

What Does a Tourist See, or, an Environmental–Aesthetic Evaluation of a Street View in Szeged (Hungary)

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Abstract

Nowadays, it is in our fast-developing big cities, that the steps taken to improve the inhabitants' physical and mental health conditions have become increasingly important. The aim of health improvement can also be facilitated by extending the proportion of well-cared-for green areas in city centres, or, by rehabilitating particular buildings, streets, or districts; these developments have an obviously beneficial psychological effect on people. The establishment of such 'livable cities' can be rewarding from the point view of tourism, too, because, in general, tourists are happy if they can spend their free time in an urban environment which is devoid of visual conflicts. This is the reason why our team of researchers attempted to identify a so-called 'Visual Livability Index' (VLI) with the aim of qualifying the state our urban environment is in. When identifying the formerly mentioned index, primarily those positive and negative characteristic features are determined, which may have an impact on the aesthetic value of the settlement. Then, after summarizing the results of evaluations, the next step taken is when the streets, squares, whole districts of the given settlement, or even the entire city is qualified with the help of the VLI index, thus making the results comparable with those of other similar settlements.

Keywords: *Cityscape, Aesthetics Evaluation, Tourism, Urban Reconstruction, Visual conflict*

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Introduction

All human activities, including the spheres of work and leisure-time, are carried out in one or another type of environment. This is why the state of that particular environment is of special significance for us. Human activities have a definite impact on the environment, while the environment also influences the wellbeing and health of humans. Our mental and physical state may then determine our activities and creativity.

Today, urban aesthetics is an important issue in developed countries, which is taken into account as an important additional tool in urban planning systems (Rezafar, 2023). The city view plays an outstandingly important role in tourism; from the perspective of consumption the most important step in the process is when tourists choose a particular destination. Generally, it is the architectural monuments, the built environment itself which represent the most attractive landscape forming factors for tourists (Szalai, Szilágyi, 2007; Barcza et al., 2017). On the other hand, cityscapes burdened with visual conflicts are a major repellent in tourism (Karancsi et al., 2012, Karancsi et al., 2013). From another aspect it is also important to add, that the interest shown on the part of tourists may underline the needs for renovating valuable, but formerly neglected buildings and also for the necessity of preserving some old structures (UNESCO 1976). Of course, it is always a big dilemma for local governments, whether to gain short-term economic profit by demolishing old houses and building new ones, or whether to serve long-term interests by protecting the authentic heritage and thereby improving the quality of life (Li et al., 2020).

Tourism, or more correctly, tourism industry, is usually interpreted by some authors (Boorstin, 1992; Edensor, 2009; Pusztai, 2016) as a medium, capable of introducing a local product to tourists-consumers as a kind of mediator. In this respect tourism industry shows similarities with the media: first, it would pre-select the product to be sold, then the product - already introduced- would be interpreted for potential buyers, finally, (especially in the age of mass tourism) the product itself would be transformed and improved. On the other hand, in the opinion of some researchers, the product would be practically falsified. In case no product improvement can be detected, or, the product is not authentic, tourists would eventually be disappointed and express their disillusionment accordingly. Negative personal opinions given by tourists would be very difficult to compensate for in the tourism industry.

From the point of view of the development of tourism it is of utmost importance to monitor the environmental changes of tourist destinations, and, if necessary, to stop or slow down those processes which may lead to the occurrence of visual conflicts or may have a negative effect on people (Budai, 2004). Contentedness with our environment is one of the most decisive factors of the quality of life. Research into the area of urban rehabilitation has proven that since the changing of the political system in Hungary, the needs and expectations of people regarding their homes and living environment have basically grown (Bajmóczy et al., 2012). Despite this feature, and, in accordance with the growing distance between people's private sphere (homes, flats or private houses) and the wider living environment, people are increasingly dissatisfied, because they have only limited opportunities to express their opinions concerning the way how the living environment is built or rebuilt (Egedy, 2007, 2009).

In view of our research location, it is important to say that we interpret the deterioration of inner cities as part of suburbanization. Suburbanization is the process of expansion and restructuring of urban space, during which the gravity points of population and economic activity are relocated from the city core to the suburban areas (Figure 1). As a result of the restructuring, the city core's importance is lessening and its area starts to show visible signs of deterioration: the condition of the buildings is getting worse, and the number of used busi-

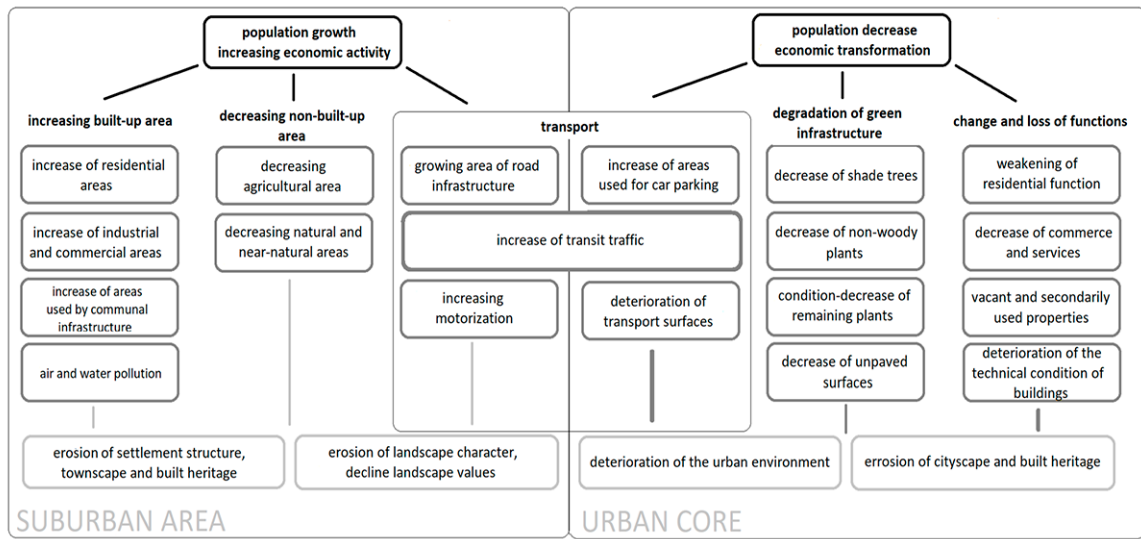


Figure 1. The determination of urban areas during the suburbanisation

Source: own edition

ness premises is decreasing. Due to commuting mainly based on passenger cars, more and more space is used as vehicle parking lots, and the extent of green spaces is decreasing, while automobile traffic is increasing. The losses of services, jobs and green surfaces are resulting the deterioration of the street milieu. The deterioration of the urban space occurs not only in the urban core but also in the suburban settlements and the space between the settlements.

For the local administration, this phenomenon represents an important challenge, as well as an opportunity to break out. The local politicians are starting to orient themselves even more in the direction of changing the function of the streets. The local governments, as well as investors, all hoping for an increase in tourism, spend a considerable amount of money on renewing local public areas and making them more attractive (Boros, 2017). Several cities, hit hard by a declining industry, have successfully renewed their public areas (Nagy, 2015). The main driving force of these activities was the desire to meet the needs and demands of travel industry, also called 'desire economy' by Pusztai (2016). Another impact of tourism on the part of the hosts is that it is the tourists' interests that make the locals become aware of the uniqueness and value of their own built environment (Mendele, 1974). As a result, in the eyes of the residents, their own place becomes more precious and prestigious (Garland, 1984; Cawley, 2009).

