Cultural tourism in urban areas

Guidelines for improvements of cultural tourism management in cities

Authors: *David Klepej[a], Danielle Bishop[b], Saara Mildeberg[c],
Anu Printsmann[c], Henrich Grežo[d], Peter Ivanič[d],
Manca Krošelj[a], Nina Stubičar[a], Naja Marot[a]*

[a] University of Ljubljana, [b] University of Barcelona, [c] Tallinn University,
[d] Constantine the Philosopher University in Nitra

Introduction

In the last several decades and especially after the economic crisis of 2008, cities have turned towards the development of tourism as a tool for economic recovery. Though tourism is currently in different phases of development in each area, starting from beginning phase to reinvention process, it has become ubiquitous in most European cities. Thus, this policy brief examines the state of tourism and its developmental drives and issues in four cities that are part of the SPOT Project's case study areas: Barcelona, Spain; Ljubljana, Slovenia; Narva, Estonia; and Nitra, Slovakia. These cities are extremely different in terms of context, culture, tourism scale and development, though it is precisely these differences that allow for various new insights into the current state of urban cultural tourism in Europe and the prevailing trends that guide its development.

Traditional modes of urban tourism based on cultural heritage tourism are quickly evolving and new types of tourism are arising to address the changing motives of today's tourists. As visitors isncreasingly value the urban experience and authenticity, a trend in place-based tourism products is emerging. In the pages to come, we provide a brief overview of how this and other changes are reflected in both destination management plans and tourists' perceptions in the four case study cities.

1. Cultural tourism in selected case study cities

As the cases presented here are very different, we first offer a comparative picture to better understand urban features and characteristics of four cities as (cultural) tourism destinations (Figure 1). Although Ljubljana is the largest in size by **geographic area**, Barcelona is by far the most populous city, with over 1.6 million **residents**. Ljubljana follows with approximately 300,000, while Nitra has 75,000 and Narva has under 60,000 residents. Ljubljana is the only country capital, while Barcelona is the capital city of the autonomous community of Catalonia in Spain. Narva and Nitra are both the largest cities in their regions, Ida-Virumaa and Nitra.

There are large differences in the **scope of tourism**, as Barcelona recorded almost 14 million tourist arrivals in 2019, followed by Ljubljana receiving just over 1.1 million (and represents the largest Slovenian urban destination), while Narva and Nitra each received under 100,000 tourist arrivals. The numbers of beds available for touristic use resemble a similar ratio between the cities.

The top **origin markets** of these four cities in 2019 also clearly show that Narva and Nitra are destinations for mostly domestic and regional tourism. On the other hand, Barcelona and Ljubljana tend to attract large shares of international tourists, including high shares of tourists from large global markets (the USA and Asian countries). This general pattern is also reflected in SPOT surveys carried out with tourists during the pandemic (2020), where domestic tourists reached shares of 91% in Ida-Virumaa (share of domestic tourists in Narva was roughly two thirds in usual years) and 87% in Nitra. COVID-19 travel restrictions influenced Ljubljana's share of domestic tourists, rising from about 5% to 26%. Only 9% were reported in Barcelona, though the survey was conducted in 2021 and thus reflects a return to pre-pandemic tourism trends.

Barcelona

1,636,762 residents
101.9 km^2
Capital of autonomous
community

13,953,209 arrivals
12.13 bednights per capita
149,467 beds
Top origin markets:
ES, US, UK, FR, DE

Ljubljana

292,966 residents
275 km^2
National capital

1,127,904 arrivals
7.57 bednights per capita
25,905 beds
Top origin markets:
IT, DE, UK, US, Asia

Narva

57,842 residents.
85 km^2
Largest town in the region

36,670 arrivals
1.89 bednights per capita
1,991 beds
Top origin markets:
EE, RU, FI, LV, LT

