

## BASIC URBAN TYPES

### Urban typology between 1867 and 1918

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*Summary:* In the matrix system of urban typology basic urban types have to be distinguished since their characteristics perform unique urban fabric dominance. The basic urban types do not reflect to individual cases. Grouping is based on similar/identical urban fabric types and combinations of structural evolution is taken into account as well. The aim of the current study is to analyze and present the basic urban types of towns in the research territory.

*Keywords:* basic urban types, urban typology, territory of Austria-Hungary

#### 1. INTRODUCTION

The urban typology can be determined by the whole-part (city-urban tissue) and part-whole (urban tissue-city) methodology: the city is determined by urban tissue combinations and inner-city relationships or the urban tissue types can be distinguished by urban analyses (resolution of the city into urban forms).

The first level of urban typology is the determination of suppositional basic urban types, the higher level are the complex urban types, these cases were created by the combination of basic types and urban tissue types.

The purpose of the typology is the taxonomic classification of urban forms (and combinations thereof) based on common, mainly physical characteristics according to determined categories.

The aim is to create such an urban typological system, that could define not only a particular locality (town), but also able group cities in the Lands of the Crown of Saint Stephen<sup>2</sup> between 1867 and 1918 by a matrix of variables.

The individual features form the patterns (elements), via combination of these elements the urban system (network of streets, urban fabric, city) can be determined.

The purpose of the current study is to define the suppositional basic urban types and discuss the special conditions of the urban typology determination.

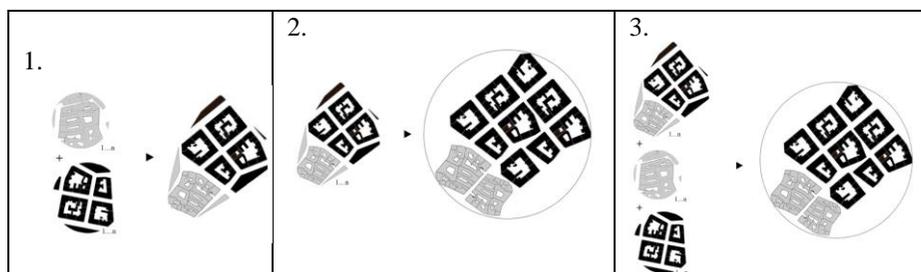
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<sup>2</sup> 70 cities were chosen, according to their legal status, that was an indicator of their pre-compromise development. Territorial coverage was taken into account as well. Legal status together with rights and duties as part of it, beside natural development forces, were indicators of the direction of urban evolution.

## 2. URBAN TYPOLOGY MATRIX

The basic urban types are specific in terms of their characteristics, however, they could be clearly defined according to their features. The samples of the general group, by combination of the other basic urban types and/or with urban tissue types define the combined urban types. In the urban typology matrix, the suppositional basic urban types have to be determined first: flow chart of the urban typology matrix (*Figure 1-3*): 1. Combination of various historical urban tissues (light grey) and dualist urban tissues (dark grey) constitute the suppositional basic urban types. 2. The combined urban type can be created by combination of suppositional basic urban types or 3. the combined type could be determined by combination of suppositional basic urban type (types) and urban tissue types (these type or types could be historical or dualist types, their mutual characteristic is that these do not determine basic types). 1...n: number of variables from 1.



*Figure 1-3: Flow chart of the urban typology matrix*

Spatial correlations between urban tissue types and town centre, as one of the determination conditions along with the inner-urban relationships between the railway lines, green areas and water surfaces have great importance in the urban typology. According to the previous analyses, the spatial correlations between the urban fabric (pre-compromise<sup>3</sup> and post-compromise) and the town centre can determinate the direction and fashion of the urban development in the research period and territory.

1. The city's territory and built environment kept its pre-compromise features (street regulations are possible), but the centre and wider surrounding went through overall transformation (dualist urban fabric).

2. The city's territory and built environment kept its pre-compromise features (street regulations are possible), the wider surrounding went through transformation (dualist urban fabric), but the historic town core remained untouched.