In Hungary the main driving force of the reconstruction of city centres is investment in cultural tourism. In the period of the changing of the political system in Hungary, major renovation works were initiated and carried out by local governments (e.g., the reconstruction of the Kárász Street in Szeged). After Hungary joined the European Union, this tendency changed and became more complex: in the various phases of this work there were multiple players who cooperated with the aim of diversifying the economy and improving the quality of life of city dwellers. The recurring elements of these works included the improvement of the physical conditions of the place, as well as the intention of offering easy access to this improved environment (Lőrincz, 2007). Cultural tourism and the rebuilding of public spaces are in synergy with one another, thus the development in one area will contribute to the improvement of the other one.

The focus of our research is on the aesthetics of the urban space, which is extremely important not only in our everyday life but also when visiting a place for tourist purposes. The specific function of urban public spaces includes the ability to form the background necessary for everyday life to satisfy uses, but at the same time, as part of the environment and its features, they also create a non-focused, so-called “atmospheric perception” in us (Pallasmaa, 2014). The quality and character of a place, abstract its experience dimensions are therefore closely related to the specific functional and material dimensions of that (Vihanninjoki, 2021).

In this connection, excellent philosophical and environmental psychology approaches leading to an understanding of the aesthetics of the environment around us have been published (Naukkarinen, 2017; Saito, 2017; Dovey, Pafka, 2019; Vihanninjoki, 2021). However, studies of urban spaces focus primarily on architectural, functional, social, or symbolic spaces (Malpas, 2012), coherence and diversity, which are of great importance from the point of view of the general quality of the built environment, receive less attention (Haapala, 2017).

Many studies deal with the quality and direct impact of urban green spaces, the parameterization of the visual evaluation and perception of space (Chen et al., 2019; Qiao et al., 2021; Sun et al., 2023), with the visual complexity levels of streets and the perceived safety and comfort of users (Kawshalya et al., 2022), or with multivariate modelling of the street space based on computer analytics (Wang et al., 2023). The more intensive use of pedestrian streets by both local residents and tourists is indisputable. While studying urban commercial and mixed-use street types, based on a questionnaire survey, interviews, photographs and video analysis, Balasubramanian et al. (2022) concluded that the diversity and perceived pleasantness of the environment, which includes elements such as facades, colours, aspect ratios, maintenance, and vegetation, are very closely related to pedestrian street use preferences. However, the streetscape does not always explain the more frequent use of space: local residents often visit not particularly attractive places (e.g., side streets, alleys) in order to visit a popular service (e.g., restaurant, pub). Many times, in the same city we also find beautiful but underutilized potential leisure areas that could be developed in terms of urban planning and design (Zhang et al., 2020).

The aesthetics of urban green spaces have long been identified as an important aspect of supporting human health and well-being (Stoltz, Grahn, 2021). According to Kothencz et al. (2017), the visual experience provided by green areas, the experience of nature and perceived recreational opportunities are the most decisive predictors of park users’ satisfaction and subjective assessment of their quality of life. E.g., In places providing attractive environments, where the opportunities for physical activities are seen as more favourable, a higher proportion of inhabitants engage in exercises (Laczkó et al., 2020; Duncan et al., 2022). It is already known too, that the micro-scale walkability of streets (e.g., pavement conditions) and streetscape aesthetics (buildings, street trees) affect leisure-time physical activity (Witten et al., 2012; Nagata et al., 2020). All of this is important because the sports and recreation opportunities offered by a settlement can be an important tourist attraction for people living elsewhere too (Győri, 2020).

Green areas provide additional benefits for tourists and local residents (e.g., air conditioning, aesthetic values) (Li et al., 2015). However, when we talk about the aesthetic function, during the comprehensive evaluation of vegetation in streets, squares, and parks, not only the amount of that but also the aesthetics of the shape of the trees, and bushes must be considered (Hu et al., 2022).

Subjective, abstract experiences related to cityscapes deserve a lot of attention not only in everyday life, but also in tourism planning. In Hungary, researchers have not yet examined the visual elements of the cityscape with sufficient thoroughness, even though they can play a major role in the accurate diagnosis of quality problems related to street renovations and

in the planning of the implementation. In our study, we offer to present an original, practical, and relatively simple method that can be easily adapted to any area, which offers a tangible and effective method for the environmental-aesthetic assessment of the streetscape even for professionals less familiar with spatial analysis. The present study aims to fill this gap by evaluating individual tourist attractions from a landscape and environmental aesthetic point of view (Karancsi et al., 2017)

Hypotheses

In advance, we have to stipulate that the examination can only be carried out on an object that has already reached its final or near-final state. Locations undergoing demolition and reconstruction are not suitable for carrying out such an examination. Their visual usability has not been finalized, and there are elements (noise, construction materials) in their area that will not be part of the final streetscape. This method would certainly be unsuitable for the evaluation of areas that are undergoing a strong transformation, possibly changing their buildings or street network, such as in the case of the Belgrade Waterfront planned at the former site of the Belgrade Old Railway Station.

The purpose of the works in Oskola Street, Szeged was twofold. On the one hand, to change the functionality of the street, to create an area that is more useful for tourists by its functions, and by the restricted motorized traffic. On the other hand, the interventions aimed to make the area more desirable for guests in appearance and atmosphere.

The main (first, H1) hypothesis of this paper is that the transformation of the area, which does not involve the replacement of the building stock, also creates an opportunity in the very subjective field of aesthetics, to express the transformation of the cityscape with numbers. To test the hypothesis, we are using the LVI-number previously worked out by our research group (See the methods!).

Our second hypothesis (H2) will be examined if the first one proves to be true. According to the second hypothesis, the intervention resulted in an improvement in the streetscape of the study area, making it more attractive to tourists from an aesthetic point of view. H2 is true if $VLI_{2017} < VLI_{2022}$.

Of course, in such a subjective field quantification hides many different results, so an evaluation of the individual partial results is also necessary to draw the whole picture.

Methods and Data

The most important aim of our research in the area of environmental aesthetics is to elaborate a system of criteria which may be suitable for any street view to be evaluated from an aesthetic perspective. It is evidently the buildings and their immediate surroundings that represent the basic factors of any street view; consequently, this is the point where evaluation needs to begin. The first task is to quantify the looks of buildings and their surroundings and then, with the help of a simple arithmetic average, it becomes possible to calculate the overall value of a given area. The same method can be applied to the evaluation of streets, districts, or an entire city, when focusing on the perspective of environmental aesthetics. Finally, when determining the average of various districts within a given city, it becomes possible to identify the aesthetic quality of a settlement with a concrete number. Thus, by using the same method, this number serves as basis for comparisons with the aesthetic values of other places.

Actually, this method is used to evaluate the view of our environment. The figure we get as a result of the evaluation process, comprises several aspects of the scene, it describes the visual value of the given street, district, or settlement. This is why it can be called a kind of 'urban aesthetic index'. As it has already been outlined, the view of our environment determines our relationship to it, so, in case the environment is valued as 'positive', it is judged as more livable; this is why we preferred the term *Visual Livability Index* (VLI) in our research.

