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Residents' Sense of the Place in the Central Part of Kaunas City in Relation to Tangible Cultural Heritage

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Keywords	Abstract
	In the context of rapidly changing urban environments, it becomes crucial to understand how, in that process, not to lose values, which are already there, but further improve sustainable, historically and culturally rooted or even personally meaningful urban spaces. Thus, this research examines the residents' sense of place in the central part of Kaunas City, Lithuania, focusing on its connection with tangible cultural heritage. To achieve this aim, a series of tasks explores the interplay between the city's tangible heritage and the residents' demographic and sociocultural characteristics. The literature analysis provides a theoretical framework by reviewing existing research on the sense of place and material cultural heritage. This is followed by a sociological survey designed to clarify the demographic and sociocultural characteristics of the residents living in central Kaunas. The resident's sense of the place of the entire city and central part of Kaunas is also investigated here. A key aspect of the research is the evaluation of relations between the sense of place and various demographic and sociocultural factors. The survey explores how different groups within the population perceive and react to heritage objects and attach semantic meanings to these structures. Analysis of the Cultural Heritage Inventory (filled by the public) data helps to identify what type of heritage objects residents most wish to preserve, providing valuable insights for urban planners and heritage conservationists. In the context of Kaunas, a city rich in interwar modernist architecture and other significant cultural heritage sites, this research contributes to the ongoing dialogue about the city's future development. It highlights the need for policies that balance modernisation with the preservation of cultural heritage, ensuring that the city's unique character and history are maintained. Overall, this research is relevant not only for Kaunas but also for other cities facing similar challenges. The results of this study suggest that effective heritage management in Kaunas requires a nuanced understanding of the resident's demographic and sociocultural backgrounds. The study contributes to urban planning and heritage conservation by emphasising the need for strategies that align with residents' perceptions and priorities, ensuring the preservation of the city's physical and emotional landscapes.

Introduction

The research is carried out within the scope of project Heritage in Depopulated European Areas (HerInDep) and aims **to analyse the residents' sense of place in the central part of Kaunas City, Lithuania, focusing on its connection with tangible cultural heritage**. To achieve this aim, the following tasks will be carried out: (1) to review the literature on the sense of the place and tangible cultural heritage; (2) to clarify the demographic and sociocultural characteristics of the residents of the central part of Kaunas city; (3) to explore the relationship of the residents from the central part of the Kaunas city with the entire city and their eldership/neighbourhood; (4) to evaluate correlations of sense of place with demographic and sociocultural characteristics; (5) to analyse how residents perceive, react, and what semantic meanings they attribute to heritage objects; (6) to find out which heritage objects the population tends to preserve; (7) to evaluate the intentions and actions of locals concerning various heritage objects.

Methods. Several methods are employed for this research. Firstly, **literature analysis** provides a theoretical framework by overviewing existing research

on the sense of place and tangible cultural heritage. This is followed by a **sociological survey** designed to clarify the demographic and sociocultural characteristics of the residents living in central Kaunas as well as their sense of place and viewpoints on the issues of heritage and its protection. Then **analysis of data from the Cultural Heritage Inventory** (constantly replenished by the public) helps to identify what type of heritage objects residents suggest inscribing as heritage. Finally, the data obtained using different methods is generalised and valuable insights for urban planners and heritage conservationists are provided.

Research object. The research area is the central part of Kaunas City, consisting of Old Town and New Town. The focus is on the residents of the area, the tangible heritage presented there, and the connection existing between them. This area has the highest concentration of tangible historical and cultural heritage in Kaunas. The Old Town of Kaunas retains its charm of medieval character. The urban fabric of New Town began to develop in 1847 after forming a rectangular street layout of the Tsarist era. However, the content of that layout is richly filled with objects from later periods, including the interwar. The latter showcases modernist architecture among which also UNESCO (2023) recognised structures. Being the historical heart of the city, these areas are integral to the cultural and civic identity of Kaunas. To this day, the city centre maintains its prestige and significance. Thus, the interplay and sometimes tension between modernisation and the preservation of cultural heritage in these areas directly impacts how residents experience their surroundings. It is crucial there to find a balance between the preservation of cultural heritage and the needs of contemporary urban living. Furthermore, the central part of Kaunas is home to a diverse population with varying sociocultural backgrounds, demographic traits, and experiences. Therefore, the analysis of such areas enables us to explore how different groups relate to heritage objects and urban spaces, providing a nuanced understanding of how demographic factors influence the sense of place.

I. Theoretical Background

"Everywhere, wherever and however we are related to beings of every kind, identity makes its claim upon us" (Heidegger cited in [1, *45]).*

The concept of a **sense of place,** deriving from interdisciplinary fields of environmental psychology, geography, and urban studies, is the foundation of this research. Different disciplines and authors suggest slightly varying definitions of the sense of place as well as diverse methodological systems for the assessment. Overall, though, a sense of place covers the emotional attachments of individuals or groups to specific locations. In such a way, an *abstract space* becomes a *meaningful place*. Anne Buttimer [2], a well-known Irish geographer, wrote: "People have not only intellectual, imaginary and symbolic conceptions of place but also personal and social associations with place-based networks of interaction and affiliation." Thus, the sense of the place is shaped by personal experiences, social interactions, and cultural meanings.

In urban settings, grasping the sense of place is more complicated than in rural areas, as cities, like magnets, attract diverse populations with varied backgrounds. Such heterogeneous demography not only respectfully adapts to the local context but also leaves its own marks on both the built and natural environment, and that results in a multi-fold and ambiguous sense of place in cities. Nonetheless, keeping in mind that scholars such as Edward Relph [1] and Yi-Fu Tuan [3] emphasized that people's connections to places are crucial in constructing their social identity, belonging, and well-being and comprehending the sense of place in the cities is a worth-trying task.

In the context of the physical environment, **tangible cultural heritage** – such as individual buildings or monuments, groups of buildings or complexes and sites – plays an essential part in upholding a sense of place. Cultural heritage, as defined by the UNESCO World Heritage Convention [4], includes physical artefacts and environments that hold outstanding historical, cultural, and architectural significance. These urban physical elements store collective memories and reflect the historical continuity and development of a place.

American historian and geographer David Lowenthal, in his book "Past is a Foreign Country" [5], argues that the preservation of tangible cultural heritage is not only about retaining the physical structures themselves but more about maintaining the cultural meanings and historical narratives that are attached to them. However, the interpretation of those stories written within the tangible environment might not always be the most accurate, and sometimes it is even biased. Laurajane Smith [6] introduces the concept of the "Authorized Heritage Discourse" (AHD), which refers to dominant narratives that prioritize elite, expert-led interpretations of heritage, often marginalizing the voices of ordinary people and minority groups. Thus, the more inclusive approach that recognizes the intangible, emotional, and lived experiences of heritage, focusing on how people engage with and use heritage in their everyday lives, is necessary.

This research also aligns with the broader discourse on **heritage conservation and urban planning**, which emphasizes the participation of local communities and the need to integrate their perceptions and values into the decision-making process. Starting with previous-century urban theorists such as Jane Jacobs [7] or Kevin Lynch [8], who urged to understand how residents engage with their

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surroundings and what they see as important to preserve, such a participatory approach is gaining relevance not only in the planning of new urban areas but also in prioritising what to preserve within the existing ones [9].

Additionally, the influence of **demographic and sociocultural characteristics** on shaping residents' sense of place is highlighted by social science theories, particularly cultural geography and urban sociology. Differences in *time of residence* [10]–[13], *place of birth* [1], [3], [11], *age* [14], [15], *gender* [14], [16], [17], *education and occupation* [14], [18] or *economic status* [19] can influence how individuals perceive and value heritage sites.