Nitra

76,533 residents
100 km^2
Regional centre

74,594 arrivals
2.34 bednights per capita
3,712 beds (in region)
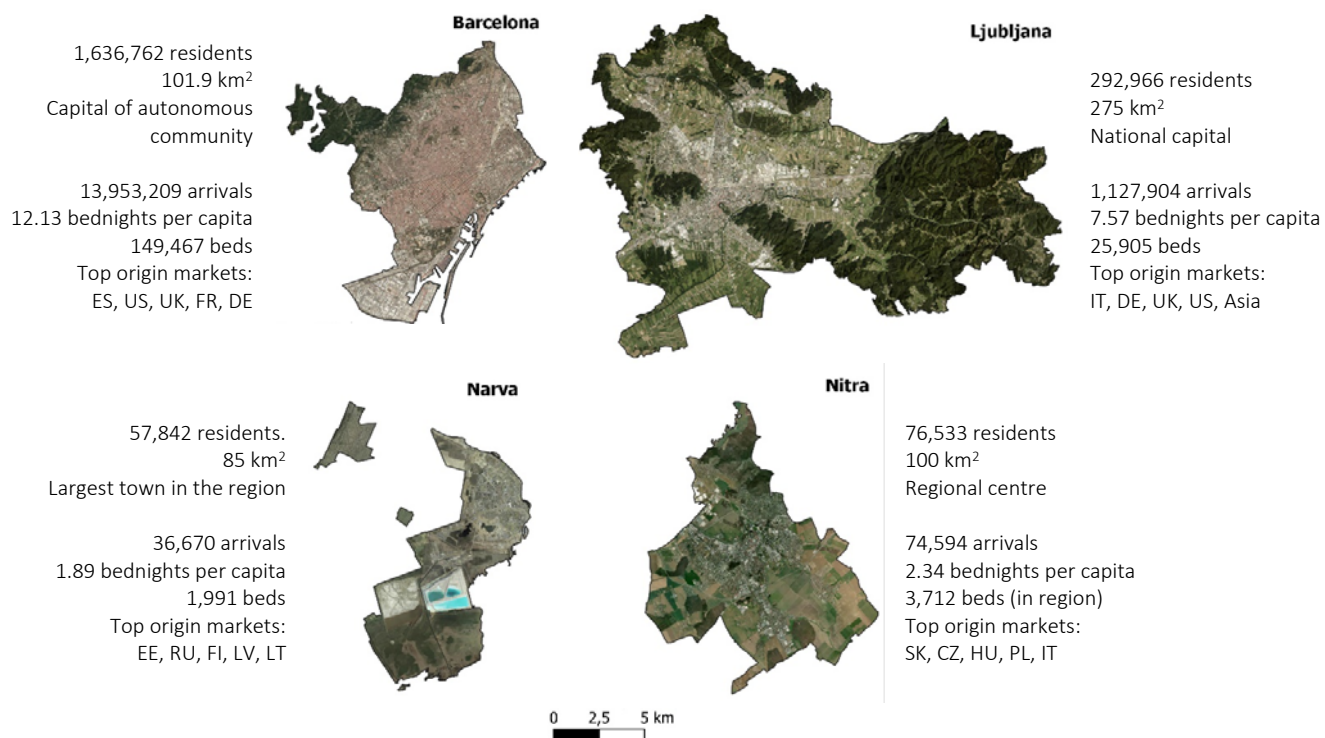Top origin markets:
SK, CZ, HU, PL, IT

0 2,5 5 km

Figure 1: Orthophoto comparison of case study cities and their position in Europe (Author: Henrich Grežo) with basic characteristics of the urban case study destinations (data for 2019).

As part of the SPOT project, we have carried out **surveys with residents, business and tourists** in all case study areas. Focusing on our urban case studies, we can observe some major similarities and differences among them. For instance, besides the prevalence of domestic tourism, Nitra and Narva also share high numbers of **day trips**: 55% of surveyed tourists in Nitra and 39% in Narva. This share was 29% in Ljubljana and only 4% in Barcelona. In most cases, tourists did not combine their visit with **trips to destinations in other countries**, (perhaps due to travel restrictions throughout 2020 and 2021). The highest share of these were found in Ljubljana, where a third of tourists also visited destinations in other countries. Only a fifth of tourists in Barcelona and a tenth of tourists in Nitra and Narva did the same.

