional intersections, for both vehicle to vehicle conflicts and vehicle to pedestrian conflicts;
- A reduction of the number of vehicle to vehicle crossing conflicts, which are especially unsafe;
- A separation of the conflict points that remain, allowing drivers to only have to concentrate on one potential danger at a time;

- A reduction of the number of signal phases to two at each of the signals;
- The possibility that more green time can be allocated to the arterial with the larger vehicle demands; and
- The creation of signals on one side of the arterial that are independent from the signals on the other side of the arterial.

These characteristics allow the synchronized street to operate much differently from conventional arterials with multiphase signals and concentrations of conflict points. In most respects, the difference in operation is beneficial for motorists, pedestrians, transit users, and people who work or live along the arterial.

The objective of this paper is to summarize what we know about the synchronized street and show its niche in cities of the future. Much of the paper is based on recent research for the US Federal Highway Administration (FHWA), including projects on the safety and capacity. FHWA has also recently sponsored the development of a Guidebook on the design (Hummer, et al., 2014a) with details on many aspects, and has sponsored the development of videos intended for the public, politicians, and the media (FHWA, 2014). Since the synchronized street is a new design, there are still some unknown aspects regarding its performance, but we have learned enough to show its promise. If designers feel, based upon this paper, that the synchronized street has a place in their future city, there is plenty of material available to guide the installation.

2. BENEFITS

Synchronized streets offer many advantages over conventional streets for some urban arterials. This section describes those benefits.

2.1. Safety

Due to the reduction in conflict points, the separation of conflict points, and other reasons mentioned above, synchronized streets should theoretically be safer than conventional intersections. However, there are some theoretical reasons to believe the opposite, including the longer distances some vehicles travel and the provision of four traffic signals instead of one; so empirical evidence is needed to be sure about the

relative safety. The 2014 FHWA Guidebook (Hummer, et al., 2014a) summarized three large studies of the safety of unsignalized synchronized streets placed in rural areas, and Table 1 shows those results. The North Carolina and Missouri studies were published in peer-reviewed journals, and the Maryland study was sponsored and published by the FHWA, so the studies were of high quality. The studies were conducted in 2010 to 2014. All three studies showed large reductions in angle and left turn crashes offset by smaller increases in rear end and sideswipe crashes. Obviously, unsignalized synchronized streets deliver excellent safety benefits.

Parameter	*North Carolina*	*Maryland*	*Missouri*
Number of treatment sites	13	9	5
Type of traffic control	Stop	Merge	Stop
% decrease in total crashes	27	44	35
% decrease in injury crashes	51	42	54

Table 1. Empirical study results on safety of unsignalized synchronized streets (Hummer, et al., 2014a, 67).

On the more relevant question of the safety of signalized synchronized streets, the author is just completing a study funded by the FHWA. The study examined before and after crash data at 11 sites in four states using comparison sites to account for bias due to simultaneous events. Regression to the mean was not an issue because the treatment was installed to relieve congestion, not to treat a high-crash situation. All sites were in suburban areas, on four-lane or six-lane arterials, with a range of sizes of side streets. The main results from the study—still subject to change because the report is currently in draft form—was a reduction in total crashes of 7 percent and a reduction of injury crashes of 17 percent. The benefit to cost ratio for installing synchronized streets like at the set of 11 treatment sites looks to be about 5 to 1. The study report should be published by the end of 2015. More research on the safety of signalized synchronized streets is needed because the current study has a limited sample size and was not able to determine the safety of design features, but the overall pattern seems clear.

2.2. *Capacity*

A synchronized street has an inherent capacity limit because it reroutes the minor street left turn and through movements. At intersections with demands within that limit, though, a synchronized street can deliver higher capacity than conventional intersections with the same number of lanes, due primarily to the reduction in signal phases. Fewer signal phases mean less lost time 4 to 6 seconds per phase of wasted time due to vehicles stopping and starting which makes a meaningful difference during peak hours. Fewer phases at synchronized streets also means shorter signal cycles can be used, which means in turn shorter storage bays are needed, in a virtuous circle that leads to savings of time and money for everyone.

The size of the capacity advantage for synchronized streets depends upon the geometry and turning movement demands at individual sites. The FHWA Guidebook (Hummer, et al., 2014a) cites, for example, a simulation study on a corridor with five synchronized street intersections in North Carolina that had a 20 percent overall reduction in travel time. The Guidebook also cites a field study of a corridor in Texas with three synchronized street intersections where the travel time was reduced by six to ten minutes on average during the peak periods. A synchronized street is ideal for locations with heavy major street through demands and low minor street left turn demands, and there are many such cases in all cities that could benefit from the extra capacity.

2.3. *Perfect progression*

A feature unique to synchronized streets—offered by no other known at-grade intersection design—is perfect progression through the signals along the arterial in both directions at any speed, any cycle length, and any signal spacing. Perfect progression is defined as progression bands that are as wide as the smallest green time along the corridor. Progression is one of the best things that transportation engineers do for system users, with benefit to cost ratios of signal coordination projects typically well over 20 to 1. In the Highway Capacity Manual (TRB, 2010) method for estimating the level of service at a signalized intersection, progression is a major factor making its impact right at the end of the calculation. On a typical urban arterial progression is perhaps possible for one direction, but almost never in both directions. Perfect progression will be an enormous boon to all arterial users, including trucks and transit vehicles.

Synchronized streets are able to deliver perfect progression because the signals on one side of the arterial are independent from the signals on the other side of the arterial. The signals on each side of the arterial can even have different cycle lengths. Synchronized streets thus operate like a one-way street pair separated only by a median rather than a block. Timing synchronized streets is easy and no special hardware or software are required, just accurate clocks or interconnection.

The inventor of synchronized streets, Richard Kramer, pointed out (2012) that for ease of implementation not every signalized intersection along an arterial has to be converted to a synchronized street design to enjoy the progression benefits. Figure 5 shows that some intersections along an arterial can be left conventional, if the progression bands meet there from both directions, and only the intervening intersections need to be converted to the synchronized street (RCUT) design.

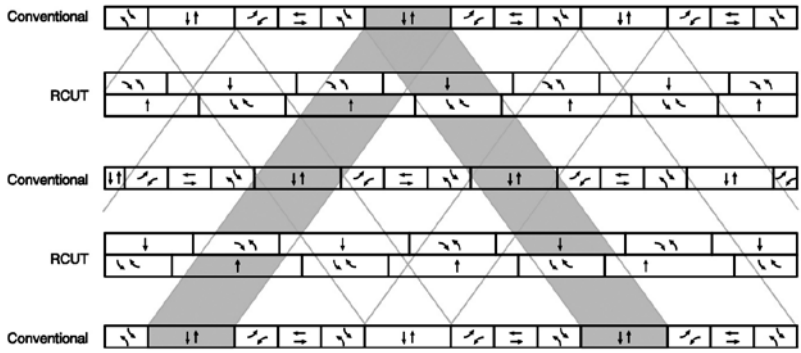

Figure 5. Schematic of an arterial providing perfect progression with conversion of only some intersections to synchronized street design (Hummer, et al., 2014a, 88).

2.4. Speed control

Embedded in the description of the quality of progression offered by synchronized streets provided above is the idea that the progression could be provided at any speed. On a conventional arterial, progression bands may emerge from a complex interaction of signal spacing, cycle length, and speed, and the progression band speeds are often a "take it or leave it" proposition for agencies. By contrast, on a synchronized street agencies have complete freedom to choose any progression speed along a side of an arterial. On a long synchronized street, drivers will only have a chance to exceed the chosen progression speed for short

distances or by running a red signal. Speeds on synchronized streets therefore are "self-enforcing." Agencies and their political leaders will enjoy a robust discussion on the speeds they wish to set and enforce through the progression bands on their synchronized streets; agencies may wish to slow speeds in areas with many pedestrians, during shopping hours, during school hours, or for any number of reasons. In the right conditions, synchronized streets should mean arterials with high capacity and wide progression bands, in which well-disciplined vehicles move in platoons at steady and appropriate speeds.

2.5. Access

Like speed control, high-quality access to adjacent land is an important byproduct of the perfect progression provided by a synchronized street. The reason for the excellent potential access is the ability of synchronized streets to deliver perfect progression at any signal spacing. Designers can move crossovers to and fro to aid driveways and side streets with essentially no extra delay added for arterial drivers. Designers can even add signals at a crossover or a right-in-right-out driveway if needed to aid traffic moving into and out of a driveway or side street without disrupting the progression bands.

Excellent access is part of a package that should make synchronized streets attractive to businesses along the arterial. Other parts of the package include the ability to control speeds, the pedestrian-friendly setting (see below), and the ability to get customers and workers to the business safer and with less delay.

2.6. Pedestrian crossing

Conventional urban arterials provide barriers to pedestrian movement. Pedestrians on conventional urban arterials must confront wide streets, multiphase signals with long cycles, and high speeds among other things. By contrast, synchronized streets offer pedestrians two-phase signals, shorter cycles, and controlled speeds.

Figure 2 above showed the typical pedestrian crossing at a synchronized street intersection. Pedestrians crossing the minor street have a better experience than at a conventional intersection due to two-phase signals and fewer conflict points. However, the so-called "Z crossing" for pedestrians crossing the main street is relatively slow, taking a diagonal path and most likely requiring delay in the median while the

pedestrian waits for a walk signal to cross the second arterial direction (remember that the signals in the two directions on the arterial are independent). No one has conducted research comparing pedestrian delay at a synchronized street versus a comparable conventional intersection, but additional delay at the synchronized street seems likely in many cases. Fortunately, the Z-crossing is relatively safe, since pedestrians can only be hit while crossing the arterial if a vehicle runs a red signal and the number of vehicle to pedestrian conflict points is reduced.

Two design aids are available to speed pedestrians across a synchronized street. First, designers can add signalized crosswalks at the u-turn crossovers. Figure 6 shows a synchronized street in Michigan where the designers added a signalized crosswalk using signals that also control the back-to-back u-turn crossovers. In cases where there is only one u-turn crossover, it is easy to add a signal just for the pedestrian crosswalk on the other side of the arterial since the extra signal will not interfere with the size of the progression band as mentioned above. Many pedestrians should benefit from signals at the u-turn crossovers. Consider that at an intersection with eight sidewalk approaches there are 48 possible pedestrian paths across the intersection (six destinations for each of the eight origins). Without the crosswalks at the u-turn crossover 28 of the 48 paths would use the relatively slow Z crossing. With crosswalks in place at the u-turn crossover there are only 12 paths left in the Z crossing while 16 paths would use the quicker u-turn crossover crosswalks. An urban arterial with frequent signalized pedestrian crossings, wherein the signals do not cut into the progression bands at all, would be exciting.

Figure 6. Signalized crosswalks on a synchronized street in Troy, Michigan (google.com).

The second design aid to reduce the effect of the relatively slow Z crossing is to realign the side streets so that the pedestrian crosswalk is straight, as Figure 7 shows. On a conventional arterial, side streets with small offsets mean extra delay and likely extra crashes. However, on a synchronized street where the signals on the two sides of the arterial are independent a small offset has negligible effects on vehicles while providing crossing pedestrians a shorter distance and a symbolic upgrade. Future cities should emphasize easy and safe pedestrian movements like a synchronized street with offset side streets does.

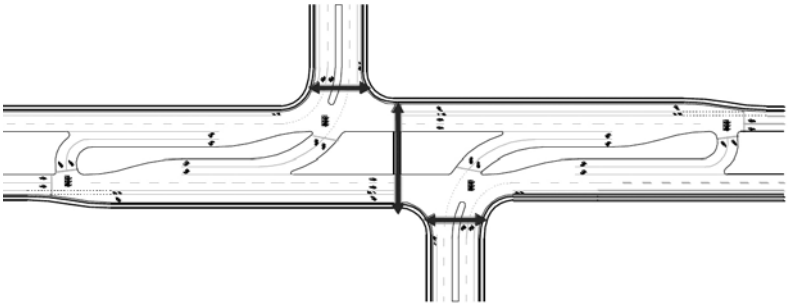

Figure 7. Side street offset to allow a straight pedestrian crossing (Hummer, et al., 2014a, 45).

2.7. Transit

A final benefit conveyed by synchronized street designs is to transit vehicles and users. The main reason synchronized streets are beneficial to transit is the perfect progression offered, with large proportions of green time at two-phase signals. Buses or rail vehicles moving along the arterial will enjoy this advantage, especially transit vehicles moving against the major direction of traffic flow (i.e. returning downtown during the p.m. peak) that usually struggle against poor progression.

Transit patrons eventually leave the vehicle and become pedestrians, so the excellent pedestrian features of a synchronized street help them. Figure 8 shows three potential transit stop locations on a synchronized street, including the near side of the main intersection, the far side of the main intersection, and mid-block at a pedestrian crossing. Each of these locations has advantages and disadvantages, but the near side and mid-block locations are generally better for transit patrons and pedestrians.

Bus rapid transit or light rail transit in the median of an arterial

could benefit from a synchronized street design because the movements through the median are so separated and well-controlled. Theoretically, all that would be needed to place a transit line in the median of a synchronized street would be a median wide enough to hold the transit line and storage bays for the crossovers, to move the crossover stop bars back behind the transit line, and a signal system that could sense the transit vehicles and give them priority over crossover traffic.

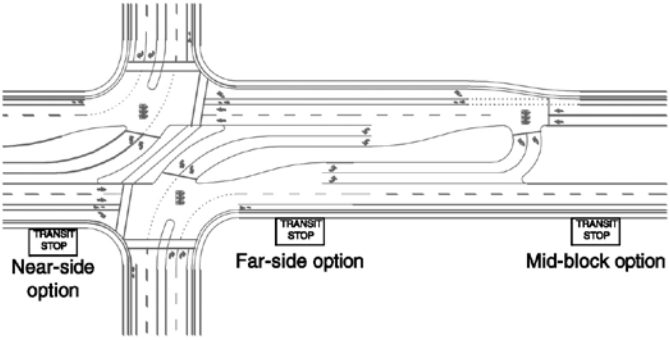

Figure 8. Potential transit stop locations along a synchronized street (Hummer, 2014a, 57).

3. OVERCOMING DRAWBACKS

No urban arterial design is perfect or suitable for all environments, including the synchronized street. This section describes the major drawbacks to the design and how those may be overcome in many cases.

3.1. Space

Synchronized streets rely on u-turn crossovers, and if the design vehicles expected to use those crossovers are buses or large trucks that could mean that synchronized streets have to be wide. In the US, a typical bus design vehicle requires a 27 m outside turning radius, for example; if the arterial has three 3.5-m lanes in each direction this means that the median must be 16.5 m wide to allow that design vehicle to complete a u-turn without encroaching on the curb. Cities now or in the future rarely have or will have arterials with medians that wide.

Fortunately, synchronized street designers have several options to alleviate the need for a wide median. The loon has emerged as a key tool for this in the US. A loon is a semi-circle of pavement placed on the far

side of the curb at the u-turn crossover and shaped to accommodate the design vehicle. Figure 3 previously showed a loon at a u-turn crossover. Most vehicles using the crossover do not have to use the loon, but it is there for those larger vehicles that do need it. Therefore, the design problem of fitting a synchronized street into an urban environment with narrow rights of way becomes one of finding good loon locations.

Because a synchronized street features perfect progression, as discussed above, designers can move u-turn crossover locations to and fro along the arterial without affecting progression quality. Designers can therefore place loons wherever space is available or impacts are minimal. In the end, synchronized street designers only need a median wide enough to hold storage bays for the crossovers and need available semicircles for loons on occasion along the arterial. A street with 15 meters from curb to curb could be able to hold a synchronized street, with four travel lanes of three meters each and space for a three-meter median containing crossover storage bays where needed. Space should not be a deal-breaker for synchronized streets in most cities.