II. Results of the Sociological Survey on the Sense of Place of the Inhabitants of the Central Part of Kaunas City (New Town and Old Town) in Relation to the Immovable Cultural Heritage

A. Sample of the Research and Respondents' Profile

The survey was targeted at residents of the central part of Kaunas City (Kaunas Centre Eldership), and it was conducted online using the Google Forms tool, which complies with the General Data Protection Regulation. The random sampling was performed. Sixty respondents submitted their answers. The majority of the participants (75 %) were women; that ratio is relatively close to the distribution of working-age and retired residents in Kaunas, with 67 % of them being women and 33 % men [20]. The age distribution of respondents was: 18–29 years old – 21.7 %; 30–39 years old – 20 %; 40–49 years old – 18.3 %; 50–59 years old – 20 %; 60 and over years old – 15 %; and the rest 5 % did not reveal their age. The sociological survey also considered *educational attainment*, *employment*, *field of occupation*, household average monthly *income*, *household size*, *nationality* and *religious views*. 88.3 % of the respondents have attained a higher university education. Looking at occupation, the great majority are employed (i.e. 93.3 % or 56 respondents, of which five respondents combine work with studies and two work while raising children), the remaining 5 % are retirees, and 1.7 % are high school pupils. Regarding the field of occupation, the biggest part is in the education/ science field (25.9 %), then culture/art/entertainment/ sports (19 %), followed by finances/accounting (6.9 %) and health care/social care (6.9 %). The income level is diverse: 23.3 % have 1501–2000 EUR monthly income, 15 % – 1001–1500 EUR, 13.3 % – 3001–5000 EUR and 11.7 % – 2501–3000 EUR. As for household size, 37.3 % consist of

2 people, 27.1 % of households have four members and 15.3 % have households of one or three persons. Regarding nationality, 99 % of respondents were Lithuanian. As for religious beliefs, the majority (65 % of all respondents) identified that they are Christians (66.7 % of the Christians specified that they are Catholics). The rest, 16.7 %, did not reveal their beliefs, 10 % said they do not believe or are atheists, 6.7 % are believers but did not specify more and 1.6 % are freethinkers. Most respondents have spent most of their lives in the city (83.3 %) or a smaller town (11.7 %), and only 5 % in the rural areas. More than half of the respondents (65 %) were born in Kaunas. The average time of residence in Kaunas was 34.5 years (ranging from 1 year to 63 years).

B. Respondents' Feelings Towards the Entire Kaunas city and its Central Part

In general, respondents are satisfied with their lives in Kaunas City (23.7 % very satisfied; 59.3 % satisfied; 15.3 % to some extent satisfied; only 1.7 % not satisfied). One of the main reasons for satisfaction is that Kaunas is a birthplace, or several generations were living here, therefore, there are a lot of attachments and memories embedded in the city. People feel at home here. Also, many respondents mentioned that all their needs are met in Kaunas. It is a convenient city, not too big and not too small, cosy, accessible, and suitable for starting a family or raising children. Nature and man-built environments play crucial roles in satisfaction as well; greenery, rivers, city forests and unique architecture are the things that people notice the most. Furthermore, Kaunas is considered to be the cradle of Lithuanian culture. A few negative aspects that were mentioned in the survey mainly address not the city itself but its management: some respondents are not happy with the current political situation and government, and some notice lacking order.

Then respondents were asked to evaluate their feelings for Kaunas city based on the existing sense of place scales [21], [22]. They had to choose the most suitable out of the eight statements provided in the survey (see Fig. 1). The majority (41 %) were emotionally attached to Kaunas.

Considering the central part of Kaunas, the average respondent residence time here is shorter – 21.8 years (range from 1 year to 63 years). Yet, respondents are also quite satisfied with their living here (36.8 % very satisfied; 35.1 % satisfied; 21.1 % to some extent satisfied; 1.8 % to some extent unsatisfied; 3.5 % unsatisfied; 1.8 % very unsatisfied). Respondents' comments revealed some positive and negative aspects of living in the central part of Kaunas (see Table I).
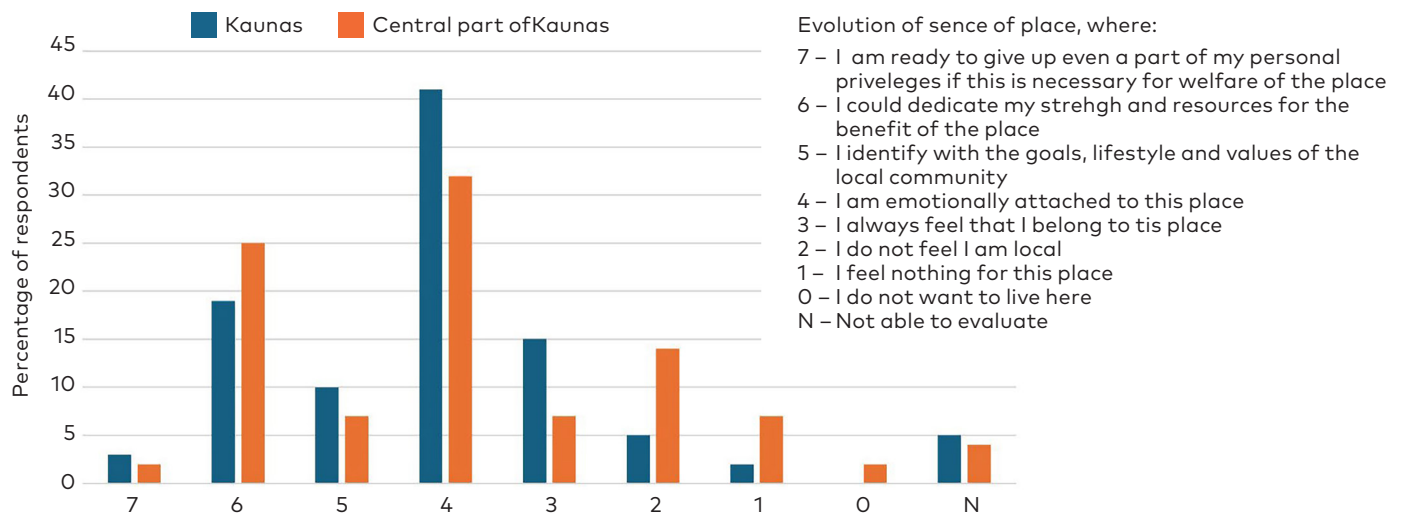
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Evolution of sence of place, where:

7 – I am ready to give up even a part of my personal priveleges if this is necessary for welfare of the place
6 – I could dedicate my strehgh and resources for the benefit of the place
5 – I identify with the goals, lifestyle and values of the local community
4 – I am emotionally attached to this place
3 – I always feel that I belong to tis place
2 – I do not feel I am local
1 – I feel nothing for this place
0 – I do not want to live here
N – Not able to evaluate

Fig. 1. Respondents' evaluation of the sense of place for the entire Kaunas and its central part.