3. The city's territory and built environment partially kept its pre-compromise features, the dualist urban fabric penetrated into the pre-compromise urban districts of the city and the town faced expansion and new urbanised districts emerged. The historic centre remained untouched.

<sup>3</sup> Pre-compromise: before 1867 (Compromise Agreement between the Austrian Empire and Hungarian Kingdom resulted Austria-Hungary)

4. The city's territory, built environment and historical centre kept the pre-compromise characters, the territories' expanded and new urban neighbourhoods were linked to the original urban structure.
5. The city's territory and built environment partially kept its pre-compromise features, the dualist urban fabric penetrated into the pre-compromise urban district of the city. The historic centre remained untouched.
6. The historic centre and the surrounding areas kept their original features and urban fabric. Around the remained city core, as urban fringes, new districts (dualist urban tissue) were emerged.
7. Complete transformation (dualist urban fabric).
8. Complete transformation (dualist urban fabric), the historic core remained untouched.
9. Partial transformation (dualist urban fabric), the pre-compromise built environment and urban fabric remained untouched in the historic centre and in some areas in the city.
10. The city's territory, built environment and historical centre kept the pre-compromise characters, the expansion of territories and new urban neighbourhoods were linked to the original urban structure. New town centre was established.

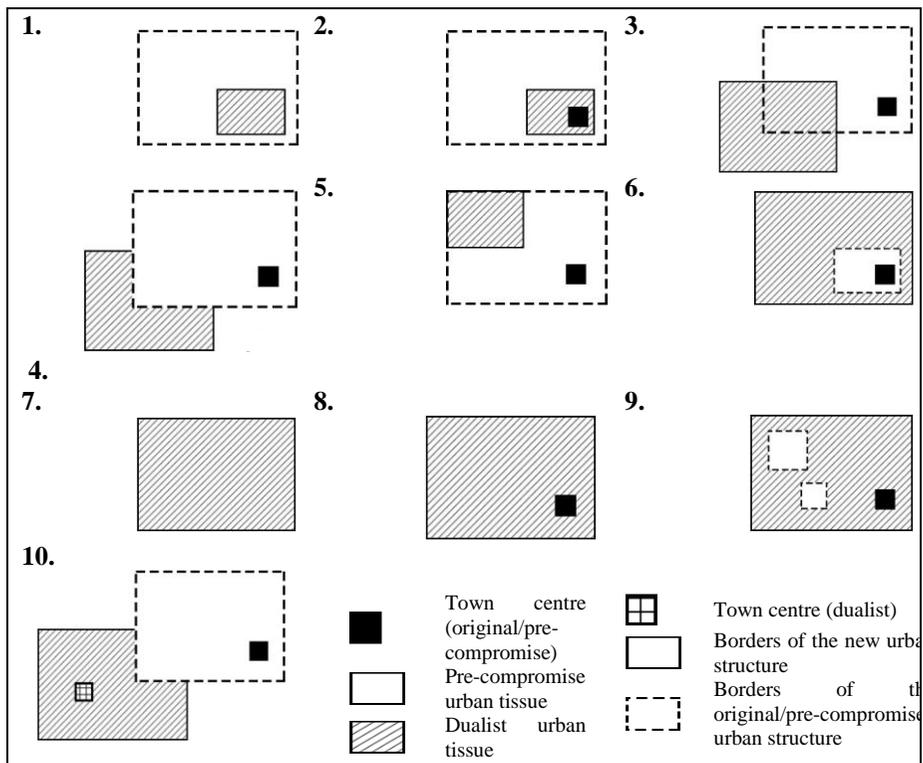


Figure 4. Spatial correlations between urban tissue types and the town centre

### 3. BASIC URBAN TYPES

According to the analyses, among the 70 towns 16 suppositional basic urban types were found:

1. These towns (Banská Bystrica, SK; Brezno, SK; Zvolen, SK; Krupina, SK; Baia Sprie, RO) are mostly located in areas of high relief, their natural boundaries (river, mountain slopes) are considered partly as town-shaping powers. Inter alia, in case of Banská Bystrica, Brezno, Zvolen, Krupina, Trenčín (taking into account the dominant character of the castle). The development dynamics of the city has linear direction, i.e. the line of the street determines the structural dynamics of the city: squares, evolved by widening streets, are connected by wide streets, "building block islands" were cut from the urban fabric by bifurcation of the dominating road ("U", "V", "L" shaped building is on the front of the building block). The period after 1867 is not characterised by transformation of original structure (streets, squares), structural changes can be observed via spatial development (new urban tissue) or building-up of undeveloped areas (green areas: planned landscaping; large building complexes, free-standing buildings on connected plots/plot series; residential buildings). River and hills create natural boundary. The railway line (if any) is not integrated into the fabric of the city, and thus the railway has no structure-forming significance.

2. The group of mining towns (Kremnica, SK; Banská Štiavnica-Banská Belá, SK (both together and separately) has completely unanimous consent, roads are breaking trails through the slopes, structure is developed along counter lines and brooks. The built environment is dominated by single, individually located buildings, development in unbroken rows can only be found in more flat areas, especially in near vicinity of the town centre. Due to the economic transformation, the cities lost their industrial privilege and their development slowed down. The cities are characterised by minimal, but compacted structural transformation, especially in distinct parts of the town (surrounding of the Academy in Banská Štiavnica). The role of the railway in the urban evolution is negligible. Mining towns belong to the other basic urban type groups indicate greater variability in their structural and development direction.

3. The spatial expansion of the cities is beyond the towns' central nucleus. The shape of the central area (Baia Mare, RO; Bistrița, RO; Sebeș, RO; Bardejov, SK; Medias, RO) is defined by the city wall (remained: Bardejov or partly exists or is not preserved: Baia Mare). The city's development direction is not affected by the railway lines and in the territories beyond the wall, conglomerates were evolved characterised by integrated urban fabric combinations. The group is marked by a. no representative dualist urban fabric integration, or b. the dualist integration, the spirit of the age is only noticeable in case of some public buildings (Baia Mare: e.g. Secessionist Town Hall, István király Hotel). The river does not obstruct the extension of the urbanized area.

4. Significant attribute of the cities (Pezinok, SK; Kežmarok, SK) is that the downtown areas retained their original structure (irregular trapezoid), it is lined up into blocks by irregular streets. The church and the city hall are both located in the central square. In the period between 1867 and 1918, the cities were spatially developed, the city's central core was surrounded by the dualist urban fabric, like an urban fringe belt. The factories,

hospitals, barracks and public buildings were concentrated in the first urban fringe belt. The compact internal structure has been gradually loosened towards to the border of the urban agglomeration and in the outer fringe is characterised by single houses and yards. In the research period, the central area went through parcel rearrangement, causing some not significant dualist mounting (single building, smaller urban ensembles). The regulation (if any) of the urban agglomeration is limited to the river bank (if any), the railway (if any) does not have direct town development force (indirect effect is detectable by the progressively strengthening economy).

5. Cities of the group (Modra, SK; Svätý Jur, SK; Prešov, SK; Košice, SK) were characterised by the city core, which preserved the medieval compact structure (spindle-shaped square that symmetrically bisects the compact body of the inner city). Territorial coverage can be observed based on the structural hierarchy of towns, while the structural complexity of Košice is dominant. The layering is dividing the urban structure of Košice on more urban history cores. By the end of the 19<sup>th</sup> century the loose urban structure of the suburbs and the undeveloped green and brown fields become denser (the glacis itself as well). The central core is surrounded by areas for military use (barracks, army base). Thematic collocation of functions is in the outskirts of the city. Even the spatial expansion is a defining feature in case of the other group members, the spatial expansion is not significant in case of Košice. The railway lines increased the development beyond the river, which before acted as a barrier.