3.2. Driver understanding

A synchronized street will be a new idea in most cities, and many drivers will not understand how it works or how to use it. Driver understanding is important in safe street design of course, so a lack of understanding would seem to be a serious drawback. However, there are several reasons to believe that this issue can be mitigated at synchronized streets. First, most synchronized street drivers will not have to do anything unusual to negotiate the design, including all major street drivers who do exactly the same thing as at a conventional intersection. Second, the simpler two-phase signals at a synchronized street should help drivers. Third, minor street drivers do not have a choice at the main intersection—they must turn right—so there is little chance for wrong way movements. After minor street drivers have turned right, those wishing to finish a left turn or through movement have the simple task of finding a u-turn crossover. Fourth, drivers in at least ten different US states with wide varieties of demographic characteristics have learned to use the design to this point, with the safety benefits as mentioned above. Finally, there is recent precedent in drivers learning to use more complex designs, such as US drivers learning to use roundabouts in the past 20 years, which give hope that drivers can learn this design as well. Designers need to provide good traffic control devices, lighting, and other driver aids, but if they do that

they should be confident that drivers will understand a synchronized street well enough to produce good safety results.

3.3. Minor street demands

The main limitation of the synchronized street is its ability to handle large minor street left turn and through traffic demands. The limitation is at the u-turn crossover that serves the minor street left turn and through demands. U-turn crossovers in the US do not have more than two lanes out of concern for potential sideswipe crashes. If designers wish to preserve at least 2/3 of the signal cycle for the major street, at the crossover this places a limit on the minor street left turn and through demand. With typical US traffic patterns, the FHWA Guidebook (Hummer, 2014, 83) estimated that the capacity of a minor street at a synchronized street is about 25,000 vehicles per day, and produced the guidance in Figure 9. That level of demand is seen on a fairly busy four-lane street, so synchronized streets can serve many urban intersections, but other designs will serve major urban intersections more effectively.

3.4. Bicycle crossing

The most vexing drawback of the synchronized street design for urban arterials relates to crossing bicycles. Bicycles riding along the arterial should enjoy fine service, with plentiful green time and controlled vehicle speeds. However, crossing bicycles currently have just two options, neither of them enticing. Crossing bicycles can follow the minor street through vehicle stream to a u-turn crossover and back, but this adds distance to the trip and presents several challenging conflict points. Or, bicycles can walk or ride with pedestrians on a slow but safe two-stage crossing.

Unsatisfied with these alternatives, the North Carolina Department of Transportation, owner of the most synchronized streets of any agency in the world, commissioned research to explore alternatives. The final research report (Hummer, et al., 2014b) described and tested several other alternatives for bicycles crossing a synchronized street. While some proved promising enough to warrant further testing, none was ready for implementation. To this point, then, a large minor street bicycle demand would be a serious drawback to synchronized street implementation and might warrant consideration of other alternatives including grade separation for the bicycles or other intersection designs.

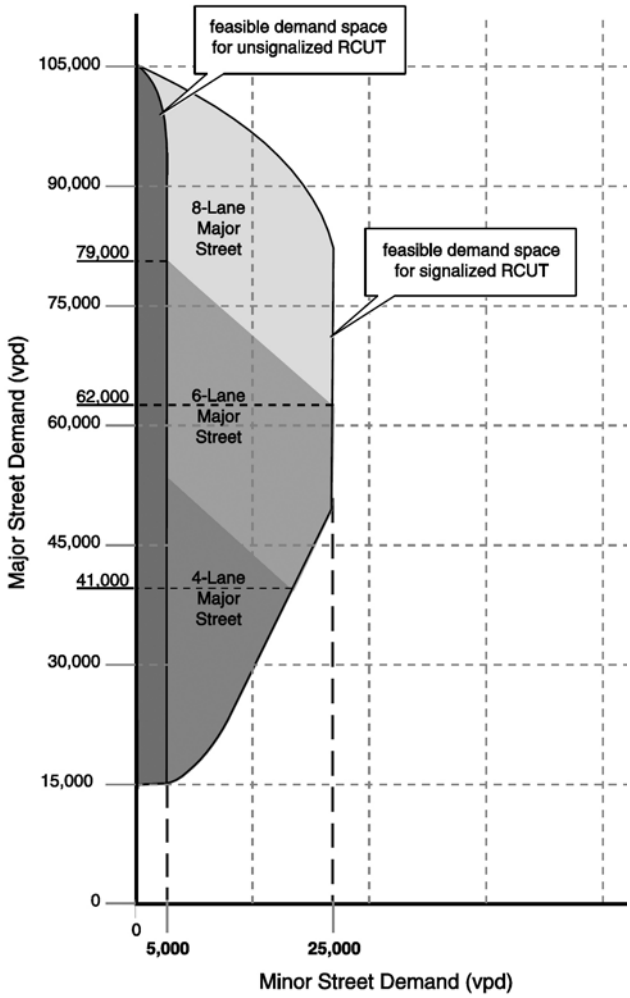

Figure 9. Feasible vehicular demand combinations for synchronized streets (Hummer, 2014a, 84).

4. CONCLUSIONS

The previous sections described the benefits and drawbacks of the synchronized street. The benefits included enhanced safety, added capacity in places, perfect progression, speed control, enhanced pedestrian

crossing quality, and improved transit opportunities. The drawbacks were the space needed, driver understanding, a limit on minor street demand, and crossing bicycles. The former two drawbacks may generally be mitigated, but the latter two are serious without readily available mitigation. Putting all of this together, the niche that synchronized streets should occupy in future cities is where there are spaces available occasionally for loons, where the minor street demands are below 25,000 vehicles per day at any single intersection, and where there are relatively low minor street bicycle crossing demands. In that niche, synchronized streets should be able to deliver the benefits listed above.

The author believes that arterials within that niche are fairly common across the world. Synchronized streets will not be universal—major intersections will need specialized designs like the median u-turn (Reid, et al., 2014) or the continuous flow intersection (Steyn, et al., 2014) and minor intersections will largely employ roundabouts, for example. However, many arterial corridors do fit within the niche discussed above. The synchronized street should be a safe, efficient, pedestrian-friendly arterial solution for future cities of all sizes worldwide, with its use only restrained in its niche by the installation cost (of about $6 million per km based on recent US cases). The prospect of a future city with synchronized streets on the arterials guiding safe and smooth traffic flows at appropriate speeds, many pedestrians, and frequent transit vehicles is exciting.

One more note on the niche of the synchronized street design is that there is an interchange version as well that appears to be very promising for the meeting of an arterial and a freeway. Hummer (2014) described a "superstreet interchange" that employs u-turn crossovers for the left turn from the freeway to the arterial and that evaluation of the idea showed it to be promising. The author is now working on an improvement to the superstreet interchange, called a "synchronized interchange," which also uses contraflow lanes for the left turns from the arterial to the freeway as shown in Figure 10. A synchronized interchange would carry all of the advantages of a synchronized street like perfect progression, high capacity, fewer conflict points, and high-quality pedestrian service in a small space, with a relatively small bridge, and a low potential for wrong way movements.

The synchronized street design should gain wide acceptance in cities of the future. However, more research is needed on several fronts to advance that acceptance. First, we need to standardize the traffic control devices—signals, signs, and markings—agencies should use. To this point in the US, each state that installs a synchronized street re-engineers the traffic control devices, which has led to a disturbing

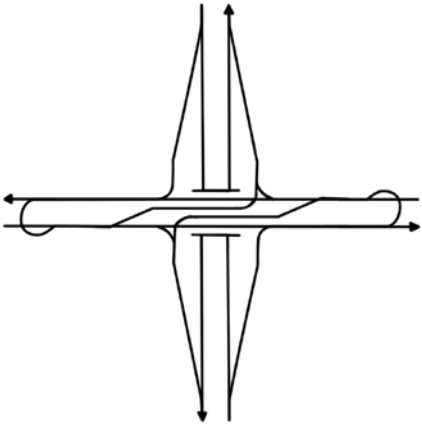

Figure 10. Sketch of synchronized interchange.

lack of uniformity. International and US Federal authorities need to fund research to find the best devices and then those devices need to be included in the standard manuals. Second, we need more safety research on signalized synchronized streets. The new study reported above had a limited sample size and was not able to draw conclusions on the safety of different design features. Third, we need research on pedestrian delay at a synchronized street compared to a similar conventional intersection. Fourth, we need more research on how to accommodate larger volumes of crossing bicycles, as that remains the most important drawback of a synchronized street that cannot be readily mitigated. Fifth, the advantages of synchronized streets for transit vehicles should be explored and documented. Finally, we need documentation of successful installations, to build confidence and maintain the current momentum.

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Emplotting Urban Regeneration: Narrative Strategies in the Case of Kalasatama, Helsinki

Lieven Ameel

ABSTRACT

Recent decades have seen an increasing interest in the narrative and rhetorical structure of urban planning. Urban districts take shape based on words as much as on concrete. Narrative elements such as rhetorical figures, storylines and plot structures are relevant not only for the way in which a particular planned area is presented to the general public or framed within local policy discourse, but also for the way in which larger visions of an urban future translate into concrete developments within the built environment.

This paper examines the planning of Kalasatama (Helsinki), an ongoing case of urban regeneration, by applying methods and concepts from narrative and literary theory to the analysis of planning documents, marketing, and media narratives. A key concern is the manner in which planning documents "emplot" a new area, both literally singling out an area within a geographical setting, and framing the development within a "plot", a story with a specific dynamics and morality. Character, plot and metaphor will constitute the key narrative concepts. This paper draws on the burgeoning field of narrative planning theory, with the specific aim to make concepts from narrative and literary theory more compatible with existing theoretical frameworks from planning theory.

Keywords: emplotment, Kalasatama, narrative, urban planning.

1. INTRODUCTION

Argumentation and story-telling have always been an intricate part of planning and policy, but in recent decades, narrative has increasingly become explicitly used as an instrument to give coherence to the often contradictory functioning of cities and their development. The "story turn" (Sandercock 2010) in urban planning has led to a broadening scope in terms of planning methods and practices, but also to an increasing complexity in research methodology. Narrative elements such as rhetorical figures, storylines and plot structures have become ever more relevant not only for the way in which a particular planned area is presented to the general public or framed within local policy discourse, but also for the way in which larger visions of an urban future translate into concrete developments within the built environment.

This paper applies methods and concepts from narrative and literary theory to the analysis of planning documents, marketing, and media narratives. It will look, specifically, at the narratives of planning in Kalasatama, Helsinki, an ongoing case of urban regeneration. The primary sources will consist of planning documents such as the commentary to the partial master plan, as well as less formal texts disseminated by the planning department and its partners, such as web sites with background information.

A key concern will be the manner in which planning documents "emplot" a new area, both literally singling out an area within a geographical setting, and framing the development within a "plot", a story with its specific dynamics and morality, and drawing on specific sets of rhetorical strategies. This paper will draw on the burgeoning field of narrative planning theory (cf. Beauregard 2005; Sandercock 2010), with the specific aim to make concepts from narrative and literary theory more compatible with existing theoretical frameworks from planning theory.

The Kalasatama area currently under development is part of a grand overhaul of Helsinki's post-industrial waterfront. Located due northeast of the Helsinki centre, this former container harbour is being redeveloped into a working and living environment for 8000 jobs and 20 000 inhabitants. Construction started in 2011 and is set to be finished in the 2030s. Important factors in the area's development have been the opening of the metro station by the same name in 2007, the redevelopment of the former gas works site Suvilahti, immediately adjacent to Kalasatama, into a cultural centre (see Krivy 2013), and the creative temporary use of the site (Hernberg 2012).

The narrative aspects of planning Kalasatama have been repeatedly

emphasized by actors within the planning department. The official website of the Kalasatama project claims that "Kalasatama has a co-written tale, which took form together with co-operation partners" (Hk 2015c, see Hk 2014b), thus explicitly framing the development as part of a narrative produced in partnership. Following this statement, the website argues that the "new Kalasatama district will be built with all due respect to the various layers of the area's past, while nurturing continuity" (ibid.). From the perspective of a narrative analysis of planning, these are revealing claims, shedding light on how the development sees itself – or wants to be seen – as engaged in storytelling, as a curator of sorts of (earlier) local stories. It is a claim that reflects the "story turn" (Cohen 2008) in contemporary urban planning, and the extent to which contemporary planning is considered as a form of storytelling.

2. NARRATIVE AND URBAN PLANNING

In urban planning theory, the interest in narrative, visible especially since the early 1990s onwards, has a variety of methodological roots. It tends to be associated with a Foucauldian interest in discourse, storylines and argumentation (Boyer 1983; Fischer & Forester 1993; Hajer 1993, 2006) and with the post-Habermasian attentiveness to the way language shapes human interaction, including planning and policy. The study of rhetorical devices is one possible way of examining how such stories are used and adapted in the context of urban planning (Throgmorton 1993, 1996; see also Myerson & Rudin 1996). Argumentation, discourse and storyline are some of the concepts that have been applied to examine how planners shape a vision of a specific locality as part of a political and cultural dialogue with other actors. Bringing in an awareness of narrative into planning theory and practice has been seen as a way to facilitate dialogue between various actors in planning that has been sought in recent research on consensus building (Innes & Booher 2010), collaborative planning (Healey 1998), and the idea of the planner as deliberative practitioner (Forester 1999). Patsy Healey has poignantly assessed how the work of contemporary planners is currently described in terms of story-writing, creating new kinds of challenges:

> In many parts of the world, governance elites are trying to write new stories for their cities, to inscribe these stories in the identities of the key players upon whose actions the core relations of a city depend and to incorporate them into the practices of an urban gov-

> ernance which stretches beyond the town hall to a wide range of people involved in governance in one way or another. *The challenge for planners is to reconstruct their own ways of thinking and acting to provide creative resources for critiquing and facilitating this work of city story-writing*. (Healey 2000, 527-528; my emphasis)

The schooling and conceptual apparatus available to urban planners, however, seems to have left this profession somewhat ill-equipped to embark upon the kind of work of "city story writing" envisioned by Healey. So far, research questions of narratives *as* narrative within planning discourse, and based on narrative or literary theory, have had relatively limited impact on the study of narratives in planning. Few scholars working on narrative urban theories have let themselves be inspired by narrative theory (see, however, Keunen & Verraest 2012, Walter 2013). This is the more striking given the notable expansion of studies of narrative in the humanities and in the social sciences.

During the last decades, theorists within literary studies and the social sciences have developed models with which to adapt narratological concepts (often drawing on literary studies) to narratives other than literary texts, such as biographies, media narratives, patient diaries, to name but a few examples (see e.g. Bruner 1991; Nünning & Nünning 2010; Nünning 2010). A more concerted effort to map and analyse the use and structures of narratives in planning could benefit from recent advances in comparative literary studies, narratology, as well as recent research in sociology and self-narratives. Concepts from narrative theory could bring new insights into the field of urban planning theory, which has arguably been struggling to develop conceptual frameworks with which to coherently incorporate discursive practices and paradigms, and in particular, to replace totalizing master narratives with a subtle treatment of "small", local narratives (see Knieling & Othengrafen, 2009; Sandercock, 2010). In what follows, emplotment and metaphor will be proposed as two key narrative concepts with which to examine narratives of planning (such as media narratives of a planning area and its developments) and narratives in planning (the planning narratives in official planning documents, for example in commentaries to local master plans).