When determining the number of points given for the individual aspects of the environment, we aimed to minimize the distorting effect of subjectivism. This is why we used three value selectors in our qualifying system. On first approach this method seems to be suitable to determine objectively the individual elements of urban aesthetics, since '1' is the lowest point,



Figure 2. The determination of core values on the basis of the physical condition of buildings (from left to right): very bad (1 point); average, with some clearly visible aesthetic problems (2 points); a renovated building in perfect condition, (3 points)

Photos by Karancsi

Table 1. The aesthetic qualification of core- and supplementary values for studies in urban aesthetics

Basic values	Condition of building(s)	1	In very poor condition (missing plaster, broken or missing fenestration, broken roof)	
		2	In average condition. Minor, but visible aesthetics problem (crack in the wall, parts of the plaster or paint are missing)	
		3	In perfect condition. Fully renovated building(s)	
	Homogeneity (matching)	1	Neither it's architectural style nor its construction matches the surrounding buildings and/or the street view.	
		2	Same height of rooftops, similar division of facades and some matching colors	
		3	Buildings of similar styles, building(s) are in harmony with the homogeneity of street view	
Supplementary values	Significance in tourism	1	Building(s) are of artistic historical significance	
		2	Building(s) are of historical significance, or listed buildings of local importance	
		3	Historical building(s) of national or international importance, emblematic building(s)	
	Street furniture, street decoration	1	Bench, flower pot or statue in good condition	
		2	Smaller terrace of a catering establishment matching the general street view and seating max. 15 persons	
		3	Larger terrace of a catering establishment matching a uniform street view and seating min. 15 persons	
	Plants	Street	1	Flowers in a pot on a balcony (decoration)
			2	Young and well-cared-for wooded plants in flower box
			3	Older plants, well-cared-for wooded plants with lawn
		Visibility from the public area	1	Younger well-cared-for plants less visible from the public areas
2			Older well-cared-for plants less visible from the public areas	

Source: Karancsi et al. 2017

while '3' represents the highest value that can be assigned. Number '2' actually represents a transition concerning the quality of the scene. When qualifying buildings, as far as the core (lowest) value is concerned, it was assigned to structures which represented the worst physical condition. Buildings with only some smaller aesthetic problems were given 2 points, while buildings, representing aesthetic perfection were awarded 3 points (Figure 2, Table 1).

In our analysis it was also considered how the buildings match the general street view (homogeneity). Due to problems in defining our benchmark, this latter task proved to be difficult. In our opinion in this case, when identifying the homogeneity in street view, those buildings can be used as benchmark, which were built in identical or similar architectural style(s) and which represent the majority in a given street. It was accepted as a general rule, that, in order to create a unified and harmonious street view, it is necessary that new buildings be matched to older ones and a modern building be in harmony with the architectural style of the formerly built one(s). In certain cases, it made the research process difficult to highlight those buildings which represent the majority and thus they dominate the street view. Occasionally 'harmony' meant the diversity of buildings. Thus, it was the architectural characteristics, the building materials or the construction technologies that were used as 'connectors', when determining to what extent the individual buildings became the integral parts of the street view. If these buildings were well integrated, they were awarded 3 points. In case only some characteristic features matched (e.g., the colour or the height of facade/walls, or similarities in architectural style), the buildings were given 2 points. Eventually, in case there was a huge contrast between the individual building and the ones nearby (general street view), only 1 point was given by the research team (Figure 3, Table 1).



Figure 3. The identification of core values on the basis of the homogeneity of buildings. From left to right: does not match the general street view neither by its style nor by its construction (1 point); Partially matched building (in colour and size) (2 points); matching buildings of similar style (3 points)

Photos by Karancsi

Actually, the buildings which were given the lowest scores (1 point) in two categories (condition and uniformity), may represent visual conflicts. But since the evaluation tables have a separate one that focuses on the topic of visual conflicts by giving negative numbers, this category is being disregarded for the time being. In case the buildings in one row represented homogeneity in their architectural styles and construction features, then they were not evaluated one by one, but they were given one –common - score. When considering the final result of the overall evaluation, this method did not have a significance. In addition to the points of the formerly detailed core values there were two cases when supplementary points were given to buildings.

Theoretically 3 supplementary points could be given to each individual building for its special significance in tourism. 1 supplementary point was given to buildings of special significance in art history, 2 supplementary points to locally protected buildings, or to listed build-

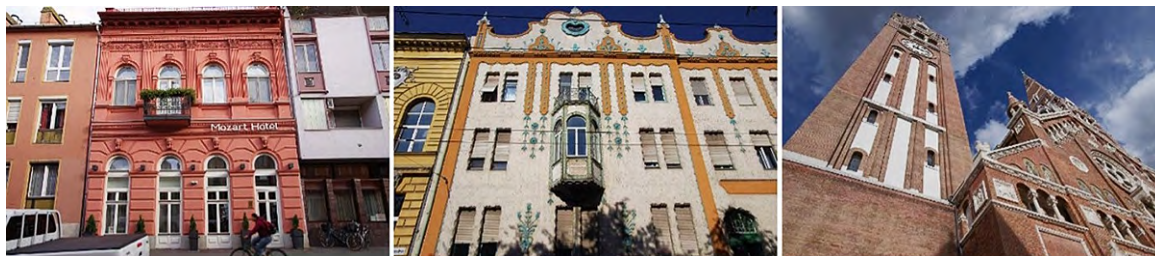


Figure 4. Supplementary points given for touristic values (From left to right): significance in art history (1 point); historic monument or listed building of local significance (2 points); historic building or listed building of national or international significance, emblematic building (3 points)

Photos by Karancsi

ings. 3 points were given if the building is a national historic building, or, if it has a special significance internationally (emblematic building) (Figure 4, Table 1).

Although, there is no direct relationship between the touristic significance and the aesthetic value of a building, during renovations the listed status of a building is doubtlessly an advantage. Consequently, a closer relationship can be detected between the better condition and the listed status of buildings. The final outcome of our research would be a visual map of Szeged, which is to colour-code and display all the streets of the city. Practically, the main beneficiaries of this street map would be the tourists, who, in addition to being informed about the most spectacular sights of Szeged, with the help of our map would be enabled to visit the most attractive and architecturally the most homogeneous streets of the city. On the other hand, in theory, in case researchers intend to focus exclusively on the theoretical analysis of street views, the idea of a tourism map may be postponed or disregarded.

The view of a street may be enhanced by benches, flowerpots, and public statues, as well as by the temporarily operating terraces of catering establishments, features, which can create a special Mediterranean atmosphere during the summer tourist season (Figure 5, Table 1).

Healthy plants are of special value of significance because, when evaluating the city view, they represent added value. This is why their presence is worth of a maximum of 3 points. Thus, no point is given if there are no green plants in the area, 1 point is given if their presence is restricted to balconies only as a decorative element and two points if there are woody plants, too, for example thujas in flowerpots at the entrance of houses. 3 points are awarded if there are well cared-for-lawns and older trees in the neighbourhood of the given building (Figure 6,



Figure 5. Street furniture and street decoration may enhance the aesthetic view a street can offer

Photos by Karancsi



Figure 6. Supplementary points given for the presence of healthy green plant (From left to right): plants on the facade of a building, on the balcony and in front of the building (1 point); flowers and young trees in pots (2 points); well cared-for- lawn with older trees and/or flowers (3 points)

Photos by Karancsi

Table 1). When evaluating the plants in the neighbourhood of buildings it is important to make a distinction between those plants which can be found in public areas and also those which are in private grounds and can only be seen from the public areas. (It may be an important factor when evaluating suburban areas).