6. Cities in this group (Skalica, SK; Levoča, SK) kept their original urban fabric, which is concentrated within the city walls (the walls are still standing, or partially demolished). The research period (1867-1918) is characterised by disjoint urban integration (mostly single buildings with attached yards, family houses): lack of coherent, large-scale neighbourhood. Dualist urban tissue (dominating free standing public buildings) could be integrated into the city's inner core, the area within the walls, but it is not representative. The urban blocs become geometrically more regular as result of road network regulations, but their shape and dimensions did not change.

7. In the era of the industrial revolution, the cities in the Great Hungarian Plain were characterized by agricultural production and later by light industry. Kecskemét represents a clear basic urban type of the lowland cities. The urban settlement structure was characterized by concentrated urban functions concentrated in the central core of the town, while towards to the border of the settlement, the urban fabric of the urban fringe belt became looser. The new avenue (road connecting the city centre with the railway station) was cut into the pre-compromise urban fabric of the city, and thus the built environment and the urban fabric was transformed along the radial road, together with the city centre. The city represents the basic type of the lowland cities, mainly despite to the pre-compromise urban features. The railway has urban-shaping influence (new radial road between the centre and the railway station). The shape of the urban blocks remained the same, despite the regulations. In the city centre, the transformation created new urban blocks and the dualist urban tissue could be seen via built environment and in building-plot context.

8. The basic urban type group (Subotica, RS; Pančevo, RS; Vršac, RS; Gherla, RO; Senta, RS) is determined by the post-compromise urban-shaping occurrences, by regulation of

the street network, by partial reorganization of plot borders, by structural transformation of central area, especially the main square and along the settlement connecting roads, and by the accurately definable and determinable architectural language of the structural units (different neighbourhoods). The location of river, creeks and the city park, as well as the urban structure-shaping forces had been taken into account during the classification of these cities. Subotica was characterised by its urban polycentrism, which remained visible after the regulation of the street network as well, but its role within the group was de-emphasized. Railway has indirect role, mainly in the economic recovery, which increased the development of the settlements. The town-shaping force of streams and wetlands can be seen in the urban structure since these determined the line of the streets and location of the parks and green areas in the urban agglomeration.

9. Szeged is considered as a clear basic type, since beside the capital, Budapest (it belongs to the combined types), such type of urban reconstruction, which led to complete transformation of the urban fabric, was made only in Szeged after the flood in 1879. The road system was designed likely to the capital: central street system with two ring roads and connecting radial roads. The urban-forming force of the river is significant (beside the ruinous flooding), since it determines the elongation direction of the urban structure along the river bank. The central axis of the city is defined by the bridge, the urban structure with radial roads and ring are almost symmetrically established to south-west and north-west from the axis.

10. Among the suppositional urban types some “groups” consist of only one sample with unmatched features, making it a unique model, like in case of Braşov. The urban agglomeration is located in a valley, surrounded by mountains and characterised by compact urban fabric in the asymmetrically located pre-compromise urban “centre”. Due to the increasing population in the dualist era, the newly formed neighbourhoods filled the valley and spread towards to north-east direction. The city has more than one urban nucleus, each with slightly different urban tissue pattern. The roads and the railway lines had high importance in urban shaping processes: the settlement was developed along the roads, later along the railway lines. The railway also increased the development of the neighbourhood districts. Since the urban expansion was spatially limited by the mountain slopes, the direction of the development was towards east and north (dense new districts). The eccentric centre kept its legislative and societal position and function, even it was attempted to create a new town centre.

11. group (Trnava, SK; Sibiu, RO) The medieval structure of the inner city and the city's nucleus were preserved. Outside of the town core the urban tissue is characterised by single houses and attached yards, and this pre-compromise building tradition was continued in the period between 1867 and 1918. Coherent dualist urban fabric is infrequent, only certain thematic urban fabric types appeared, such as samples of the type consisting of free standing buildings on large coherent plot (public buildings, barracks, industrial buildings and areas). The river and the railway is remarkable city-shaping force, as the area was urbanized over the tracks. The colonies are characterized by regular street network and elongated rectangular plots.