3. EMPLOTMENT

Emplotment is proposed here as a first central concept for approaching narratives in urban development, not in the least because of the con-

cept's semantic double-entendre, encapsulating the meanings of both spatial "plot" (location) and narrative "plot" (narrative intrigue). The use of "emplotment" as a narrative concept outside the field of literary studies is primarily associated with the work of Hayden White and his examination of historiography in terms of their narrative. White used "emplotment" to denote the processes by which events are contextualized into meaning-making totalities, receiving "the formal coherency that only stories can possess" (White 1981, 19). Drawing on the work of Northrop Frye, White distinguishes four "modes of emplotment": romance, tragedy, comedy and satire. In planning theory, Hayden White's examination of narrative tropes within historiography has been applied in re-examining planning histories (Kramsch 1998), and its usefulness for an analysis of urban planning has been illustrated by Mareile Walter's examination of narratives of Karlskrona (2013).

What interests me here most is emplotment as narrative strategy that situates a specific event or events within a larger narrative framework, giving sense, structure, coherency and causality to what otherwise would remain a mere enumeration of actions. Especially when considering non-fictional texts that bear little resemblances to literary narratives, such as policy documents, the analysis of a text's emplotment strategies – in other words, of how narrative elements direct the reader towards a coherent plot – would seem to be a particularly beneficial method. Unlike texts of literary fiction, few planning documents have strong authorial voice, explicit plot lines or distinct character dynamics. All planning narratives, however, will exhibit some thematic, linguistic and stylistic features that situate the planning area on a geographical map and within a narrative intrigue. These narrative strategies carry out what the literary theorist Paul Ricoeur has called the "mise en intrigue" or "situating into plot", an "operation that draws a configuration out of a simple succession" (Ricoeur 1984/1990, 65, see also Kaplan 1993, 172).

Narrative beginnings are of singular importance in enacting "emplotment", and in introducing the recipient of the narrative to a specific setting that is embedded in an (often intuitively recognizable) framework of plot, with its own logic and moral. Like endings, beginnings provide a sense of direction to the reader. What Yuri Lotman claims of endings goes equally for compelling beginnings: that they attest "not only to the conclusion of some plot, but also to the construction of the world as a whole" (Lotman 1977, 216; see also Uyttenhove, Keunen & Ameel 2016).

I have argued elsewhere that, in particular in opening settings of city novels, spatial descriptions of a city tend to reverberate also with a

moral and social (in some cases also clearly outlined gendered/ethnic) geography (Ameel 2015). What is at stake is a matter of double "emplotment": of placing a "plot", a location, on the map, and simultaneously preparing the reader for a causal sequence of events to unfold. Beginnings have been described as carrying something of the prophetic, which has led Edward Said (following Hayden White) to describe the illusions conjured by a beginning as "inaugural gestures" (Said 1973, 192). The kind of decisive emplotment carried out in the beginning of a narrative could be called "inaugural emplotment", the prophetic, forward-looking teleological manner of positioning a spatial-temporal node (such as in our case, the development of Kalasatama) within a larger, coherent narrative.

4. SITUATING KALASATAMA WITHIN A PLOT

How is the "inaugural emplotment" of Kalasatama carried out in planning documents? The opening paragraphs of the commentary to the partial local master (in Finnish: "osayleiskaavan selostus"), one of the most crucial planning documents, are a case in point. One would hardly expect a flight of the rhetorical imagination in the opening sections of this kind of document, which is bound to follow a largely predetermined structure. The opening sections of the commentary are intended to locate the development area in a sequence of sections entitled, respectively, "location of the development area" ("suunnittelualueen sijainti"), "framing the development area" ("suunnittelualueen rajaus") and "background" ("tausta").

The opening setting of the partial local master plan of Kalasatama begins with the one-sentence description under the heading "Location of the development area": "The development area is located in the eastern coastal area of the Helsinki city centre ("kantakaupunki"), *north of the Long Bridge*." (HKSV 2008, 4, my emphasis) Two rhetorical arguments are made in this opening sentence. First, the area is located within the "city centre", which is a rhetorical argument concerning the relationship between development area and the overall city, rather than a factual statement. Second, the foregrounding of the spatial marker "north of the Long Bridge", in the very first sentence of this defining document, is particularly intriguing. "North of the Long Bridge" is not only fairly imprecise, it is first and foremost a social and cultural-historical marker, rather than a strictly geographical marker (see Ameel 2014, 161-163). Situating this area "north of the Long Bridge" places it

Figure 1. The area of Kalasatama as shown in the local master plan documentation. The "Long Bridge" referred to in the plan is not even visible in the photograph, being situated to the south-west of the area. Source: Hksv 2008

on a social and cultural map with blue-collar roots, associated with the historical working-class districts like Kallio and Sörnäinen.

The link with Helsinki's blue-collar cultural history is further strengthened in the opening of the chapter "The development phases of the area", which begins with painting a picture of a divided city, in which the eastern part (where Kalasatama is situated) is described as distinctly blue-collar: "Helsinki has traditionally been socially divided in two. The labourers and the industry were from the beginning situated in the eastern and south-western parts of the city centre, whereas the western parts had been the mainstay of the bourgeoisie and admin-

istration" (HKSV 2008, 5). While there is indisputably some truth in this statement, several questions are raised by it. The first question, of course, is why this story is foregrounded; the second point is that this story could be told in completely different terms, too. The east-west divide of Helsinki, while historically not entirely inaccurate, is also both contentious and rhetorical. The oldest part of the centre, containing the biggest concentration of power (Kruununhaka), is situated *east* of the central railway station; the area immediately *east* of present-day Kalasatama, Kulosaari, has long been an upper (middle) class stronghold; in the late nineteenth century, the *western* parts of Helsinki did contain industry (such as an iconic sugar factory), undeveloped wastelands (much of present-day Töölö), and working class slums (the villas of Eläintarha/Töölönlahti).

Foregrounding this particular story of Helsinki's cultural and social divide is part of a larger rhetorical strategy to link the area to the largely gentrified (or gentrifying) axis Kallio/Arabia, renowned for grass-root artistic projects, creative industries, and booming housing prices. This link is accomplished partly through stealth (such as in the rhetorical opening positioning the area in working class Helsinki), and partly explicitly, when the partial local master plan places the location of Kalasatama both within range of the "science-art industry axis" towards the Arabia and Viikki areas, and in terms of commercial importance, as part of the extension of the city centre (HKSV 2008, 19).

In describing the characteristics that historically define Kalasatama, literary narratives, too, are used to strengthen the emplotment of the project area within a narrative of Helsinki's social geography and its development. Hannu Asikainen, project manager of Kalasatama, mentions "Kjell Westö's stories" which "largely are situated on the shore and in the history of Sörnäinen's waterfront" (Valli 2012, 12) as a cultural background for the area. The endeavour to emplot the "story of Kalasatama" within a Helsinki literature describing the eastern city centre is, however, again a highly selective procedure. This is, first of all, selective in linking the author Kjell Westö to Sörnäinen. Westö is much more renowned as the writer of north-western Helsinki (Munkkiniemi and surroundings, in particular), and has, moreover, in his novels covered most of central Helsinki's topography. Second, it is striking, again, that the link between Kalasatama and Sörnäinen is sought, rather than the links between Kalasatama and other regions (such as Kulosaari, Arabia, or Vallila).

The key storyline into which the various narrative strategies emplot Kalasatama's development is the development of Kalasatama as an integral part of the city centre, a distinctly "urban" district, with close

links (also culturally and historically) to the gentrifying, "creative" districts in the north-eastern parts of the city centre. In the strategic plan of the Helsinki region, the projected identity of Kalasatama is argued to consist of "industrial and labour history and the positive image factors of the neighbouring area of Kallio, which are, for example, urban life, tolerance and urbanity" (HKSV 2009, 28). The focus on the close attachment to the city centre is constructed both in physical and mental terms. Descriptions of the area's future functioning, as found in planning and media narratives, all strengthen the emplotment of the area's development within a narrative of inclusion into the urban fold of the city centre. In planning documents, inclusion in the centre is repeatedly emphasized (HKSV 2008, 19), as is the "urbanity" of the area (ibid. 24), also in terms of traffic solutions (ibid. 26), type of parks (ibid. 36) and the urban morphology of its built environment (ibid. 40).

5. METAPHOR: "IN THE ARMPIT OF THE CITY"

Metaphors further strengthen the sense of Kalasatama as being emplotted within the larger narrative of the expansion of Helsinki's core centre, an expansion that is (or so the plot implies) carried out in terms of its function (distribution of services and commercial activities), morphology (building height, building block structure) and mental cartography. Emphasizing the importance of rhetorical figures of speech, and referring to the work of Rein and Schön, Fischer and Forrester have argued that problem-setting stories in policy documents tend to be constructed around "generative metaphors", linking "casual accounts of policy problems to particular proposals for action" and connecting "accounts of 'is' and 'ought'" (Fischer and Forester 1993, 11). Similarly, and drawing on Ricoeur, Kaplan has argued that metaphors "have the ability to bring together what at first seem 'distant' into something 'close'" (Kaplan 1993, 172). In the contemporary urban planning visions of Kalasatama, metaphor is indeed what bridges the gap between the existing present and the imagined future, concretizing in language the changes envisioned in planning. Most important of all, metaphors – and other rhetorical devices – are drawn upon when a factual, down-to-earth wording is missing, when both author(s) and reader(s) are called upon to take a flight of imagination in order to make sense of what is being described. Metaphors are the language of epistemological uncertainty, and coincide with the coining of new meanings.

A first surprising metaphor, with which Kalasatama has been advertised in a range of websites, brochures and media reports, is that of

the development area as being situated in the "armpit of the city" (see for example Wilska 2012). The fact that the metaphor doesn't translate well (in the Finnish original ["kainalossa"], it doesn't sound unsavoury in the least) hints at the culture- and language-specific manner in which metaphors such as these function. In the English translation used in the official leaflet, the slogan "in the armpit of the city centre", is translated as "Culture and life close to the heart of the city" (Hk 2014a), which retains, but transforms, the original body metaphor.

The metaphor implies a close and intimate relationship between this new development area and the city centre. There is a sense of cosiness and intimacy, as if the district in question is envisioned as cuddling up to the warm body of the city. Neither of these associations is entirely innocent: the conceptualization of the city as body is a metaphorization with a long tradition in city writing and urban studies. In the early modern period, it heralded rational ways and new technical innovations in thinking of circulation and control in cities (Sennett 1994, 263-264). It re-entered urban planning thinking in the early twentieth century in the work of Patrick Geddes, and again in the so-called systems view of planning, which became dominant in the English-speaking world from the 1960s onwards (Taylor 1998, 62). In literary fiction, it has also been consistently associated with a moralizing view of the city, and of the capital or metropolis, in particular, as the "body politic" and a mirror of society at large (see Williams 1973, 146).

If the idea of the city as body is thus far from innocent, so is the idea of Kalasatama as cuddling up to the city centre. As argued above, metaphors are used when more precise wordings are at large, and the use of this particular metaphor points at one of the central challenges involved in developing Kalasatama: how to define this area and its position vis-à-vis the centre? Is this to be a village-like new city district with an entirely new identity? Or merely one of the many sleeper districts along the metro line? Or is it an extension of the city centre? Choosing a particular storyline is not simply an issue of city branding. Particular narratives will have practical and material repercussions: they will be instrumental in guiding norms and visions in terms of projected building heights, street width, and the number of square metres allocated to local services and shop functions.

The naturalizing metaphor of a district cuddling up to the warm body of the centre emphasizes the organic aspect of the area and its relationship with the centre, perhaps as counterweight to Kalasatama's present reality of what looks in many respects like a post-industrial ground zero, with no trees and very little nature. It conjures associations with restoring a sense of naturalness and wholeness to the area's

post-industrial environment that is being transformed into a densely-built urban environment. The emplotment of this area as a natural environment is carried out also with the help of two other metaphors evoked in the same promotional text, although the implications are somewhat different. Kalasatama, which is first introduced in terms of a "lagoon to my taste", is further described in a number of evocative terms:

> Kalasatama is all about doing things together; it's an ecosystem for all of us. Located a stone's throw from the cultural offerings of Suvilahti and always within striking distance of the delicacies of Tukkutori market, Kalasatama is everything a bold pioneer could wish for!
>
> The Kalasatama forerunners look out to sea, as they always have. The sun will soon rise upon the majestic towers of the Kalasatama Centre, the skyscrapers of this pocket-sized metropolis. (Hk 2015c, see also Hk 2014b)

The first metaphor of interest is that of the "lagoon", which evokes images of a pastoral, exotic and natural environment, in which man can recreate a new and wholesome relationship with nature. The second metaphor sets this pastoral imagery in further perspective: the new inhabitants of Kalasatama are described as "settlers" and "forerunners" (or, following the Finnish original, "pioneers"), transposing the national-romantic imagery of a Finnish "frontier myth", evoked in literary classics such as Väinö Linna's *Under the North Star* (1959, 1960, 1962) to an urban setting. The implication is that of a spatial tabula rasa, the fiction of a virginal space. However, as Robert Beauregard shrewdly points out, "[p]laces are never empty" (2005, 54), and planning tends to involve a "form of discursive displacement", in which "[p]lanners and designers substitute a professional narrative for a multitude of shared histories, collective remembrances, and personal experiences". Kalasatama's emptiness implied by the reference to a pioneer and settler spirit can be argued as being one of the strategies to prepare the ground for grand schemes with little or no grounding in the area's past, such as the "majestic towers" of the Kalasatama Centre, which – as will be seen – has been renamed since.

Similar to the metaphor of the city as body, natural metaphors, such as that of the "lagoon", are not without their moral and political implications. Zygmunt Bauman has traced the implications of natural metaphors, such as that of the garden, in legitimizing processes of exclusion, of "weeding out" otherness (1991; see also Pinder 2005, 50).

Tim Cresswell has come to similar conclusions in his discussion of metaphors in (social and cultural) geography related to nature and the body: "[b]ehind the weed (and seed) metaphor lies the ugly history of the more generally organismic metaphor, *city as ecosystem*. […] The *city as ecosystem* is not just theoretically inappropriate; it is a way of acting which has serious consequences in people's lives" (Cresswell 1997, 336).

6. DIVERGING NARRATIVES OF KALASATAMA

In addition to the narratives in planning and those commenting upon the planning proper, a number of other stories and visions are told of Kalasatama, narratives that are involved more with the area as a social or mental construct, and relating to the ways in which services and cultural activities are going to be planned and organized. Within the limits of this article, these can only be referred to in passing, but they illustrate the extent to which the development of one specific area can give rise to a variety of (potentially conflicting) narratives. The first of these parallel narratives is that of Kalasatama as a "smart city" – a narrative that is mostly detached from the plans for the built environment and infrastructure proper, and deals primarily with questions of services, social media and the use of information technology. It projects Kalasatama as "a model district of smart city development", aiming to "develop services and solutions for improving liveability, to seek new operating models and to offer a growth platform for new enterprises" (Hk 2014a; see Hk 2015a, Fiksu 2015). While narratives in planning documents emphasized the inclusion of Kalasatama within the fold of the city centre, the concept of Kalasatama as a "smart city" puts more emphasis on the image of Kalasatama as a closed, interconnected community. Similarly, the various art projects carried out in Kalasatama, and mostly coordinated by the Eskus Performance Centre under the umbrella of "Kalasataman taidetalkoot" ("Kalasatama's joint art project") would seem to have as one of their primary goals to strengthen the sense of community, performing a "placemaking" operation through cultural activities (Eskus 2015). Both Kalasatama's smart city project and the art project by Eskus emphasize the active cooperation between city, inhabitants and companies, supporting the idea of a Kalasatama narrative that is "created in cooperation" and told in a spirit of togetherness.