TABLE I

Factors Influencing Residents' Satisfaction with Living in Kaunas Centre [developed by the authors]

Positive	Negative	Other
1. Historical and cultural value The majority of respondents expressed a strong connection to the historical setting and cultural heritage, especially interwar architecture. A large part of the respondents mentioned the interwar Žaliakalnis and Hill suburbs as cosy and peaceful places to visit and explore, while another part of the respondents emphasised their love for the historical part of Kaunas, where architecture and history are intertwined together to create a strong sense of place.	**1. Urbanisation and environmental degradation** Some of the respondents expressed their dissatisfaction with urbanisation, especially in the Šančiai district, and they directly expressed their concern about the government's attempts to urbanise the area, thus expressing their perception that this type of urbanisation is a danger to nature and cultural heritage.	**1. Sense of responsibility** Several respondents indicated that they feel personally responsible for their place of residence, which directly indicates a real and active attitude towards improving the place of residence and a willingness to take care of the environment.
2. Convenience and accessibility Respondents also positively evaluated the convenience of the local infrastructure, especially the walkability of services, workplaces and natural (green) spaces, while those living in the centre of Kaunas stressed not only the proximity to the entertainment venues that are important for the city, such as Laisvės Avenue, but also the proximity to the tranquillity of the nature, such as the Nemunas River island.	**2. Lack of community links** Respondents also expressed concern about the lack of communion with their neighbours and the lack of a strong and clear local community in some of the municipalities, which could contribute to the improvement of the area through joint efforts. This type of response indicates that some of the interviewees feel a sense of detachment from the place and solutions due to the lack of communication.	**2. Nostalgia** A small number of respondents expressed nostalgia for places from their childhood, e.g. The low number of respondents who did not mention their childhood memories, even though they no longer live in Vilijampolė, suggests a direct link between emotional and physical aspects.
3. Proximity to nature and public spaces The interviewees highlighted the proximity to nature and its accessibility. Nature and public spaces such as the Nemunas riverbank are seen as places where one can be active in leisure time: walking, sprinting; and, as highlighted by the interviewees, such areas contribute to the general feeling of cosiness, and the efforts of the communities in preserving and nurturing natural and public spaces are clearly emphasised.	**3. Bustle and lack of nature** Although the majority of respondents mentioned that they appreciated the short distance to green areas, respondents also expressed concern about the noise and lack of nature, the lack of urban bustle and traffic, as well as the lack of places for children to spend leisure time.	

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As for the sense of place for the central part of Kaunas (see Fig. 1), respondents were mostly emotionally attached to it (32 %) or could dedicate their strength and resources to benefit the place (25 %).

Respondents were also asked to rate factors influencing place attachment based on their significance. *Perceived safety and convenience* scored the highest average (4.07 out of 5). It was followed by the *physical environment* (3.96), *emotional connections* (3.70), *cultural and historical significance* (3.67), and *sense of ownership and maintenance responsibility* (3.63). The least influential factors were historical significance, social *identity symbols* (3.20) as well as *social community connections* with commonly shared experiences (3.40).

To sum up, it can be stated that the sense of place of the residents of the central part of Kaunas is particularly strong, especially where there is a clear historical and cultural intersection and proximity to nature. However, the forced urbanisation, lack of community ties and lack of nature worry some respondents who hope to preserve green spaces and are ambitious to strengthen the local sense of community.

C. Respondents' Relationship with Their Residence

Respondents were also asked about the ownership of their residence to understand if that somehow influences the sense of place or residents' willingness to preserve and maintain the environment in which they reside. 61.7 % of the respondents indicated that they live in their own purchased home, 25 % live in the inherited home, and 13.3 % indicated that they rent their home. These responses show that the majority of respondents intentionally chose to buy property in the Kaunas city centre because it somehow meets their needs, and they want to experience living in cultural heritage sites or areas. Furthermore, those who just rent their homes have slightly lower evaluations for both satisfaction (S 3.63 out of 5) and sense of place (SoP 3.33 out of 7) evaluation, in comparison with those who bought their homes (S 3.94 and SoP 4.19) or inherited them (S 4.14 and SoP 4.07).

Next, respondents were asked to name during which period the building they are currently living in was built. 50 % of the respondents said that during the Soviet period (1940–1990), 20 % said from the Independent Lithuanian period (after 1990), 18.3 % – from the interwar period

(1919–1940), 5 % – from the Tsarist Russian period (1795–1918), 5 % did not know, and the rest 1.7 % in a building of the Great Lithuanian Duchy period (XIII century – 1795). Similarly, respondents were asked to indicate whether the building they live in is registered as cultural heritage. The majority of respondents (76.7 %) said that the building they live in is not a cultural heritage site, 15 % said it is, 5 % said they do not know, and the remaining 3.4 % said that the building is in a cultural heritage site, but the building itself is not protected. Even though most respondents said they live in unprotected buildings, they were still asked how they would feel if they knew that their home and/or the surrounding area was a cultural heritage property. The majority expressed positive emotions such as pride (76.7 %), happiness (23.3 %), peace (6.7 %) or hope (5 %). This positive reaction could be related to respondents' general knowledge of cultural heritage and their positive attitudes towards it. Yet, next to the positive emotions, there were also some not-so-positive ones like concern (23.4 %), confusion (6.7 %), helplessness (3.3 %) or responsibility (1.7 %). Nevertheless, respondents did not choose any extreme negative emotions such as anger or guilt. 3.3 % of respondents were indifferent about that question. Furthermore, the tendency is noticed that more negative feelings are felt by the residents who own their homes (88.9 %). This could be explained that owners more seriously consider how the home becoming a heritage would directly affect them in terms of limitations or additional expenses.

D. Respondents' Perceptions of Heritage
   in the Central Part of Kaunas

To evaluate the level of knowledge about heritage, residents were asked to identify from which period could be different architectural objects. The survey showed that respondents can quite well recognise different periods: they correctly identified buildings from the Independent Lithuania period – 91.7 %, from the later Soviet period – 88.3 %, from the interwar period – 90 %, from the Tsarist Russia period – 76 %, but 21.7 % confused the correct answer with the interwar period. The most mistakes were made in identifying the architecture of the earliest years of the Soviet era (see Fig. 2). Still, more than half (58.3 %) chose it correctly.
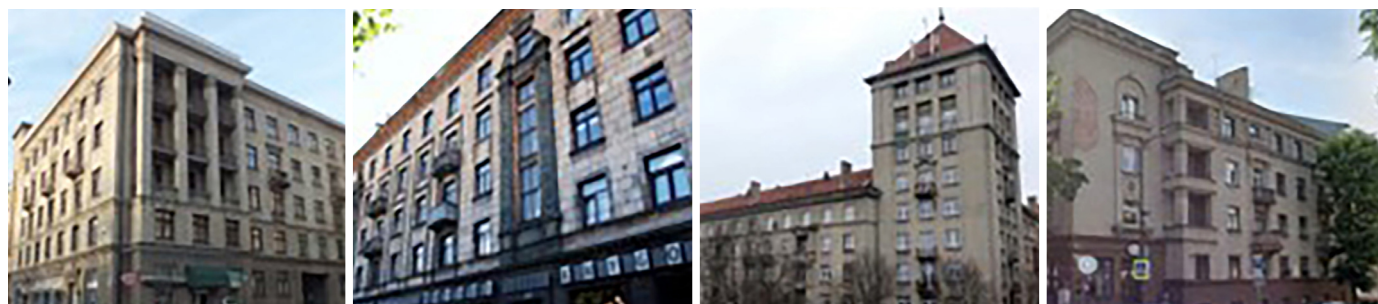

Fig. 2. Images of early Soviet-era architecture provided for recognition in the survey [photos from kvr.kpd.lt and Google StreetView].