12. The urban structure of the group (Beregovo, UA; Miercurea Ciuc, RO) is characterised by the spatial spreading (cities on plain, or cities located on geographically combined

areas, where the river or mountains are not obstacles to the spatial growth). The buildings (single housing, attached yards) are concentrated along the roads and form continuous street lines, the development in unbroken rows characterises the central area. The body of the town has no precisely defined border, the urban fabric is loosening towards the towns outer areas. The possible location of dualist urban tissue types is the central area; in certain cases, the only manifestation of the period takes the form of a building. The urban regulation processes are important in case of these cities in the period between 1867 and 1918. The result of these processes are, beside the street network regulations and river regulations, resulting in new urbanized areas connected to the existing urban structure (different street networks and build-up dynamics: strict, gridiron-like geometry of streets network) or partially transformation of the existing structure. The site-building dynamics of the pre-compromise urban tissue is characterised by elongated rectangular plots, where the main building and several outbuildings are located.

13. The urban structure of the town, Sighișoara, RO is reflected to the relief of the terrain and the urban evolution can be traced via the street network. The city preserved its medieval urban structure (plot series as well) and architecture of upper town (citadel) and town under the hill (low city). The slow economic development of the city prevented it from radical changes in the research period. The dualist additions are mainly located close to the railway line, but their significance in term of the city structure is low, these additions are not out of scale and character of the rest of the built environment. The neo-renaissance town hall from 1888 is an exception, but remarkable architectural piece of the dualist period.

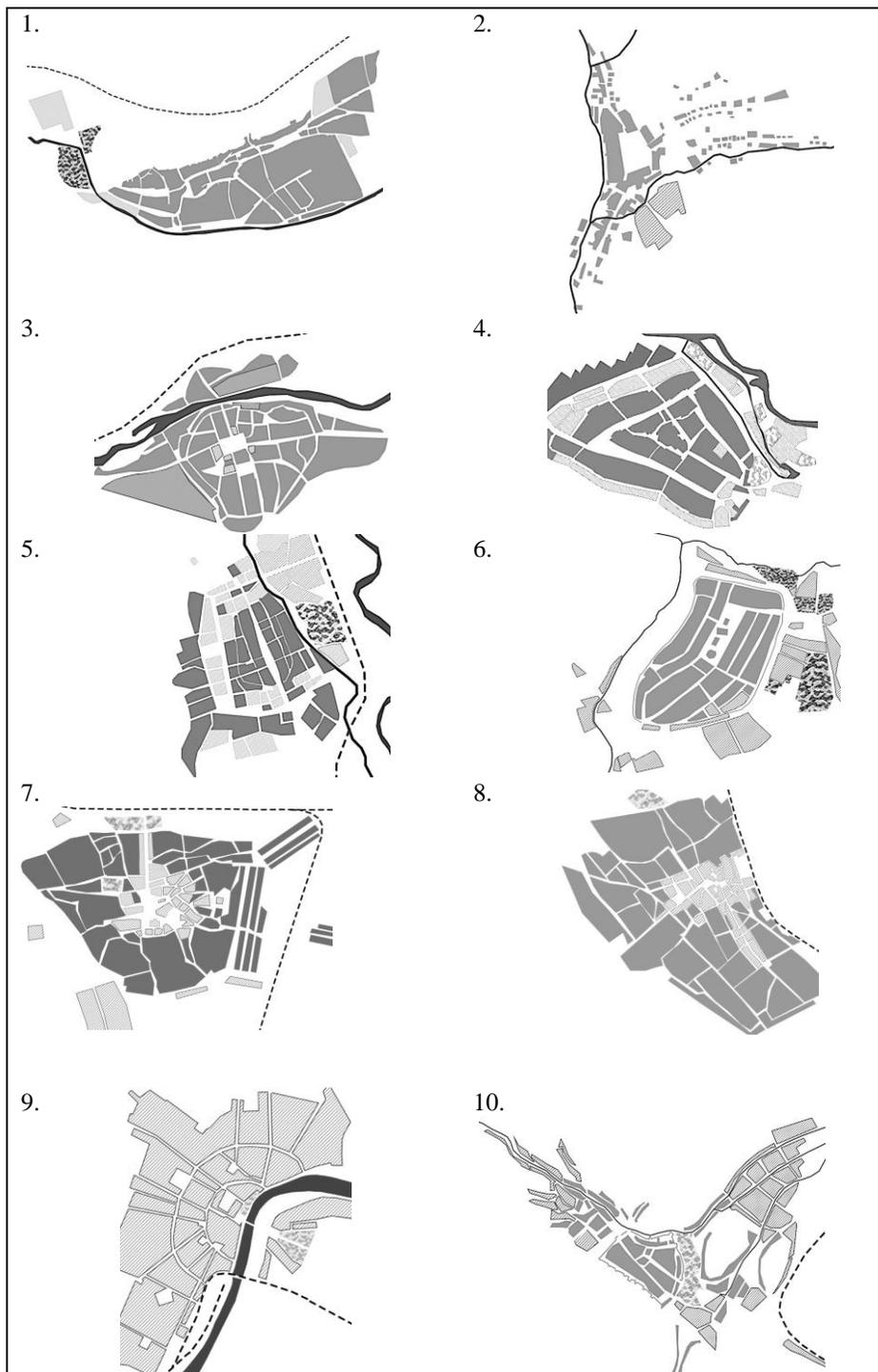
14. The urban structure of Sighetu Marmăției, RO is compact, with well divided urban block fringes. The railway and the river did not act as urban-shaping forces, since either in the pre-compromise period or in the dualism the urbanization lacked behind in the territory of the meadow between the urban agglomeration and the river. In the period between 1867 and 1918, remarkable urban transformation was absent, the manifestation of the era was in form of public buildings, mainly along the elongated central square (mostly public buildings). Outside of the built-up area two villas were built surrounded by a park, this type of construction fashion was not habitual in the territory.