High percentages of **returning visitors** were reported in Nitra and Narva (95% and 89%, respectively), while Ljubljana and Barcelona saw higher numbers of first-time visitors (35% and 41% returning, respectively). Interestingly, in Barcelona and Narva, a majority of returning visitors reported no difference in their experience during the pandemic compared to previous visits, though significant numbers also believed the experience was better in 2020-2021 than during their last visit. Most of Ljubljana's returning visitors also reported no change in their experience, though the second most-common answer was that the experience was better before. The highest proportion of Nitra's visitors said they "cannot say" if/how the experience was different, followed by "no difference" and "better before".

The main **motives or attractions of interest** were quite similar among the four cities. Tourists were most interested in historical sites, cultural heritage sites, townscapes, museum, and gastronomy. On the other hand, the least motivating factors for them to come to these specific destinations were health, sports, business/work, and (with the exception of Barcelona) the beach. Some of the main tourist attractions are listed in the table below. It is clear that architecture and historic buildings are among the most visited (cultural) tourist attractions in these case study cities, and that these are most often complemented with visits to museums, cathedrals and public spaces.

Table 1: Main tourist attractions in case study cities according to their type

Main attractions	Barcelona	Ljubljana	Narva	Nitra
Landmark	Sagrada Familia Basilica	Ljubljana castle	Narva castle and museum	Nitra castle and museum
Museum	Picasso Museum, FC Barcelona Museum,	National Museum of Slovenia	Narva museum	Agricultural Museum
Open space	Plaça Catalunya, Las Ramblas, Passeig de Gràcia, Park Güell	Prešernov square, Čopova street, Tivoli Park	Peetri square, Tallinn Road, River promenade	Svätopluk square, Štefánikova trieda, City park in Sihoť
Building	Casa Batlló, La Pedrera	Plečnik's architecture	Bastion	St. Emmeram's Cathedral
Religious	Barcelona Cathedral	Cathedral of St. Nicholas	Alexander's Cathedral, The Resurrection of Christ Cathedral	Church of St. Michael
Amusement	Barcelona Aquarium	House of Illusions	Astri Centre	
Sport	FC Barcelona Stadium	Stožice Sports Park, Hala Tivoli	Joaorg Beach House	HK Nitra
Congress venue	Fira Barcelona	Gospodarsko razstvišče	Narva College	Agroinštitút Nitra
Alternative culture	Fàbriques de Creació	Metelkova	Art residency	Hidepark
Most popular tours	Walking tours, City centre, Gaudí, Gothic Quarter, Boat tours, Montserrat hills	Walking tours, City centre, Plečnik, Boat tour, Feminist tour, Post-communist tour	Kreenholm tours by Narva Museum	City centre, Zobor Monastery and Zobor Hills, Calvary peak
Other	El Born Cultural Centre	Emona - Roman city	Manufacturing complex	Synagogue

Tourists in all destinations have diversified their **sources of information**, as they often rely on a combination of online, print, and word-to-mouth suggestions. Most often they rely on online search engines (38% in Ljubljana and roughly 30% in all other destinations) and social media (10-20%), which represents a shift from using traditional guidebooks, tourism agencies, fairs, and information centres. Recommendations from other people are most used by visitors to Barcelona (27%), Narva (25%) and Ljubljana (19%), but not in case of Nitra (only 2%). Most tourists seem to be pleased with the offer of case study cities and are **very likely to recommend** visiting the destinations (roughly three quarters in the cases of Barcelona and Narva, and half of visitors in Ljubljana). Only a third of visitors in Nitra are very likely to recommend the city as a tourist destination, although another third would likely recommend it.

Figure 2: Touristic pulse in Barcelona, Ljubljana, Narva, and Nitra (Authors: Danielle Bishop, David Klepej, Saara Mildeberg, Henrich Grežo).