The most conspicuous parallel narratives related to Kalasatama are those centred on the building and planning of the commercial centre of Kalasatama. Originally called simply "Kalasatama Centre", the devel-

Figure 2: REDI publicity tower in Kalasatama, Helsinki. Picture by the author.

opment has been renamed "REDI" following considerable marketing efforts. On official websites, the name "Redi" is explained as an old slang word for "roadstead" or sheltered waters off a coastline. Few Finns, however, would recognize this word or its maritime references, and the most logical implication is a Finnish spelling of the English "ready". Linguistically, it is a hybrid term, easily misunderstood. The project itself, comprising 60 000 square metres, referred to as a "hybrid between a shopping mall and a city centre" (Srv-redi 2015) will include several of Helsinki's first skyscrapers. In media coverage and marketing, narratives of this largely commercial venture have recently been overshadowing Kalasatama. Not Kalasatama, but REDI has now been referred to in media and promotional narratives as the "largest urban building project in Finland" (Redi 2015). Similar to narrative strategies to emplot Kalasatama, REDI makes use of the metaphor of the city (district) as body, implying by means of this rhetorical device the central role it will play as Kalasatama's defining identity-marker. REDI is referred to by the project manager and by the official website of the Helsinki planning department as the "heart" of Kalasatama and as the "landmark of the eastern city centre" (Redi 2015).

On the ground in Kalasatama, too, REDI has staked out its share of Kalasatama. One of the promotional strategies is a conspicuous

publicity tower dominating the northern gateway into Kalasatama, advertising the "largest shopping mall in the city centre". By contrast, references to the toponym Kalasatama or to the area's distinctive identity are less visible in the linguistic landscape (for example in signs in the environment).

In several respects, the narratives and metaphors used in relation to REDI diverge from the emplotment of Kalasatama in planning narratives. Whereas planning documents emplotted a development of Kalasatama that oriented itself towards the city centre, as a natural extension of the urban fabric, the emplotment of REDI focuses on the maximal commercial exploitation of the area's location, and contains several suburban or anti-urban narrative strains. In scale and in distribution of commercial activities, the commercial centre with its cluster of skyscrapers runs counter to the vision that the Helsinki planning department has of the urban characteristics of Helsinki's city centre, both in terms of ideal building height (five to seven storeys, see HKSV 2008, 5), and in terms of preferred small-scale street-level commercial facilities. Kalasatama's key narratives, that of its projected "urbanity" and that of its perceived location in, or close to, the city centre (traditionally not the location of shopping malls), were no deterrents to constructing this shopping centre, in which "the commercial activities of Kalasatama will be concentrated" (Hk 2015b).

A telling feature of the manner in which REDI is being emplotted within a larger narrative of urban development that is not looking inward, towards the city centre, but outward, towards the suburban fringe, is the imagined view inhabitants will have from the top floors from the towers, as envisioned by the image on the publicity tower. Panoramic vistas are associated with a sense of cognitive power, and with the possibility of giving a sense of coherent meaning to landscape (de Certeau 1984). The view suggested in the advertisement is not one of the city, but of the natural environments due east from Kalasatama. It is reminiscent of the promotional strategies used in of the most well-known examples of Finnish post-war suburban development, Tapiola, which was advertised as an evocation of a Finnish national-romantic landscape in a suburban context.

7. CONCLUSION

Narratives in planning documents, in media (and other) coverage of planning development, and in texts disseminated by private actors involved in planning, make use of narrative strategies that "emplot"

Figure 3. "Beautiful landscape apartments", with an artist image of a view of the eastern Helsinki waterscape, evoking images of the lakes of inner Finland. Picture by the author.

an area and its development. This involves a double process of locating a set of events within a geographical location, as well as within a narrative intrigue. Metaphor is one of the key rhetorical devices used to direct emplotment. In the case of Kalasatama, planning narratives make efforts to link the area's development culturally and historically to Helsinki's north-eastern historical working-class districts, and aim to project the development of the area within the narrative of an expansion of the city centre, both in terms of its built environment and in terms of its functions. Metaphors used in the promotional texts disseminated by the city further embrace this narrative in terms of a natural extension of the city. Other forms of emplotment in parallel narratives, however, show counter-currents in the way the development of Kalasatama is envisioned. Some of these emphasize the area's future identity as a closed, interconnected pioneer community connected by information technology innovations. A particular case is that of the emplotment carried out by narrative strategies used in relation to Kalasatama's centre REDI. Time will tell how these partially competing narratives will transform into the built and lived environment of the future Kalasatama, and to what extent the vision of a district in the "urban" fold of the city centre, including small-scale storefront businesses, is compatible what the construction of a large shopping centre explicitly envisioned to become the "heart" of the area.

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The Strategic and Communicative Uses of Architectural Designs in Planning: A Habermasian Perspective on the Case of Guggenheim Helsinki

Hanna Mattila

ABSTRACT

In recent decades attempts have been made to establish more democratic, argumentative and emancipatory planning cultures, derived particularly from the critical theory of Jürgen Habermas. Nonetheless, as the critics of the argumentative turn in planning have contended, in practice the realm of planning communication extends far beyond argumentative speech. As a case in point, this paper discusses urban design and architecture, dimensions of planning that build on visual forms of communication. Whereas the critics of communicative planning have argued that Habermasian planning theory fails to see the power dimensions included in non-discursive modes of communication in planning, this paper maintains that Habermas's assessments of aesthetics – based largely on the reconstruction of the views of the first generation of critical theorists – prove that Habermas offers some interesting, though fragmentary, viewpoints on this issue. The paper asks whether design proposals, as a form of communication, open up spaces for strategic use of power or whether they include understanding-oriented, emancipatory potential. Whereas the former view can be derived from the aesthetic thought of the first generation of critical theorists, Habermas also makes room for the latter view. The paper ends with a Habermasian analysis of the strategic and communicative uses of architectural designs in the debate concerning the controversial Guggenheim museum project in Helsinki.

Keywords: architectural design, communicative rationality, communicative planning, critical theory, Guggenheim Helsinki.

1. INTRODUCTION

In recent decades, attempts have been made to democratize planning and increase its emancipatory potential by establishing more transparent argumentation based or deliberation based planning procedures. Models for such procedures have particularly been derived from the critical theory of Jürgen Habermas, a theory that has provided planning theorists with the conceptual tools to challenge the prevalence of narrow instrumental and strategic conceptions of rationality in planning and introduce a broader conception of rationality – "communicative rationality" – to planning. As the proponents of the communicative or argumentative turns in planning have contended, along with the broadened conception of rationality, the scope of "rational planning" no longer needs to be limited to the choice of the right means to pregiven ends but can be extended to include rational, consensus-oriented deliberation concerning both facts and normative goals in planning (see e.g. Forester 1989; 1993; Healey 1992; 1997; Innes 1996; Sager 1994). In this way planning can be rational, not only from the internal perspective of economic and administrative "systems", but also from the point of view of the "life-worlds" of the inhabitants (see especially Healey 1997; Habermas 1985a). Given that the introduction of argumentative modes of communication can reveal the distorting influences that the prevailing power structures have on the rationality of planning, communicative planning has been argued to facilitate emancipation instead of serving and affirming existing power structures in society (Forester 1993; Healey 1997; Sager 1994). As is well known, modern "rational" urban planning has often been criticized for reinforcing prevailing power structures (see e.g. Healey 1992).

Nonetheless, as the critics of Habermasian communicative planning have argued, the use of communicative practices in planning does not alone eliminate the distortions brought about by power in practice (see e.g. McQuirk 2001; Flyvbjerg & Richardson 2002). As for instance Bengt Flyvbjerg and Tim Richardson have argued, planning practice typically also has a "dark side", where "communication" cannot be taken to refer to Habermasian rational consensus-oriented argumentation but rather to "non-rational rhetoric" or even non-discursive modes of communication; modes that often serve certain pre-established interests and positions of power (Flyvbjerg & Richardson 2002). Although in Flyvbjerg and Richardson's view non-rational and non-discursive modes of communicating seem to typically represent oppressive forces in society, they also recognize that "non-discursive ways of safeguarding reason" can play an important role for oppressed minorities when

they aim at challenging the prevailing order (ibid., 47, 49).

This paper focuses on the design dimension of planning, a dimension that seems partly to defy argumentative analysis and therefore to also fall under the non-transparent "dark side" of planning. The paper discusses, in particular, the uses of architectural designs in planning processes, asking whether architectural designs are part of the "non-rational rhetoric" or whether they serve communicative rationality, for instance by contributing to the collective search for identities and interpretation of needs. The question could also be posed in the following way: Should the use of designs be viewed as a potential vehicle for oppressive powers in planning, or does it have emancipatory potential? These questions are topical for post-industrial late-capitalist cities where aestheticized, design-led planning practices form an essential part of place marketing, the production of positive imagery of the city and the promotion of economic growth (see e.g. Scott 1997) – a role that is connected to the instrumental and strategic rationality typical of systems of economy and administration. Nonetheless, they are undoubtedly also meant to facilitate the emergence of liveable and culturally sustainable cities, which, as an objective, should make room for life-world perspectives and communicative rationality.

The analysis carried out in this paper is mainly based on the critical theory of Habermas, a theory that has been charged with being unable to give an adequate account of the role of the forms of planning communication that do not fall neatly into the category of rational argumentation (Flyvbjerg & Richardson 2002). While the critics of Habermasian planning theory have largely turned to post-structuralist thought – such as Foucault's philosophy – in making sense of the non-discursive, power-laden dimensions of planning, this paper argues that Habermas's reconstructions of the first generation critical theorists' assessments of aesthetics could also shed some light on the darker sides of planning. Thus, the picture that Habermas's theory provides of the power dimensions of the non-argumentative and non-discursive forms of planning communication may be more nuanced and multi-faceted than the critics – and perhaps even the proponents – of Habermasian planning theory have admitted.

The pessimistic views of the first generation of critical theorists – especially those of Adorno – concerning the roles of aesthetic practices in late-capitalist society have often been discussed by urban scholars and planning researchers who have studied the uses of art, design and architecture in the regeneration of post-industrial cities (see e.g. Scott 1997; Miles 2005; Pratt 2006). However, Habermas's slightly more optimistic insights to this issue have not been studied much in urban

or planning theories. Whereas Adorno's view is that aesthetic objects and practices mainly serve the intertwined interests of capital and administration, Habermas recognizes – while not rejecting Adorno's suspicions altogether – that aesthetic objects and practices can still have emancipatory potential as they catalyze public discourses concerning our common interests (Habermas 1962/1991; Duvenage 2003). Furthermore, in Habermas's theory of communicative action, aesthetic rationality has a distinct role as a part of communicative rationality, even though it moves at the very limits of communicative reason (Habermas 1981/1984; see also Boucher 2011; Duvenage 2003; Ingram 1991). This means, in particular, that aesthetic practices contribute in their own peculiar ways to the processes of cultural need-interpretation and to the formation of collective identities (Boucher 2011).

In this paper, the theoretical viewpoints derived from critical theory are discussed in the light of the Guggenheim art museum project in Helsinki, Helsinki being well known for having scored highly in the liveable cities listings, and for promoting social and cultural sustainability in planning. Today, however, the city also increasingly utilizes cultural assets, such as urban design and architecture, to boost economic growth. In the case of the Guggenheim Helsinki project, many have argued that both the money that the city would need to invest in the museum project and the site preliminarily reserved for the museum could have more acceptable uses. To promote its project, however, the Guggenheim Foundation organized an architectural competition for the museum. Soon after, the museum's opponents organized a competition to search for alternative visions for the future of the site. This paper analyses the argumentation around the aesthetic concerns involved in the Guggenheim project and examines in particular how the competitions and the resulting designs have been used both strategically and communicatively in the discourse.

2. THE HABERMASIAN CONCEPT OF RATIONALITY AND ITS CONTRIBUTIONS TO PLANNING AND DESIGN THEORIES

Jürgen Habermas's critical theory became popular amongst planning theorists during the late 1980s and 1990s, shortly after the publication of *The Theory of Communicative Action* (Habermas 1981/1984; 1981/1987). In this work Habermas critically assesses and reconstructs Max Weber's – as well as Max Horkheimer's and Theodor Adorno's – pessimistic analyses of the one-sided rationalization of western societies, a process based on the conception of "purposive rationality" in Weber's case and

"instrumental rationality" in Horkheimer and Adorno's case. As Weber – and later Horkheimer and Adorno – argued, this process has crowded out more substantial conceptions of reason, ones that would involve normative dimensions as well. As a consequence of expelling values from the realm of rationality, modernizing societies have been witnessing pathological lines of development, such as the loss of freedom, as Weber argued, and reification of human relations and social oppression, as Horkheimer and Adorno added later (Habermas 1981/1984, 243–386; 1981/1987, 301–351).

Habermas follows his predecessors – especially Weber – in setting out from the fact that the cultural rationalization of western societies is characterized by the differentiation between cognitive-scientific, moral-judicial and aesthetic-expressive value spheres. Habermas also recognizes one-sided cognitive-scientific rationalization and the triumph of purposive and instrumental reason, from which social and cultural pathologies seem to follow (Habermas 1981/1984, 243–386; 1981/1987, 301–351). However, he still holds on to his belief in the progressive and emancipatory potential inherent in the process of cultural rationalization and argues that, in order to understand the tendencies towards pathological development, attention should be directed not only to cultural rationalization and cultural impoverishment but also to societal rationalization (Habermas 1981/2001, 6–8). Societal rationalization, according to Habermas, is characterized by a process of decoupling "the system" from "the life-world". The life-world is a realm of communicative rationality, the realm where collective action is coordinated via the communicative search for mutual understanding (Habermas 1981/1987, passim). The system – referring to economy and administration – is a realm for strategic and instrumental rationality, a realm that is relieved of the time-consuming communicative steering and one that can rely on the steering media of money and power (ibid., 113–197). According to Habermas, pathologies do not occur because of this process of decoupling *per se* but because the system tends to expand constantly and to penetrate eventually back into the realm of the life-world, where it replaces communicative rationality with strategic rationality (ibid., 196). Nonetheless, in the Habermasian scheme the system, in the end, must remain rooted in the realm of the life-world, where the potential for emancipation is still preserved in understanding-oriented communicative rationality (ibid., 266–282). As he argues, theorists such as Horkheimer and Adorno failed to recognize this communicative potential of reason as they still leaned on the outdated subject-centred paradigm of the "philosophy of consciousness" (Habermas 1981/1987, 380).

Modern urban planning is one of those disciplines that have been criticized for leaning on the narrow conception of technocratic reason, a form of reason that does not leave room for substantial questions concerning moral and aesthetic values and thus for the goals that planning serves in the end (Healey 1992). This, in turn, makes narrowly-conceived rational planning counterproductive when seen from the perspective of broader Habermasian rationality (Forester 1985). To help modern planning answer to these criticisms, the theorists of communicative planning, following Habermas, have prescriptively portrayed planning as a "communicative enterprise" that moves at the interface of the system and life-world, transmitting life-world perspectives to planning practice (Healey 1992, 152; 1997, 49–54; 2010, 55–57). They have argued that if planning processes were based on communicative rationality and public, deliberative processes, planning could be developed in emancipatory directions (Forester 1993; Healey 1992; 1997; Sager 1994).

Also Habermas himself has made a case for participatory urban planning, most notably in his speech *Modern and Postmodern Architecture*, also published as an essay in the 1980s (Habermas 1985a). In this essay he defends modern architecture as a part of the "modern project" but critically discusses the developmental lines of modern functionalist architecture and town planning, the disciplines that have ended up prioritizing such goals that have been functional from a "system-functional" point of view of economy and administration but not always from the point of view of the life-worlds of the inhabitants (ibid., 326). "When the guiding mechanisms of the market and the town administration function in such a way as to have dysfunctional consequences on the lives of those concerned […] then it only follows that the formative communication of the participants be allowed to compete with the media of money and power", Habermas (ibid., 328) maintains.

