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Quantifying tourism in city destinations

Towards a better understanding of urban tourism

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Foreword

Zurab Pololikashvili
Secretary-General,
World Tourism Organization (UN Tourism)

For cities everywhere, tourism can represent a driving force of socioeconomic development, employment and social inclusion. But while its effects are widely discussed, there remains a lack of global and comparable data about the impact of tourism on cities.

The idea of creating a global urban tourism database is not new; there have been many attempts to harmonize data collected by cities, but still, important challenges remain related to the availability and comparability of data. The measurement of urban tourism is crucial to ensure its development is in line with the Sustainable Development Goals (SDGs) – particularly SDG11 on making cities inclusive, safe, resilient and sustainable – and the New Urban Agenda endorsed by United Nations Human Settlements Programme.

Over half of the world's population lives in urban areas, and it is estimated that, by 2050, this proportion will reach 70%. The increasing popularity of cities, for both residents and tourists, brings challenges that require efficient local planning and management of urban areas where tourism should be fully integrated. These include use of natural resources, sociocultural impact, congestion and the increased pressure on infrastructure, mobility and other facilities.

Adequate management of tourism in urban destinations is also fundamental to ensuring its sustainability for the benefit of host communities and visitors alike. This goal can only be achieved with an effective system of monitoring and measurement of tourism in urban areas that provides a deeper understanding of the sector, allowing informed decision-making and comparability of data across city destinations.

This joint report of UN Tourism and WTCF is the first attempt to take a closer look at the existing data frameworks and urban tourism databases. It looks at 22 city destinations covering the five world regions – Africa, the Americas, Asia and the Pacific, Europe and the Middle East – to identify similarities and differences across data collection, and explores the use of new technologies for a sustainable planning and management of tourism.

We thank WTCF for its long-term partnership with UN Tourism and we trust this will lead to a broader effort to create a global and comparable analysis of urban tourism data and impacts, as well as strengthen the measurement of tourism and its effects in cities.

Foreword

Yang Shuo
Secretary-General,
World Tourism Cities Federation (WTCF)

Following the cooperation on the *UNWTO/WTCF City Tourism Performance Research*, WTCF and UN Tourism are once again collaborating on in-depth research on world tourism development, through the publication of *Quantifying Tourism in City Destinations – Towards a Better Understanding of Urban Tourism*. UN Tourism is committed to making tourism a force for inclusive economic growth, social progress, environmental sustainability and cultural understanding for all, which is in line with WTCF's vision of *Better City Life through Tourism*. Guided by shared values, WTCF and UN Tourism are working hand in hand to promote the sustainable development of the global tourism industry, and particularly tourism cities.

Based on the identified and selected city destinations, this report provides a comprehensive overview of the existing data sources and indicators related to urban tourism, studies the feasibility of developing a global city tourism database and proposes the roadmap for building it. The study explores how cities can become more sustainable, inclusive and resilient tourist destinations, by using a data-based approach to facilitate informed decision-making for better planning and management of urban tourism.

The release of this report aims to inspire city destinations to become better places to both visit and live in. WTCF and UN Tourism will continue making efforts to promote the sustainable development of tourism in cities in favour of the prosperity of the world's tourism sector.

Executive summary

Definition of urban/city tourism:

Urban/city tourism is a type of tourism activity which takes place in an urban space with its inherent attributes characterized by non-agricultural based economy such as administration, manufacturing, trade and services and by being nodal points of transport. Urban/city destinations offer a broad and heterogeneous range of cultural, architectural, technological, social and natural experiences and products for leisure and business.[1]

Cities are among the most visited destinations worldwide, however, the capacity to capture the overall impact of city tourism varies greatly. The availability and comparability of data is one of the greatest challenges facing urban tourism.

This challenge is not new. The fundamental problems linked to the availability and comparability of data at the local level, and particularly at the city level, were recognized long ago. Numerous guidelines and frameworks have been developed to harmonize practices across city destinations. Nevertheless, the responsibility to ensure the integrity and credibility of data, and the alignment of statistical procedures with international standards, rests with the individual countries and cities. Cities' ability to align practices, however, is often restricted by legal and regulatory frameworks, lack of human and financial resources, and difficulties of obtaining data from a range of heterogeneous stakeholders.

