

URBAN TISSUE REGENERATION Questions and Opportunities

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Summary: The historical (1867-1918) and contemporary urban development methods are in the very focus of the current study. In the interest of an urban regeneration/rehabilitation, or a new design project in a particular urban environment could be implemented in an appropriate quality, it has to be understood and mastered the urban heritage of the urban ensemble. The urban heritage defines the structure and the image of contemporary cities nowadays. The paper intends to describe the important features to take into account the urban regeneration plan.

Keywords: urban tissue typology, urban character, social inclusion, driving forces.

1. INTRODUCTION

The contemporary urban heritage character based on its urban tissue typology can be defined by studying the urban development of the city during the period of its evolution into contemporary urban patterns. The urban morphology is determined by the evolution of the spatial changes, the interaction between the components of the urban fabric (streets, squares and green spaces, public spaces). In the current study the driving force of tissue changes could be determined as the transportation in the city, especially the intramural railways. The actual study is a summary of the the existing urban tissue typology and urban rehabilitation research the author has made. The chosen case study area combines historical and contemporary factors determining the city's unique character: abandoned and well preserved urban heritage, various urban tissue character, urban rehabilitation area (social inclusion in decision making), former green/brownfield development, nowadays the increasing importance of the urban agriculture, changing urban and natural landscape. The research area is the territory of the former Austria-Hungary (1867-1918), namely the era of the progressive urbanisation and modernization of the cities, especially in historic Hungary. The urban planning practice in the former Austria-Hungary did not take into account the opinion of the citizens directly in the decision making, the social inclusion was exhausted by late support or defence, however, the practice of recent years has shown that not only the inherited urban character, but also the social inclusion could significantly determine the character of the town during the planning period.

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2. METHODOLOGY

The basis of the typo-morphological approach can be described by socio-technical schemas and typified forms. The theoretical aspect constitutes the city's spatial/geographic characteristics, history and built environment. The primer urban tissue analyses were made by looking at the characters of the built environment and landscape to describe and illustrate the historical process of urban form development and its spatial consequences. Appreciation of morphology, analysing the evolution and change in traditional urban space and the typology that defines zones and urban pattern are the key elements in considering local patterns in the nominative processes of urban development.

The analytical system follows the cognitive approach of M.R.G. Conzen [1], with a combination of Caniggia's [2] research methodology, and negates the doctrine by Benevolo [3] which is that each city is unique. The process establishing rather a concept that each city (in the case of the transportation caused changes in Hungary and the studied cities in the former Austro – Hungarian Empire) can be seen as a collage of different urban tissue types, the organization of which creates a specific city pattern and spatial plan of the city. The urban tissue typology can be defined through special morphological composition which is both internally and externally organized and also has a relationship with the structures and adjacent spaces in order to make well defined clusters. In the current study, the typo-morphological approach is used instead of the urban morphological research view. The urban typo-morphology deals with the physical and spatial structure of the built environment and is based on classifications of un-built and built-in spaces by type.

The studied area follows the line of the very first trams in the city: the second line in Budapest between the Fiume road and the Egyetem square was opened in 1889. After the identification of the urban tissue types and urban heritage, the evaluation of the areas is going to be done according to the special urban regeneration and design project that changed the value of the area, as well as were important as a complex method regarding the social evaluation on the level of the urban and natural landscape.

3. URBAN TISSUE AS THE PLATFORM OF PLANNING DECISIONS

Urban Tissue Analyses - Typology is a tangible form of conceptual thinking: following the line of the inner city transport routes and examining the fabric of the territories on the line of the tram, as a consequence they could be identifiable pattern types that follow the identified development schemas. The transport caused urban typo - morphological determinations which could be interpreted not only as a complex space, but also can unify and explain the different urban forms. "The system of the avenues and boulevards that connected parts of the city and secured passage between the districts served the increased modal communication demands. The trams and suburban railways increased the cities' sprawl, a build-up of the suburban districts, new industrial zones, suburban accelerated development and integration of new neighbourhoods." [4]

The morphological schema (Figure 1.) of the studied non-built and built environment partially can be defined by the archetypes of spaces/squares - streets systems (light grey – demolished buildings, grey – new blocks, dark grey – the layout remained the same, off-white – green areas). It has to be considered that the open spaces at the intersection of the

streets, which are morphologically squares, but in the case of greater cities, are functioning as a public transport hub.