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Then the residents were asked to provide their opinion on where the largest concentration of real cultural heritage is in the centre of Kaunas. The answers could be grouped into the emerging territorial clusters:

- *Old Town* was the most frequently mentioned area. Respondents mentioned Old Town in general or singled out its specific places, such as Vilniaus Street and Town Hall Square. These places are considered the most important not only because they are the historical core of the city but also because of their cultural and symbolic significance.
- *The importance of heritage in the Old Town:* The Old Town, rich in architectural and historical objects, is the basis of the identity of Kaunas as one of the oldest cities in Lithuania. The churches, residential buildings and public spaces here witness various stages of the city's development. The arrangement of heritage objects in the Old Town strengthens the symbolic and cultural capital of the city.
- *New Town* was often mentioned together with the Old Town as an important area of immovable cultural heritage. Specifically, Putvinskio, Donelaičio streets and Laisvės Avenue were highlighted as important city arteries in the New Town. These places retain architectural heritage from the 19th and 20th centuries representing the modernising development of the city.
- *The importance of heritage in the New Town:* Naujamiestis is an important part of urban heritage, reflecting the architectural progress in Kaunas during the interwar period. Particularly the buildings of modernist architecture, as they are cultural heritage not only of local but also international significance. Kaunas modernism was included in the UNESCO list [23], which testifies to the value of this area.
- *Žaliakalnis* was mentioned by some respondents as well. Although it is geographically a bit distant from the city centre, it is also considered an important area of immovable cultural heritage. Žaliakalnis is associated with interwar architecture.
- *The importance of heritage in Žaliakalnis*: Žaliakalnis is famous for its wooden houses, interwar modernist architecture and green spaces. The urban structure and architecture of the district reflect the ideas of garden city planning.
- *Laisvės Avenue* was distinguished as one of the main arteries of the city's cultural heritage. This is the main pedestrian street in Kaunas, where historical and cultural buildings and public spaces are concentrated. The avenue not only symbolises urban modernisation but also serves as the cultural and commercial heart of the city.

The summarised answers reveal that Old Town, New Town and Žaliakalnis are perceived as the areas with the highest concentration of real cultural heritage in Kaunas.

The Old Town maintains the significance of the historical core of the city, while the New Town and Žaliakalnis emphasise the modernist and urban heritage. Heritage objects in these areas not only contribute to the aesthetic value of the city but also reflect different stages of Kaunas' history.

Both Kaunas Old Town and New Town are included in the Register of Cultural Values [24] as sites of national significance level and have state-protected status. Still, the residents were asked if they were aware of that.

Regarding the New Town, the majority of respondents (68.3 %) answered correctly, 15 % of respondents claimed not to know, 13.3 % said wrongly that the area is not listed, 1.7 % of respondents said that just some buildings are included, and the remaining 1.7 % of respondents said that most of the buildings are included in the UNESCO Register of Cultural Heritage but are not yet included in the Lithuanian Register of Cultural Values. These distributions of answers among the respondents indicate a clear population interest in cultural heritage and its protection. It can be stated that the respondents, regardless of their education or professional field, are additionally interested in the cultural heritage of Kaunas city and its protection.

In the case of Kaunas Old Town, 85 % of the respondents knew about its protection and inclusion in the Register of Cultural Values, 8.3 % said wrongly that the Old Town is not listed, 3.3 % said they did not know, 1.7 % said that just some of the buildings are protected, 1.7 % said that it should be protected but based on the real situation, it does not seem so. This distribution of answers shows that more respondents have heard about and are familiar with the cultural heritage of Kaunas Old Town. Also, some concerns were raised about certain new buildings in the Old Town that potentially harmed the culturally valuable area.

Then, respondents were asked to indicate whether the protection of the real cultural heritage in Kaunas city centre is personally important to them and why. Several groups emerged from the answers to this open question:

- Preservation of national history and national identity

  Examples of the answers: *"It is our identity, our values, our pride"*, *"Not preserving your heritage is like giving up your identity"*, *"It is important for the national identity"*, *"Because I want the city's identity and history to be preserved, that makes us interesting to other countries as well",* and similar.

  The responses show a strong correlation between the city's architectural heritage and its ability to represent the historical narrative of the nation. This reflects the theoretical debate on the role of cultural heritage in shaping notions of place and identity, in which heritage becomes a means of identity formation and its protection – a moral and cultural responsibility.

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- Preservation of Kaunas identity and distinctiveness

    Examples of the answers: *"It is the peculiarity of the city, its face and spirit. It makes the city cosy and interesting for tourists"*, *"It is important to preserve the identity and uniqueness of the central part of the city of Kaunas"*, *"I want to live in an interesting and prosperous city"*, *"Because it is uniqueness and identity of the city"*, and similar.

    It can be said that Kaunas is a unique city with a distinctive architectural face of particular importance to the respondents, and in their answers, the respondents strongly and confidently expressed their desire to preserve this uniqueness for both locals and tourists.

- Aesthetics and appreciation of the environment

    Examples of the answers: *"For the aesthetic view of the city"*, *"Important to preserve authenticity"*, *"Cultural heritage objects create a unique atmosphere",* and similar.

    Respondents expressed their thoughts on the importance of cultural heritage sites in terms of aesthetics, the beauty and appearance of the city, and the fact that cultural heritage sites shape the face of the city and create a welcoming environment.

- Cultural and artistic value

    Examples of the answers: *"Yes, because of the culture, history and artistic value"*, *"It is important to preserve the history of the city and historical places and pass it down from generation to generation"*, and similar.

- Tourism development

    Examples of the answers: *"It is the centre of attraction, protected identity"*, *"Important for the tourism development"*, and similar.

    This group of responses reveals respondents' perceptions of the economic benefits of heritage conservation, which are addressed in the theoretical literature in the fields of heritage economics and sustainable tourism. Heritage sites are becoming an economic factor in the city, contributing to the city's well-being by attracting tourism.

- Conflicting feelings and critical approach

    Examples of the answers: *"It's important, but it's frustrating to know how much of it is being corrupted with impunity"*, *"Basically yes, but seeing the differences between the facades of the old and new buildings creates a mixed feeling"*, *"It is important if it is nurtured, but if ruins – not!"* and similar.

    These responses reflect respondents' frustration with the current heritage system and reflect the frequent academic debate about the effectiveness of heritage practices and policies. Problems such as lack of control or inadequate regulation of illegal construction raise questions about heritage policy in Lithuania.

- Emotional connection

    Examples of the answers: *"It is important for me not only the city of Kaunas. Everywhere"*, *"I love my city"*, and similar.

    This type of response emphasises the emotional connection to place that is often explored in theories of place. Respondents' answers emphasise how local heritage contributes to people's emotional attachment and sense of place, reinforcing local identity.

    The responses to the question on reasons to protect the immovable cultural heritage show different points of view, reflecting the theoretical debate on heritage protection as part of the city's identity, aesthetics, culture and economy. At the same time, the responses reveal existing problems in heritage conservation practice that need to be addressed to achieve a more effective and sustainable heritage conservation policy in Kaunas.

E. Important Landmarks of Kaunas,
    According to the Respondents

To understand what residents consider significant dominants in Kaunas centre cityscape, they were asked to choose from the list of architectural objects valuable from the cultural heritage perspective. Christ's Resurrection Church (98.3 %) and Church of St. Michael the Archangel (91.7 %) were chosen as the most important landmarks, then Kaunas Central Post Office (78.3 %) and Milk Centre Palace (73.3 %) (see Fig. 3).

(a)   (b)

Fig. 3. (continued next page) Landmarks: (a) Christ's Resurrection Church;
(b) Church of St. Michael the Archangel [Photos from kvr.kpd.lt].

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Fig. 3. Landmarks: (c) Kaunas Central Post Office; (d) Milk Centre Palace [Photos from kvr.kpd.lt].