Considering the basic values, in this evaluation system the basic values a building might earn is a maximum of $3+3=6$ points, while as far as the supplementary categories are concerned, a maximum of $3+3+3+2=11$, that means a total of 17 points. The researchers also intended to consider visual conflicts, the presence of which might lessen the aesthetic value of the area. The possible visual conflicts were enlisted and then points were deducted from the total. One point was deducted for minor conflicts and two for more serious conflicts. The list of possible visual conflicts used in our research is as follows:

- neglected green areas,
- graffiti (We have distinguished graffiti from the works of the so-called 'street art', some examples of which can be found in Szeged, too!),
- broken bench, dirt, litter, broken –dangerous- sidewalk pavement,
- aerial wires, advertisements, advertising boards,
- noise, dust, fumes from intense traffic (Figure 7, Table 2).

Also, it is important to note that we were and still are aware of the fact that some of the visual conflicts are of temporary nature: dirt or litter in the street seen one day might be gone for the next day. Graffiti or advertisements take longer, occasionally weeks to disappear. It might take months for a crack in the pavement to be repaired. At the same time there are some temporary conflicts, including for example noise, air or dust pollution in the peak hours, or some unpleasant smell which can affect livability in a negative way, but which very rarely disappear on their own. For example, the unpleasant smell is often linked to the presence of garbage, or to uncleaned, dirty streets, or to excess traffic, which is in most cases the major cause of noise, air or dust pollution, too. All these are factors that have an influence on city view, too. This is why it is of utmost importance for all parties concerned, to underline the hidden dangers which might destroy city view and livability.

The final number of points the buildings were given in our research, consists of the sum of scores given for the basic and for the supplementary values. The points given for possible visual conflicts were deducted from this result (-1 or -2 points). This relatively simple evaluation system helped us to achieve that during the evaluation process no major differences could be found concerning the points given by the individual evaluators. The differences were practically negligible, meaning, it was only to a limited extent that subjectivity was part of the qualification process.



Figure 7. Examples of visual conflicts to be found in Szeged

Photos by Karancsi

Table 2. The qualification of visual conflicts

Visual conflicts	Uncared- for (sick) pants (vegetation)	-1	Minor visual conflict
		-2	Major visual conflict
	Grafitti	-1	Minor visual conflict
		-2	Major visual conflict
	Broken bench	-1	Minor visual conflict
		-2	Major visual conflict
	Dirt (dust), litter	-1	Minor visual conflict
		-2	Major visual conflict
	Cracked pavement	-1	Minor visual conflict
		-2	Major visual conflict
	Billboards. adverts	-1	Minor visual conflict
		-2	Major visual conflict
	Aerial wires	-1	Minor visual conflict
		-2	Major visual conflict
	Traffic (noise)	-1	Minor visual conflict
		-2	Major visual conflict
	Smell, offensive odour	-1	Minor visual conflict
		-2	Major visual conflict

Source: Karancsiet al. 2017

Sample Area

The sample area of our research is situated in the centre of Szeged. The area, called Palánk, was formerly the Castle District in Szeged; its main cross- street, the present day Oskola Street was chosen for our research as the sample area (Figure 8). In the past it was the street that linked

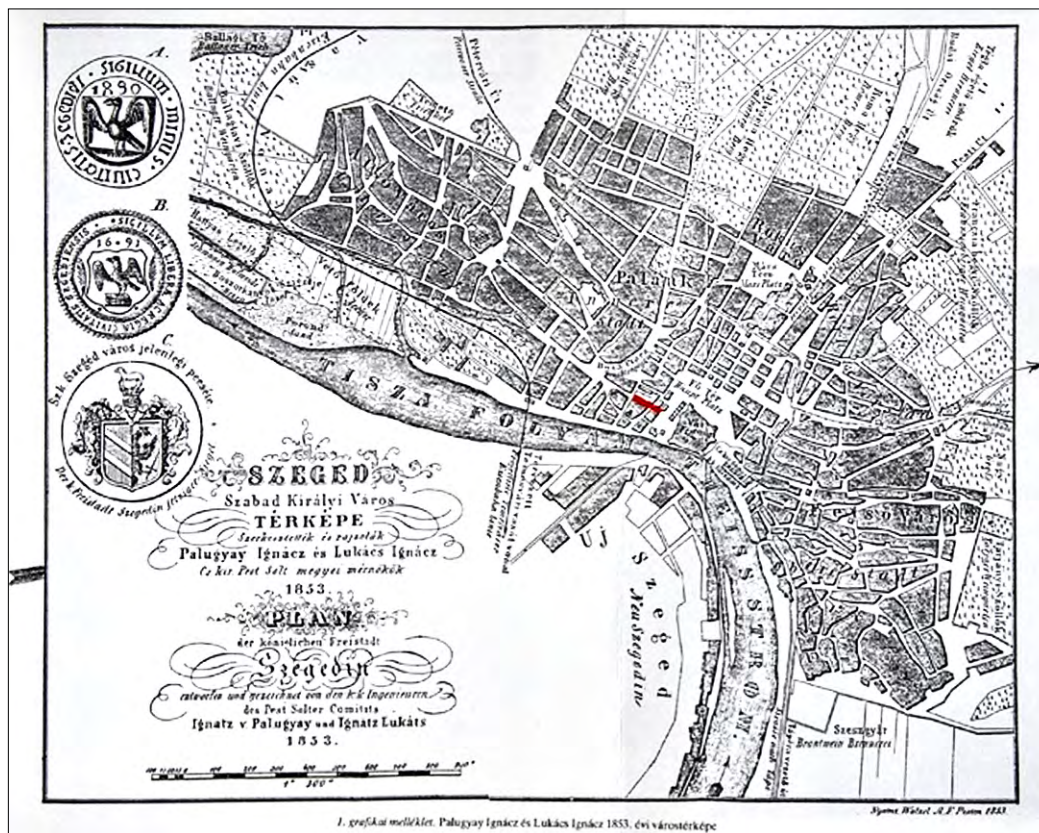


Figure 8. A west-facing map of Szeged. The Oskola Street is marked with red
Ed. by Palugyay, Lukács, 1853

up Gizella Square (today it is called Dóm Square) and the Castle (today Roosevelt Square). The map drawn in 1853 illustrates Szeged's former, typically medieval layout, which changed significantly after the great flood of 1879. In accordance with Lajos Lechner's plans, Szeged is today characterized by a network of modern boulevards and avenues (Arató, Bátyi 2002).

The aesthetic characteristics of Oskola Street had already been investigated prior to our current research (Karancsi et. al., 2017). It was chosen again because its condition had already been evaluated and thus, we had a rich collection of data, documents, and photographs at our disposal to work with.

Oskola Street is located next to Szeged's main tourist attractions. In the south it leads to Dóm Square, its northern end located at the Belvárosi bridge. Kárász Street, Szeged's main shopping and pedestrian street runs parallel 220 meters, while the riverbank promenade on the opposite side is only 150 metres away. Oskola Street is surrounded by local attractions of cultural tourism. Every summer this area becomes the venue for the programmes of the Open-Air Theatre; the performances actually take place at the southern end of this street. The Bridge Market is organized annually at the northern part. The Votive Church, the Móra Museum and the National Theatre are located within 300 meters.