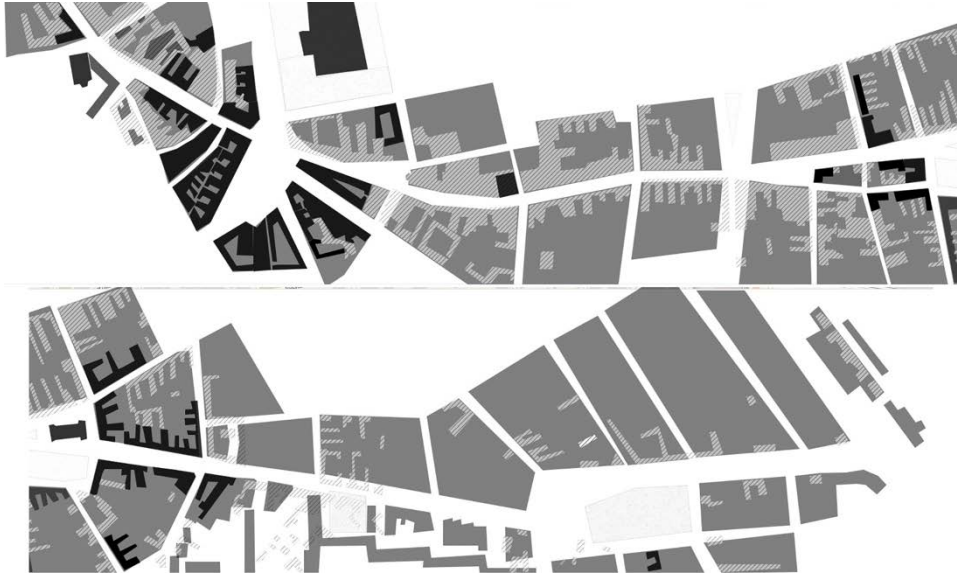


Figure. 1 Identification of the new/regulated street lines and new building layouts, that could identify the new urban tissue type along the line (from the Fiume road to the Egyetem square)

Urban form, urban character as a platform of revitalization projects and social inclusion - The inclusion of the community in different steps of the decision-making processes has become over the recent years an essential practice in order to achieve the success of urban regeneration interventions. Assessment and selection of projects based on the preferences of the community subjects were tested in important historical centres [5], economic evaluations of major infrastructure were applied through the involvement of the local community [6]. Finally, even the enhancement of the landscape and urban agriculture interventions, when this element becomes a perceptual element, are evaluated according to an inclusive and social approach [7-8].

Urban form, urban character as a platform of revitalization projects and social inclusion. The research area shows a great diversity in the case of the urban tissue derivation. Most of the built environment and urban tissue was established built at the turn of the last century, which gives the unique value of the area on one hand, but on the other hand could create the biggest problem.

The urban fabric characterized by an unbroken row of buildings, rental palaces with patio or inner garden, green areas are not so frequent in the area, but these could be found in the squares (widening of roads or intersection of streets created space). The section of the territory closer to the city centre is one of the most prominent parts of the city (8th district, Palace quarter/Palotanegyed), it is characterized by properly maintained palaces and rental palaces (proper technical, aesthetical and social status). The section closer to the Fiume road is more diverse in the urban character point of view. The initial phase of the

construction of the built environment of the territory, the urban tissue showed some similarities to the urban pattern of the Palotanegyed, but showed industrial and rural features as well. Due to the poor condition of the area and struggles with social problems of the inhabitants, a general (architectural and urban, social) rehabilitation of the area was needed (see Figure 1/illustration below). The Magdolna Neighbourhood Program, implemented in this part of the 8th district, is the first integrated socially sensitive urban regeneration program [9] in the country.