Respondents were also asked to enlist other objects that, in their opinion, are the landmarks in the central part of the city. Those mentioned objects can be grouped into clusters:

- *Religious objects* – churches and other religious buildings. Such as Vytautas Church, Kaunas Cathedral, St. George's Church, Church of the Assumption of the Virgin Mary, and Seminary Buildings.
- *Cultural facilities* – museums, theatres or concert halls. Such as Vytautas the Great War Museum, Maironis Memorial House, Kaunas Drama Theatre, Musical Theatre, State Philharmonic, Kaunas Gallery, M. K. Čiurlionis Museum, and Cinema "Romuva".
- *Historical and public buildings.* Such as Thunder House, Kaunas Castle, Kaunas Town Hall, Presidential Palace, Municipal Building, Officers' Quarters, Palace of the Bank of Lithuania, House of Bank employees, and Villa of Juozas Tubelis.
- *Historic Transport Infrastructure.* Such as Žaliakalnis funicular.
- Other important non-statutory historic buildings and sites. Such as Kaukas Staircase, BLC Building, Kaunas Island Pedestrian Bridge, Saulės Gymnasium and wooden buildings in Žaliakalnis and Šančiai.

Fig. 4. (a) Musical Theatre; (b) Kaunas Town Hall; (c) Vytautas the Great War Museum [Photos from kvr.kpd.lt].

The frequency of mentioning the landmark reveals its relevance. In such a way, Musical Theatre (see Fig. 4), with eight mentions, is in the first position, followed by Kaunas Town Hall (see Fig. 4) with seven mentions and Vytautas the Great War Museum (see Fig. 4) with five mentions. Four times mentioned were Kaunas Castle, Thunder House, and Palace of the Bank of Lithuania. Other architectural objects were mentioned three times or less. To generalise, there is a strong symbolic link between residents and cultural heritage. The most frequently mentioned objects reveal some aspects of residents' daily lives and perceptions of the central part of Kaunas:

- *Importance of cultural and social activities:* One of the examples and the most frequently mentioned choice – Kaunas Musical Theatre – may indicate that cultural entertainment and events are crucial in respondents' daily lives. It shows that respondents form their identity through cultural events and theatre, music or cinema activities and, therefore, buildings related to culture and arts are an important part of the real cultural heritage.
- *Historical and public buildings as part of the city's identity:* It can be argued that these are buildings that not only symbolise the past but also consolidate and contribute to a sense of place linked to the city's historical significance and the residents' collective memory.
- *Dominant visually and historically significant buildings:* Objects such as the Kaunas Castle, the Bank of Lithuania Palace, and the Thunder House and their frequent selection show that visually memorable and historically significant buildings also play an

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important role in the formation of a sense of place, which suggests that respondents choose not only the function of the buildings but also their architectural beauty and the environment they create.

- *Representative spaces important for the city and their significance*: The frequent mention of objects reflects not only the objects important for the inhabitants, such as Kaunas City Hall, but also the totality important for them; using the example of the City Hall, it is possible to distinguish its square, which, together with the surrounding buildings, forms a local space in which the heritage objects acquire an even greater connection with the city objects and people.

The most frequently mentioned objects show that the sense of place of the inhabitants of the central part of Kaunas is strongly connected to cultural, historical and public buildings, these objects reflect not only the historical heritage of the city but also the formation of the identity of the inhabitants and the cultural life of the city, while this shows that the real cultural heritage is not only important to the inhabitants as a witness to the past but also as part of their present life in terms of culture, history and city identity.

F. Respondents' Intentions to Contribute to
the Protection of Real Cultural Heritage

Respondents were asked to reveal their opinion on social factors that could contribute to the effective protection and management of real cultural heritage the most. In their opinion, *fostering cultural values and respecting uniqueness* (80 %) is one of the most important factors. *Public awareness and education* are close in significance (73.3 %), followed by *financial support* (66.7 %) and *national policy* (65 %). Nearly half (48.3 %) of the respondents also recognised *community involvement* as an essential factor. 35 % of respondents believed that *tourism* could contribute to the protection of real cultural heritage, while *global technologies* (1.7 %) were scored as the least influential factor.

Understanding the importance of preserving heritage is not enough to preserve it. It is equally important how much and in what way the residents themselves would be inclined to contribute to protection. Respondents mostly chose *education and awareness* (69.5 %) as a way of personal contribution. They were willing to take a conscious interest in cultural heritage and share their knowledge with others. Also, more than half of respondents (59.3 %) chose *reporting vandalism and neglect*, *promoting cultural identity (participating in various cultural events and festivals),* as well as *protecting and fostering the environment (sustainable practices and clean-up initiatives).* Respondents indicated that they could be involved more in *community activities* (49.2 %) or that they could protect cultural heritage by *travelling responsibly* (47.5 %). Only less than a third of respondents (27.1 %) would be willing to support heritage protection efforts *financially*.

III. How People Perceive Historical Objects and What Semantic Meanings They Attach to Them

The attitude of residents towards historical buildings has changed positively over the past two decades. Community groups of residents are becoming increasingly active, wishing to see preserved objects from different historical periods in their surroundings that reflect the stages of evolution of their living environment. Residents have begun to value historical heritage more, which, in many cases, becomes protected cultural heritage sites. The involvement of the public is also an integral part of shaping national policy, as systems for promoting and inventorying heritage sites are created and legitimised. The inventory of immovable cultural heritage is not a new thing in Lithuania and has been carried out for a time (the description of the procedure for the inventory of immovable cultural heritage was approved in 2005) [25]. Various institutions, libraries, archives, etc., have purposefully engaged in this process. Interested academic and non-academic communities have been involved but the inventory data were not stored in one place and lacked a clear inventory system, as this depended on the goals and plans of the institutions conducting the inventory. However, since 2021, a methodology for the photographic documentation, measurement, and description of inventory objects, as well as a system for submitting, collecting, systematising, and storing inventory data, has been approved [26]. The newly created system for accumulating and storing the inventory has enabled all residents of Lithuania to engage in this activity and provide data in the system about historically significant objects relevant to nearby communities that are important but do not yet have legal protection. This action has encouraged residents to take a more active role in heritage conservation activities and to provide preliminary data about historical buildings and other historical sites. Every resident of Lithuania can contribute to the inventory database. As of today, 1915 objects have been submitted to the inventory database that may potentially be included in the register of cultural values (the decision to include them in the register is made by the Heritage Assessment Expert Council).

Reviewing today's data, the inventory database lists 456 objects in the city of Kaunas alone, of which almost 340 are offered as historic buildings with architectural features. In the Old Town of Kaunas alone, 16 buildings have already been inventoried, and 71 buildings in the New Town [27]. In the New Town, the inventory database includes buildings that feature characteristics typical of interwar architecture, constructed between 1919 and 1939. A standard form is used for submitting inventory data, which must be filled out by the person submitting the object. The materiality, physical condition, function of use, and a detailed description of the remaining elements

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of the historical building that are considered potentially authentic by the submitters are emphasised.

Besides the description of the physical expression, the submitters can also provide a brief description of the object, which may highlight historical events associated with the building, historical figures who lived there, and the author (or authors) who designed the structure. This description reveals the historical value of the inventoried object. Photos of the building taken by the individual, highlighting the previously mentioned authentic material properties, memorial plaques, and more, are also provided. The historical material provided by the resident, such as original project drawings, cadastral data, historical photos, maps, etc., holds great value. It has been observed that individual submissions of interwar buildings in Kaunas' New Town were mainly made from mid-2023, following the inclusion of Kaunas' interwar modernist buildings in the UNESCO heritage lists.