Despite its favourable location, prior 2022 Oskola Street was only an unfulfilled promise. The main cause behind this situation was that up to now the street had a very important role in transport. Passenger cars coming from the south and heading for Újszeged the Oskola street

was the only option to reach the bridge. In the 1990s the Oskola Street was turned into a one-way street and only target traffic was allowed: those vehicles which were heading for Újszeged. In addition, there were parking lots on the north-western part of the street, while on its south-eastern section a two-way bicycle path was constructed. It needs to be noted that the Oskola Street is one of Hungary's busiest bicycle paths (Internet 1). Owing to the wider transport surface the pedestrian pavements were too narrow. During the 2017 evaluation it was found that the most decisive feature detectable in this street was the presence of the multitude of passenger cars. Even worse, the street had practically no green areas. Despite the noise, dust and heavy traffic, shops of a variety of service providers were opened one by one on both sides of the street.

In other parts of the downtown the City of Szeged introduced gradual changes with the aims of reducing the heavy traffic and transforming the whole area accordingly. The main concept was the establishment of a car-free city centre. In addition, some of the buildings were also renovated. When considering the neighbouring areas, Oroszlán Street was the very first one where through traffic was reduced by the 1990s. In the years of 2000-2001 Kárász Street was fully restored. The next step was taken in 2012, when, with the aim of drastically reducing the number of motor vehicles in the area, the nearby Dugonics Square and the connecting Apáthy Street were transformed, too. During 2015 the Water Directorate rebuilt the riverbank promenade. It was in 2019 that the Votive Church got rebuilt, one year later the Museum Garden was renewed. Thus, by the early 2020s Oskola Street was the only place in the downtown which functioned as a 'automobile reservation', other parts had already been transformed into a pedestrian and cyclists' friendly areas.

During 2021 the Oskola Street underwent a large-scale transformation, a major investment by the local government. The street did not become a car-free area, but in the process of the 'wall-to-wall' renovation works all the parking lots were terminated. The lane of transit traffic was significantly narrowed down, and the remaining areas were transformed into wider bicycle paths. The pavements were broadened on the northern part of the street, with the aim of giving catering businesses an opportunity to establish seating terraces for tourists. The traditional asphalt pavements were replaced by red-brick sidewalks, already common in other inner-city areas. Drought tolerant trees were planted, which could thrive in crowded inner-city environment and climate.

Results

First, it is important to mention that the former narrow pavement of poor technical condition, which had already been damaged by frost, was universally changed to a red-brick sidewalk, also preferred by Szeged's corporate identity manual. This change resulted in the general improvement of the street view. As traffic was declining, the amount of dust and noise was also reduced. Due to the buildings, which were renovated using private funds, the signs of technical deterioration were not, or less visible on the facades.

First, it is important to mention that the former narrow pavement of poor technical condition, which had already been damaged by frost, was universally changed to a red-brick sidewalk, also preferred by Szeged's corporate identity manual. This change resulted in the general improvement of the street view. As traffic was declining, the amount of dust and noise was also reduced. Due to the buildings, which were renovated using private funds, the signs of technical deterioration were not, or less visible on the facades.


It is immediately noticeable that the green areas have also changed in the neighbourhood; the plants have different roles today. But it is important to note, too, that Oskola Street was and still is often judged as a barren street; vegetation is less visible. During our evaluation in the past, we found initiatives only on the part of the inhabitants who decided to decorate their houses with some flowers and plants. As decorations there were balcony chests with flowers in them, or, plotted plants in front of entrances to shops. (Changes in this respect can easily be followed using the Google Street View application.) During that survey points were given for this feature. Our more recent experience has shown that the renovation of the area put an end to these 'green initiatives', and, instead of them, barely visible ornamental trees were planted, and some small groups of decorative plants appeared at the end of the street. There used to be large flower beds in front of the houses no. 4 and 8, which completely disappeared. This is why the buildings were now given fewer points than in the past. We have also found an area of artificial grass glued to the wall of No. 27. Although, when being looked at it from a distance the colour green improves the view from an aesthetic point of view, but artificial grass does not play any role in influencing the microclimate. (We have already seen a similar 'green' effort in front of the house No. 19, where the pavement was covered with a green carpet.)

The side of the street where one can find the odd-numbered houses was also evaluated starting from Dóm Square and the points were given on the basis of the formerly detailed criteria to individual blocks of houses. The results of our survey are summarized in Table 3. The header of the table features the photo of the house together with the house number. The red mark below the house numbers gives the name of the building, too, if it is of special importance in local or in art history.

The corner building in Column 1 of Table 3 (No. 27) got only 7 points. This low figure can be explained by the fact that this building representing the architectural style of the 1980s does not harmonize with the other buildings of the street. It is a mismatch considering its style, cover, and even the colour of its facade. The building covered with clinker bricks is rather to harmonize with the buildings in Dóm Square (Somogyi Library or the Votive Church), meaning, that architecturally it is rather related to those buildings. The Romantic (Classicist) townhouses of uniform style can be considered the most valuable parts of the street from an architectural point of view; they also served as points of reference when evaluating the other buildings of the street. In addition, owing to the wooded street front, the town houses got high points (9 points on average). The Classicist Béró House (No. 13. built 1810 as the first two-storey building in Szeged) has monumental characteristics, it received a total of 11 points (Apró, Péter, 2014). The homogeneity of the street is broken by the Victor Hugo Street. Its corner building (No. 11) represents Art Nouveau style; it was built at the turn of the 19th and 20th centuries, still, it is in excellent condition. In this part of the street today there is much less traffic, less noise, dust, and exhaust fumes. True, no points were deducted for this feature in the past neither. There are some other buildings with odd house numbers continuing on the other side of Victor Hugo Street (Table 4).

The street itself was reconstructed in this section, too, but a green area was established only at the end of the street. The modern bank building on the corner (No. 9) earned 8 points in spite its modern building does not match the general street view. On the other hand, the so-called Bozsics House (No.5), built in 1860, represent valuable examples of the reconstruction of old houses. This latter house is decorated with flowers potted in boxes under its windows. This is why this building was given also high number of points in this section of the street (8 points). Next to it one can find building No. 3, which, due to its very poor technical condition, received the lowest number of points during the evaluation of 2017 (3 points). Using


Table 3. An environmental-aesthetic evaluation of buildings 27–11 Oskola Street, Szeged (deductions of points for visual conflicts are marked with yellow)



	27	25	23	21	19	17	15	13	11
	Town houses								Béró house
Number of house	2	2	3	3	3	3	2	3	3
condition of building matching	1	1	3	3	3	3	3	3	2
significance in tourism	0	0	1	1	1	1	1	2	1
street furniture, decoration	1	3	3	0	0	0	0	0	0
plants	1+2	0+2	0+2	0+2	0+2	0+2	0+2	1+2	0
uncared-for (sick) plants	0	0	0	0	0	0	0	0	0
grafitti	0	0	0	0	0	0	0	0	0
dirt (dust), litter	0	0	0	0	0	0	0	0	0
cracked pavement	0	0	0	0	0	0	0	0	0
billboards	-1	-1	-1	0	-1	-1	0	0	0
traffic (noise)	0	0	0	0	0	0	0	0	0
smell, offensive odour	0	0	0	0	0	0	0	0	0
Total value	7	8	11	9	8	8	8	11	6

Source: own edition

Table 4. An environmental-aesthetic evaluation of Oskola Street buildings No. 9-1 (deductions of points for visual conflicts are marked with yellow)

					
Number of house	9	7	5	3	1
		Bozics house	Mozgay house		
condition of building	3	3	3	3	3
matching	1	3	3	1	2
significance in tourism	0	1	1	0	0
street furniture	2	3	0	0	0
plants	1 + 2	0	1 + 0	0 + 2	1 + 0
uncared-for (sick) plants	0	0	0	0	0
grafitti	0	0	0	0	0
dirt (dust), litter	0	0	0	0	0
cracked pavement	0	0	0	0	0
billboards	-1	0	-1	-1	-1
traffic (noise)	0	0	0	0	0
smell, offensive odour	0	0	0	0	0
Total value	8	7	7	5	5

Source: own edition

private and local governmental funds this building was also reconstructed in the near past, and, in the evaluation of 2022, it already earned as many as 5 points.

