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# Assessing and Visualisation of Preserved Cultural-Historical Values for Quality Environment of Historic Cities

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**Abstract.** Many historical and cultural-heritage sites are getting lost in areas characterised by infrastructure, new buildings or industrial estates. In the time of rapid global change, the quality of historical sites is changing because of the spatial development, in which is evident a trivialisation of our built environment. Therefore, research of cultural-historical potential of architectural heritage focus on not only the legally protected historical structure, but that includes not legally protected cultural heritage sites. This paper points out on the lack of contemporary approaches in the field of cultural development in towns and smart planning with emphasis on sustainability. Simultaneously it deals with contemporary tools of mapping of monument values of historical towns. Consequently, the aim of the paper is to present the new approach of mapping cultural-historical potential, in relation to current research and effective processing. The difference between the new methodology and standard research is that the new one, is connecting urban and architectural values, with the emphasis on tangible and intangible heritage. This approach of mapping cultural heritage is formed in the framework of the international project DANUrB and it leads the participating countries to common strategy for mapping culture-heritage sites. The mapping is focused on a clear goal: making places attractive for inhabitants and visitors and developing tourism in towns which can lead to sustainability of towns. The case studies of towns Komárno and Štúrovo presents the use of presented mapping of cultural heritage.

## 1. Introduction

Detailed mapping research and current presentation of architectural heritage affect preservation of historical cities and monuments with their values. Consequently, the lack of current modern approaches in field of cultural development in towns and smart planning with emphasis and sustainability is a crucial moment, which can visualise the problems in preservation and development of historical cities in Slovakia.

Currently, lot of Slovak historical towns lose their cultural heritage due to the damaging of historic urbanism. The development of the city and its infrastructure is the main cause of this impact. The territorial plans of Slovak towns are processed in scale, which does not depict urban historical values consistently. Due to this, it is not possible to preserve relations between historic zone or reserve and legally not protected area of town. In term of development of historical cities there is another problem - protection of heritage values in legally not protected historical areas. It means that, when urban values of monuments are not marked in a territorial plan that may lead to their extinction due to uninterested development of a town.



According to law of monument, protection there is the integration of monumental areas into the territorial plans. It is result of projection of historic areas of cities into zoning plan. Nevertheless, the proposed protection of cultural heritage site in master plan is just passive protection of valuable historical structure and buildings. It results in restoration of monuments without specification of their use or only preservation of decaying monuments.

Nowadays it is necessary, that the territorial plan ensures not only passive protection (as a marked area in zoning plan), but also the active protection. It means integration of the preserved substance to life of the society as well as strengthening of its importance in its environment. An active protection is strategic way of preservation possibility, which efforts to raise interest of not only architects and historians but also investors and politicians, [1]. Complex cultural heritage protection deals with comprehensive cultural-historical value, which relates on not only protected buildings but also environment buildings without protection. This fact should be taken into consideration as well. Regarding the current situation in Slovakia, particular legally not protected historic areas are changed into modern architectural structures, without mapping their values. The result of this process is unattractive environment without any cultural-historical values.

In this moment, it is necessary to focus on complex approaches of cultural heritage mapping in Slovakia and former Czechoslovakia, which were realised in the past and still are realised in present. This review of topographies is projected into new approaches in mapping, using active protection of cultural-historical values.

## **2. Selected mapping approaches of cultural heritage in Slovakia (former Czechoslovakia)**

In Czechoslovakia and later in Slovakia the preservation of monuments has been a result of historical development. The most significant change occurred in a preservation of historical towns where the idea of preservation of the urban structure was defined. The effort to preserve valuable buildings not only as individuals, but also as part of their environment, led to the idea to define a model of current protection of cultural heritage. The first complex mapping and field research of a historical centre, blocks and individual buildings in Slovakia (Czechoslovakia) were created to identify values of monuments and to enforce the preservation of architectural heritage.

In the border post 1989-time horizon in Slovakia, systematic changes appear with regard to bearing of cultural heritage protection and management. Remarkable topographies of cultural-historical potential within Slovakia were realised after year 1989. Traditionally the monument research dealt with tangible heritage and its value. However, selected investigations include not only tangible heritage but also intangible heritage as well. This factor regarding to tangible and intangible heritage forms authenticity of environment. In this point of view, it characterized the comprehensive value of cultural monuments. As a pioneer in field of cultural –historical topography has been recognized the city of Trnava. It caused timelessness of special mapping called Analysis of cultural-historical values in historic reserve Trnava that was defined by processing this research to the master plan of central town zone. New conditions of Washington charter for cultural heritage protection were implemented into this master plan of zone. In this context, it means that protection of historic area had to be part of socio-economic development and master plans. [2]