15. The city, Odorheiu Secuiesc, RO has country town characteristics, the urban structure is speeded with well defined central area and a castle. The pre-compromise urban tissue is a combination of single houses with yards and development in unbroken rows. The urban structure was developed along the roads leading to other settlements. During the dualist period, the central core went through significant transformation, mostly public buildings were emerged. The railway line took important role in the urban spatial expansion, the city had spread beyond the railway lines as well.

16. The group (Dej, RO; Orăștie, RO) forming features are the nearly organic shapes of the building blocks, which did not change in the dualist period either. The pre-compromise urban tissues and the dualist mounting is mixed, but in the central core, the dualist is dominant. The central area is characterised by public buildings built in the research period, but the outskirts remained loose with single houses, yards and development in unbroken row. The urban development was obstructed by areas of high relief in minor level.

# 5. МЕЂУНАРОДНА КОНФЕРЕНЦИЈА

Савремена достигнућа у грађевинарству 21. април 2017. Суботица, СРБИЈА



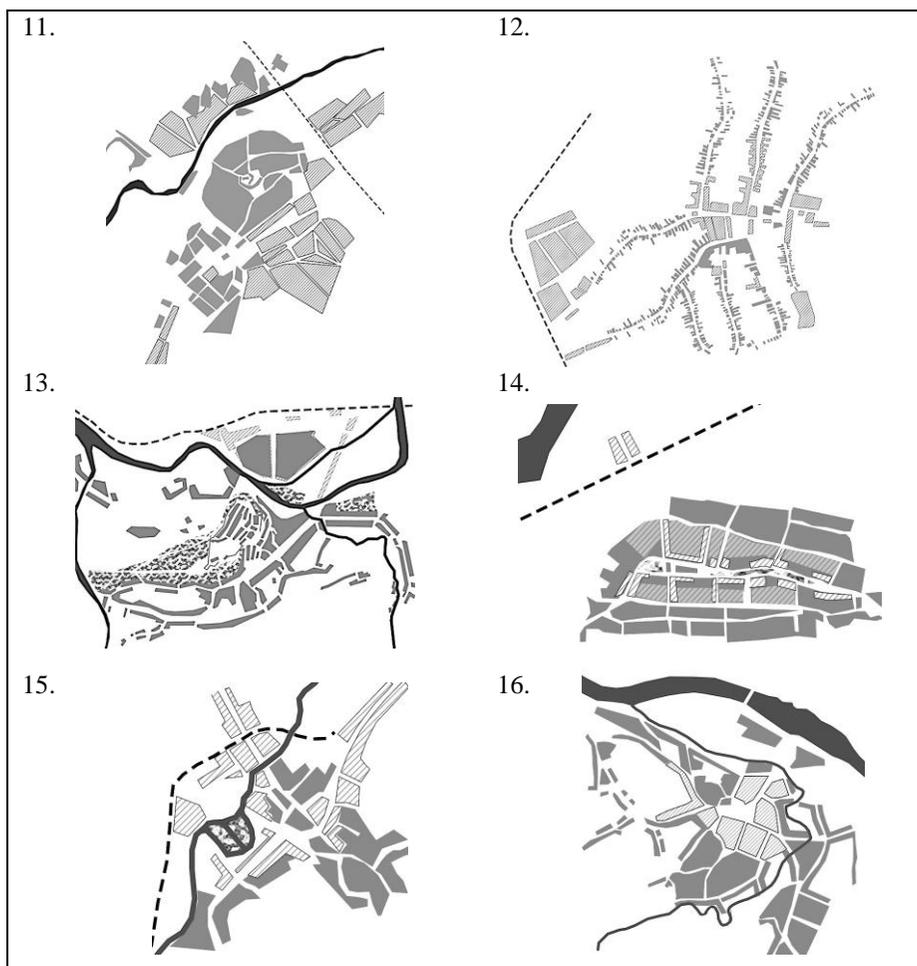


Figure 5. Suppositional basic urban types

#### 4. CONCLUSIONS

The Austro-Hungarian compromise agreement (1867) induced urban tissue changed different from the previous urban fabric, in the period from 1867 till the end of the First World War the modern town structure and cityscape was created in the former Lands of the Crown of Saint Stephen. Progressive urban development started, the urban evolution was determined by new urban pattern, urban fabric, urban types and different city construction. A “collage nature” of each city was allowed to examine the forms of urban areas, and the whole structure has been read as a whole. The urban typology is a taxonomic classification of town types according to urban tissues types, urban tissue combinations and relationships between different urban tissues and the central area, as well as the

railway lines and green areas, thus the urban type (city/town type) certain combination and relationship of urban tissue types. It has to be stated that the establishment of urban typology is possible, but the taxonomic designation of urban types has to be preceded by determination of urban tissue types, their combinations thereof, and spatial relationships within the city. The current study highlighted the determination process of the suppositional urban types and the internal relationships between the pre-compromise and dualist urban types and the city core and defined the suppositional urban tissue types of the period between 1867 and 1918 at the territory of the Lands of the Crown of Saint Stephen.

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### REFERENCES

The original research and conclusion were based on archival documents, namely maps and plans from the research period.

## OSNOVNI URBANI TIPOVI Urbana tipologija između 1867. i 1918. godine

*Rezime:* U sistemu matrica urbanih tipologija mora se razlikovati osnovne urbane tipove, jer njihove karakteristike obavljaju jedinstvenu dominaciju pojedinih urbanih tkiva. Osnovni urbani tipovi nisu samo pojedinačni slučajevi. Grupisanje se zasniva na sličnim/identičnim vrstama urbanih tkiva i moraju se uzeti u obzir i kombinacije strukturne evolucije. Cilj studija je, da se analizira i predstavi osnovne urbane vrste gradova na teritoriji istraživanja.

*Ključne reči:* osnovne urbane vrste, urbana tipologija, teritorija Austro-Ugarske