However, in the same essay he brings to the fore some specific problems included in the idea of participatory or communicative design and architecture. Some of these problems follow on from the fact that participation might burden the aesthetic realm with extra-aesthetic content, thus collapsing the boundaries between art and life, and interrupting the inherent artistic development logic of design (ibid.; cf. Habermas 1981/2001, 10–11). While on the one hand Habermas's own discussion of the theme of urban planning forms a case for the need of holistic argumentative assessment and criticism of urban planning and design, on the other hand his assessments imply a view that we should allow for the designs themselves – as the products of a relatively autonomous aesthetic cultural sphere – a communicative func-

tion, a function that seems partly to defy argumentative analysis (cf. Ingram 1991). Furthermore, while Habermas seems to recognize that non-verbally communicating designs can have communicatively rational roles when communities search for mutual understandings and define their identities, he does not deny the possibility that they may also have strategic roles in concealing underlying systemic processes and rationales in planning (Habermas 1985a, 328–329).

Habermas's position is ambiguous then, and explanations for this ambiguity can be found from several works where Habermas touches upon the themes of art and aesthetics (Habermas 1962/1991; 1972/1983; 1973/2007; 1981/2001; 1985b; 1985/1998). Even though these themes remain marginal for Habermas's philosophical project, and though his assessments of these themes do not form a consistent whole, they are of interest from the point of view of Habermasian planning theory, as well as that of the analysis and assessment of communication and decision-making within planning in practice.

In planning-theoretical discourse, Habermasian theories of communicative planning have been criticized for neglecting the non-argumentative and non-discursive dimensions of communication (Flyvbjerg & Richardson 2002). Moreover, even some of the proponents of Habermasian approach have eventually given up Habermasian approaches on the grounds that Habermas's view on communication is narrow and that he fails to do justice to the variety of modes of discourse that are in play in everyday planning communication (see e.g. Healey 1997, 54). Nonetheless, the debates around Habermas's writings on aesthetics indicate that even though he clearly prioritizes scientific-technical and moral-practical modes of reasoning, he still gives space to the specific modes of communication in the aesthetic value sphere, including the non-discursive modes of communication. Furthermore, in contrast to the critics' views, he acknowledges both the power dimensions and the emancipatory potential of non-argumentative and non-discursive forms of communication. These aspects enter Habermas's philosophy mainly through his assessments and reconstructions of the aesthetics of the first generation of critical theory.

3. CRITICAL THEORY AND THE SOCIETAL ROLES OF ART

The themes of aesthetics and art are already present in Habermas's early work, *The Structural Transformation of the Public Sphere* (1962/1991), wherein he analyses the rise and fall of the modern bourgeois public sphere from a historical point of view, paving way for his later philo-

sophical and normative analyses of the role of public deliberative practices in the steering of late-capitalist societies. Even though Habermas does not go into questions of philosophical aesthetics here, art and its reception as historical phenomena play an interesting role in his analysis. Habermas starts his portrayal of the role of art in the history of the bourgeois public sphere by highlighting the fact that the birth of bourgeois art became possible in the first place due to the emergence of liberal capitalism, as it liberated art from the patronisation of church or court and turned artworks into objects that could be sold at markets where they were accessible to all – at least in principle. Furthermore, he goes on to describe how works of art could, through markets, become centrepieces of public attention and work as catalysts not only for aesthetic debates but also for broader social and political discourses (Habermas 1962/1991, 36–37). In this way, the aesthetic or literary public sphere, with all the institutional and spatial structures that facilitated conversation on cultural products, formed a model case for a political public sphere that was to emerge later (Habermas 1962/1991; see also Duvenage 2003, 13–14). In Habermas's view, capitalism is thus not necessarily hostile to the intrinsic goals of the aesthetic value sphere, nor does it automatically nullify the potential of rational deliberation in public will formation and the steering of collective action. This being the case, Habermas's view deviates from the mainstream of the first generation critical theorists' pessimistic assessments of modern capitalist societies.

Nonetheless, *The Structural Transformation of the Public Sphere* has darker tones as well. In the latter half of the work Habermas discusses the decline of the public sphere, pointing out how the intertwined rationalities of economy and administration of late capitalist societies have eventually penetrated the processes of the production of art, as well as the discourses catalyzed by art, nullifying the dialogical and critical potential of art and putting it into the service of the manipulation of the masses (Habermas 1962/1991, 141–251; Duvenage 2003, 16–17). This line of development has been later followed by the general decay of the public sphere and the emergence of cultures of public decision-making within which interest groups negotiate with the state without the mediation of the public sphere – a culture typical of late-capitalist societies (Habermas 1962/1991). Habermas thus also recognizes the regressive societal tendencies in art and aesthetics, as for example Theodor Adorno, Max Horkheimer and Herbert Marcuse had done in warning the public about the "affirmative character" of art.

By the "affirmative character" of art and culture the first generation critical theorists referred to the harmony and beauty of bourgeois

works of art, the qualities that enable art to rise above the social antagonisms of the everyday world and create an illusion of happiness and the momentary experience of reconciliation, turning the attention of the public away from a bad reality (Marcuse 1968; see also Adorno & Horkheimer 1944/1979). In Theodor Adorno and Max Horkheimer's view this affirmativeness had reached its culmination point in the late-capitalist societies where art has largely been turned into a culture industry that makes shameless mockery of the ideals of bourgeois art (Adorno & Horkheimer 1944/1979, 126). They found examples of products of the culture industry especially from mechanically reproducible and collectively receivable forms of art such as film or popular music and also from the modern urban environment (ibid., 120). In their argument, the culture industry produces homogenous and uniform mass art, the sole purpose of which is to provide consolation to the masses through pleasure and amusement, and in this way to serve economic and administrative systems. Amusement, in Adorno and Horkheimer's words, can be "sought after as an escape from the mechanized work process, and to recruit strength to cope with it again" (ibid., 137). In this portrayal, the characteristic feature of mass art is that it impedes independent thinking and prescribes the ways in which the masses receive the products and react to them (ibid.). In Adorno and Horkheimer's view, the culture industry manufactures those needs, the fulfilment of which supports economic and administrative functions but suppresses the more genuine needs of human beings, especially those that might promote resistance to the systemic imperatives (Adorno & Horkheimer 1944/1979).

Nonetheless, Adorno especially recognized that there is also another side to the torn-apart modern culture. For him, autonomous modern art can, at least in principle, work negatively against the traditional bourgeois ideals of art in a way that includes genuine emancipatory potential. Even though autonomous art "holds fast to the promise of reconciliation in the midst of the un-reconciled", it does this "[t]hrough the irreconcilable renunciation of the semblance of reconciliation" (Adorno 1970/2004, 41). For Adorno, it was the most hermetic and incomprehensible works of autonomous art that have a specific capacity to bring about ruptures to a reifying and totalizing culture. Whereas all conceptual thought and communication seem to represent reification and oppressive identity-thinking for Adorno and Horkheimer (1944/1979), art, by contrast, was for Adorno the refuge for communicating "truth" in a way that does justice to the particular and the "non-identical" in late-capitalist culture and society (Adorno 1970/2004). From the perspective of Adorno's philosophy, autonomous

art can provide "a preview of a reconciled relationship among people, things and natural beings" (Wellmer 1991, 12) and more precisely "a negative image of a different collective future […] whose capacity to project what is possible stems from hidden layers of contemporary experience" (Zuidervaart 1997, 9).

Habermas has subscribed to many of the views of Marcuse, Adorno and Horkheimer in his writings from the 1970s – writings within which he began to develop the theme of aesthetics in connection with the emerging idea of communicative rationality. In *Legitimation Crisis* he describes how bourgeois, autonomous art that is freed from the imperatives of economic and administrative systems has become "the refuge for satisfaction, even if only virtual, of those needs that have become […] illegal in the material life-process of bourgeois society" (Habermas 1973/2007, 78). He continues: "I refer here to the desire for a mimetic relation to nature; the need for living together in solidarity outside the group egoism of the immediate family; the longing for happiness of a communicative experience exempt from imperatives of purposive rationality and giving scope to imagination as well as spontaneity" (ibid.).

Habermas maintains, however, that art can no longer be straightforwardly portrayed as a mere virtual refuge of suppressed needs – and hence as a part of affirmative culture – because certain paradigm shifts in 20th century art have actively turned art in the direction of subversive counterculture in bourgeois society (Habermas 1973/2007, 84–86). And yet art has not always succeeded as a counterforce in practice. He refers here on the one hand to surrealist art, one aim of which was to abolish the boundaries between art and everyday life, and in so doing to facilitate the emergence of more emancipatory everyday practices. But, as Habermas argues, the removal of boundaries may just as well be interpreted to have turned art into the direction of commercial mass culture (ibid., 85–86; see also Ingram 1991, 71). On the other hand, Habermas discusses esoteric formalist art – a type of art favoured by Adorno – stating that the emancipatory potential of formalist art is attenuated because it typically remains inaccessible to the masses (Habermas 1973/2007, 86; see also Ingram 1991, 74). In an essay dealing with the aesthetics of Adorno's older colleague, Walter Benjamin, Habermas questions Adorno's "defensive" strategy that locates the emancipatory potential of art in the contemplative solitary experiences of isolated subjects (Habermas 1972/1983, 142). From the Habermasian point of view, the paradigm of the "philosophy of consciousness" seems to limit Adorno's views of aesthetic reception, whereas Benjamin is able to recognize the progressive potential of novel kinds of collective aesthetic experiences that open up to the public sphere (Habermas

1972/1983; Duvenage 2003, 24). For Benjamin, unlike for Adorno and Horkheimer, popular forms of art or modern urban environments can be experienced in such ways that include emancipatory elements. In his analysis, these experiences are characterized by "concentrated distraction" rather than the focused and isolated contemplation highlighted by Adorno (Habermas 1985b, 201). Habermas seems, at least partly, to share the optimism of Benjamin regarding the potential of popular art and collective reception.

Habermas, however, still shares with Adorno the view of art as a realm for suppressed needs, as the citation from *Legitimation Crisis* above shows. Habermas elaborates this view in a more detailed manner in the essay *Moral Development and Ego Identity* from the early 1970s (Habermas 1974/1979; Boucher 2011, 68). In this essay he develops the idea of art as a medium through which human needs can be interpreted expressively and creatively so that "[i]n the medium of value forming and norm-forming communications into which aesthetic experiences enter, traditional cultural contents are no longer simply the stencils according to which needs are shaped; on the contrary, in this medium needs can seek and find adequate interpretations." (Habermas 1974/1979, 93; see also Boucher 2011, 68). This assessment is interesting, and may shed light on his later handling of the theme of aesthetics in *The Theory of Communicative Action* (1981/1984; 1981/1987), a work where Habermas articulates his idea of aesthetic rationality and aesthetic communication as a part of communicative rationality.

4. AESTHETIC RATIONALITY IN *THE THEORY OF COMMUNICATIVE ACTION*

In *The Theory of Communicative Action* (1981/1984; 1981/1987) Habermas develops his critique of the paradigm of "philosophy of consciousness" further and replaces it with his paradigm of communication – or his paradigm of understanding, as he calls it later (Habermas 1985/1998, 244–6). In this work, Habermas's focus is on language and in particular on the rationality inherent in language and communication. This rationality, in turn, makes it possible to coordinate collective action rationally. Habermas founds his ideas of communicative rationality and communicative action coordination with pragmatic theory of meaning, according to which "we understand a speech act when we know the kinds of reasons that a speaker could provide in order to convince a hearer that he is entitled in the given circumstances to claim validity for his utterance" (Habermas 1988/1998, 232). In further explicating

the process of reason giving, Habermas introduces a theory of different kinds of validity claims that we make implicitly or explicitly when we speak, claims that we are expected to vindicate if needed. There are, firstly, claims to empirical truth, secondly, claims to normative legitimacy and thirdly, claims to authenticity or sincerity (Habermas 1981/1984, 99). Corresponding to his classification of validity claims, Habermas distinguishes between the different world-relations involved in communication, which are the relations to the objective world, social world and the inner world of the subject (ibid., 100).

Habermas connects here aesthetics and art primarily over the issue of authentic self-expression and thus to the third category of validity claims. In this context he also discusses evaluative expressions that do not express "a merely private feeling or need" (Habermas 1981/1984, 16); they make a claim to intersubjective validity inside a certain cultural context. However, they do not make claims to universal validity, like expressions related to truth or normative validity do (ibid., 16, 20; see also Ingram 1991, 82). Yet, even though evaluative expressions do not "lay claim to be normatively binding" (Habermas 1981/1984, 16), Habermas does not deny the fact that they may provide important input on the discourses where the validity of norms is tested, qualifying thus as "candidates for embodiment in norms" (ibid., 89).

Although aesthetic and cultural values cannot be approached in cognitivist terms in the manner of truth claims or the claims of normative legitimacy, aesthetic issues as well as questions of "the good life" – questions that are separated from questions concerning valid norms or justice in Habermas's thought – can still be assessed rationally in Habermas's view. "We call a person rational who interprets the nature of his desires and feelings in the light of culturally established standards of value, but especially if he can adopt a reflective attitude to the very value standards through which desires and feelings are interpreted", Habermas (1981/1984, 20) maintains.

Aesthetic argumentation and criticism work in peculiar ways, however, and they typically also include non-discursive elements (Ingram 1991, 85). Habermas (1981/1984, 20, 40) describes how artworks themselves have a communicative role as they present a claim "to be an authentic representation" or "an instructive embodiment of exemplary experience". He also discusses art criticism as a mode of rational argumentation in the aesthetic value sphere, contending that in the case of criticism the role of arguments is to "open the eyes of participants" and "to lead them to an authenticating experience" (ibid., 20, 42). In Habermas's view, aesthetic argumentation proceeds circularly so that a work of art may – often through criticism that ideally enhances the

experience of the work – "promote the acceptance of precisely those standards according to which it stands as an authentic work" (ibid., 20).

As the commentators of Habermas's aesthetic thought have pointed out, *The Theory of Communicative Action* seems to narrow down the societal role of art and aesthetics when compared with *The Structural Transformation of the Public Sphere* or the other earlier works of Habermas (Duvenage 2003). As aesthetic issues come to be identified with the subjective domain of the authenticity of expression, they do not seem to have any direct role in collective action coordination. Nonetheless, as has been pointed out by Stephen White (1988, 32), Habermas does not completely reject Adorno's nor the poststructuralists' insistence on the role of aesthetic communication in weakening the effect of some types of action coordination.

Habermas himself broadens the role of aesthetics to again extend beyond the realm of authentic expression in some of his essays published after *The Theory of Communicative Action* (see especially Habermas 1981/2001; 1985b). In these essays he eventually withdraws from the view that the "truth potential" of art could be connected to just one of the three types of validity claims, that of authentic self-expression (Habermas 1985b, 202–203; see also 1981/2002, 12). When at issue is not production or professional criticism of art but aesthetic experience, Habermas argues that experience "no longer affects only our evaluative language or merely renews the interpretation of needs that color our perceptions; rather, it reaches into our cognitive interpretations and normative expectations and transforms the totality in which these moments are related to each other" (Habermas 1985b, 202).

Hence, for Habermas, art – or more precisely the experience of art – seems to have a role that transcends the limits of the artistic-aesthetic value sphere, mediating between the cognitive-scientific and moral value spheres. Yet it has been asked how exactly this mediation works and on what grounds Habermas separates between aesthetic production and criticism on the one hand and aesthetic experience on the other hand, stressing the autonomy of aesthetics in the realm of production and criticism while blurring the boundaries of the value spheres in the realm of experience (Boucher 2011; Duvenage 2003, 98, 117; Ingram 1991). As David Ingram (1991, 87) points out, this is problematic given that in *The Theory of Communicative Action* Habermas himself includes the element of experience in the process of argumentation and aesthetic criticism.