The program and the area are important in case of its complex nature, since the area examined in terms of the urban morphological characters, is a morphologically unified part of the city and not showing any “problems”. The development of the area and integration to the city centre was influenced by the intramural railway at the end of the 19th century. In practice, the tram lines (intramural railways) had and still have a positive impact on the development of the urban areas, but in this case it did not accomplish the positive impact, or the effects/adverse effects were not dominant enough. The upper-mentioned pilot project helps to stop and to slow down urban and social degradation. One of the innovations of the programme was the community involvement, not only on the level of the post-opinion sharing (opinions after the completion of the project), but also in the mutual cooperation and involvement in the level of decision making: the rehabilitation and the urban/architectural design projects are made according to the mutual decisions of the inhabitants and the stakeholders. An important part of the project is the establishment of community gardens (urban agriculture) and community institutions to strengthen the corporate social responsibility of the area [6].

The character of the area is strongly determined by the built environment from the late 19th and early 20th century, and the street network that was created and regulated around the 1870s. The design procedure in a historic ensemble and in this case the revitalization, that was followed by new planning tasks, can be implemented in the best way by taking into account the community as a decision maker already at the beginning of the project. The importance of community involvement could be seen not just in this specific place, but in case of the projects in a more significantly historical surrounding, in Rome.

4. URBAN TISSUE, THE IDENTITY OF THE HISTORIC TOWNS

Any proposals for structural development and transformation of the built environment in the urban heritage environment (not exclusively protected by law, but considered as heritage) of historical towns primarily reflects on the sustained cumulative lessons², and have to beseem to the complex structural layers of some specific urban tissue types, due to keep and maintain the urban fabric, thus the identity of the town as a whole.

The distribution of the urban tissue types within the borders of the urban agglomeration allows to set up two categories: the urban tissue types can be divided into the types of the inner town (narrower and wider urban core) and suburban tissue.

In the very case of Budapest, along the historic tramline in the 8th district, the “G”-“I”-“J” [10] urban tissue types (Figure 2.) are the most frequent, these types represent a larger group, which effectively determine the urban identity of a town together with its structural characteristics.

² Regarding the UNESCO-ICOMOS doctrines and charters.



Figure 2. “G”-“I”-“J” urban tissue types

In case of the “Jg”³-“Jh”⁴ urban tissue types, similar rules could be accepted, although in these cases, the urban green spaces are more spacious. The two urban tissue types are not similar to their urban form features, but the same principles could be used in case of potential development.

In the case of the “G”⁵ urban tissue type group, the planning requirements and recommendations are the strictest, as these types represent a unique value among the dualist urban tissue type groups. If the development, structural and architectural transformation and construction are planned in such an environment, then the following recommendations have to be taken into account: the layout of the buildings and the urban block has to be considered and the original site-building dynamics have to be followed. The dynamics of the vertical and horizontal façade elements have to be taken into account, because the buildings in this built environment show large variety, but the rhythm and the dynamics of the tectonics and the colour combinations create a certain type of uniformity and make the streetscape harmonious. The paved courtyards, green spaces located within the wings of the buildings, in the middle of the large urban block, or even the strict compact construction also acts as identity-shaping elements. The precondition of the urban development of these urban tissues is to follow the structural rules of the urban tissues.

³ “Jg” type – a and b subtypes: Streets and plots with semi-regular or regular geometry, form complex plot-series. Development in unbroken rows with variable building layouts: “U”, “L” and “O” shape. In all cases, a courtyard belongs to the building. As a result of street system regulations, along the streets the distribution of building layout has changed (a) while inside the blocks the traditional (pre-regulation) development method remained or (b) the layout of the plots became regular (sometimes greenfield development), the plots are divided into the courtyard and green area.