When returning to the other end of the street, we find that the first building with an even number is the Classicist building of the Hungarian Academy of Sciences. This architectural monument with a beautiful arcade was designed and built by József Hild (1866) (Table 5).

The building next to it is a catering establishment; it features a flowered terrace, and this aspect represents an additional value when qualifying the building. In this section of the street the so-called Auer House is of special significance. It was built in 1883 in Eclectic style and today it operates as a 4-star hotel. Due to this feature its facade is elegant and unique, it is decorated with magnificent green thujas. This is why it was given the high number of points (9 points). The other buildings in this section of the street are residential houses and they were built in the 1960s by architect Béla Borvendég. These buildings (6 out of the 9 houses which can be found in this section of the street) are uniform in their architectural style and this is why they represent a point of reference in our evaluation. Building No. 8 has a cozy terrace and a stone prow of a boat next to the arcade, features which represent a plus concerning the overall number of points this building was given. Next to the building there is a small park, in the middle of which a statue of Saint Barbara, the patron saint of miners can be found. Behind this house one can find a larger park with older and bigger trees, which can be seen from the street front as well. Due to the presence of these green areas- and despite some visual conflicts - this building got the highest number of points in the entire street (13 points!). The last building of this section is a modern 10-storey red brick building, surrounded by parks from the south and also from the north. The building has been given the nickname 'Burning Gold', with reference to the oil fields in the vicinity of Szeged (Table 5). According to old legends they built such a high building in the era of communist city planning (1982), because they wanted it to over-

shadow the spires of the Votive Church (Blazovich, 2010). Earlier this section of the street used to feature elevated flower beds, all of which unfortunately disappeared during reconstruction. On this side of the street, it is only the owners of businesses who decorate the street with some potted plants. The loss of the green areas in this part of the street moderates the overall positive effects of the reconstruction.

When we summarize the points given to the odd-numbered buildings and then divide the sum by the number of buildings, we get the Visual Livability Index (VLI) of the street view. The same method can be used to quantify the condition the buildings in this section are in, or the value of the homogeneity of the buildings, making up the street view. Similar calculations can be done in relation to the even-numbered buildings on the other side of the street, then the average of the two street sections will make up the street average (Table 6). This number makes it possible for researchers to compare the street view with adequate figures of other streets from the point of view of environmental aesthetics (Figures 9 and 10).

When evaluating this street earlier it was evident that the houses located on the south-eastern part of the street (the houses with the even numbers) were in a deteriorating state from a technological point of view, while on the northern side of the street the houses had already been renovated. In our survey of 2022, it was found that the facades of the buildings were reconstructed on the south-eastern side, too, meaning, that the formerly 'weaker' side of the street caught up with the buildings of the north-western side (odd-numbered houses).

Table 6. *An environmental-aesthetic evaluation of the street view of Oskola Street, Szeged*

Oskola street	Even-numbered side	Oven-numbered side	Street view
VLI	8,0	7,7	7,9
condition	3,0	2,8	2,9
matching	2,5	2,3	2,4

Source: own edition

Based on the The Visual Livability Index (VLI) it was the side with the odd-numbered house numbers that got higher points. It is partially due to the fact that on this side the street view is more uniform and also that after the reconstruction new green areas were established, while on the southern side the plants were gone with the reconstruction. It is important to note that the renovation of the buildings, together with the establishment of new green areas and the new terraces, are factors that all contribute to the improvement of the street view, even in case of those buildings, the technical condition of which has deteriorated since our former evaluation.

Table 5. An Environmental-aesthetic evaluation of buildings 18-8 of Oskola Street in Szeged (deductions of points for visual conflicts are marked with yellow)

	4		8		10		12		12/A		14		16		18		Somogyi str. 7 HAS*	
	House of the Burning Gold		Stone Prow										Auer house					
Number of house	3		3		3		3		3		3		3		3		3	
condition of building	1		3		3		3		3		3		2		3		3	
matching	0		1		0		0		0		0		1		0		2	
significance in tourism	3		3		0		0		0		0		0		3		0	
street furniture	1+3		1+2		1+0		1+0		1+0		0		1+0		1+0		0	
plants	0		0		0		0		0		0		0		0		0	
uncared-for (sick) plants	0		0		0		0		0		0		0		0		0	
grafitti	0		0		0		0		-1		0		0		0		0	
dirt (dust), litter	-1		0		0		0		0		0		0		0		0	
cracked pavement	0		0		0		0		0		0		0		0		0	
billboards	0		0		0		0		0		0		0		-1		0	
traffic (noise)	0		0		0		0		0		0		0		0		0	
smell, offensive odour	0		0		0		0		0		0		0		0		0	
Total value	10		13		7		7		6		6		7		9		7	

* Hungarian Academy of Sciences

Source: own edition



Figure 9. The panorama of Oskola Street (odd-numbered and even-numbered houses) from the south.
Photos by Karancsi and Hornyák



Figure 10. The panorama of Oskola Street (odd-numbered and even-numbered houses) from the north.
Photos taken before and after reconstruction
Photos by Karancsi and Hornyák

Discussion

The repeat of the 2017 examination shed light on some of the possibilities of using the VLI number, and also outlined possible mistakes. These traps are also limiting criterias that narrow the scope of such investigations. From the point of view of this study, it is fortunate that the investigated street was not affected by a gentrification program. In its original state the street was neither socially nor technically degraded. The streetscape only had to be subjected to some “stylization”, rather than a radical reconstruction and the installation of new buildings and functions in its area. If the buildings of the street are also replaced, or even significantly rebuilt, then we believe that the examination could not be carried out on the entire street.

The appearance of green surfaces in the streetscape is also worth examination. In the 2017 streetscape the green spaces were practically absent. In the 2022 evaluation, the green spaces already had a greater role, but at the same time, the decorative role of plants in the streetscape is still limited. After years, the canopy of the trees will grow, so they can provide more shade and a larger green surface, thus improving the view of the streetscape. However, there is a risk that the trees surrounded by waterproof surfaces will suffer from the heat of the canyon-like street, so they can appear as a negative element in the streetscape. This also raises a question that can be investigated later. (What worsens the streetscape more? The bad condition of something, or the absence of the same thing?)

Oskola Street turned from a mostly traffic area into a street that prioritizes recreation, entertainment, and consumption. The so-called offering entertainment and consumption One of the phenomena of pedestrian streets is the proliferation of advertising surfaces that spoil the streetscape. (This phenomenon also can be observed on Kneza Mihaila Street in Belgrade, or on Mariahilfer Straße in Vienna.) At the time of the survey in 2022, shortly after the completion of construction, this advertising dumping had not yet occurred, so the evaluators no negative points were awarded for intrusive portals. However, if the investment is successful and the street attracts a large number of guests, then the efforts of entrepreneurs to advertise their services will increase, even to the detriment of the streetscape.