The overall architecture of the theory of communicative action thereby seems to prohibit Habermas from making the most out of his promising theory of aesthetic argumentation and criticism (cf. Duve-

nage 2003, 98; Ingram 1991). However, as Habermas's own discussions of architecture and urban design show, art can be fruitfully discussed and criticized by taking into account such meanings and dimensions of art that are not directly related to the authenticity of expression, while still holding to the idea of the primacy of aesthetic-expressive concerns.

Assuming that aesthetics of urban design can be discussed critically and meaningfully even when we take into account the various pragmatic points related to design and architecture, let us now move on to the case of Guggenheim Helsinki. In the following, I will explore how Habermas's assessments of the societal and communicative roles of aesthetics resonate with the ways in which the aesthetic dimensions of the Guggenheim project have been publicly discussed and, more importantly, I will explore the roles that aesthetic, non-discursive modes of communication have had in the discourse.

5. THE CASE OF GUGGENHEIM HELSINKI

The recent vivid public discourse around the initiative to build a Guggenheim museum of art in Helsinki shows, to start with, that the role that Habermas gives to art as a catalyst of broad social and political discourses in *The Structural Transformation of the Public Sphere* (1962/1991) is by no means outdated. The art museum project has created an extraordinarily intense public discourse that has not only covered the themes of art, architecture and urban planning but also, more broadly, the issues of justification of urban development policies and the roles of public and private institutions in the Finnish post-welfare state (see e.g. Kastemaa 2014; Linko 2014; Melgin 2015; Taipale [ed.] 2012). The multifaceted nature of the discourse can be partly explained by the fact that architectural and planning projects always also include dimensions other than aesthetics, and the Guggenheim project, in particular, has involved pragmatic problems related to the demand for public financing of the project. Still, the strong aesthetic orientation of the project may at least partly explain why the project has attracted so much public attention and given rise to such a rich and all-encompassing public discourse in Helsinki.

While the verbal arguments presented for and against the project in Finnish and international media have already been studied quite thoroughly (Linko 2014; Melgin 2015), the use of architectural designs – mainly Guggenheim design competition entries – has so far attracted relatively little attention. The case of Guggenheim Helsinki shows that architectural designs are efficient strategic means in planning debates,

but it also shows that people are increasingly conscious of the possibilities of the strategic uses of aesthetic communication and can be quite suspicious of aestheticized projects in an urban space. However, the public also still seems to recognize the socially progressive potential of art and aesthetics, potential that is related to, for example, the Habermasian idea of the contribution of aesthetic objects and practises to processes of cultural need interpretation. The continuing relevance of this idea is indicated by the fact that aesthetic and artistic projects, such as the Guggenheim museum, have created expectations of the possibilities to collectively imagine alternative futures and discuss collective identities in a society increasingly dominated by economic values and administrative efficiency.

The Guggenheim Helsinki debate began in 2011 when the city of Helsinki and the Solomon R. Guggenheim Foundation publicly announced that they would jointly explore the possibility of building a new art museum in Helsinki. Given that the "Bilbao effect" – a term referring to the positive impacts that a Guggenheim museum had for the local economy and cultural revitalization in Bilbao (see e.g. Plaza 2007) – was well known all over the western world, the city of Helsinki was ready to follow the Guggenheim Foundation's suggestion and pay two million euros to a group of American consultancy companies for the *Concept and Development Study for a Guggenheim Helsinki* (The Guggenheim Foundation 2012). The publication of the report in 2012 created public controversy (Melgin 2015). The concept study promoted the building of a museum that would be financed by the City of Helsinki but the Guggenheim Foundation would have vast decision-making powers concerning the operation of the museum. In addition to the costs of building the museum – estimated to be over 100 million euros – Helsinki was suggested to take the responsibility for the maintenance of the building (The Guggenheim Foundation 2012). The foundation required that the City of Helsinki make a decision quickly. In so doing the foundation leaned strongly on the logic of the market, leaving the City of Helsinki, as well as the public, with the impression that if Helsinki does not "buy" the project they will lose the opportunity to some other city (Linko 2014, 42). Seen from the point of view of communicative rationality or communicative planning, the tight schedule would have meant that there was little or no possibility for public debate over the issue.

It is not untypical in Finland for the public and private sector to negotiate deals that bypass possible inputs from the public sphere. This time, however, the public reacted to the exclusive nature of the process, and both the process of decision-making and the substance of the

project were regarded as highly controversial. The disputes concerning the project touched upon different value spheres, but the prevailing discourse was about economic impacts of the project (Linko 2014) – a fact that indicates that the Habermasian "system" is strongly present in the aesthetic or artistic spheres today. What is interesting is that even though the art museum project could be expected to be predominately about aesthetic values, the Guggenheim Foundation seemed to especially highlight the positive economic impacts that the project would have for Helsinki. It is revealing that *The Economist* (2015) for instance published a review of the Guggenheim Helsinki project particularly criticizing the foundation for promoting an art project that paradoxically lacks an aesthetic rationale. Nonetheless, it can be argued that the Guggenheim Foundation only spoke the language that was best understood by the other half of "the system" involved in the project – that is, the political-administrative machinery of the City of Helsinki (cf. Linko 2014, 46–47). Furthermore, during the process, the public also became increasingly interested in the economic aspects of the project (Melgin 2015).

Seen against this background, it is not surprising that the representatives of the art world in Helsinki have been predominately critical of the Guggenheim project, notwithstanding the few influential and committed proponents of the project, such as the former director of Helsinki Art Museum, Janne Gallen-Kallela-Sirén (Linko 2014). The representatives of the art world in Helsinki have generally wished to introduce communicative rationality, life-world perspectives and concerns about aesthetic and artistic value to a debate dominated by systems logic (see e.g. Taipale [ed.] 2012). Although it has been acknowledged in the art world that private money and the involvement of the private sector in general does not necessarily need to influence the quality of art and that private involvement may even well be the *sine qua non* for art in capitalist society, many representatives of the art world have promoted the view that in the case of Guggenheim Helsinki the presence of private money is so pervasive that it is likely to corrupt the substance of art (see e.g. Kantokorpi 2014; Taipale [ed.] 2012). As Finnish journalist Saska Saarikoski (2012) pointed out in *The Guardian*, the representatives of the Finnish art world succeeded in questioning the artistic value of the Guggenheim project in the public debate, for instance by rhetorically labelling the Guggenheim as "'ArtDonald's that […] would spread the western fast art and rip off poor, local artists". Kaarin Taipale, an architect, urban scholar and member of the City Council of Helsinki, edited a pamphlet directed against the Guggenheim project and in its preface described the Guggenheim project as being essentially about

producing "art for those who do not truly appreciate art and architecture for those who are not that into architecture" (Taipale [ed.] 2012, 9). In so arguing, Taipale was suspicious perhaps not so much of the quality of the Guggenheim art collection but more of the effect that an international museum chain would have on the reception of art and architecture. But the question remains about whether the effect brought about by a brand museum is that serious involvement in artistic and aesthetic phenomena would be replaced by distracted reception and mass consumption (as Adorno feared) or whether making art accessible for the masses increases the possibility that more people will be enlightened by art and that artistic phenomena will be increasingly critically discussed in the public sphere (as Habermas would at least hope – though for sure being at the same time concerned with the penetration of economic imperatives into the artistic domain).

However, the representatives of the art world in Helsinki have not been speaking only on behalf of serious art enthusiasts and for "difficult art", and juxtaposing them with the masses and "fast art". By contrast, they have questioned such policies that would support investing art money on a megaproject in the city centre, which is the most accessible location for the tourists and art elites – whereas the common people of Helsinki would benefit from the traditional leftist and welfarist cultural policy of Helsinki, a policy that supports directing money to smaller local cultural institutions and projects in various local neighbourhoods (Saarikoski 2012). Both the citizens and the administration have traditionally regarded these kinds of local projects as an important part of the identity building of local communities in Helsinki (Cantell, Linko & Silvanto 2005; Linko 2014, 49). Economic profit seeking has not been the prevailing rationale in the traditional cultural policy of Helsinki (Saarikoski 2012). Yet it can be argued that if the expectations concerning the returns from the Guggenheim project are correct, there is no reason why the museum project would not also help the city to develop cultural institutions in neighbourhoods all around the city.

Be that as it may, after the intense discussion carried out in the public sphere, the City Board of Helsinki rejected the museum project in May 2012. The Guggenheim Foundation did not bury the plan for the museum however, nor did the Finnish proponents of the project. The foundation got prepared for the second round of the Guggenheim debate by hiring a private consultancy company to take care of the public affairs and media relations – communication with the public having been the part of the project that had clearly gone wrong in the first round (Linko 2014, 50; Melgin 2015). This move was critically discussed in the media. The foundation was accused of lobbying its interests and

the Finnish media was not at all convinced that the foundation wished to get involved in anything reminiscent of a Habermasian search for mutual understanding (cf. Melgin 2015). Furthermore, the foundation also made a decision to organize a costly high-profile architectural competition for the museum project, even though it was highly unclear whether the project would ever be accepted by the City of Helsinki. The city had nonetheless preliminarily reserved for the project a waterfront site located at the South Harbour, so the competition could be carried out. The competition then brought about an aesthetic turn in the discourse, adding a completely new level to the foundation's communication strategy (cf. Melgin 2015).

Although the suggested location of the project is in a harbour area, the South Harbour does not compare to the location of Bilbao's Guggenheim. The South Harbour is located in Helsinki city centre and it is still mainly in the use of cruise ships and passenger terminals. It is not a declined former harbour or industrial area in urgent need of regeneration (Kervanto Nevanlinna 2014, 14–15; Linko 2014, 33). The site of the project, located in the immediacy of the old Empire-style centre of Helsinki, clearly influenced the contents of the call of the Guggenheim competition. Even though "innovation" and "creative design" were sought for in the call, the specific qualities of the location and Finnish culture were emphasized (Malcom Reading Consultants 2014, 15). Furthermore, since it was by that time all too well known that the site is highly meaningful for many stakeholders in Helsinki, it was stressed that "Nordic ideals, including openness and accessibility" should be respected (ibid.).

It was not self-evident that the use of an international, high-profile competition would be a strategically efficient way to proceed with the promotion of the project, given that right from the start the critics coming from the Finnish art scene had been very critical of the architecture-led approach and the potentially placeless signature architecture that typically results from competitions such as the one of the Guggenheim Foundation. The critics had already warned the public not to be blinded by the appearance of "wow architecture", appearances that may draw our attention away from the functional concerns or socio-economic problems involved in the project (cf. Taipale 2012, 45–48). On the other hand, the critics also doubted whether the public would any longer be impressed by monumental signature museums, since the whole genre might be outworn by now (Kantokorpi 2014). If this is the case, then there is no need to worry about the affirmativeness of artwork-like architectural designs. This would probably be a plausible argument for Benjamin and maybe even Habermas, who have maintained that in the

changes in aesthetic reception not only architecture and design but also all the other forms of art have by now lost their "auratic" nature – and at the same time the affirmativeness – typical of traditional bourgeois art (Benjamin 2008, 23–24; Habermas 1972/1983, 132). Nonetheless, the competition brief did not call for "wow architecture" but encouraged the participants to come up with solutions representing a completely new kind of museum architecture.

By the deadline in September 2014 the competition eventually attracted 1715 entries from all over the world. The entries were vividly discussed in the media both in Finland and internationally. The foundation – through the consultancy company it had hired for communications – was now very active in making people familiar with the different design proposals and promoting discourse concerning the public role of art and architecture, and architectural competitions, whereas during the first round of the debate the representatives of the foundation had been seemingly uncomfortable with the vivid public discourse around the project (Melgin 2015).

Meanwhile, an independent art organization, *Checkpoint Helsinki*, decided to take part in the public debate by using the same kinds of artistic-architectural means as the Guggenheim Foundation. With some partner organizations, it launched an alternative competition – called *The Next Helsinki* – for the design of the site in the South Harbour. Michael Sorkin, the chairman of the jury of *The Next Helsinki*, describes this project as "a righteous cry against […] high-Starbucks cultural imperialism" and as an attempt "to defend a different vision of the artistic genius loci, the idea that government arts spending should reinforce a more sophisticated − or perhaps primitive − idea of locality: the support of rooted production" (Sorkin 2015).

Seen from the Habermasian perspective, *Checkpoint Helsinki* and its partners could of course be criticized at the outset for surrendering to the same systems-logic as the Guggenheim Foundation, one that had made architects compete with each other in the hope of monetary rewards instead of promoting more collective forms of searching for shared visions. The representatives of *Checkpoint Helsinki* have acknowledged this fact and highlighted that they chose to use the term "competition" only to critically comment the Guggenheim competition, while their intention was not to juxtapose the entries with each other, nor to reward the most interesting entries with money (Sorkin 2015). The idea of the organizers of *The Next Helsinki* has rather been to foster public debate and to encourage people to use a variety of media, such as architecture, design, poetry or research, to come up with alternative visions for the future of Helsinki and the South Harbour, visions that

would "grow from the specifics of the local scene and from the needs of contemporary art practices" (*The Next Helsinki* 2014). In other words, the organizers of *The Next Helsinki* wished to indicate that there is still an emancipatory potential in art, urban design and architecture but that realizing this potential requires that the logic of economic systems does not penetrate the core of aesthetic-expressive and communicative processes.

Guggenheim Helsinki debate – The trigger events:

- January 2011: The Guggenheim Foundation and the City of Helsinki publish their plan to study the possibilities for building a new Guggenheim museum in Helsinki.
- January 2012: The publication of the concept study that outlined the costs of the City of Helsinki creates public controversy.
- May 2012: The City Board of Helsinki rejects the proposal.
- May 2013: The Guggenheim Foundation publicly announces that it is still working on the project. The foundation hires a consultancy company to take care of public relations.
- June 2014: The foundation launches a competition for the museum's design.
- September 2014: Opponents launch an alternative competition: "The Next Helsinki".
- April 2015: The Guggenheim Foundation organizes a public exhibition of the finalist designs.
- April 2015: "The Next Helsinki" jury announces the shortlist of the most interesting entries.
- June 2015: The Guggenheim jury announces the winner: "Art in the City".

Checkpoint Helsinki also encountered some criticism, mainly for fostering anti-American, nationalist attitudes (see e.g. Kantokorpi 2014, 15; Taipale 2012, 29–33). There are surely philosophers who would argue that aesthetic values should ideally exceed cultural contexts, though those concerned with the aesthetics of architecture typically do not argue so. From the perspective of Habermasian aesthetics, these criticisms can be refuted by arguing that the aesthetic search for authentic identities is always culture specific and that this is one of the reasons why aesthetic arguments do not have the same kind of position in the steering of our collective action as moral norms do. And yet Habermas would admit that our ability to come up with mature moral points of

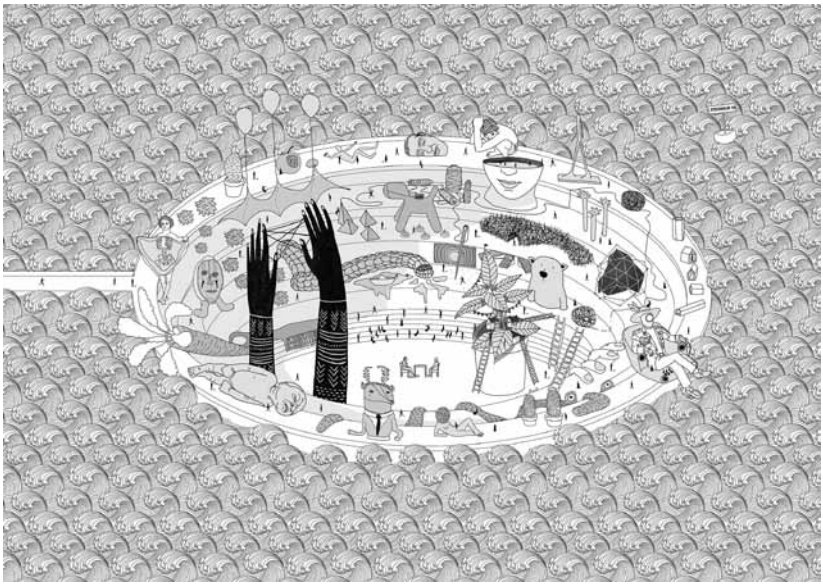

Figure 1: *The Next Helsinki* competition entries were rich in visual expression. Helsinki Iňač is one of the shortlisted proposals in the competition. The proposal by Tomáš Boroš – with the consultancy of Juraj Koban – presents various ways to bring art closer to the everyday lives of the people in Helsinki. One part of the proposal is a floating island, an ark for local art. Author: Tomáš Boroš with Juraj Koban. Source: *The Next Helsinki*.

view requires that we actively reflect on prevalent context-dependent aesthetic and cultural values (Boucher 2011). The issue of nationalism has been explosive in the Guggenheim debate because in Finland – just as in many other European countries – the nationalist-minded parties have recently got a firmer foothold in political decision-making. Artistic fronts have kept a distance from this form of nationalism and also in all other ways limited their insistence on rootedness and localism in the aesthetic domain, refusing to broaden this argument to the problematic of just and fair city development – the problematic that is surely also highly relevant in the Guggenheim case (see e.g. Taipale 2012, 30, 43).

