

Processing Form – Retroactive Investigations from a Compact City¹

Levente Polyák (KÉK - Hungarian Contemporary Architecture Centre)

Considering the Compact City

The Compact City exhibition departs from the idea that instead of letting European cities disperse their boundaries, development should concentrate on intensively using what has already been built. Rather than asking how to design a city one should ask how to design within a city, how to redesign what has already been designed.² In recent years, the compact city paradigm has been identified by many theorists and practitioners as a dominant model of sustainability across various intellectual and geographical contexts. It is almost unthinkable today that someone would oppose the consensus about sustainable development achievable through urban compaction. The argument that compact cities are more sustainable than sprawl is almost incontestable.³

Although there is no commonly accepted definition of the compact city,⁴ the most straightforward way is to conceive it as a high-density, mixed-use, transport-efficient and socially and economically viable⁵ *built form*.⁶ Based on these formal requirements, the compact city is a widely accepted *planning and design concept* originating from the American planning tradition. It is promoted through research agendas and policy frameworks not just in Northern America and Europe, but also on other continents as an environmentally, socially and economically viable solution in achieving urban forms that can produce benefits in terms of economic, environmental and social sustainability.⁷

The most evocated measure of the compact city is population density.⁸ It is argued that densification combined with mixed-use development and integrated land use leads to cheaper infrastructure and utility costs, lower land and energy consumption, reduced travel distances and less dependence on private means of transport, and consequently, lower pollution levels. High-density centres are expected to offer a greater quantity and diversity of activities and a better access to services than sprawl settlements, thus enhancing social interactions and social equity. Denser urban areas can be more secure and enhance social policing.⁹ Apart from these considerations, urban compaction is even discussed in relation with matters of health: compact form and mixed uses are thought to encourage people to walk and bike more.

From this angle, the compact city concept looks like the solution to almost all the problems of contemporary cities. Nevertheless, a closer look may reveal its inner contradictions. One of them is the ambiguous relationship between criteria of health and liveability. While many arguments support the idea that compact, walkable cities

¹ Special thanks to Daniella Huszár, Barbara Keszei and István Csekk for helping me edit this text with their notes, comments and design. They also made up the team that built the installation in Brno.

² Lock 1995, 73.

³ Holden-Norland 2005, 2148.

⁴ Neuman 2005

⁵ Jenks 2009

⁶ Kevin Lynch (1981, 47) defines urban form as “the spatial pattern of the large, inert, permanent physical objects in a city”.

⁷ Jenks-Burgess 2000 and Jacobs, 1961; Newman and Kenworthy, 1989; Elkin et al., 1991; Enwicht, 1992; Holden-Norland 2005, 5.

⁸ Burton 2000

⁹ Jabareen 2006, 6.

improve inhabitants' health condition, the contrary is also considerable: denser cities arguably put more pressure on the individual psyche. As Michael Neuman concludes: "For a city to be sustainable, the argument goes, functions and population must be concentrated at higher densities. Yet for a city to be livable, functions and population must be dispersed at lower densities."¹⁰

Another contradiction concerns the underlying principles. While most of the assumptions of the compact city paradigm rely on the premise that urban form has a deterministic relationship with individual and social behaviour, there is little empirical evidence on how urban form really shapes and affects behaviour.¹¹ Critics assert that the importance of form is highly overestimated in empirical studies favouring the compact city paradigm, downplaying the importance of other factors.¹² This is partly due to the optimism bias in which planners are often caught of; they tend to overvalue the benefits of compact development without assessing their costs compared to other alternatives.¹³

Paradoxically, not unlike in modernist planning, compact city developments often rely on rigid, inflexible planning principles.¹⁴ As a continuation of the social engineering ambitions of modernism, the compact city concept supports the notion of social change through design¹⁵, often disregarding the role of urban processes in structuring the performance of cities.¹⁶ Even if the compact city can be considered as a way of achieving sustainable urban form we have to take into account that "form is both the structure that shapes process and the structure that emerges from a process."¹⁷