In the Old Town of Kaunas, the buildings included in the inventory database were built during the interwar period and feature characteristics typical of functionalism and modernist architecture. Although there is not a large percentage of buildings constructed during the interwar period in the Old Town compared to the New Town area of Kaunas, there are still some, and for individuals living in the Old Town, the architectural expression of interwar period buildings is significant. Residents wish to see preserved authentic elements of buildings from this period in their surroundings, such as rounded corners, grooves in façades, rounded portals, cornices, decorative recesses between windows, and more. Overall, heritage preservation is important for communities because it connects people to their history, culture, and identity. Heritage sites provide a unique sense of place that influences urban planning and development.

The results of the sociological survey showed that the largest proportion of the population (32 %) felt emotionally attached to the place and to the environmental elements that surround them all the time. A large percentage of respondents (25 %) could also devote their energies and resources to creating or improving the place they live in, including involvement in the management of heritage sites in the neighbourhood. Overall, the emotional attachment to a place, the semantic meaning of a place, and the promotion and creation of the physical environment, with an emphasis on the importance of the historic environment and the preservation of historical relics, are all important to local residents.

IV. The Evaluation of How a Sense of Place Overlaps with Demographic and Sociocultural Characteristics

The generalised results and obtained insights into the survey where participants identified the urban landmarks overlapped with the other available data. The Kernel density of available data spots was calculated and visualised within the investigated area using ArcGIS software. The following GIS data was used for this purpose: inhabitant density based on 2021 census data; density of the points of interest (POIS) from the Open Street Map (OSM), which represents the most functionally important zones of the investigated area; density of the all protected heritage objects; density of the proposed objects for heritage inventory by the inhabitants; separate data on non-modernistic and modernistic heritage; landmarks identified by inhabitants in the survey; sentiment analysis results which show opinions, attitudes, and emotions expressed in social media, reviews, and other textual data. It is a natural language processing (NLP) technique used to determine the emotional tone behind a body of text, classifying it as positive, negative, or neutral. For the classification of comments, FastText classifier, an N-gram embedding multinomial logistic regressor, was used [28], [29]. The created heat maps are presented in Fig. 5.

Heat map analysis reveals the following regularities:

- In essence, the densities of the identified landmarks overlap the most with the results of sentiment analysis and POIS density. If the urban structure is analysed in more detail, then it could be said that the landmarks are identified in the zones of the three biggest historical urban complexes: Town Hall Square in the Old Town, Vienybės Square beside the War Museum, and the complex of city garden and square, which is surrounded by the Musical Theatre and City Municipality. It could be agreed that all three complexes make a kind of contemporary functional nodes of the area as well.
- It could be assumed that the Modernistic cultural heritage affects the identification of landmarks if its heat map is compared with both all protected heritage and modernistic heritage heat maps.
- The proposed objects for the heritage inventory overlap quite well with the modernistic heritage as well, thus reflecting its importance for the collective consciousness of the inhabitants and city identity as perceived by them.

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- Inhabitant density does demonstrate a kind of negative overlapping pattern with the heatmaps of landmarks. Based on that, it could be concluded that the movement routes and functional centres but not the exact living places affect the identification

of the landmark. It could be explained by the relatively small Downtown area of Kaunas, its urban homogeneity, and relatively simple composition focussed on the main axe made by Vilniaus Street and Laisvės Avenue.
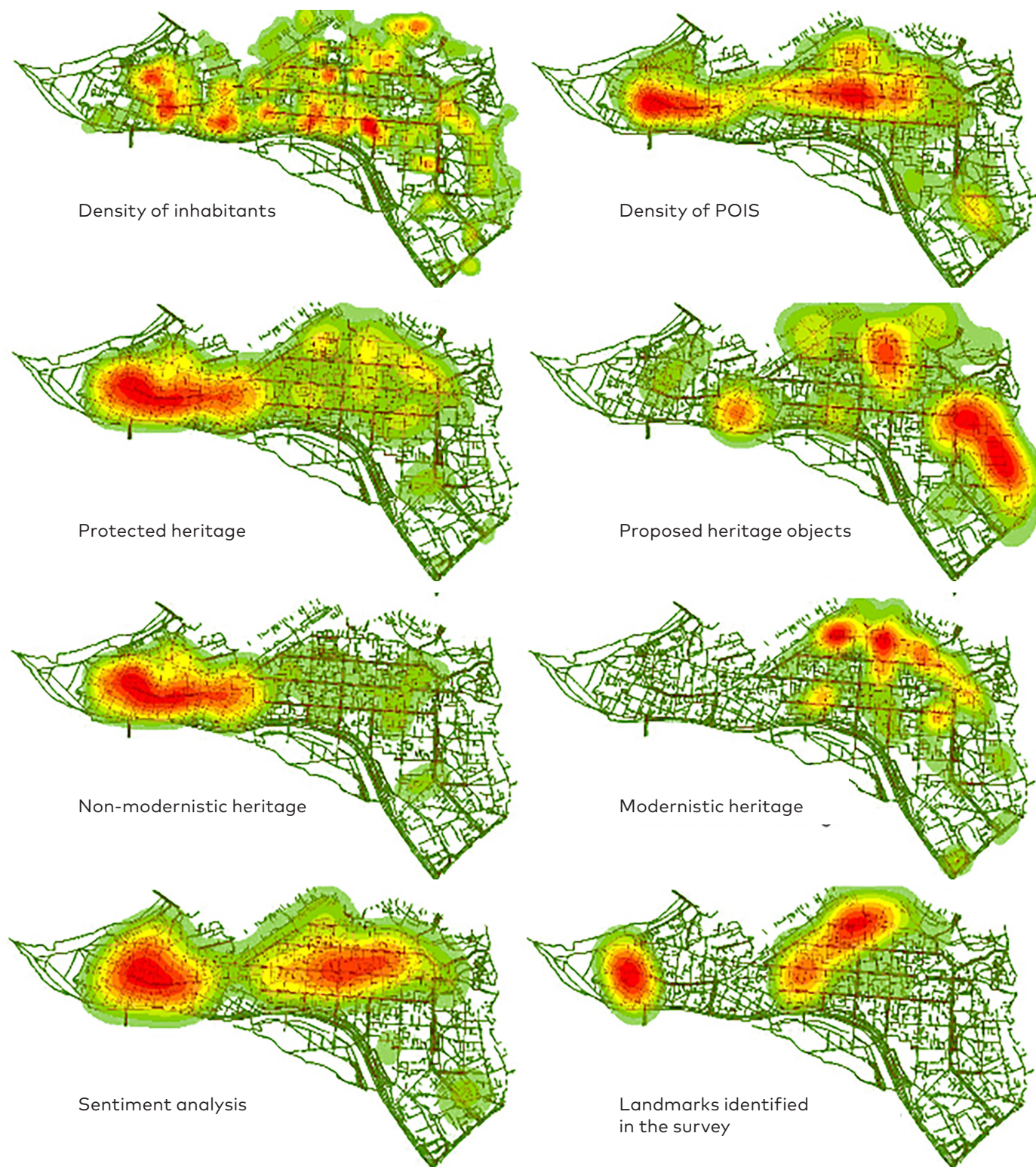

Density of inhabitants

Density of POIS

Protected heritage

Proposed heritage objects

Non-modernistic heritage

Modernistic heritage

Sentiment analysis

Landmarks identified
in the survey

Fig. 5. Heat maps of the investigated area. Red colour means higher densities of the analysed objects and phenomenon [developed by the authors].

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Four additional heat maps were created for four types of cultural heritage objects (Fig. 6).

If compared to the allocation of the landmarks and proposals for heritage inventory, they reveal:

- The biggest concentration of the most significant official cultural heritage objects coincides with the biggest concentrations of the landmarks around the Town Hall Square.