We must state that in the case of pedestrian streets, the streetscape is an item to consume for guests, but for entrepreneurs, it is a kind of public good that can be exploited. Visitors there not only use the services offered by entrepreneurs, but also consume the streetscape itself. Entrepreneurs are forced by market competition to increase sales, which results in more intensive advertising of services. Advertisements are intruding into the streetscape, deteriorate the streetscape, which is an important element of the sold experience. The relationship between businesses and the streetscape is similar to the paradox that game theory knows as the tragedy of the commons. (If only a small number of competitors exploit the public good, they win a lot. If more people do the same, then everyone loses.) Placing intrusive advertisements can quickly destroy the results of the reconstruction, also expressed in the VLI, which the investor obtained with a significant investment.

Conclusion

When elaborating the formerly detailed method of evaluation our main aim was to objectively quantify the aesthetic value of a street view. When calculating the Visual Livability Index in relation to the view of an entire street, it becomes possible to compare the given street with other streets, or parts of a town, which are similarly built in. The lesson which can be learnt

from our second evaluation is that the method is also suitable for monitoring the developments and changes of one particular street view. This statement is definitely true in case of projects, which – similar to the sample area chosen for our research – represent something ‘more than a simple renovation, but definitely less than a complex rehabilitation of one particular area in the city’.

Regarding the evaluation itself it needs to be emphasized that it is important to treat the figures with some caution and in order to get a realistic picture of the true value of the given city view, it is absolutely necessary to complete the figures with explanatory remarks. Changing certain visual elements within the individual categories (e.g., billboards, or the lifting of parking ban) may change the overall impression a street offers to onlookers; in certain cases these elements may serve to hide some negative aspects of the street view.

It is also of utmost importance to lay down that in order to get a complex view, in addition to the formerly described evaluation, it would be important to let the local residents qualify the state of their own residential area, too. In case of tourism developments, it is also of utmost significance to survey leisure and visual elements preferred by tourists. These surveys need to be done with the help of specific questionnaires. When local residents are surveyed their opinion is highly influenced by internal and subjective visual elements; this type of survey currently was not within the scope of our research.

Our “tourist’s eye” study helps to bridge possible gaps between urban planning experts and end users in the evaluation of city squares and streets using an easily adaptable, yet scientifically demanding method. We kindly recommend our method to the decision-makers of all local governments.

References

- Apró, F., Péter, L. 2014. *Szeged City Guide*. Szeged: Grimm Publishing. (in Hungarian)
- Arató, L., Bányi, Z. 2002. *Szeged, the town of palaces*. Szeged: Szeged County City Municipality – IKV. (in Hungarian)
- Bajmócy, P., Boros, L., Csátári, B., Dudás, R., Farkas, J. Z., Juray, T., Kovács, Z., Pál, V. 2012. Managing the socio-economic consequences of the climate change. In: Rakonczai, J., Ladányi, Z. (Ed.) *Review of climate change research program at the University of Szeged (2010-2012)*. Institute of Geography and Geology, University of Szeged, 105-121.
- Balasubramanian, S., Irulappan, C., Kitchley, J.L. 2022. Aesthetics of urban commercial streets from the perspective of cognitive memory and user behavior in urban environments. *Frontiers of Architectural Research* 11(5), 949-962. <https://doi.org/10.1016/j.foar.2022.03.003>
- Barcza, A., Pálfi, A., Magyar-Papp, J., Aubert, A. 2017. Analysis of the transformation effects of space and the environment on the example of Pécs and Sopron. In: Régi, T., Rácz, T., Michalkó, G. (Eds) *Tourism and transformation*. Kodolányi János College – MTA CSFK Institute of Geography – Hungarian Geographical Society, Orosháza – Budapest, 164-179. (in Hungarian)
- Blazovich, L. (ed.) 2010. *History of Szeged 5. (1945-1990)*. Csongrád County Archives, Szeged, 61-75. (in Hungarian)
- Boros, L. 2017. Transformation of public spaces and the tourism. In: Régi, T., Rácz, T., Michalkó, G. (Eds) *Tourism and transformation*. János Kodolányi College – MTA CSFK Institute of Geography – Hungarian Geographical Society, Orosháza–Budapest, 131-149. (in Hungarian)

- Boorstin, D.J. 1992. *The Image. A guide to pseudoevents in America*. New York: Vintage Books.
- Budai, A. 2004. *The aesthetics of environment; theory and practice*. Budapest: Építésügyi Tájékoztatói Központ Kft. (in Hungarian)
- Cawley, M. 2009. Rural tourism – sociocultural impacts. In: Kitchin, R., Thrift, N. (Eds) *International Encyclopedia of Human Geography*. Elsevier, Amsterdam, 11. 316.
- Chen, X., Meng, Q., Hu, D., Zhang, L., Yang, J. 2019. Evaluating greenery around streets using baidu panoramic street view images and the panoramic green view index. *Forests* 10(12), 1109. <https://doi.org/10.3390/f10121109>
- Dovey, K., Pafka, E. 2019. What is walkability? The urban DMA. *Urban Studies* 57, 93-108.
- Duncan, M.J., Bell, T., Austin, G. 2022. The effect of local neighbourhood park redevelopments on park visitations and user physical activity levels: a pre-post test evaluation. *Journal of Public Health* 30, 2665–2671. <https://doi.org/10.1007/s10389-020-01451-4>
- Edensor, T. 2009. Tourism - Daniel Boorstin and the Spectacle. In: Kitchin, R., Thrift, N. (Eds) *International Encyclopedia of Human Geography*. Elsevier, Amsterdam, 11/304.
- Egedy, T. 2007. Rehabilitation of historic downtowns in the rural Hungary - Szeged and Győr. In: Enyedi, G. (Ed.) *The social effects of the transformation of historic city centers - Hungary at the turn of the millennium*. Hungarian Academy of Sciences Social Research Center, Budapest, 261-292. (in Hungarian)
- Egedy, T. 2009. *Urban rehabilitation and quality of life*. Budapest: Hungarian Academy of Sciences Research Institute of Geography. (in Hungarian)
- Garland, R. 1984. *New Zealand Hosts and Guests. A Study on the Social Impact of Tourism*. Market Research Centre, Massey University, New Zealand.
- Győri, F. 2020. *Health – Sports – Tourism: with the Prospects of Hungary*. Szeged: Foundation for Youth Activity and Lifestyle.
- Haapala, A. 2017. ‘The Everyday, Building, and Architecture: Reflections on the Ethos and Beauty of our Built Surroundings’, Cloud-Cuckoo-Land: *International Journal of Architectural Theory* 22(36), 171–182.
- Hu, T., Wei, D., Su, Y., Wang, X., Zhang, J., Sun, X., Liu, Y., Guo, Q. 2022. Quantifying the shape of urban street trees and evaluating its influence on their aesthetic functions based mobile lidar data. *ISPRS Journal of Photogrammetry and Remote Sensing* <https://doi.org/10.1016/j.isprsjprs.2022.01.002>
- Karancsi, Z., Hornyák, S., Horváth, G. 2012. Mapping of urban visual conflicts. In: Győri, F. (Ed.) *In the Service of Knowledge: Geographical Studies in Honor of Ágnes Pál*. Association for Central European Research, Szeged, 299-312. (in Hungarian)
- Karancsi, Z., Hornyák, S., Horváth, G. 2013. The first impression; Analysis of the urban landscape on the urban peripheria. In: Frisnyák, S., Gál, A. (Eds) *Carpathian Basin: nature, society, economy*. Institute of Tourism and Geography of Nyíregyháza College; Bocskai István High School, Nyíregyháza – Szerencs: 305-318. (in Hungarian)
- Karancsi, Z., Hornyák, S., Korom, A., Szalma, E., Oláh, F., Horváth, G. 2017. Aesthetic evaluation of the urban environment. In: Blanka, V.; Ladányi, Z. (Eds) *Interdisciplinary landscape research in the XXI. century: the VII. Studies of the Hungarian Landscape Ecology Conference*. Institute of Geography and Earth Sciences, University of Szeged, Szeged, 305-318. (in Hungarian)
- Kawshalya, L.W.G., Weerasinghe, U.G.D., Chandrasekara, D.P. 2022. The impact of visual complexity on perceived safety and comfort of the users: A study on urban streetscape of Sri Lanka. *PLoS one* 17(8), e0272074. <https://doi.org/10.1371/journal.pone.0272074>