Processing Form – research and documentation

Questions of compactness, form, process, determinism – these were the initial considerations we took into account when we set ourselves to design our installation at the Compact City exhibition. Our main concern when conceiving *Processing Form* was to look at inner contradictions and key dilemmas of the Compact City paradigm and visualize them: does the built form determine social and individual behavior (and thus sustainability, for instance) and what is the role of choice, lifestyle and urban processes in this assumedly deterministic relationship? With *Processing Form*, we proposed a self-critical reflection on the ambiguous relationship between process and form, ambiance and planning, sentiment and factual evidence, software and hardware. Ultimately, through a set of playful methodological proposals and intuitive visualizations, the installation raised questions about the possibility of planning.

We divided the installation into three sections that incorporate the various case studies. The first section, *Networks* looks at the way we can measure, judge and compare compactness in Budapest, in its dimensions of functional heterogeneity, transport interconnectedness and intra-city mobility. *Networks* consists of maps based on data-driven analysis. The second section, *Scales* investigates building types as cells of the compact city.

¹⁰ Neuman 16.

¹¹ Neuman 2005; O'Toole 2009; Jabareen 2006

¹² Holden-Norland 2005, 2147.

¹³ O'Toole 2009

¹⁴ Neuman 2005, 14.

¹⁵ Neuman 2005, 63.

¹⁶ Neuman 2005, 2.

¹⁷ *Ibid.*

By examining various building types in Budapest, and their implications for inhabitants' expected travel distances and transport types, for social heterogeneity, and for functional densification, Scales looks at the historical tissue as a potential resource on which contemporary urban strategies can be based. *Verticals* deals with concepts of densification of the city – vertically. Introducing examples of building on top of historical buildings, and exploring the vertical potential of different architectural constellations, *Verticals* raises questions about an urban layer often unused in Europe: the rooftop.

A. Networks

1. The Public Transport Connectivity Map of Budapest¹⁸ (by Bálint Laza, János Fehér, Andrea Szilasi and Viktória Kovács)

One of the main characteristics of a compact city is its interconnected public transportation system that covers a reasonably large portion of the city, thus making the use of cars unnecessary in intra-urban journeys. The Public Transportation Connectivity Map of Budapest is an attempt to describe Budapest's public transport service, using a network analysis approach to test the city's compactness.

A public transportation network is a complex network, as described by Albert Barabási, in which not every node is equally connected to the others: some nodes have much more connections than others.¹⁹ When creating the Map, the authors used two types of nodes: lines and stops. In case a line contains a station somewhere, then they are connected by an edge. The stops are unique: if a line has a stop, and it also belongs to another line, both lines have an edge directed to the same node. The lines are separated by type: blue lines stand for buses; yellow ones signal trams and red lines indicate trolley buses. The map has no temporal dimension: it shows all the lines, except temporary routes and the night schedule. The data was grabbed from the official website of the Budapest Transport Company (BKV). The graph contains almost 90% of the lines and stops in its current state.

The analysis of the Budapest public transportation network brought several conclusions that support the hypothesis that Budapest is a compact city: First, there are no 'islands' in Budapest's public transport: all lines are connected to at least one more. Second, there are several large nodes, which are equal to junctions. Third, we can, most of the time, travel to the city center with only one change. Fourth, the suburban lines are directly connected to one of the biggest nodes. In this respect, the city is well connected, and there are no significant asymmetries in the transportation infrastructure that would reinforce social and economic differences.

2. The Budapest Walkability Map (by Tamás Szabó and Dániel Feles)

The Budapest Walkability Map is a visualization of different levels of walkability in the city of Budapest. The data used to define "walkability" in different urban areas was generated by *walkscore.com*, an online application designed specifically for the purpose of allocating values to neighborhoods according to their walkability, thus investigating the "walkability factor" in real estate prices. A walkscore is a number between 0 and 100 and it is

¹⁸ <http://bkv.mindworks.hu/shiftzoom/index.html>

¹⁹ Barabasi

determined by an algorithm based on the density and diversity of surrounding amenities, within walking distance from a chosen address.