This joint UN Tourism and WTCF report aims to assess current practices in data collection and reporting in city destinations. Indicators and methodologies used by cities around the world are studied to pave a possible way towards a global urban tourism database. The report's ambition is to support a better understanding of existing data, thereby addressing the lack of unified indicators and methodologies that currently hinder the estimation of the size and value of the segment of urban tourism globally and by regions.

The findings of this study are based on a literature review and the analysis of 22 case studies of city destinations covering Africa, the Americas, Asia and the Pacific, Europe and the Middle East.

While the findings show similarities across the indicators measured in cities, especially in the case of accommodation statistics, several key differences also emerge:

1. **Conceptual differences**

- **The spatial definition of city destinations:** Conceptual differences in what the unit of analysis is and what should constitute the boundaries of the city destination.

- **The definition of tourism related products, services and activities**: differences in the interpretation of what falls within the scope of the tourism sector.

1 World Tourism Organization (2019), *UNWTO Tourism Definitions*, UN Tourism, Madrid, DOI: https://doi.org/10.18111/9789284420858

2. Methodological differences

- **Differences in data collection, analysis and reporting procedures** (analytical procedures).
- **The indicators used in each category of measurement:** While there is alignment in the category of performance/impact measured in city destinations (e.g., 'arrivals'), the indicators used to measure that category are often chosen based on the availability of data, which leads to difficulties when comparing them.
- **Systemic vs. experimental research:** The systematic collection of urban tourism data as opposed to ad-hoc, experimental projects.
- **Centralized vs. decentralized approach to data collection and reporting:** Urban tourism data is derived from multiple sources while statistics are reported by multiple agencies, this complexity often leads to inconsistencies in the reported information.
- **Obligatory vs. voluntary data collection and reporting:** In some cases data collection and reporting are obligatory and/or sanctioned by law, while in other cases it happens on a voluntary basis.
- **Open vs. restricted data sharing practices:** While in many urban destinations publicly accessible databases are comprehensive, in other cases access to information is restricted and/or subject to membership.
- **Missing metadata:** The difficulty of forming a thorough understanding of the statistical procedures behind the collection, analysis and dissemination of data and its degree of comprehensiveness.

Therefore, this report aims to highlight the need to harmonize the measurement of urban tourism across city destinations, building on existing practices. A challenging undertaking, but one that is critical to better understand the magnitude and scale of urban tourism worldwide and to lay the foundations for a global urban tourism database.

London, United Kingdom. © Wirestock | Dreamstime.com

Introduction

Urbanization is one of the most noticeable phenomena of our era.[2] As a result, our lifestyles, consumption patterns and the way urban space is used is constantly changing.[3] Urban growth itself has largely contributed to the increasing popularity of city destinations. For a long time, tourism was seen as a viable growth strategy propelling urban economies forward.[4] Consequently, cities are currently among the most visited destinations worldwide.

Urban tourism is defined as "a type of tourism activity which takes place in an urban space with its inherent attributes characterized by non-agricultural based economy such as administration, manufacturing, trade, and services and by being nodal points of transport. Urban/city destinations offer a broad and heterogeneous range of cultural, architectural, technological, social, and natural experiences and products for leisure and business".[5] The exponential growth in urban tourists, as "mobile, temporary citizens of urban life"[6], has been shaping and altering the urban environment and the lives of those living there. The urge to live like a local and the constant search for authentic experiences have led tourists to neighbourhoods previously irrelevant for tourism.[7] On the one hand, this interest, coupled with increasing mobility, has contributed positively to the socioeconomic development of many cities and supported the preservation of the natural, as well as the built and cultural heritage while promoting intercultural exchange.

On the other hand, the growing number of tourists in cities has contributed to the discussions on the impact of tourism on destinations. Tourism has become deeply embedded in urban life, leading to impacts and changes in the spatial dynamics, social, economic, natural and cultural environment of cities.