As *Checkpoint Helsinki* also managed to attract a lot of public attention and stimulate debates, it is not surprising that *The Next Helsinki* got over 200 entries from 37 different countries. The international jury did not announce a single winner but shortlisted eight most plausible visions in April 2015. The jury reported that it was "most excited about entries that suggested building on existing resources, and that were trying to capture emergent urban trends and tendencies in the city" (*The Next Helsinki* 2015).

The winner of the Guggenheim competition, in turn, was announced in June 2015. Contrary to the fears of the representatives of Checkpoint Helsinki and many other opponents of the project, the winning proposal did not belong to the genre of international signature architecture or "wow architecture". The winning entry was a proposal called Art in the City, a design by a Paris-based office Moreau Kusunoki Architectes established in 2011 and run by a young French-Japanese couple. Art in the City was based on a collection of modest wooden pavilions, one of which rises higher than the other pavilions as a "lighthouse" that can be seen out to sea. The winning proposal makes much of the public urban spaces left in between the pavilions.

The jury, chaired by Mark Wigley, praised the winning entry for being "deeply respectful of the site and setting, creating a fragmented, non-hierarchical, horizontal campus of linked pavilions where art and society could meet […]". Furthermore, the jury described the winning design as being "imbued with a sense of community and animation that matched the ambitions of the brief to honor both the people of Finland, and the creation of the museum of the future" (The Guggenheim Helsinki Jury 2015).

While architecture critics have generally shown understanding towards the jury's tendency to avoid selecting anything reminiscent of Frank Gehry's sculpture-like Bilbao museum as a winner, it was asked in a review published in *The Economist* (2015) whether the current prejudices towards "self-conscious" and "flamboyant" star architecture had prohibited architects from bringing to the fore any novel aspects of the identity of Helsinki. Although there seemed to be nothing wrong with the design, it was argued to "lack spark" and the reviewer wondered how it is possible that the jury did not find anything more exciting from the 1715 competition entries (ibid.). Hence, after the competition architecture enthusiasts may now ask whether the suspicions concerning the "dark side" and power dimensions of aesthetics left us in this case with an architectural design that does not aim at hiding the socio-political and economic aspects of the project behind a veil of extravagant design but that also never fully realizes the expressive and progressive potential of aesthetics. This brings us back to Habermas's fear that opening artistic activities directly to public participation and collapsing expert cultures such as architecture directly into the life-world might compromise the progressive potential of art and architecture and, in the worst case, lead to the replacement of aesthetic values by purely pragmatic concerns (cf. Habermas 1985a; 1981/2001, 10–11).At the time of writing this, it is still unclear whether the winning design will ever be implemented. The Guggenheim Foundation is currently

Figure 2: *Art in the City*, the winning entry in the Guggenheim Helsinki competition, is a village-like constellation of pavilions, one of which rises above others representing a light-house. Notwithstanding the lighthouse, the proposal does not appear as a landmark or signature building. Copyright: Moreau Kusunoki / ArteFactoryLab.
Source: Guggenheim Foundation.

seeking private donors to reduce the costs to the public sector. Hence, the success of the project may be dependent on economic rationales in the end, and aesthetic arguments, such as the design proposals, may end up being a marginal side theme in the decision-making process. Yet, Finnish media scholar Elina Melgin (2015) has recently underlined the role of design proposals in the Guggenheim debate's latest phases and perhaps even future turn of events, arguing that the public now seems to be more sympathetic to the project than it used to be before the competition. She has also interestingly brought to the fore the power of designs as aesthetic illusions in pointing out that, after having seen the cavalcade of design proposals in the printed and electronic media time and time again, at least the part of the public that has not actively kept track of the phases of decision-making on the project now seems to view the project as somehow more real and likely to materialize than before (ibid.).

Vesa Sirén, an active commentator of the Guggenheim case and an architectural and cultural critic in the *Helsingin Sanomat* newspaper, brought to the fore another kind of aspect of the illusionary nature

of design proposals, even before the Guggenheim competition was launched. In his article, Sirén (2013) advises us to look at the proposals precisely as illusionary dreams or visions, as relatively autonomous works of art that do not necessarily need to have anything to do with the reality of planning solutions that we eventually end up implementing. He emphasizes the potentially great cultural value of grand architectural dreams and visions that typically result from high-profile competitions like Guggenheim Helsinki. Yet he adds that it might still be a blessing that most of these visions never come to be realized (ibid.). From Sirén's article one could derive a view that we should utilize architectural competitions – in this case both the Guggenheim competition and *The Next Helsinki* competition – as vehicles for exploring and coming to know our needs and identities, as well as place identities, but carefully select what we want to bring with us from the art world into the reality of planning, a reality within which different value spheres intertwine with each other and often also compete with each other.

6. CONCLUSIONS

The public debate around Guggenheim Helsinki shows that the demand for more communicative planning and administrative practices is still urgent in Helsinki, although the administration of the City of Helsinki has been adapting to the increased demands of public involvement for some decades already. In light of the Guggenheim debate, it can be argued that the critics of communicative planning theory are right in criticizing the theory for not providing enough tools to develop and analyze planning discourses, discourses that are typically not based on rational arguments but that are often dominated by rhetoric or even non-discursive elements. On the "dark side" of planning and development projects, plans may be sold to the public by impressive designs that prohibit the public from seeing the strategic intentions behind the designs – just as one might interpret to be currently happening in the case of the Guggenheim competition. However, as I have contended in this paper, the design dimension of planning still has a brighter side as well. Following a Habermasian portrayal of the history of the modern public sphere and the discourse-catalyzing role of artworks within it, design proposals – as aesthetic objects – can be argued to have the capability to trigger multifaceted and intense public debates on matters of our common interest. Artistic activities and projects also seem to have the capability to invite us to collectively explore our authentic needs and identities. The Guggenheim debate in Helsinki is indicative of this.

While Habermasian planning theory has not so far directed much attention to the role and nature of the design dimension of planning and power aspects in the aesthetics of urban environment, Habermas's own fragmentary assessments of aesthetics and architecture shed some light on this issue. Following Habermasian insights, it can be concluded that aesthetics and arts do not *per se* serve affirmative agendas, nor are they connected with strategic purposes. However, what should count in the analysis of such power dimensions of design and aesthetics is the way in which the economic values and administrative efficiency have penetrated the production, reception and discussion of artistic and aesthetic objects and values.

Nonetheless, Habermas's theory does not define to what extent we should allow the presence of system-world rationalities in the artistic sphere or in the sphere of the life-world if we wish to prevent the system from blocking the potential of communicative rationality and artistic expression. This needs to be discussed case-by-case, just like the Guggenheim case has been recently discussed. While for an American privately-funded foundation private influence surely does not seem to block the emancipatory potential of art and architecture, most of the Finnish commentators in the Guggenheim discourse do not seem to share this view. For most Finns the strong involvement of the public sector in the art world seems still to guarantee the progressive potential of art and architectural design, even though the public sector represents systemic rationalities in the Habermasian scheme, just as private economic actors do.

When it comes to the final decision concerning the involvement of the City of Helsinki in the Guggenheim museum project, it will most probably be the economic impacts of the project that will count the most. Although the economic aspects are undoubtedly important, the most rational solution in the case of Guggenheim Helsinki is not necessarily the one that is likely to produce the biggest returns to the public purse. This being the case, hopefully the various ways in which cultural concerns have been expressed during the process will also have some bearing on the decision-making process.

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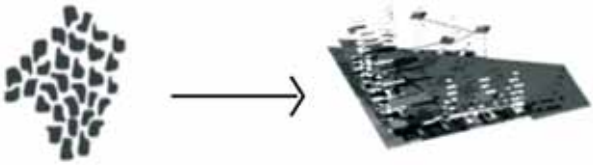
Toward a New Image of High Density: A Review of the "Linkage" Concept of the Metabolist Architects

Nazli Amin Farzaneh

ABSTRACT

An undeniable reality of today's world is its progress toward high density living. While this may offer the illusion of progress, cities seem to have a tendency to forget the social and spiritual aspect of human nature, and in cooperation with technology they tend to transform people into neutral creatures that see nothing through their digital screens.

The following research tries to define a new concept of spatial organization in high-density, large-scale projects by reviewing the concept of "group form" as first proposed in 1960 by Fumihiko Maki and Masato Otaka – as part of the manifesto *Metabolism: The Proposals for New Urbanism* – as well as to define a frame tree structure with a sequential penetration of open public space, following a hierarchy of privacy, and which can be inserted into base plans. This structure also offers the possibility of self-improvement and development in regard to our future needs.



Reinterpretation of the concept of "group form".

By capturing the potential of high-density living, this concept extrudes the experience of space of horizontal cities into the vertical direction, and develops a structure that responds to future needs, considering social interaction as an essential feature of future cities.

Keywords: high density, social interaction, spatial organization, group form, linkage.

1. INTRODUCTION

When referring to future cities, usually the first image that comes to mind is a high-tech image in which natural colours gradually fade, to be replaced by digital colours – a positive image, the negative impact of which we tend to forget. The question is whether we are able to feel the lack of vivacity in this image.

The following research highlights the problem of the loss of vivacity in dense vertical neighbourhoods, the outcome of a reduction in social interactions, when compared to low density neighbourhoods. Further, in reviewing ideas of the modern age, the research tries to define a strategy for multi-scale planning that simulates a landscape for social interactions in vertical neighbourhoods.

2. SOCIAL INTERACTIONS & COLLECTIVE CONSCIOUSNESS

> *The most striking characteristic of Homo sapiens is our sociality. Social relationships pervade every aspect of human life, and these relationships are far more extensive, complex, and diverse (within and across societies) than other species. And for survival and reproduction, we are far more dependent on our social relationships and cultures than other animals.* (Alan Fiske)

There has been an ongoing debate, most of which began in North America, showing that the augmentation of social isolation is a negative impact of new technology, social networking and workaholism. This can be seen in cities in the form of social dissociation among people living in the same neighbourhood, usually caused by the lack of social interactions.

2.1. The effect of social interaction on the sense of space in the neighbourhood

The two schemas shown in Figure 1 compare the sense of space in horizontal and vertical neighbourhoods in regard to the possibilities of interaction.

In schema A, showing a horizontal neighbourhood, the fragmentation of different functions multiplies the possibility of interaction, and instead of offering a simple system of access it creates an active promenade for attracting people, something which is not the case in typical vertical neighbourhoods. In schema B, showing a vertical neigh-

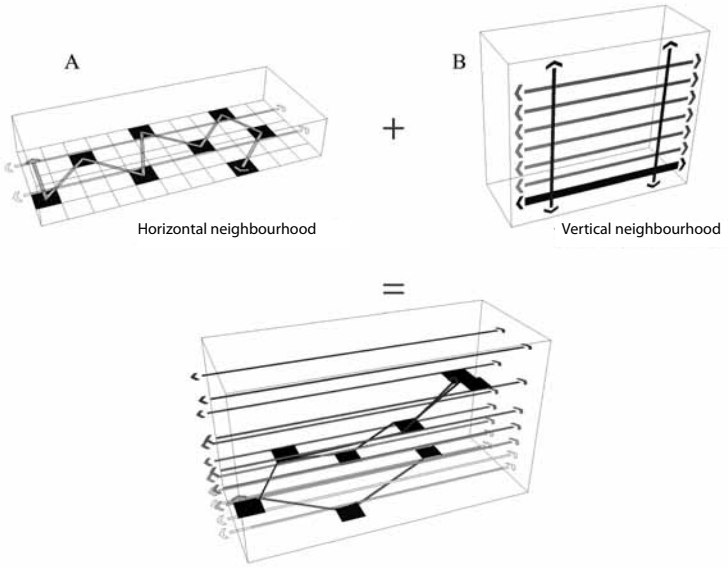


Figure 1. Horizontal neighbourhood vs. vertical neighbourhood and their combination

bourhood, the concentration of public functions in a determined zone and the separation of vertical and horizontal access minimizes the possibility of interaction.

By superimposing these two schemas upon each other, the experience of the horizontal neighbourhood can be extruded in the vertical direction. The result is an ensemble of connected public functions in different levels, penetrated in the base program, which creates a fluid landscape and becomes a scene for human interaction and possible life scenarios.

Therefore, a simulated landscape is required to replace the common system of access in vertical neighbourhoods and thus become a scene for possible interactions.

The idea of a fluid landscape that connects detached elements was first proposed as a "linkage" by the Metabolist architect Fumihiko Maki in his 1964 essay *Investigations in Collective Form*.

3. A REVIEW OF THE METABOLIST MOVEMENT

As the problem of vertical cities took shape, the Metabolist movement in Japan was one of the very first to put forward theories responding

to it. It was a post-war movement, based on Marxist and Futurist philosophies as well as theories previously proposed by Le Corbusier. The theories associated with the movement were first presented by Kenzo Tange and the famous manifesto was published in connection with the World Design Conference in Tokyo in 1960.

> *'Metabolism' is the name of the group, in which each member proposes further designs of our coming world through his concrete designs and illustrations. We regard human society as a vital process – a continuous development from atom to nebula. The reason why we use such a biological word, metabolism, is that we believe design and technology should be a denotation of human society. We are not going to accept metabolism as a natural process, but try to encourage active metabolic development of our society through our proposals.* (*Metabolism: The Proposals for New Urbanism*, 1960)

The manifesto comprises four parts: "Ocean City" by Kiyonori Kikutake, "Space City" by Kisho Kurokawa, "Material and Man" by Noboru Kawazoe, and "Toward Group Form" by Masato Otaka and Fumihiko Maki.

3.1. Group Form and Linkage

"Group Form" was one of the three strategies of organizations introduced by Maki in his essay *Collective Form*. In this organization strategy, the detached elements were connected by "linkage." As Jennifer Taylor has put it, "Maki's group form provides for an overriding cohesive 'bigness' consisting of loose parts tied by revealing cues of relationships, providing a sensed, rather than a material, order." In the essay, Maki himself defines linkage as "the glue of the city."

> *Linkage is simply the glue of the city. It is the act by which we unite all layers of activity and the resulting physical form in the city. As far as Linkage is successful, the city is a recognizable humanly understandable entity. We are not at home with it. We depend on understanding how two events within a city are combined to make a living sequence, and we depend on understanding how men have lived in the city we inhibit, and we depend on understanding how we can get from place to place in the city. Each at its level contributes to our ability to know and enjoy experience social, temporal, and spatial linkage.* (Fumihiko Maki)

Maki defines four types of linkage: mediate, define, repeat and make a sequential path (Figure 2).