In reality, walkability is defined in a great variety of ways. In 1960, Kevin Lynch had participants walk about five blocks while describing what they noticed.²⁰ His participants confirmed the importance of very small-scale environmental features, such as sidewalks. Moreover, participants noticed small-scale qualities of the sidewalks, such as their width and upkeep. Other small-scale details of the environment, which are often not assessed in the recent environmental correlates and walkable-place studies, were also important. The design of striking and pleasing buildings, the focal point of a bookstall on a sidewalk, and commercial or street signs along the way were also salient features of good walks. Relatively few studies have subsequently addressed whether these immediate “microfeatures” of the physical environment for walking might yield more positive walking experiences. A transactional approach assumes that the physical environment and psychological experiences are integral parts of a pedestrian event.

These microfeatures are the basis of walkability studies in environmental psychology, where they are organized in a walkability index. This index is composed by features as traffic safety, environmental safety, social milieu, attractiveness, pedestrian amenities, pedestrian access, land use, general atmosphere, residential density, intersection density and land use mix,²¹ or even sense-of-place factors. To this list are added further factors defined by policy documents: crossroad density and the proportion of commercial activities by the Sustainable Seattle initiative, or cleanness, comfort, security, trees, behaviors, fatal accidents by the World Bank Global Walkability Survey, just to mention but a couple. This enumeration clearly suggests that the criteria that inform policy-making go far beyond thinking about the determinism of urban morphology.

Regarding this, walkscore.com has important limitations to describe a neighborhood’s walkability. In contrast to compact city theories, walkscore.com completely ignores the physical dimension of the studied environment: walking, from this viewpoint, is uniquely service-driven, and built features of the streets in question have no influence on the attractiveness of walking there. Furthermore, since walkscore.com derives data from online sources, it is highly dependent on the online presence of stores, restaurants or cultural facilities, (thus neglecting an important proportion of these amenities, those invisible online). However, if we presume that the unmentioned entities are present more or less equally in all areas of the city, this phenomenon does not alter radically the accuracy of the map: values of comparative walkability are not significantly distorted.

Even disregarding factors other than commerce and services, The Budapest Walkability Map shows well that walkability is much higher in central areas of Budapest, where the density of shops, bars, restaurants, museums and schools is higher than in the surrounding residential or industrial areas. The Pest side of the city, lying east of the river Danube has a remarkably higher walkability average than Buda. This may come as a surprise to those who are familiar with the city, since Buda is well known for its relative peace, quietness and opportunities of recreation compared to Pest. However, in general, the density of amenities in Buda is lower, making them more difficult to reach for pedestrians.

²⁰ Lynch, 1960

²¹ Frank et al. 2005

3. The Compact City of the Mind: Exploring Spatial Perceptions of Walkability, Popularity and Danger in Budapest (by Tímea Kodó and Barbara Keszei)

Mental maps, composed of personal and mediated experiences of places, resemble a collage, in which certain parts are emphasized, others are blurred, missing, or significantly distorted. Although these personal representations or images can vary greatly, they tend to add up to a collective image of the city.²² We expect that a mental map of a compact city should cover almost its entire territory, due to the visual continuity of the urban landscape, and the relatively even distribution of uses and activities in the city's various neighborhoods to which noteworthy experiences and memories can be connected.

The Compact City of the Mind is the visualization of a psychological survey looking at people's representations of certain Budapest neighborhoods, from the viewpoints of walkability, popularity and danger. These factors are just as constrained by individual and collective perceptions of space as they are accountable to physical components and facts. Complex constellations of hardly measurable elements may contribute to an increased sense of density, walkability or danger in a neighborhood. This research explores mental maps of young residents of Budapest. Based on a pre-defined number of questionnaires and maps drawn by 30 interviewees of an average age of 29, the visualization shows areas that are 1. preferred sites to walk, 2. relatively unknown or 3. consciously avoided by respondents.