Urban tourism related challenges have long been known. While the use of the term "overtourism"[8] has gained popularity in recent years, the issue of carrying capacity in tourism destinations in general and cities in particular is not new. The need to better understand the full impact of tourism in cities and rethink city tourism emerged, as cities face the impacts of rising visitor numbers. Once the COVID-19 pandemic brought travel and tourism to a halt, cities previously struggling to manage tourism impact found themselves deprived of visitors. This unprecedented situation revealed the importance of tourism in urban economies and showcased the issues deriving from an overreliance on the sector. As

2 Aall, C. and Koens, K. (2019), 'The Discourse on Sustainable Urban Tourism: The Need for Discussing More Than Overtourism', *Sustainability,* 11(15), 4228, DOI: 10.3390/su11154228

3 Seto, K. C.; Sánchez-Rodríguez, R. and Fragkias, M. (2010), 'The New Geography of Contemporary Urbanization and the Environment', *Annual Review of Environment and Resources,* 35(1), 167–194. DOI: 10.1146/annurev-environ-100809-125336

4 Russo, A. P. and Scarnato, A. (2018), '"Barcelona in common": A new urban regime for the 21st-century tourist city?', *Journal of Urban Affairs,* 40(4), 455–474. DOI: 10.1080/07352166.2017.1373023

5 World Tourism Organization (n.d.), 'Glossary of Tourism Terms', UN Touirsm, Madrid, online available at: https://www.unwto.org/glossary-tourism-terms [27-07-2023]; and

World Tourism Organization (2019), *UNWTO Tourism Definitions,* UN Tourism, Madrid, DOI: https://doi.org/10.18111/9789284420858.

6 Mordue, T. (2017), 'New urban tourism and new urban citizenship: Researching the creation and management of postmodern urban public space', *International Journal of Tourism Cities,* 3(4), 399–405. DOI: 10.1108/IJTC-04-2017-0025

7 Cocola-Gant, A.; Gago, A. and Jover, J. (2020), 'Tourism, gentrification and neighbourhood change: An analytical framework– reflections from Southern European cities', in: J. A. Oskam (Ed.), *The Overtourism Debate,* Emerald Publishing Limited, pp. 121–135, DOI: 10.1108/978-1-83867-487-820201009.

8 Trademarked by Skift in 2018 (registration number 5494076).

city tourism bounced back from the crisis, it became clear that developing better impact measurement and strategies to promote sustainable tourism is key to a more sustainable and resilient future of cities.

Rebuilding and reshaping urban tourism require well-informed decisions based on data and evidence. The information ecosystem surrounding cities has undergone major changes in the past decade. Developments in urban data science have had a major effect on the measurement of tourism and related impacts. As tourism has integrated deeper into the wider city space, several crossovers have been revealed that fostered the adaptation of urban data technologies to tourism specific purposes.

While the importance of data in tourism management is recognized more than ever, and access to information and the capacity to process it has improved significantly, the comparability of data across cities remains a challenge.

Various initiatives have been launched to enable benchmarking across city destinations, including legislative standards, common methodological frameworks, and data sharing partnerships. However, these initiatives focus mostly on European destinations[9] and lack a global coverage and reach. The implementation of a global urban tourism database is a truly challenging undertaking, especially considering that, despite the efforts, methodological and conceptual differences still remain.

Objectives

This joint report of UN Tourism and WTCF aims to assess the current situation of tourism data at city level, the set of indicators being collected and the methodologies in use. The ambition of the report is to set out a possible way forward in enhancing urban tourism data to allow better understanding of the impact of tourism in cities, harmonize existing data practices, develop a global database of urban tourism and estimate the size and value of the segment of urban tourism globally and by regions.

This study is not intended to be a technical report, but a mapping of the current urban tourism data collection and reporting practices and a reminder of the importance of having credible, timely and comparable urban tourism data. As such, the study explores existing statistical frameworks and urban tourism databases to identify similarities and differences across data collection practices in selected city destinations.