⁴ “Jh” type – a and b subtypes: Plots with regular geometry form complex plot-series, the enclosing streets form regular street network. The urban blocks are irregular rectangular. Development in unbroken rows with variable building layouts: “U”, “L” and “O” shape is mixed with rare building-lines. An enclosed courtyard belongs to the building, which is in most cases bordered by the side and back wings of the main building, the outbuildings are attached to the main building. The plots in some cases are divided into the courtyard and green area and the urban block has voids (un-built sites).

⁵ Regular street grid (gridiron system). The buildings are rental palaces and public buildings and fill entirely the plots, double/triple plot series create a block. The width of the plots is the same, development is in unbroken rows. The façade of the building on the edge of the block is perpendicular to the other façade. Inside the buildings are inner courtyards (patios), the dimensions of the buildings are in harmony with the dimensions of the inner courtyards, which are located in the approximate centre of the layout.

The structure of the “Ia”-“Ib”-“Ic” urban tissue types⁶ are looser, the development in unbroken rows and the rare building line is appearing in combination with vacant lots. The identity-creating force of these urban tissue types is certainly lower than in the case of the previous tissues. The planning and new development should follow only the percentage of the built-in and not built-in areas, the layout of the building could be variable, but the height of the new building should be in harmony with the previous constructions. The development should follow the regulation lines.

The structure and division of the urban tissue types “Id”-“Ie”-“If”⁷ allow development in unbroken rows, but the rare building line is also acceptable. The “I” types are mostly in the wider central area, thus the development can be more flexible, recommendation: the plot-building rhythm has to be mind by the urban planner and architect, the buildings should follow the regulation lines, since the buildings have similar features, thus a new construction, which is in scale of the previous buildings and does not extend beyond the maximum heights, could refresh the townscape.

In case of the “Ja”⁸-“Jb”⁹ urban tissue types, the street network is irregular, which has an influence over the shape of the plots. The development in unbroken rows are dominant, which acts as a rule of the new developments, the layout is variable, but an approximate harmonic plot-building percentage has to be kept, the look façade can be variable, but the building cannot be higher than the buildings in the neighbourhood.

“Jc”-“Jd”-“Je”¹⁰- the line of the streets are semi-regular or irregular, thus the planning options are limited, the new development should follow the straightened line of the street, and fill the entire plot, how it is regulated, the façade dynamics of these districts are an important feature, thus a new development should follow the rhythm and does not extend beyond the maximum height of the surrounding buildings.

⁶ Rectangular plots with regular geometry, development in semi-unbroken rows. The streets were regulated and orderly planned. The shape of the plot is regular, an elongated rectangular. The urban tissue could consist of public building(s) as well since it is characteristic for the wider central area. The block consists of detached houses, mixed with development in unbroken rows, buildings are placed on the line of the street (“L” shaped buildings or buildings with left wings mostly), rare building-line, the connecting link between detached houses and blocks. The built-up percentage is about ¼ of the entire plot.

⁷ Regular street network, although the plot series/blocks have an irregular rectangular shape which is following the line of the streets. The shape of plots has high variability, the original (pre-regulation) plot shape could remain in traces. The urban tissue is mixed (residential and public), the blocks have secondary roads or pedestrian routes in their interiors. The interior of the blocks is coherent but separated with some cases with side wings or attached buildings. Most of the cases the buildings have no wings and the development is in unbroken rows, but rare building-line.

⁸ The street network is not completely regular: partly adapted to the geomorphological characteristics (modest inclination) of the area. Plots have semi-regular geometry. The façade of the building is placed on the line of the street edges (development in unbroken rows). The shape of the buildings could be “U”, “L”, “G” or “O” and the inner courtyard is enclosed by them. The buildings form closed building blocks, but the courtyards do not form a coherent network.