We identified the following main similarities and differences among our case study cities:

Similarities

- *State and local level will to develop cultural tourism*
- *Interplay between different levels of government*
- *Economic transformation to a post-industrial economy*
- *Tourism seen as a driver/push factor in this change*
- *Improvements to infrastructure and hospitality*
- *Improvements represent opportunities but also come with possible negative or harmful effects*
- *Possible negative aspects of cultural (over)tourism*
- *Theoretical vs. practical implementation of sustainability*
- *Gap between planning and execution of tourism policies*
- *Digitalization and other global trends*
- *Connection vs. disconnection with the local cultural scene*
- *Impact on the housing market (varies among cities)*
- *Seasonality (cultural tourism softening the tourism peak)*
- *Uncertainty about long-term impacts of COVID-19*

Differences

- *Scope of tourism (and cultural tourism) in each city*
- *Maturity of destination*
- *Degree of stakeholder involvement*
- *Complexities of cultural tourism ecosystem: public and private actors, their relative weight, relationships, etc.*
- *Different policies and different governmental commitments regarding cultural tourism*
- *Domestic vs. international tourism proportions*
- *Tourism as source of growth and income is not always recognized in the four cities*
- *Recognition of cultural heritage and assets*
- *Lack vs. abundance of cultural tourism events*
- *Public leadership of cultural tourism*
- *Strategic plans on tourism leading up to (and after) the COVID-19 pandemic*

2. Cultural tourism challenges in urban areas

a) Transformation of cultural tourism

As stated before, the cultural tourism offer in these cities is no longer dependent solely on sites and activities of cultural heritage. Instead, many **new forms of offer** are available connected to new types of (urban) tourism, such as dark tourism, culinary tourism, alternative, post-communist and environmentally friendly tours. How much this offer is present in the cities depends not only on the urban prerequisites and history, but also the maturity of the city and its tourism market size. As an example of such differentiation in the offer, tourists can attend a "night-bazaar and lamprey festival" in Narva, "Moustache tour" in Ljubljana or learn how to make traditional *espadrille* shoes in Barcelona. Tourists are now looking for authentic urban experiences, which are not always easy to provide.

Table 2: Examples of place-based tourism offer in European urban destinations (Source: Krošelj and Marot, 2022)

Urban destination	Examples of place-based tourism offer
Amsterdam	*Van Gogh museum, river channels, tulips, red district, Rijksmuseum*
Venice	*Unique architecture, water-based experiences*
London	*Unique imperialistic capital, brutalist architecture, pop culture*
Paris	*Architecture, European capital of high fashion, "Belle Epoque", city of lovers, gastronomy*
Vienna	*Unique history, architecture and culture, gastronomy, baroque and "Jugendstil", pop-culture offer: Inspector Rex*
Barcelona	*Catalan modern architecture, Gaudi, Casa Batlló, Sagrada Familia Basilica, Dali, Picasso*
Edinburgh	*Architecture and townscapes annual Edinburgh festival, literary history, pop-culture offer: Harry Potter*
Prague	*Architecture and townscapes, pop-culture offer: movie Amadeus*

b) Cultural sustainability

Many cities have begun to adopt measures to improve the environmental sustainability of tourism, including promoting public transport, not using plastic at events, including ecological measures in their tourism agendas and strategies, and managing visitor numbers and flows to preserve environmental and heritage areas. However, the COVID-19 pandemic is a good opportunity for all cities to rethink the **comprehensive sustainability** of their tourism efforts. Rather than focusing only on the economic benefits of tourism, cities will need to rethink their strategies and improve their **social and cultural sustainability**.

This is important not just for over-touristed destinations (like Barcelona and, to some degree, Ljubljana), but also for cities like Narva and Nitra that are in the process of developing responsible, sustainable tourism strategies. SPOT residents' surveys indicated that involving local residents in the planning and implementation of local tourism agendas is crucial to improving social and cultural sustainability. This can be done in many ways: through participative processes, employing locals in tourism businesses and projects, offering discounts or free entry to cultural tourism sites for local inhabitants and many more efforts that offer a sense of belonging and keep economic benefits in the local community.