- Registered heritage covers the whole area more evenly except its southern part. Its higher densities correspond to the cores of two historical structures of the area: the Old Town and the New Town.

- The proposals for the inventory could be seen as sound supplements which would allow to make the protected heritage collection of the area more complex in terms of represented periods and even more evenly covering the territory.

Monuments

Protected by the state

Registry
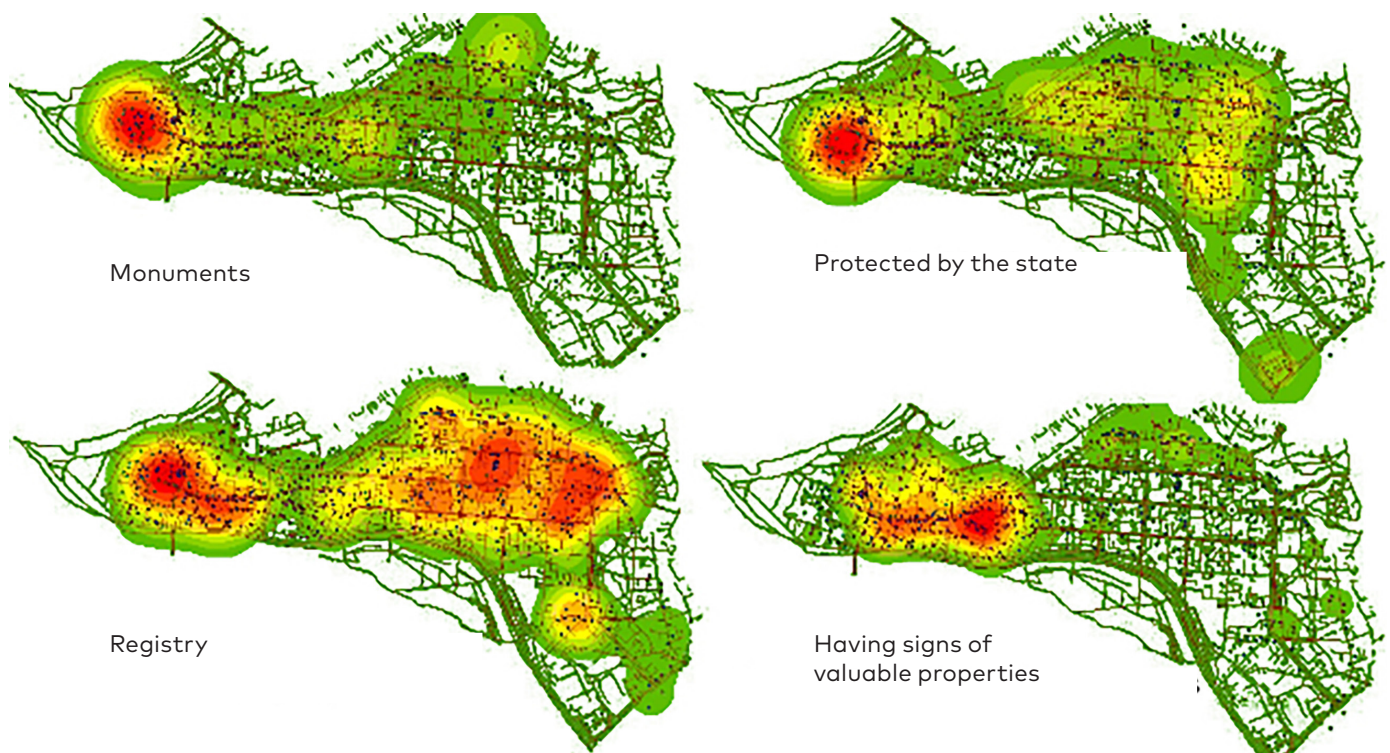
Having signs of valuable properties

Fig. 6. Heat maps representing four types of heritage objects: monuments as the most significant heritage type; protected by the state; included in registry; not included anywhere yet but identified as having signs of valuable properties [developed by the authors].

CONCLUSIONS

1. Literature review revealed that the sense of place, shaped by personal experiences, social interactions, and cultural meanings, is a manifold concept deeply connected to both tangible and intangible elements of the environment. However, urban populations with different socio-cultural and economic characteristics further complicate this relationship. Cultural heritage conservation, therefore, has a key role to play in maintaining this sense, although this requires an approach that incorporates the lived experience of local people. Finally, an understanding of a sense of place is crucial for heritage conservation and urban planning, as it helps to foster social identity, belonging and well-being in different urban environments.

2. Looking at the demographic and sociocultural characteristics, data reveals that the majority of survey participants were well-educated, holding a higher university degree, and most respondents were employed, primarily in education, culture, and finance sectors, with diverse income levels. The survey revealed a marked gender disbalance (significantly more women), which may affect the generalisability of the findings. The respondents were predominantly Lithuanian and Christian; most of them had lived in Kaunas for a large part of their lives, and more than half of the respondents were born in Kaunas.

3. While exploring the sense of the place of the residents of central Kaunas, they generally expressed a strong emotional attachment to both the entire city and their local neighbourhood, with many feeling satisfied

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with their lives in the area. This attachment is rooted in Kaunas' historical and cultural significance, particularly its unique architecture and proximity to nature. While the convenience and accessibility of the central part were valued, concerns about urbanisation, environmental degradation, and the lack of strong community ties were also prominent. Residents appreciated the sense of place but also expressed a desire to preserve green spaces and strengthen community connections to improve their neighbourhood's liveability.

4. The sense of place in central Kaunas correlates with various demographic and sociocultural factors, particularly home ownership, education, and cultural awareness. Homeowners, whether through purchase or inheritance, generally report higher satisfaction and a stronger sense of place compared to renters. This indicated that property ownership plays a key role in shaping a stronger connection to the place. Additionally, respondents living in culturally significant or heritage areas tend to express feelings of pride and attachment, despite some concerns about potential responsibilities.

5. Residents of Kaunas city centre had a strong appreciation for cultural heritage, linking it to national and local identity, aesthetics, and tourism. They recognised key areas like the Old Town and New Town as vital heritage hubs, valuing the preservation of historical and modernist architecture. While they felt emotionally connected to these sites, they also expressed concerns about urban development and inadequate protection, reflecting a desire for better heritage management. Overall, heritage was seen as central to the city's identity and future, but challenges in preservation should be addressed.

6. Kaunas residents are increasingly inclined to protect their heritage, especially interwar buildings with distinctive architectural features. This emotional attachment to a place encourages many to get involved in preservation efforts. Some members of the community stress the importance of preserving national identity, local distinctiveness, aesthetics and cultural value.

7. A national inventory system encourages public participation, allowing residents to document historically significant but unprotected sites, highlighting a strong community desire to maintain their cultural identity through heritage preservation.

8. Locals prioritised fostering cultural values, public awareness and national policy as crucial factors for effective heritage protection. While financial support was also recognised as important, in terms of personal contributions, the majority were not willing to support preservation efforts financially. Residents would rather engage through education, reporting vandalism, and participating in cultural events.

9. GIS heat map analysis revealed that, in essence, the densities of the identified landmarks overlap the most with the results of sentiment analysis and POIS density. The heritage-formed landmarks of the area are identified in the zones of the three biggest historical urban complexes: Town Hall Square in the Old Town, Vienybės Square beside the War Museum, and the complex of city garden and square, which is surrounded by the Musical Theatre and City Municipality. It could be assumed that the modernistic cultural heritage affects the identification of landmarks if its heat map is compared with both all protected heritage and modernistic heritage heat maps.