In the field of environment studies research is often hindered by the fact that knowledge concerning physical environment is rarely consciously reflected upon until an individual or a group faces problems connected to their territory.²³ When confronted with a question about their physical environments, respondents tend to lean on commonly used stereotypes, in order to avoid mental efforts. Many of the findings of The Compact City of the Mind correspond to received ideas. They reflect long-time patterns of leisure-time activities: areas of historical interest (Downtown Budapest, Castle district, Andrásy út) and of natural beauty (Margaret-island, Városliget, Gellért hill) engage more people in long promenades than any other district. In the case of both built and natural environments, the most frequently cited paths are the ones also seen on postcards and in guide books. This is explained by the influence of stereotypes on personal mental images, replacing actual habits and memories of the respondents. As white spots on the individual mental maps reveal, a distinctive cognitive border emerges along the path of Margit körút, Alkotás utca, Attila út in Buda, and Nagykörút, in Pest. The well-known areas indicated in the respondents' maps exclude outer districts that are often seen as 'uncharted territories': the limited spatial mobility of Budapest residents has been repeatedly demonstrated by the failure of various development efforts on peripheral locations.

The maps used in The Compact City of the Mind do not only tell about individual movement patterns, but also about collective ideas of certain places. As Péter Niedermüller describes in an essay, places' perceived proximity or attractiveness also depends on the cultural meanings attached to them: „The fact that there are known and unknown places relates less to spatial orientation and more to knowing and understanding cultural connotations attached to spatial forms. It is well known that there are quarters, streets and parks in every city that are considered to be dangerous and therefore the majority of the population of the city refrains from using them. Therefore being dangerous is associated to

²² Lynch (1960) coined the term „image” for the collective representation of a city. This representation does not only include visual information, but information from all other modalities.

²³ Tversky, 2003

being unknown.”²⁴ Although in the case of external districts of Budapest unknown and avoided areas are superimposed, the city’s 8th district is presented by the maps as an exception.

This is due to the very strong negative stereotypes related to this district, images and stories of danger that give the area an almost iconic role in the city’s narratives: half of the respondents identified Budapest’s 8th district as a no-go area, despite its central location, prestigious palace mile, strong connectedness to public transportation networks and ambitious urban regeneration and renewal projects. If perceived „dangerous places” often have good crime statistics ²⁵ , it is also true for the 8th district. It makes evident that representations of a city or assessments of dangerous areas are frequently determined by the social context in which an individual interprets and handles environmental information.²⁶

B. Scales

1. The Compact Cell I.: Tenement Buildings and Social Heterogeneity (by Judit Vallo)

The most characteristic housing type of Budapest is the tenement building organized around an enclosed inner yard, often referred to as the “Pest tenement building”. This architectural model is a compact self-contained unit using the maximum constructible surface and mass on any given inner city parcel; it was the only economically – and demographically – viable solution in the midst of late 19th century construction boom and urban immigration.

Entering a Pest tenement building one finds oneself in a fortress-like enclosed system, consisting of two or three living units, separated by distinct staircases. The apartments in the section facing the street are spacious, comfortable, sunlit and prestigious, accessible from the main staircase, hidden from the neighbors’ regards. In the section behind, sunlight is a rare visitor: these dark, small-sized, low-comfort apartments can be reached through common areas, visible for everyone: the inner yard or the hanging corridor. The close juxtaposition of distinct social classes in the very same tenement buildings resulted in a social heterogeneity rarely seen in earlier cities: while the front apartments were used and visited by upper classes, the back apartments were inhabited by the lower middle class or even further behind, by workers.