c) Complex networks of stakeholders

Tourism and culture already both separately function on a basis of a complex network of stakeholders, which become even more intricate when approached simultaneously. We can already see different needs from various **private actors**, such as suppliers of accommodation, catering and other services, tourist guides, galleries, cultural institutions, artists and other individual in culture, which are on the other side approached from different views of **public institutions and bodies** (ministries, municipalities, tourism boards, public cultural institutions) and eventually **NGOs**. We must also include the **local residents**. The network complexity and influence of (individual or a group of) actors are specific for each destination and can change in time. We could argue that the governance of tourism only needs to be applied after the destination reaches a certain development phase, yet the attemps to coordinate activities and search for potentials and synergies according to our findings seem crucial already in the early stages of destination development.

d) Complex governance framework of cultural tourism

The complexity of tourism governance is a major challenge for the future of cultural tourism in these case study cities. First, responsibility for creating and implementing tourism policy is shared between the local, regional and national levels to varying degrees in each city. This overlap can create confusion and slow down processes of implementation and change. Second, the separation of governmental actors (and, consequently, their policies) in tourism and culture means that each area works "in its own silo" and has its own views and ideas on cultural tourism. Finally, many tourism activities and programs depend on the influence of policies and support of financial programmes from both the EU and national, regional, and local governments, which may shift or disappear according to yearly budgets or changes in political power. Furthermore, as the assessment wheels (Figure 3) highlight, each city has its own unique strengths in current governance framework and points of future improvement in tourism management.

While **Barcelona** has a strong tourism infrastructure and has become an international example for the development and implementation of tourism policy, the effects of over-tourism have caused significant strain on citizens' quality of life and engagement, which points toward the need for improving the cultural sustainability of tourism in the city.

Ljubljana has laid ground for its tourism growth in a number of strategic policy documents and precise marketing activities, both guided by the local tourism organisation Ljubljana Tourism. All aspects of the assessment wheel have been addressed to a certain extent, yet there is still room for improvements. For example, there are many policy goals focusing on sustainable and responsible growth of tourism in the city, but the main indicators for implementation of strategy are still focused on the growth of tourist visits, overnight stays and visitors' spending.

Ida-Virumaa has created a strong regional tourism image with a guiding "Adventure land" concept, however, there are still many steps to take to get locals and investors from outside this cluster on board and to further develop the tourism infrastructure and sector. Here, local policy documents are often perceived to be unrealistic and therefore of not much use. The transformation of **Narva** into a post-industrial economy has also been shadowed by the unclarities associated with the green turn, and fears about a strong imbalance between ecological, economic, social and cultural sustainability aspects. Strong leaders that have made a strong appearance in the past years are the silver lining to this otherwise pessimistic assessment wheel.