10. The proposed objects for the heritage inventory overlap quite well with the modernistic heritage as well thus reflecting its importance for the collective consciousness of the inhabitants and city identity as perceived by them. The biggest concentration of the most significant official cultural heritage objects coincides with the biggest concentrations of the landmarks around the Town Hall Square. The proposals for the inventory could be seen as sound supplements, which would allow us to make a more complex protected heritage collection of the area more in terms of represented periods, even more evenly covering the territory.

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REFERENCES

1. **Relph, E. C.** *Place and Placelessness.* London: Pion, 1980. 156 p.
2. **Buttimer, A.** Home Reach and the Sense of Place. In: A. Buttimer and D. Seamon (eds.), *The Human Experience of Space and Place*, London: Croom Helm, 1980, pp. 157–175.
3. **Tuan, Y.-F.** *Space and Place: The Perspective of Experience.* London: Arnold, 1977. 226 p.
4. **UNESCO.** Recommendations Concerning the Protection, at National Level, of the Cultural and Natural Heritage, UNESCO, Paris, Nov. 1972 [online, cited 21.03.2020]. https://unesdoc.unesco.org/ark:/48223/pf0000114044.page=145
5. **Lowenthal, D.** *The Past is a Foreign Country*, 12. printing. Cambridge: Cambridge Univ. Press, 1985. 516 p.
6. **Smith, L.** *Uses of Heritage*, Repr. in Heritage studies. London: Routledge, 2010. 368 p.
7. **Jacobs, J.** *The Death and Life of Great American Cities.* New York: Random House, 1961. 458 p.
8. **Lynch, K.** *The Image of the City.* Cambridge, MA: MIT Press, 1960. 194 p.
9. **Nared, J., Bole, D.** (eds.). Participatory research and planning in practice. In: *The urban book series,* Cham, Switzerland: Springer Open, 2020. 73 p.
10. **Brown, B., Perkins, D. D., Brown, G.** Place Attachment in a Revitalizing Neighborhood: Individual and Block Levels of Analysis. *Journal of Environmental Psychology*, vol. 23, no. 3, 2003, pp. 259–271.
    https://doi.org/10.1016/S0272-4944(02)00117-2
11. **Hay, R.** Sense of Place in Developmental Context. *Journal of Environmental Psychology*, vol. 18, no. 1, 1998, pp. 5–29. https://doi.org/10.1006/jevp.1997.0060
12. **Lewicka, M.** What Makes Neighborhood Different from Home and City? Effects of Place Scale on Place Attachment. *Journal of Environmental Psychology*, vol. 30, no. 1, 2010, pp. 35–51. https://doi.org/10.1016/j.jenvp.2009.05.004
13. **Shamai S., Ilatov, Z.** Measuring Sense of Place: Methodological Aspects. *Tijd voor Econ & Soc Geog*, vol. 96, no. 5, 2005, pp. 467–476.
    https://doi.org/10.1111/j.1467-9663.2005.00479.x
14. **Mesch, G. S., Manor, O.** Social Ties, Environmental Perception, and Local Attachment. *Environment and Behavior*, vol. 30, no. 4, 1998, pp. 504–519.
    https://doi.org/10.1177/001391659803000405
15. **Schwirian, K. P., Schwirian, P. M.** Neighboring, Residential Satisfaction, and Psychological Well-being in Urban Elders. *Journal of Community Psychology*, vol. 21, no. 4, 1993, pp. 285–299. http://dx.doi.org/10.1002/1520-6629(199310)21:4<285::AID-JCOP2290210405>3.0.CO;2-Y.
16. **Hidalgo, C., Hernández, B.** Place Attachment: Conceptual and Empirical Questions. *Journal of Environmental Psychology*, vol. 21, no. 3, 2001, pp. 273–281. https://doi.org/10.1006/jevp.2001.0221

17. **Tartaglia, S.** A Preliminary Study for a New Model of Sense of Community. *J. Community Psychol.*, vol. 34, no. 1, 2006, pp. 25–36. https://doi.org/10.1002/jcop.20081
18. **Lewicka, M.** Ways to Make People Active: The Role of Place Attachment, Cultural Capital, and Neighborhood Ties. *Journal of Environmental Psychology*, vol. 25, no. 4, 2005, pp. 381–395. https://doi.org/10.1016/j.jenvp.2005.10.004
19. **Li, H., Chen, J., Ikebe, K., Kinoshita, T.** Survey of Residents of Historic Cities Willingness to Pay for a Cultural Heritage Conservation Project: The Contribution of Heritage Awareness. *Land*, vol. 12, no. 11, 2023, p. 2058. https://doi.org/10.3390/land12112058
20. **Kaunas City Municipality.** 'Kaunas Basic Data', Kaunas City Municipality [online, cited 02.10.2024]. https://www.kaunas.lt/wp-content/uploads/sites/13/2023/01/2022-Kaunas-EN-1.pdf?
21. **Shamai, S.** Sense of Place: An Empirical Measurement. *Geoforum*, vol. 22, no. 3, 1991, pp. 347–358.
    https://doi.org/10.1016/0016-7185(91)90017-K
22. **Axford J., Hockings, M. T.** Sense of Place: A Tool to Assist the Meaningful Engagement of Communities in Protected Area Management. In: D. Gardiner and K. Scott (eds.), *Proceedings of International Conference on Engaging Communities*, Brisbane, QLD, Australia: Queensland Department of Main Roads, Aug. 2005, pp. 1–17.
23. **UNESCO**, Modernist Kaunas: Architecture of Optimism, 1919–1939, UNESCO World Heritage Convention, Nomination 1661, 2023 [online, cited 21.03.2020]. https://whc.unesco.org/en/list/1661/documents/
24. **Kultūros paveldo departamentas**, 'Kultūros vertybių registras' [online, cited 02.10.2024].
    https://kvr.kpd.lt/#/static-heritage-search
25. **Lietuvos Respublikos kultūros ministras**, Nekilnojamojo kultūros paveldo inventorizavimo tvarkos aprašas, Vilnius, Order ĮV–310, Jun. 2005 [online, cited 21.04.2020]. https://www.e-tar.lt/portal/lt/legalAct/TAR.C2189995EEE1/asr
26. **Kultūros paveldo departamento prie Kultūros ministerijos direktorius**, Inventorizuojamų objektų fotofiksavimo, matavimų, aprašymo metodika, Vilnius, Order Į–64, Mar. 2021 [online, cited 01.03.2021]. https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/0f4d2c30839e11ecb8b0fe92fb660e20?jfwid=-vmil1xwn3
27. **Kultūros paveldo departamentas prie Kultūros ministerijos**, Nekilnojamojo kultūros paveldo inventoriaus duomenų suvestinė [online, cited 02.10.2024]. https://paveldas.maps.arcgis.com/apps/dashboards/2d172b0a0aec4ccba9b12b0607f539e4
28 **Bojanowski, P., Grave, E., Joulin, A., Mikolov, T.** Enriching Word Vectors with Subword Information. *TACL*, vol. 5, 2017, pp. 135–146. https://doi.org/10.1162/tacl_a_00051
29. **Maiden, M. D, Hoefer, M. A.** Modulations of viscous fluid conduit periodic waves. *Proceedings of the Royal Society A,* 2016. https://doi.org/10.48550/arXiv.1607.00460.

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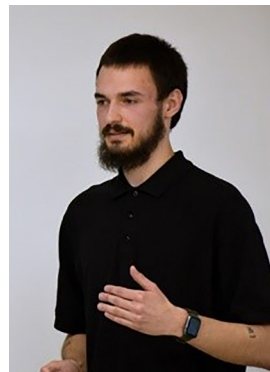
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