- Kothencz, G., Kolcsár, R.A., Cabrera-Barona, P., Szilassi, P. 2017. Urban green space perception and its contribution to well-being. *International Journal of Environmental Research and Public Health* 14(7), 766. <https://doi.org/10.3390/ijerph14070766>
- Laczkó, T., Sánta, V., Paár, D. 2020. The effects of macro factors influencing sports habits in the countries of European Union. *Hungarian Sports Science Review* 21(4), 26-38. (in Hungarian with English summary)
- Li, X., Zhang, C., Li, W., Kuzovkina, Y.A., Weiner, D. 2015. Who lives in greener neighborhoods? The distribution of street greenery and its association with residents' socioeconomic conditions in Hartford, Connecticut, USA. *Urban Forestry & Urban Greening* 14, 751-759. <https://doi.org/10.1016/j.ufug.2015.07.006>
- Li, B., Xing, Z., Miao, L., Liu, S. 2020. Threats to Normal Vernacular Architectural Heritage of Historical Cities in China: A Case Study of Historical Cities and Towns in Liaoning Province. *ISPRS - International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences* 773-780. <https://doi.org/10.5194/isprs-archives-xxiv-m-1-2020-773-2020>
- Lőrincz, K. 2007. *Development of cultural tourism in Hungarian historic towns*. PhD thesis, University of Pécs Faculty of Sciences, Institute of Geography, Pécs. (in Hungarian)
- Malpas, J. 2012. Putting Space in Place: Philosophical Topography and Relational Geography. *Environment and Planning D: Society and Space* 30, 226 - 242. <https://doi.org/10.1068/d20810>
- Mendele, F. 1974. Folk architecture and monuments of the Balaton region. In: Tóth, K. (Ed.) *Balaton monográfia*. Budapest. 371-382. (in Hungarian)
- Nagata, S., Nakaya, T., Hanibuchi, T., Amagasa, S., Kikuchi, H., Inoue, S. 2020. Objective scoring of streetscape walkability related to leisure walking: Statistical modeling approach with semantic segmentation of Google Street View images. *Health & Place* 66, 102428 <https://doi.org/10.1016/j.healthplace.2020.102428>
- Nagy, J. 2015. Correlations of city marketing and economic restructuring in Manchester. *Tér és Társadalom* 29(4), 97-115. (in Hungarian with English summary)
- Naukkarinen, O. 2017. Everyday Aesthetics and Everyday Behavior. *Contemporary Aesthetics* 15, 12.
- Pallasmaa, J. 2014. Space, place and atmosphere. Emotion and peripheral perception in architectural experience. *Lebenswelt: Aesthetics and Philosophy of Experience* 4. <https://doi.org/10.13130/2240-9599%2F4202>
- Palugyay, I., Lukács, I. 1853: The map of Szeged Royal Town. In: Gaál, E. (Ed.): *The History of Szeged*. 3. (1849-1919); https://www.sulinet.hu/oroksegtar/data/telepulesek_ertekei/szeged/szeged_tortenete_3_1/pages/005_a_varoskep_es_az_urbanizacio_1879ig.htm (28. 04. 2023)
- Pusztai, B. 2016. The tourism as media. *Replika* 96-97(1-2), 11-17. (in Hungarian with English summary)
- Qiao, L., Zhuang, J., Zhang, X., Su, Y., Xia, Y. 2021. Assessing Emotional Responses to the Spatial Quality of Urban Green Spaces through Self-Report and Face Recognition Measures. *International Journal of Environmental Research and Public Health* 18(16), 8526. <https://doi.org/10.3390/ijerph18168526>
- Rezafar, A. 2023. The effect of politics on the formation of urban aesthetics, the case of Iran. *Cities* 132, 104095. <https://doi.org/10.1016/j.cities.2022.104095>
- Saito, Y. 2017. *Aesthetics of the Familiar: Everyday Life and World-Making*. Oxford: Oxford University Press.

- Stoltz, J.E., Grahn, P. 2021. Perceived sensory dimensions: An evidence-based approach to greenspace aesthetics. *Urban Forestry & Urban Greening* 59, 126989. <https://doi.org/10.1016/J.UFUG.2021.126989>
- Sun, D., Ji, X., Gao, W., Zhou, F., Yu, Y., Meng, Y., Yang, M., Lin, J., Lyu, M. 2023. The Relation between Green Visual Index and Visual Comfort in Qingdao Coastal Streets. *Buildings* 13(2), 457. <https://doi.org/10.3390/buildings13020457>
- Szalai, K., Szilágyi, Z. 2007. The landscape in the focus of tourism. *Földrajzi Közlemények* 131(3), 147-156. (in Hungarian)
- UNESCO 1976. The Effects of Tourism on Socio-Cultural Values. *Annals of Tourism Research* 4(2), 74-105.
- Vihanninjoki, V. 2021. The aesthetics of everyday urban places: a postphenomenological perspective. Doctoral Dissertation. University of Helsinki.
- Wang, J., Hu, Y., & Duolihong, W. 2023. Diagnosis and Planning Strategies for Quality of Urban Street Space Based on Street View Images. *ISPRS International Journal of Geo-Information* 12, 15. <https://doi.org/10.3390/ijgi12010015>
- Witten, K., Blakely, T., Bagheri, N., Badland, H.M., Ivory, V.C., Pearce, J.R., Mavoia, S., Hinckson, E., Schofield, G.M. 2012. Neighborhood Built Environment and Transport and Leisure Physical Activity: Findings Using Objective Exposure and Outcome Measures in New Zealand. *Environmental Health Perspectives* 120, 971-977. <https://doi.org/10.1289/ehp.1104584>
- Zhang, F., Zu, J., Hu, M., Zhu, D., Kang, Y., Gao, S., Zhang, Y., Huang, Z. 2020. Uncovering inconspicuous places using social media check-ins and street view images. *Computers, Environment and Urban Systems* 81, 101478. <https://doi.org/10.1016/j.compenvurb-sys.2020.101478>
- Internet 1: Oskola street: the second busiest bicycleway in the rural Hungary. *Szegedi Tükör* 15 May 2021., 1. (in Hungarian) https://tukor.szeged.hu/uploads/imported/media/szegeditukor/pdf/2021/Szegedi_T%C3%BCk%C3%B6r_2021_0515.pdf (28. 02. 2023)