Following World War I, modernist ideas, spreading in the 1920s and 30s in Hungary, marked the end of the era of the Pest tenement building. Bauhaus-inspired architecture introduced new spatial models for the organization of residential buildings: instead of in inner courtyard, apartments were now organized around a single staircase, used by all inhabitants, with everyone having windows onto the street, and receiving a fairly equal amount of sunlight. Paradoxically, the democratic-egalitarian idea underlying the Bauhaus-influenced building patterns led to opposite results: instead of creating brighter, healthier apartments for everyone, the sunlit, high-comfort and high-rent apartments put an end to small-scale, intra-building and intra-neighborhood social heterogeneity of the Pest tenement building. By attracting a more affluent public, they became enclaves of middle-class modern life, leaving less privileged populations behind in their increasingly decaying tenement neighborhoods.

²⁴ Niedmüller, 1994

²⁵ Perkins és Taylor, 1996

²⁶ Banks, 2005

If contemporary debates on the compact city include dilemmas of social justice and social heterogeneity, the Pest tenement building must be seen as the basic component of a possible compact city: a historical form with relevant lessons for today's planning.

2. The Compact Cell II.: Travel Patterns and Housing Types (by Bálint Kádár, Miklós Riedl, Noémi Soltész and Levente Polyák)

According to the Compact City paradigm, urban form determines travel patterns: the more densely built a neighborhood is, the less energy its residents need for everyday transportation. But does built form necessarily influence individual and social behavior? Do certain building types imply certain kinds of displacements or travel is more a subject of individual lifestyle preferences?

The Compact Cell II. offers empirical evidence to support the argument above. Using data from the Central Office of Statistics in Hungary, it identifies and analyses daily travel patterns from three distinct neighborhoods in Budapest, consisting of three distinct building types. Fehérvári út 225-243 is a socialist-type housing estate located in the inner peripheries of Buda, in the proximity of the river Danube. Páty is a village in the affluent Western agglomeration of the Hungarian capital, where an important proportion of residents commute daily to the city. Erzsébetváros, in turn, is an inner city neighborhood, with immediate access to a great variety of public transportation lines. According to the findings, urban form and housing type has a significant effect on travel patterns. While the 224 inhabitants of Fehérvári út 225-243 travel 13,37 km/person/day with public transport and 4,54 km/person/day with car, they emit 2,12 kg Co₂/day/person. The 60 habitants of the analyzed houses in Páty travel daily 23,33 km/person with public transport, and 11,95 km/person with car, thus emitting 4,64 kg Co₂. The values are considerably lower in the inner city: the 176 inhabitants of the investigated building in Erzsébetváros travel only 6,7 km / person with public transport, and even less, 1,76 km / person with car, thus discharging significantly less, 0,99 kg CO₂ a day.

The visualization of traveled kilometers with private car or public transportation, and of the average omitted CO₂ per person is inspired by the Austrian social scientist Otto Neurath: using his icons – building blocks of his universal language, “the isotype” – is an homage to his influence on contemporary practices of visualizing urban data.

3. Layers of Potentiality I.: Vacant lots (by Boglárka Kovács)

Visitors to Budapest are often struck by the omnipresence of vacant lots in the city. Vacant lots are everywhere: hidden between dense tenement buildings of Pest or adjacent to neglected parks in Buda, they are often turned into temporary parking lots, their temporariness extended to decades.

Besides World War II, when bombings left Budapest's urban fabric with many wounds, the recent economic crisis also hit hard the urban tissue. After demolishing derelict, 100-year-old structures, developers often found themselves with no resources to engage in construction. The vacant lots thus created could be contributions to a lighter urban structure, breaking the imposing density of inner Pest neighborhoods.

Vacant lots constitute a layer of the city far more important than it is often estimated. Empty parcels scattered around in Budapest may add up to 400 hectares, where (if we consider that a land of the size of 30m² may supply an entire family for a year) 19000 tons of

carrots, 1500 tons of beans or 60 million salads could be produced. This map looks at vacant lots as carriers of a hidden potential, that of urban agriculture, helping to increase ecological and functional diversity.