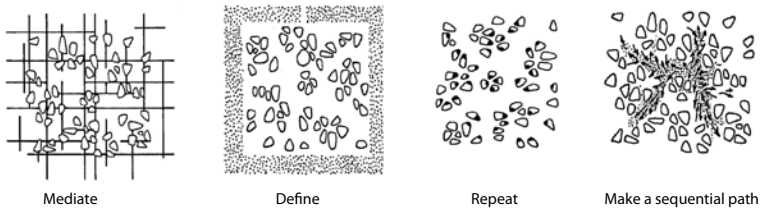


Figure 2. Maki's four types of linkage.

The concept of linkage has an inherent potential and can act as a landscape, simultaneously offering access to detached units as it increases the possibility of interaction. Therefore, it can simulate a cardiovascular system, pumping life into a master program. As Masataka Ogawa wrote in 1973, "Fumihiko Maki 's philosophy enables both the city and architecture to share a common, flowing life."

4. A REINTERPRETATION OF THE CONCEPT OF LINKAGE

The hidden potential in each unit in the group form can be determined through its function and number of users. To sketch this hidden potential, and with inspiration from the electron cloud model, each unit is represented as a nucleus, and the inherent potential (i.e. possibility of existence of users) is determined as a circular zone (cloud). The dimension of this cloud depends on the number of users and its function; the more active the unit, the larger the cloud will become. This zone, or "Bubble of influence," is under the direct influence of the central unit (Figure 3).

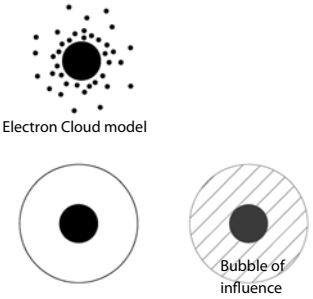


Figure 3. Cloud model inspired by the electron cloud model.

Here I reinterpret Maki's schema of Group Form via this new concept. Each detached element is replaced by a cloud model. The superimposition of clouds highlights a zone with a high inherent potential (Figure 4). This zone (in the form of a frame tree structure) creates a visible linkage between the elements and acts as an active and open/closed space with a sequential penetration from public to private. Moreover, it defines a vital access, as seen previously in horizontal cities, rather than a rational system of vertical buildings (a mixture of ramps, stairs and terraces form levels, instead of the system of stairs and elevators). It also includes the advantages of two concepts of linkage: *mediate* and *making sequential path*.

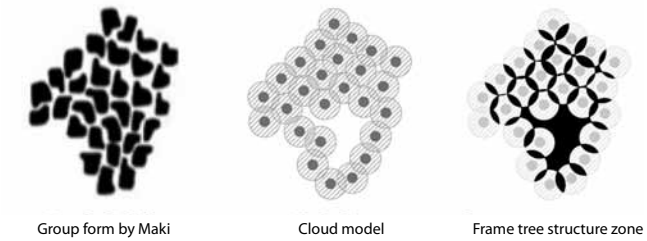


Figure 4. Replacing units in Fumihiko Maki's Group Form schema by cloud models.

5. APPLICATION OF LINKAGE IN AN URBAN PROPOSAL AND A NEW STRATEGY FOR SPACE ORGANIZATION

The following example shows how the reinterpreted concept of linkage is applied in an urban project for a housing ensemble, Cité du Harve, in Montreal, Canada.

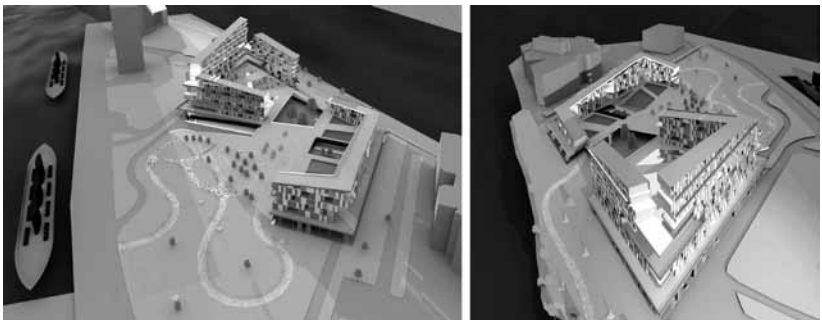


Figure 5. A proposal for a housing ensemble, Cité du Harve, Montreal.

The site is located near the buildings of Habitat 67, designed by Moshe Safdie, which was part of Montreal's Expo 67, and two new housing ensembles. The neighbourhood's major problem is a lack of vivacity due to demographic reasons and the complexity of access.

5.1. Linkage in space organization

To apply this concept, a base layer is defined, consisting of all functions in the program as well as all spaces in the plan and elevation. Later, the layer of linkage and a hierarchical frame tree structure landscape are superimposed.

5.1.1. Base layer

The base layer is defined by a codification system. This system simplifies the management of the program and space in large scales and predicts construction facilities (Figure 6). In the plan, each letter represents a basic space in a residential unit: balcony garden (T), living area (V), service core (kitchen, bathroom) (S) and bedrooms (C).

In the elevation, each basic space is codified in regard to the percentage of transparency, which depends on the level of privacy of each space: a completely transparent living room, half-transparent room and low-transparent service area, etc.

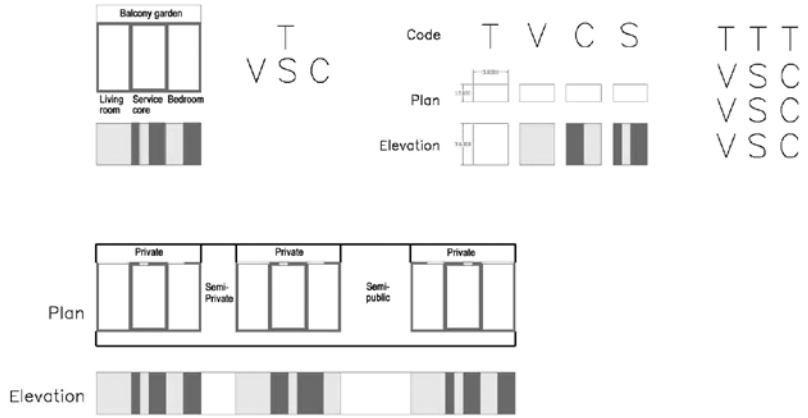


Figure 6. Codification of basic spaces in plan and elevation of a residential unit.

Different possibilities in the composition of spaces in the plan (regarding the number of rooms and different typologies) are examined, and the results (plan typologies) are placed at different levels (Figure 7). The final organization respects a gradual variation in the area of linkage regarding the number of residents and their demography.

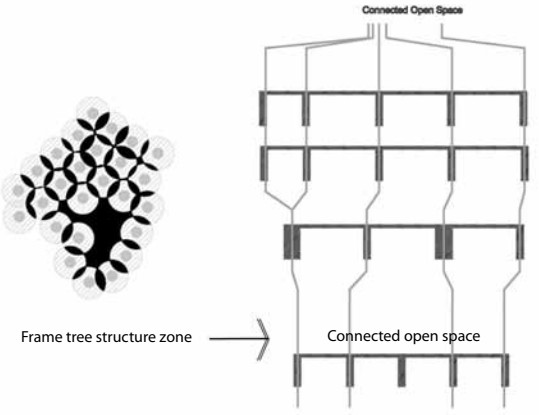


Figure 7. Base layer

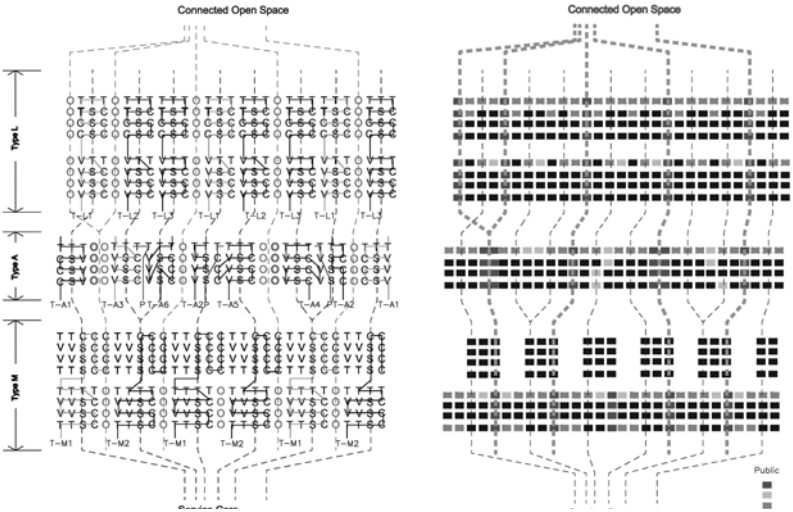


Figure 8. Codified plan typologies (left) and linkage (right) through the cloud model.

5.1.2. Linkage layer

The layer of linkage is defined through the intersections of clouds of each unit (Figure 7). This layer is a combination of collective spaces, connected with a hierarchical open space following a sequence of privacy. Once the system of codification is extended vertically, the linkage layer (semi-private spaces and the connected mini-parks) are superimposed on each other (Figure 8).

The linkage layer acts as a connecting material/space/program for linking detached units. It also offers a second possibility of access, which encourages residents to use it in that it simulates the vivacity of horizontal neighbourhoods and extends it in the vertical direction.

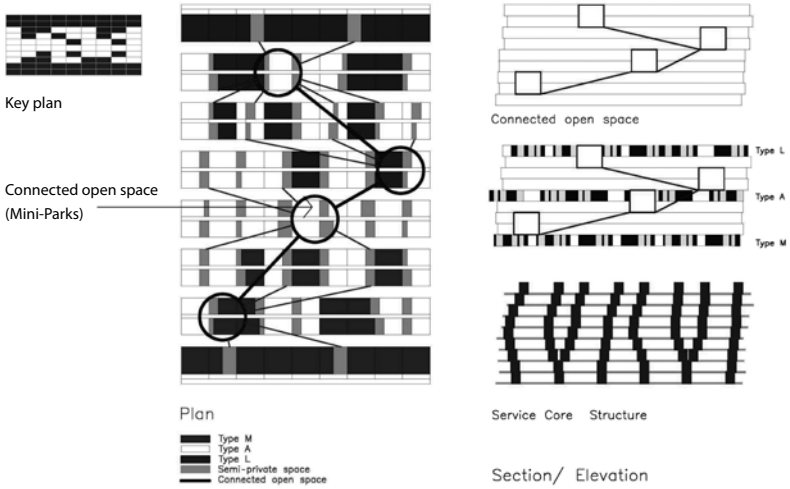


Figure 9. Left: superimposition of linkage layer on base plan. Right: elevation and construction system.

In Figure 8 each colour represents a residential typology. The key plan shows the penetration of typologies to ensure diversity and to prevent monotonicity. For each two to three units, an open space has been predicted (space for a barbecue, vegetable garden, and play yard).

A series of connected mini-parks with multiple-level heights, to provide a better penetration of light, are also predicted to act as small parks within the neighbourhoods.

Figure 9 shows the project's final layer of linkage. The sequential penetration of green space, landscape fluidity and multiple possibilities of access are visible in this schema.

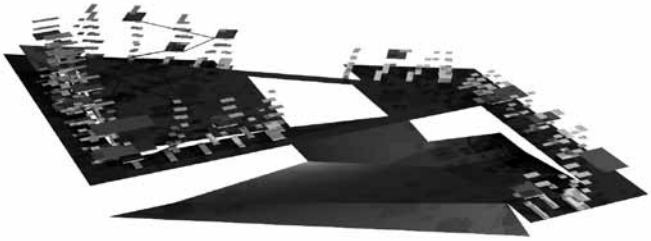


Figure 10. Layer of linkage, connected open space.

This system can be expanded on a larger scale within the city to define a codified land-use plan and to simplify the management of future developments. The superimposition of zones of influence creates the above-mentioned frame tree structure zone in order to determine the hierarchy of roads in the city at the same time that it identifies the potential zones in order to locate public and mixed-use areas, resulting in the improvement of the vivacity in the city.

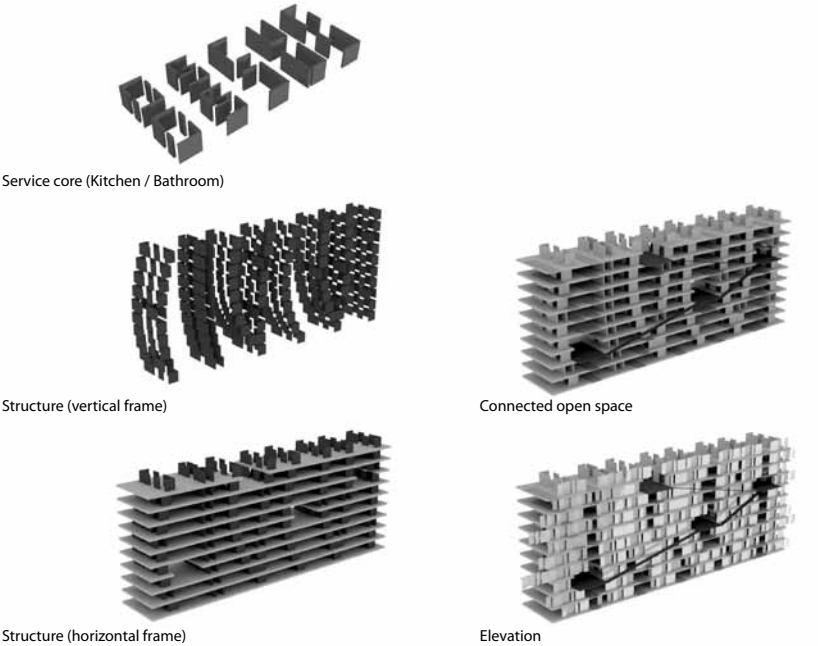


Figure 11: Phases of construction in a fragment of project.

An exploratory structural system (the studies for which are currently underway) is also developed by superimposing service cores in order to predict the possibility of future vertical/horizontal developments, flexibility and adaptability as it simplifies the procedure of building by providing huge possibilities for prefabrication and building industrialization.

7. CONCLUSION

This research proposes a new strategy in spatial organization in high-density living, which could also be expanded on a larger scale. It insists on the essence of vivacity in the city by considering potential zones for the location of public areas and thus creating an animated city network (linkage) by inserting public functions into the potential zones of the hierarchical system of access.

The codification system simplifies the procedure of space and building generation, and offers a step towards digitizing city generation. In this system, the conception of space, building instructions and landscape conception are developed simultaneously.

Based on the linkage concept first proposed by Maki, this system also simplifies the procedure from conception to construction, and considers the possibility of development, flexibility and adaptability in that it provides limitless possibilities for prefabrication and building industrialization.

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Tampere, 2015. Photo. G. Griffiths

Future City – Combining Disciplines

Juho Rajaniemi (editor)

The term "regeneration" implies that cities today have problems in regard to, for instance, aesthetics, growth, citizen participation and functionality. Solving these challenges, that is, "city regeneration", requires greater awareness from citizens and governing institutions, as well as from researchers. One of the aims of this publication is to find out how this can be achieved. It comprises 12 articles from different sciences, gathered together under three sections: *Cities' Growing Pains* emphasizes the problems of city growth and the lack of growth, *Managing City Regeneration* reveals the similarities and differences of city regeneration, and *Shaping the Future City* takes a look at the future of urbanism. The majority of the articles deal with case studies, which is a natural way to approach the different phenomena in city regeneration. Consequently, *Future City – Combining Disciplines* offers an interesting view on city regeneration in different parts of the world, including India, Latin America, Spain, Finland, Poland and the United States.

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