In line with the overall aim of the study, the following objectives have been defined:

1. Identification of existing data sources related to urban tourism in selected city destinations;
2. Identification of existing indicators related to urban tourism in selected city destinations;
3. Evaluation of the feasibility and, if viable, a proposal of a roadmap for the development of a global urban tourism database;
4. Exploration of new data sources and indicators, including those related to residents' sentiments and new technologies; and
5. Assessment of possible finance mechanisms/ business models for the creation and maintenance of a global urban tourism database.

In the following chapters, the key findings from the literature review and case study analysis are outlined. In chapter 4, a list of considerations for the development of a harmonized system to gather key data on urban tourism at the global level is presented.

9 For examples of European initiatives see:
PwC, Intellera Consulting, CARSA and University of Málaga (2022), *Study on mastering data for tourism by EU destinations. European Commission;* or TourMIS (n.d.), online available at: https://www.tourmis.info/ [28-07-2023].

Methodology

The findings of this study are based on literature review and analysis of 22 case studies of city destinations covering Africa, the Americas, Asia and the Pacific, Europe and the Middle East. The case studies have been selected from the Top 100 City Destinations Index 2021.[10]

To work with information-rich cases, the cities included in the study are either capital cities or major gateways. They are considered leading destinations in their respective world regions, and can also be seen as front runners in the field of urban tourism statistics.

In the case of the Americas, Buenos Aires and São Paulo were included in the analysis despite not being featured in the Top 100 index, as both cities have established tourism observatories[11] which makes an interesting case for analysis. Additionally, it improves the geographical spread of the cities. For a similar reason, the city of Muscat in Oman has been included as the case provides additional information on urban tourism data collection in the Middle East.

It must be noted that the research relied entirely on publicly available official data, which represents some limitations. Through data exchange arrangements, much more information could be obtained. Therefore, the list of data sources and indicators in the case studies should not be considered a complete list of available data, but rather examples.

The indicators identified in the case studies were grouped into the following five categories:

1. **International and/or domestic tourism:** Indicators measuring the number, behaviour, spatial and seasonal movement of visitors. Visitor profiles and source markets were also included in this category;

2. **Accommodation statistics:** Indicators measuring the supply and the demand side of the accommodation industry;

3. **Transport:** Indicators measuring movement at airports, cruise ports, bus, ferry and train terminals;

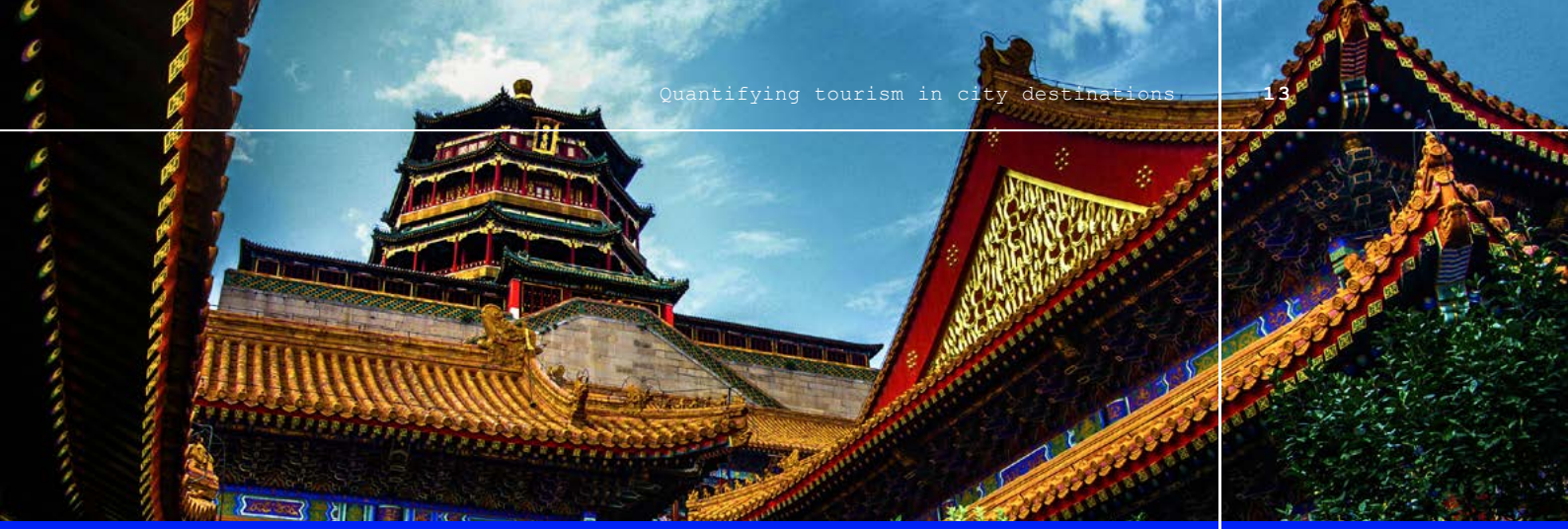
4. **Socioeconomic aspects:** Indicators measuring the contribution of tourism to employment and to the local economy (gross regional product – GRP; gross value added – GVA), as well as tourism expenditure and tax revenue; and