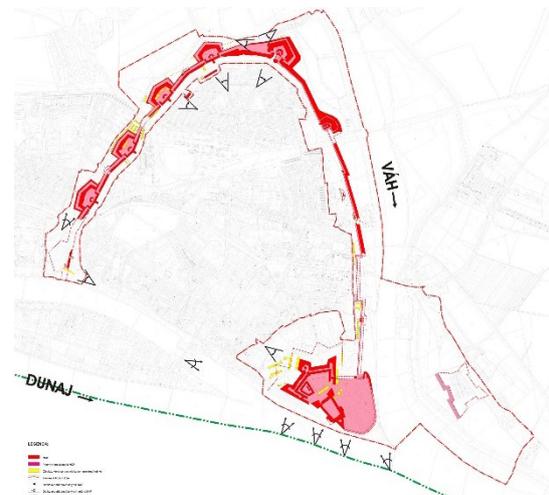
The multidisciplinary research of cultural heritage was realised in the 1990s and called Cultural-historical and social topography of Bratislava. It was created for the reason of bad conditions of build cultural heritage. This mapping had to safeguard values of authentic historic structures. Benefits of this research were more information in short time and on complex level. After long-term experiences of experts in field of cultural development this mapping was the best one. Using the traditional historic research, it is not possible to explore cultural heritage for its preservation in real time. Therefore, the new approach was formed in former city administration of cultural heritage protection by main person A. Schwarzova, [3]. In the contrary of usual monument research cultural-historical and social

topography puts emphasis on connecting intangible heritage with the tangible heritage and another context.

Both of researches: Analysis of cultural-historical values in historic reserve Trnava and Cultural-historical and social topography of Bratislava were important for next development of mapping approaches of historical structures. These efforts led to legislative protection of historical monuments in form called The Principle of protection of historic zone. Nowadays these principles have to be implemented into a territorial plan. Currently, the research of historical structure became not only identification and summarization of cultural-historical values, but also mapping of valuable potential of buildings for further development of historical architecture, [4].



**Figure 1.** The Principle of protection of historic zone Komárno



**Figure 2.** Scheme which characterized national cultural monument - fortress and its protective zone

### 3. The aim of new methodology of cultural heritage mapping

New methodology of cultural heritage mapping is conceived in the framework of international project DANUrB (DaNube Urban Brand – a regional network building through tourism and education to strengthen the “Danube “cultural identity and solidarity). These surveys use connection and combination of spatial and urban planning and cultural heritage.

The main goal of the project is to create a comprehensive spatial-cultural network, a “Danube Cultural Promenade” connecting all communities along the river, unifying these into one tourism destination brand, offering thematic routes and developing possibilities that can increase the number of visitors and can prolong their stay in the region.

Project partners – relevant universities, research and development centres, regional municipalities, cultural NGOs, tourism boards and professional market based agencies - will create a network and common platform to work along a sustainable cultural and tourism strategy, proving that a common Danube urban brand can bring social and economic benefits at once.

This common strategy for mapping culture-heritage sites has tendency to make places more attractive for inhabitants and development of tourism. The closest cooperation with communities and regional stakeholders from each 7 Danube countries, creation of common strategy based on individual approach.

In Slovakia, the project is focused on towns Komárno and Štúrovo along the Danube, which have rich unexplored and unused historical-cultural potential. International cooperation allows surveying Danube wealth not only as a local heritage, but as a heritage in international context.

New methodology of cultural heritage mapping is not focused only on legally protected cultural heritage monuments and sites, but also legally non protected. Goals and aspirations of the project include to the research of unexplored and unused cultural heritage and its sources. Due to this project, cultural heritage was used for viable cultural cooperation and thematic products of tourism as well.

This process of observation and reveal of common cultural heritage can contribute to better social, economic and more sustainable integration of cultural heritage monuments to development of the town and the area. Strategy for mapping of culture-heritage sites as a valuable tool for mapping of monument values is opportunity for preservation of architectural potential and restoration of lost cultural identity of selected towns. In the framework of the project lies the key role of cultural heritage in professional identification, selection and valorisation of cultural heritage. Primarily, investigation teams are focused on unexplored potential of architectural heritage - its implementation to connected system of “stories of Danube “and its exploiting for future development. The categorisation of cultural heritage mapping in term of form, function and quality is divided to: industrial heritage, fortification, harbours, relics of trading, art and craft heritage or intangible forms as traditions, folk art, gastronomy etc. Thus tangible and intangible heritage are the basis of preservation and use of cultural-historical potential along the Danube. That relates to meaning of culture: *“the set of distinctive spiritual, material, intellectual and emotional features of society or a social group, and ... encompasses, in addition to art and literature, lifestyles, ways of living together, value systems, traditions and beliefs”*.