⁹ Regular road lines, the blocks are surrounded by gridiron street network. The blocks are rectangular, the buildings with both-side wings dominate within the borders of the plot-series. The plots have same dimensions in the urban block, but the placement of the buildings are different, the inner courtyard is attached to each building, but most of the cases the groups of backyard separated from each other by back and side wings. Possible block shape can be triangular as well.

¹⁰ Perimeter buildings (with side wings) with gateways as accesses into the block interiors, connected by cross passage houses; joined groups of backyard separated from each other by the wings of the blocks. The plots partly kept their original (pre/regulation) shape and arrangement, together with the buildings, are creating a densely built-up area, where the public buildings are dominating, typical for the central area of town in lower altitudes. The street network is partly regular with dominant roads and streets which follow their pre-regulation line. Development in an unbroken row with accentuated gaps (vacant lots).

5. CONCLUSIONS

The process of the research leads to localization and objective evaluation of the urban heritage: the concept of physical identity, urban elements, which create the city's pattern through their combination, and divide it into morphological regions. The urban tissue analyses of the cities are based not only on urban forms, but also point out the urban tissue characteristics on basis of supporting archival documents (layering of historical urban maps and plans) and historical analysis. The identification of the urban tissue types and spatial correlation provides the basis for the quality of visual elements, the complexity of space, aesthetic forms, urban public spaces, traditional and modern physical characteristics that influence the image of the city, townscape and the significance of the urban heritage.

The typological analysis is seeking answers to the structural changes that have occurred in the selected case study area caused by the opening of the tramlines. The analysis deals with the road network, un-built spaces, as streets and squares, changes in the building layouts and installations. The schematic diagrams of the structural changes show urban forms before the first intramural railway lines/tramline network was established and in the subsequent period compared with the latest maps. The opening of the city's tramlines caused not only structural spatial changes and territorial urban development progresses, but also the cityscape has been changed along the lines. The territories of the modernizing cities have become priority areas crossed by the trams, which no longer just bounded together neighbourhoods and relaxation areas with the downtown areas, but also became an essential supply of the modern city. The railway and the increasing intensity of the urban development of the second half of the 18th century changed the scale of the spreading urban areas. The territorial development of the once-to-be human-scale cities along with the economical/social development increased the development of public transport, but the development of public transport had a positive influence on city development. Action-reaction-type improvements can be observed.

One of the indicators of the changes is the formation of public transport within the city which played a significant role in the development of the urban fabric as well as in the past, and nowadays has a great impact on the evolution of the urban fabric patterns. Due to the development force of the trams street regulation was started, as well as the urbanization of the suburban areas, since these approached the central territories.

The essence of rehabilitation programs is the revitalization of the cities in an architectural and social sense via preservation of the original architectural structure, maintenance of residential buildings, rehabilitation, or possible demolition and construction of new buildings. Therefore, it is necessary to understand the architectural, urban design structure of the territory, as well as its morphology, but beside these technical features, the interests and opinions of the residents living in the area can not be ignored. A rehabilitation process or construction of a new building could be a socially sustainable investment and could become an acceptable project in a given social context if the involvement of society takes place. These processes have become more common due to the positive impact and examples, thus, a degraded environment in social and urban point of view can be successfully completed by the rehabilitation project, as the mentioned example in Budapest.

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РЕГЕНЕРАЦИЈА УРБАНОГ ТКИВА

Питања и могућности

***Сажетак:** Историјске (1867-1918) и савремене методе урбаног развоја су у фокусу актуелне студије. У интересу урбане регенерације / рехабилитације, или новог дизајнерског пројекта у одређеној урбаној средини, може се имплементирати у одговарајућем квалитету, мора се разумети и овладати урбанистичком баштином урбане целине. Градско наслеђе данас дефинише структуру и имиџ савремених градова. Циљ рада је да се опишу важне карактеристике које треба узети у обзир у плану урбане регенерације.*

***Кључне речи:** типологија урбаног ткива, социјална инклузија, покретачке снаге*