C. Verticals

1. Layers of Potentiality II.: Rooftops (by Zsuzsanna Siklósi)

While the Pest tenement building has proven to be a compact cell enhancing social heterogeneity on various scales (see The Compact Cell I.), it also has its shortcomings when considered as a building block of today's compact city. Budapest's eclectic urban fabric, built predominantly in the period between the 1880s and the 1910s, is hardly capable to expand skywards: although its roof spaces have been increasingly turned into penthouse apartments, thus increasing social diversity in the historical housing stock, they also set the limits to the vertical city.

In contrast, Budapest as a vertical city comes into existence with modernism. With modernist buildings inserted in the historical tissue, a new layer opens up above the city: rooftops. In cities with upward ambitions, rooftops exist on their own right: by constituting a coherent pattern above the streets, when linked, they create fields in a landscape parallel to the ground.

This map explores the locations of accessible rooftops in Budapest central V. district. Abandoned, deteriorated or turned into gardens, they represent an entire layer of potentiality: that of a parallel system of public spaces above the streets. Making use of flat rooftops can supply cities with additional spaces that live parallel to the ground. Also they can contribute to improving life standards of city dwellers by creating roof-gardens. The gardens created thusly may satisfy the dwellers' need for nature experience just a few steps away.

2. Top on Top, Favela Rising (by Zsófia Szemző)

While careful densification lies in the center of the compact city paradigm, invisible trends of densification are taking place, hidden from our eyes, well before policies and plans create the conditions to erect additional floors on the top of existing buildings or elevate tower in central nodes of the city. With movements of mass migration to the affluent cities of the West, abandoned buildings, courtyards, underpasses or roof spaces are gradually colonized by a population in urgent need for shelter but without resources or papers.

This is the story Zsófia Szemző tells us in her images. Szemző's depiction of the contemporary European city is hardly fictitious: occasional fire alerts in ageing Parisian residential buildings often reveal dozens of illegal immigrants living on but a few square meters. If the relocation of economic resources is firmly intertwined with the movement of people, this phenomenon is increasingly felt in European cities. Top on top, this recycling of unused spaces results in favelas rising on the outskirts of European cities, if not on their rooftops.

3. Hotel Kazinczy (by sporaarchitects)

Sporaarchitects' Hotel Kazinczy is an attempt to densify the inner city urban fabric without overcharging the immediate environment by the new development. The new

building respects the original segmentation and structure on the site, located in the heart of the Jewish District of Budapest, a UNESCO World Heritage buffer zone. The new building's concept is based on two main principles: the body of the building adopts to and refers back to the original trisection of the plot with its shape and arrangement, while the altering height of the ledges and the facade above is a contemporary response to the traditional serried Budapest facades, by refracting the top section of the frontage in various angles. Thanks to this solution, the street gets more sunlight, which is favorable in this dense area of the city.

With a garden wing attached to the old wing in an „L” shape and as a result of the connection to the neighboring buildings, the result is an airy, green garden inside, a great advantage compared to the tight spatial arrangement of the traditional urban tissue. The planned structure is a three-star hotel, its present entrance being the original main entrance of the former building. The ground level includes a lobby, a restaurant and café, offices and a shop also accessible from the street. The basement level includes service areas and machinery, while the upstairs levels contain three types of room units, 79 rooms altogether.

4. Weekend City (by sporaarchitects)

What is the future of vacant lots in the city? The density and the number of living units can no longer be increased in the traditional ways. As the urban environment is undergoing radical transformation, new lifestyles may be better supported by quiet inner city areas with calmed traffic. Local solutions, urban agriculture, the use of renewable energies, the revaluation of public spaces may all be part of a new kind of urbanity, asking for new responses also from the part of architecture.

Due to the historically emerging dense urban structure resulting of real estate speculation, infill constructions in Budapest usually offer a low quality living environment with dark and narrow internal courtyards faced by small, badly arranged apartments. To counterbalance this inherited drawback of inner city housing, only weekend houses offer a reasonable alternative. What if we merged the two concepts in one place? Downtown density would meet weekend gardens, satisfying urban people's desire for nature.