Intangible heritage determines local identity and genius loci of the place and simultaneously cultural integration of local identity to wider context of Danube. Investigators responsible for mapping of cultural heritage at Faculty of Architecture - Slovak university of Technology are focused on creating common guidelines for research of cultural-historical potential and on research cultural heritage in cities Štúrovo and Komárno as well. Method of Urban-historical research used for mapping monument values in legally protected area is time-consuming in extensive area along the Danube. New Methodology of cultural heritage mapping follows specific aim used in practice: development of tourism and more attractive cultural environment. In this context appropriate forms of research cultural heritage are: Cultural-historical and social topography, Analysis of cultural- historical values and criterion restoration of historic reserve Trnava. Methods of these professional topographies were used in common mapping guidelines of cultural-historical potential.

#### **4. Common guidelines for research, mapping and categorisation of cultural heritage in framework of project DANUrB**

The mapping of architectural heritage potential consists of three gradual stages:

- Historic and field research of tangible and intangible (extinction buildings),
- Selection of representatives wrongly or unused cultural heritage with potential
- Valorisation of this cultural heritage and its using in social-economic development of region or city.

This cultural heritage mapping is used in extensive area by several international partners (Austria, Hungary, Serbia and others) therefore common guidelines have to clear and simply mapping tool for unification and understanding the methodology of mapping.

The research, characteristic and sorting is based on principle of categorisation individual types of cultural heritage by the various criteria, which were chosen by typical classification of cultural heritage, but also with focus on connection cultural heritage with Danube.

Graphic as a form of indication of cultural- historical potential influenced the current appearance of categorisation. On this basis is created common map via platform GIS.

First level of categorisation is from view of character, function:

- according this criterion(form) were researched cultural heritage ( tangible and intangible) and natural heritage or combination of cultural and natural heritage – cultural landscape,
- were divided to: architectural heritage, heritage of art or art and craft, archaeological heritage
- according to function and thematic categorization were classified industrial heritages: Transport related buildings and areas (IT) and other heritage of industry, science and technic (IS),

fortification and other military buildings (F), representative buildings - castles and mansions (R), sacral buildings, health and spa (H), vernacular architecture (V), Modern architecture (M), other residential, civic and multifunctional buildings (C).

First level of categorisation is from view of scale:

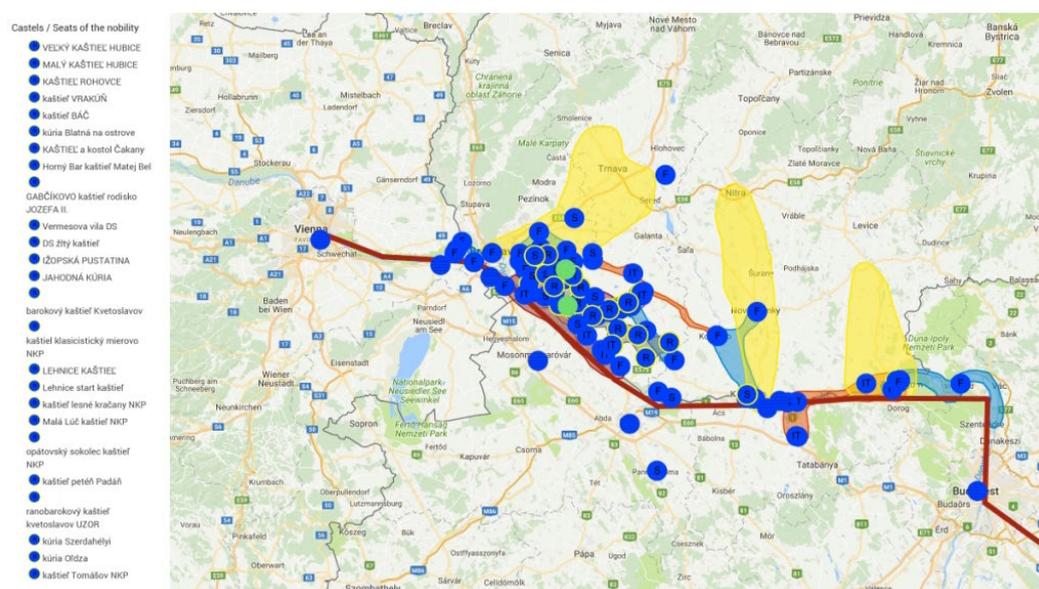
Cultural heritage was researched in scale of individual heritage (object, building marked by a point), zone, district (linear structure, plot, ground, urban marked full area), regional dimension (local, regional marked outline or line)

First level of categorisation is connected selection of architectural heritage in particular for its another evaluation in relation to sustainability and attractiveness of region or city:

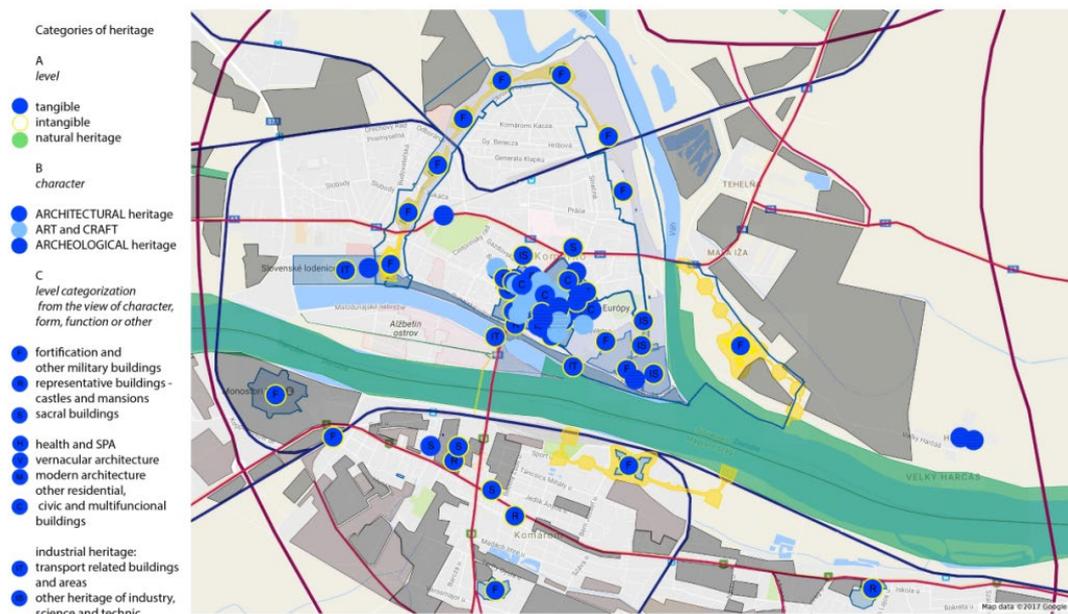
- Cultural heritage with potential
- Cultural heritage in risk
- Other Cultural heritage – without risk – sufficiently exploiting their potential

Currently, the last mentioned categorization is in position of conceptual solution. This part of research will be modified in other period with participation of researchers and stakeholders and the results first period of research – categorization and evaluation of potential of architectural heritage. The research and characteristic of individual representative's cultural heritage was realised on the basis existing materials – historical documents, realised research and own field research.

Common platform for documentation of project results is provided GIS (Interactive map). The aims of interactive map GIS is not only graphic marking of cultural heritage, but also to put emphasis spatial connections of individual components of cultural heritage, in comparison with its position to spatial urban and natural structure. Except of GIS map, tools for saving findings about cultural heritage were called Datasheets (decided form of information list). These datasheets are connected to attribute (excel) table and system of GIS map, which is accessed by users.



**Figure 3.** Scheme of cultural heritage mapping focused on region, source: authors archive



**Figure 4.** Scheme of mapping cultural heritage focused on town Komárno, Source: authors archive

Thus gained findings about cultural heritage will be researched in four clusters:

1. Heritage Landscapes Shaped by The Danube - Urban riverside (the relation of the city to the river: morphology, public space/private space, nature as a leisure potential...etc.)
2. Heritage of Art & Architecture - Architectural heritage along the Danube (layers of new identities: historic, post-war, contemporary... etc.)
3. Heritage Defined by The Economy of the Danube - Danube as an economic resource (artefacts of subsistence: fishing, industries, agriculture, trade... etc.)
4. Heritage Defined by The Socio-Cultural Life Along the Danube - Danube related intangible cultural capital (intangible heritage connected to the river: traditions, folk art, gastronomy, crafts and knowledge, ... etc.)

Case study of Komárno /Komárom deals with collection of existing materials, documentation and historical research. Mapping cultural heritage in these twin cities was focused on identification of potential of architectural heritage. Methodology of mapping Komárno/ Komárom is based on principles used in common strategy for international project Danurb Intereeg. In proposed study twin city Komárno/Komárom will devote only, but in other period will be process another case study of Štúrovo. Mainly the research cultural heritage related on summarization archive documentation - about historical development both of cities, field research of cultural-historical values, but also searching for and selection evidences of wrongly used representative cultural heritage, which would be determine valorisation in final period of project DANURB.

## 5. Conclusions

International project DANURB efforts to reveal unused or hidden cultural heritage and spatially organized resources with Danube. These resources are connected to create a viable cooperation and thematic products of tourism according to the spatial cultural strategy.

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