In **Nitra**, the guidelines for (cultural) tourism and creative industry development are well layed down in the Strategy for the development of sustainable tourism, and through certified brand. Cultural tourism in Nitra strongly relates to the history and dissemination of the Cyril and Methodius heritage not only locally, regionally, or nationally, but from 2021 also at the European level through the Cultural Route of the Council of Europe. Nitra wants to be on the map of Europe as a cultural city bearing traces of an important common European history. The challenge is assuring more significant involvement of creative industries and the local population to increase employment in the field of tourism.
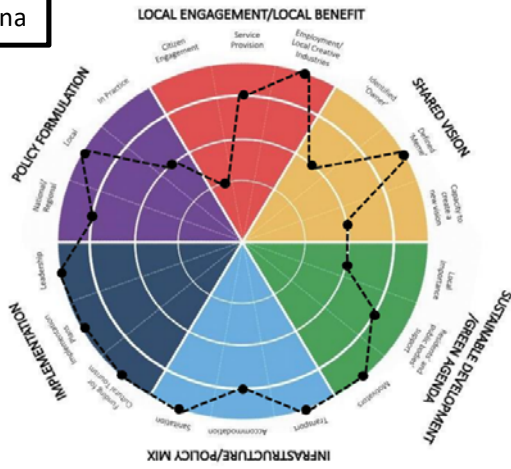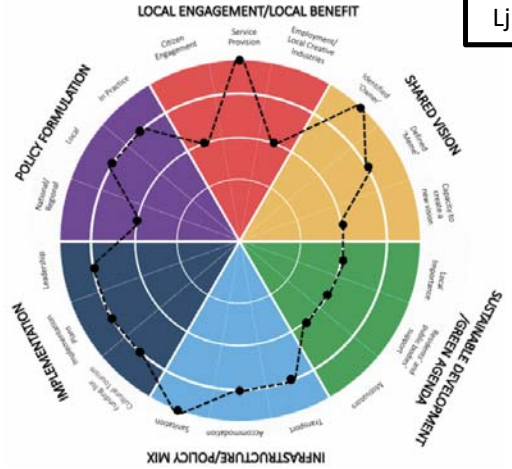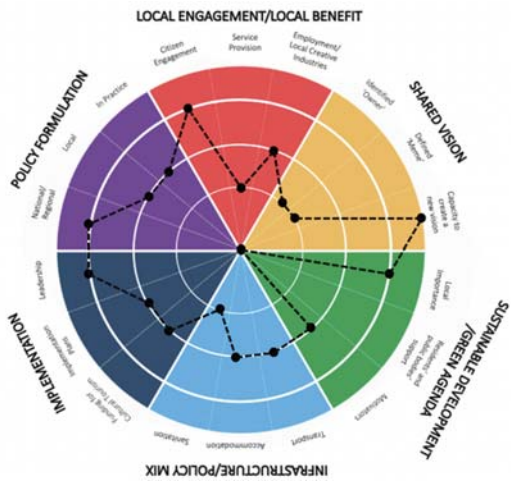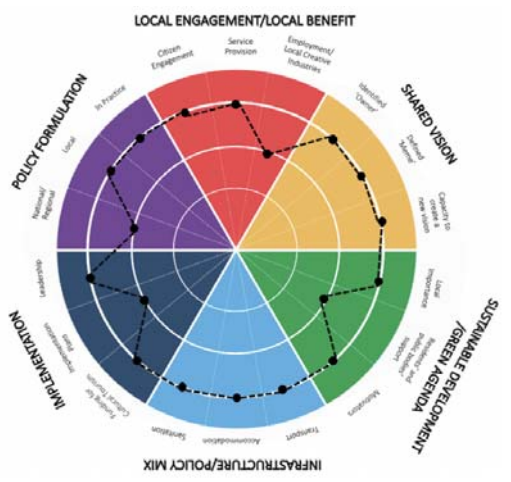
Figure 3: Assessment of the current management of cultural tourism in case study cities.
Scale: 0 (centre) - Little Emphasis; 1 – Acknowledged; 2 – Some role; 3 – Strong progress; 4 (outer circle) – Excellent.

e) Digitalisation

As part of an effort to make cities more attractive in a more modern way as well as a tool to store data on history landmarks for possible future renovations, several localities have begun **to revive and enhance the offer** through information technology. This was even more brought about by the COVID-19 pandemic and connected to travel and social distancing restrictions. On the one hand, more **locations can be visited virtually** using web browsers, apps to assist tourist experience and exploration, and information about tourist locations and activities are also increasing. On the other hand, **new forms of presentation** of well-known spaces are emerging, e.g., augmented reality and activating audio guides using spatial sensors. Such places exist in all case study cities. Narva is currently planning to create a VR-based attraction, Virtual Old Narva, which would allow people to see the pre-war town. However, new challenges are also emerging, e.g. how to include the digitally excluded part of the population in these activities, and how often are these new forms really used by locals and tourists.

Good practice in digitalisation: Casa Batlló, Barcelona

This Art Nouveau villa carried out extensive renovations during the pandemic, fully embracing digital technologies. In addition to reconfiguring the main floor and adding a new floating staircase to help reduce visitor congestion and improve the implementation of COVID-19 health measures, the house also opened more than 2,000 m2 of new spaces to the public. This includes two immersive installations fusing art and technology that help visitors delve inside the mind of architect Antoni Gaudí. The tour also features smart audioguides that turn on automatically as you enter the house's varied rooms, a soundtrack composed specifically for the house, hologram projections that show workers carrying out their daily tasks or bring historical documents to life, and other.