Sporaarchitects' infill contradicts with downtown concentration patterns dictated by property prices, targeting a new lifestyle: the project combines the benefits of metropolitan and rural life. In this vertical village with criss-crossing terraces and gardens connected to each flat, the apartments are overrun by plants, and everyone has a small garden, where fruit and vegetables grow. Additionally, the transparent terraces enhance communication between inhabitants at various floors.

D. The City Between Concentration and Dispersal: A Density Diagram of Ideal City Plans (by Daniella Huszár and Levente Polyák)

To place the notion of the Compact City in a historical context, an introductory diagram organizes a variety of historical urban plans in a coordinate system, tracing influences and conflicts in the genealogy of the Compact City paradigm.

While visions of ideal cities have been based on a variety of criteria and structuring ideas, the question of density has always been crucial in organizing human settlements. Besides

identifying a network of influences between visions and plans, this diagram seeks to address density as an element often thought as decisive in creating viable cities. By juxtaposing fairly incommensurable visions such as Chandigarh and the Instant City, for instance, the diagram is a playful attempt to measure often-immeasurable densities and to rely upon them in classifying urban plans. However, patterns unfolding from the diagram's system of coordinates (x for time, y for density), make it clear that certain historical periods can be described with well identified preferences for urban density.

The diagram also reminds us that instead of uncritically subscribing to the paradigm of the compact city taking urban form as its point of departure, one has to look at density and form as components that may activate and block other organizing factors, but which cannot avoid interacting with them in shaping cities' livability and efficiency.

Conclusions

As presented in the previous pages, Processing Form offered various methodologies to measure, compare, analyze and verify urban density and compactness of historical urban tissues and new architectures. While investigating the chosen sites from viewpoints of public transport connectedness, walkability, mental representations, social heterogeneity, travel patterns, vacancy and verticality, designers associated with the project were experimenting with varying models of visualization, in order to find the appropriate mode of displaying the researched phenomena.

In order to adapt the research to the gallery environment, and to demonstrate the density conditions in which the analyzed situations are positioned, a large map of Budapest was placed on the gallery floor, depicting all the built structures of the city's inner regions and indicating the case studies' location in the city's urban tissue. Besides the case studies and the contextualizing map, we also created a diagram to organize various historical urban plans in a historical coordinate system, indicating date and estimated density of the envisioned settlements, tracing influences and conflicts in the genealogy of the Compact City paradigm.

All the research projects presented at the Compact City exhibition in Brno were conducted and designed straight for the Brno show, although some of them were informed and inspired by earlier research. The institutional framework that helped us elaborate the research themes and case studies was provided by the KÉK – Hungarian Contemporary Architecture Centre²⁷ and the Budapest University of Technology, where I taught a Master course entitled *The Experience of the City*.²⁸ Many of the contributors to Processing Form were students at the Budapest University of Technology or activists at the KÉK – Hungarian Contemporary Architecture Centre.

Credits

Processing Form - A project by the KÉK - Hungarian Contemporary Architecture Centre and the Budapest University of Technology.

Contributors: Bálint Kádár, Barbara Keszei, Tímea Kodó, Zsuzsanna Siklósi, Tamás Szabó, Judit Valló (research), Zsófia Horváth, Annamária Mráz, Áron Lőrincz (video), Ádám

²⁷ www.kek.org.hu

²⁸ See [www.polyaklevente.net/...](http://www.polyaklevente.net/)

Hatvani (architecture - spa- architects), Noémi Soltész, Bálint Laza (research & visualization), János Fehér (programming), Dániel Feles (programming – Kitchen Budapest), István Csekk (design & layout), Daniella Huszár (concept & research)

Concept & Information: Levente Polyák, levente.polyak@kek.org.hu

Selected References

- Banks, M. (2005): Spaces of (in)security: Media and fear of crime in a local context. *Crime Media Culture*; 1; 169-187.
- Barabási, Albert-László, *Linked: How Everything Is Connected to Everything Else and What it Means for Business, Science, and Everyday Life*, Perseus, Cambridge, MA, 2002
- Burton, E. (2000): The Compact City: Just or Just Compact? A Preliminary Analysis. In: *Urban Studies*, 37:11, 1969-2001.
- Elkin, T., McLaren, D. and Hillman, M. (1991) *Reviving the City: towards sustainable urban development*, Friends of the Earth, London
- Enwicht, D. (1992) *Towards an Eco-city: Calming the Traffic*. Sydney: Envirobook
- FRANK L.-D., J. SALLIS, B. SAELENS, W. BACHMAN et K. WASHBROOK (2005). *Travel Behavior, Environmental & Health Impacts of Community Design & Transportation investment. A Study of Land Use, Transportation, Air Quality and Health in King County, WA. Final Report*.
- Hartig, T., Evans, G. W. (1993): A természetélmény pszichológiai alapjai. In: Dúll A, Kovács Z. (eds.) (1998): *Környezetpszichológiai szöveggyűjtemény*, Kossuth Egyetemi Kiadó, Debrecen, 233-254.
- Holahan, J. C.(1982): Küzdelem a zsúfoltsággal. In: Dúll A, Kovács Z. (eds.) (1998): *Környezetpszichológiai szöveggyűjtemény*, Kossuth Egyetemi Kiadó, Debrecen, 107-140.
- Holden, E., Norland, I.T. (2005): Three Challenges for the Compact City as a Sustainable Urban Form: Household Consumption of Energy and Transport in Eight Residential Areas in the Greater Oslo Region. In: *Urban Studies*, 42:12, 2145-2166.
- Jabareen, Y.R. (2006): Sustainable Urban Forms: Their Typologies, Models, and Concepts. In: *Journal of Planning Education and Research*, 26, 38-52.
- Jenks, M., Burgess, R. (ed.) (2000): *Compact Cities: Sustainable Urban Forms For Developing Countries*. New York. Spon Press
- Jenks, M. (2009): From the Compact City to the Defragmented City: Another Route towards the Sustainable Urban Form. In: Radovic, D. (2009): *Eco-Urbanity: towards well-mannered built environments*. Oxford. Routledge
- Lock, D. (1995): Room for more within city limits? In: *Town and Country Planning*, 64(7):173-176.
- Lynch, Kevin, *The Image of the City*, MIT Press, Cambridge MA 1960
- Lynch, Kevin, *A Theory of Good City Form*, MIT Press, Cambridge MA and London 1981
- Neuman, M. (2005): The Compact City Fallacy. In: *Journal of Planning Education and Research*, 25, 11-26.

- Newman, P. & Kenworthy, J. (1989) *Cities and Automobile Dependence: An International Sourcebook* Gower, England.
- Niedermüller, P.(1994): A város: Kultúra, mítosz, imagináció. In: *Mozgó Világ*, 5.
- O'Toole, R. (2009): Thy Myth of the Compact City. Why Compact Development is Not the Way to Reduce Carbon Dioxide Emissions? In: Cato Institute *Policy Analysis*, 653.
- Perkins, D. D., Taylor, R. B. (1996): "Ecological Assessments of Community Disorder: Their Relationship to Fear of Crime and Theoretical Implications." *American Journal of Community Psychology* 24, 63-107. Idézi: Wyant, B. R. (2008): Multilevel Impacts of Perceived Incivilities and Perceptions of Crime Risk on Fear of Crime: Isolating Endogenous Impacts. *Journal of Research in Crime and Delinquency*; 45, 39-64.
- Tversky, B. (2000): Remembering spaces. In: Tulving, E., Craik, F.I.H. (szerk.): *The Oxford Handbook of Memory*. Oxford University Press, 363-378.
- Tversky, B. (2003). Structures of mental spaces, How people think about space, *Environment and Behavior*, 35 (1), 66-80.