f) COVID-19 and cultural tourism

Prior to COVID-19, these four case study destinations had lacked strategies for tackling crisis situations, a fact which is evident in the huge **losses in tourist arrivals** suffered by each city in 2020. Barcelona saw only 2.1 million visitors (-78% from 2019) and 3.9 million overnight stays (-80%), while Ljubljana saw similar drops of 77% in visitors (to 255,964) and 76% in overnight stays (to 540,195). Narva recorded only 20,114 visitors (-45% from 2019) and 31,617 overnight stays (-43%), and Nitra recorded 30,221 overnight stays in 2020 (-60%). Immediate responses tended toward **campaigns to attract domestic or "proximity" tourists** (from the same city, region, country or neighbouring countries), such as the "Ask a friend over" campaign in the Ida-Viru Tourism Cluster, the "Catalonia is your home" campaign in Barcelona or "Abroad or Ljubljana?" campaign in Ljubljana. Despite the quick adaptations made by the tourism industry and its actors during the pandemic, all four destinations currently do not have any medium- or long-term strategic plans or tourism policies in place for the post-pandemic future of tourism. Given that urban destinations have suffered the most during the pandemic, good planning in the medium- and long-term will be crucial for rebuilding tourism efforts in cities. On the other side, however, in 2022 we already saw that in some cities tourism visits and overnight stays already reached the pre-pandemic numbers.

3. Policy Implications and Recommendations

Cultural tourism is an important economic sector at the intersection of tourism and culture in the local environment, but it can also help to strengthen European identities, and facilitate better cultural understanding between the residents of Europe. If the development of cultural tourism in a destination is inclusive of the local population, it can work toward correcting previous negative consequences of tourism that some cities face (such as Barcelona and Ljubljana), including noise, littering, overcrowding in public spaces, rising rents and the loss of economic benefits to outside actors. Including the local population in the development of cultural tourism agendas can also encourage them to become more active citizens, participate in the development and management of the city and take part in various cultural activities. In all our case study cities, we believe that the further development of cultural tourism is welcome, but managers and stakeholders must ensure that its development is carried out in cooperation and coexistence with the local population.

In addition to the involvement of the local community, it is necessary to ensure the creation of responsible and sustainable development objectives that steer the development of cultural tourism away from the over-commercialisation of culture and urban space and that build the resilience of the destination and cultural tourism providers to (un)predictable events, such as the COVID-19 pandemic. The offer should appeal to "proximity" visitors from the city, the region, and the country, rather than only to international visitors, as domestic visitors are less vulnerable to crises than foreign visitors.

A key challenge in the field of cultural tourism is the high concentration of providers directly managed by the municipal or state authorities. We therefore propose a financial and support framework for the creation of the largest and most diverse offer possible on the part of the many, varied stakeholders present in our cities, including the voices of NGOs and private initiatives. Support should be given not only to new products but also to new and alternative forms of cultural tourism that are rooted in the local environment and culture (e.g., storytelling, urban exploration, gastronomic tourism).

At the same time, much greater collaboration is needed between actors from the tourism sector and the cultural sector, especially given the large role that culture plays in tourism as a whole (and the cultural tourism field in particular). Currently, the governmental actors responsible for these sectors are housed in different areas of government (generally, tourism bodies are under the jurisdiction of business and the economy, while cultural bodies are under the jurisdiction of culture, education, and community), with little interaction between the two. A more coordinated effort to plan tourism strategies and agendas could result in a more sustainable and respectful type of cultural tourism on offer in our case study cities.

Finally, in all areas, the monitoring of the development of activities and the implementation of policies could also be improved to pursue qualitative rather than quantitative development objectives towards sustainable and responsible destination development, a good visitor experience and an increase in the quality of life in the city. This means that destinations must begin to privilege the holistic sustainability of cultural tourism - i.e., social, cultural, environmental, and economic sustainability.

Six key directions for the development of cultural tourism in European cities:

- Embeddedness in the local environment and openness to the European cultural space
- Involvement of the local community in the design and development of culture and tourism offer
- Responsible and sustainable development objectives that will lead to a higher quality of life in the city
- Greater coordination and collaboration between governmental actors in the tourism and cultural sectors
- A supportive environment for the development of small, new and innovative providers
- Networking and cooperation between stakeholders and providers

---

4. Related reports and further readings

Bishop, D. & M. Pareja-Eastaway. (2021). "Repensando el turismo en la ciudad sostenible del siglo XXI", *CCK Revista* No. 11 (enero-marzo): 31-42. (link)

Bishop, D., Pareja-Eastaway, M., Simó Solsona, M. (2022). The End of 'Business as Usual'? Reimagining Barcelona Tourism after COVID-19. *Tourism, Culture & Communication.*
DOI: https://doi.org/10.3727/109830422X16600594683328

Klepej, D., Krošelj, M., Stubičar, N., Marot, N. (2021). *The city municipality of Ljubljana, Slovenia, year 2020 : Deliverable 1.4a: case study report : SPOT (860744) - Social and innovative platform on cultural tourism and its potential towards*. Ljubljana: [Biotechnical Faculty, Department of Landscape Architecture], 87 p. (link)

Kramáreková, H., Petrikovičová, L., Krogmann, A., Grežo, H. (2022). The pandemic as a challenge for the diversification of tourism Authors: Source: Tourism Culture & Communication Publisher: Cognizant Communication Corporation DOI: https://doi.org/10.3727/109830422X16600594683409

Krogmann, A., Ivanič, P., Kramáreková, H., Petrikovičová, L., Petrovič, F., Grežo, H. (2021). Cultural Tourism in Nitra, Slovakia: Overview of Current and Future Trends. Sustainability, 13(9), 5181.
DOI: https://doi.org/10.3390/su13095181

Krošelj, M., Stubičar, N., Marot, N. (2021). *SPOT – Social and innovative Platform On cultural Tourism and its potential towards deepening Europeanisation. Deliverable 2.2, Summary Report on stakeholder involvement – The City Municipality of Ljubljana, Slovenia, year 2021*. Ljubljana: University of Ljubljana, 33 p. (link)

Krošelj, M., Marot, N. (2022). *Place-based tourism: An exploration of new interpretations of cultural tourism.* In: Book of Abstracts: Space for Species: Redefining Spatial Justice. AESOP Annual Congress. 25th-29th July 2022. Tartu, p. 149. (link)

Mildeberg, S.; Vider, J. (2022). Soviet Heritage(scape) in Sillamäe: Documenting the Potential in an Emerging Tourism Destination. *Societies*, 12 (5), 127.
DOI: https://doi.org/10.3390/soc12050127

Project Identity

Project name	Social and innovative Platform on Cultural Tourism and its potential towards deepening Europeanisation (SPOT)
Coordinator	Prof. Milada Šťastná, Ph.D. Mendel University in Brno, Czech Republic milada.stastna@mendelu.cz
Consortium	Mendel University in Brno, Czech Republic Bar Ilan University, Ramat Gan, Israel Institute of Geography of the Romanian Academy, Bucharest, Romania Leibniz Institute of Ecological Urban and Regional Development, Dresden, Germany CERS Institute for Regional Studies, Győr, Hungary Wageningen University & Research, Wageningen, Netherlands Tallinn University, Estonia Karl Franzens University of Graz, Austria University of Aberdeen, United Kingdom University of the Aegean, Mitiline, Greece University of Barcelona, Spain University of Verona, Italy University of Wrocław, Poland University of Ljubljana, Slovenia Constantine the Philosopher University, Nitra, Slovakia
Duration	36 months
Funding Scheme	H2020-SC6-TRANSFORMATIONS-2019
Budget	3 000 000 EUR
Website and social networks	www.SPOTprojectH2020.eu fb: @SPOTprojectH2020 twitter: @H2020Spo
For more information	Contact – Dissemination team: spotprojecth2020@gmail.com UL: naja.marot@bf.uni-lj.si; david.klepej@bf.uni-lj.si UB: dbishop@ub.edu TLU: saarah@tlu.ee; anu.printsmann@tlu.ee UKF: hgrezo@ukf.sk, pivanic@ukf.sk

Disclaimer:

The content of this document reflects only the authors' view. The European Commission and its Research Executive Agency are not responsible for any use that may be made of the information it contains.

Horizon 2020

This project has received funding from the European Union's
Horizon 2020 research and innovation programme
under grant agreement No. 870644

11