5. **Other publicly available official data** that did not fit into any of the other categories. In some cases, indicators related to the meetings, incentives congresses and events (MICE) industry were listed here, however it must be noted that this study did not particularly focus on the MICE subsector.

10 Euromonitor International (2021), 'Top 100 City Destinations Index 2021', online available at: https://go.euromonitor.com/white-paper-travel-211202-top-100-city-destinations-index.html [28-07-2023].

11 For further details, consult:
World Tourism Organization (n.d.), 'UN Tourism International Network of Sustainable Tourism Observatories', UN Tourism, Madrid, online available at: https://www.unwto.org/sustainable-development/unwto-international-network-of-sustainable-tourism-observatories [01-02-2024]; and

World Tourism Organization (n.d.), 'World Tourism Organization International Network of Sustainable Tourism Observatories', UN Tourism, Madrid, online available at: https://www.unwto.org/insto/ [30-06-2023].



01. Understanding urban tourism

Summary: Tourism is a major source of economic value and revenue, and a key contributor to employment for many cities. Understanding the magnitude of the sector's contribution to and impact on the local and global economy, as well as the social and environmental challenges arising from it, requires comparable and transparent data. This chapter describes the importance of having a well-functioning, open database of credible, accurate and timely urban tourism data that enable evidence driven decisions on urban development and management.

Key words: Urban tourism | database | measurement | challenges | development | management | sustainability | economy | cities

Key messages:

- Urbanity and tourism are deeply interconnected. Tourism has undoubtedly become a major pillar of urban economic development.
- The revenue generated from tourism activities supports businesses directly or indirectly, provides livelihood to many and is a key contributor to employment.
- Many challenges remain in terms of the sector's impacts on resources, infrastructure and social fabric of cities.
- Understanding economic performance of urban tourism is key, but also expanding tourism statistics into the social and environmental domains, especially at the local level where most challenges arise.
- Efficient local, national, international and supra-national policies require an in-depth understanding of the way tourism functions in cities and of its interconnections with other sectors and territorial scales.

Beijing, China. © Xing Zhu | Dreamstime.com

1.1 Tourism in the global urban economy

The world is urbanizing at a fast pace. By 2050, 68% of the global population is expected to live in cities.[12] In the coming decades, most of this growth is expected to be observed in Africa and Asia and the Pacific, while urbanization processes will likely slow down in the most developed regions of the world.[13] Simultaneously, cities represent ever more important drivers of socioeconomic growth worldwide. With 80% of global GDP generated in cities,[14] opportunities for innovation and growth are abundant.

The transformative power of urbanization is widely recognized, including in the New Urban Agenda endorsed by UN-Habitat.[15] While innovation, growth and development are closely linked to urbanization processes, ensuring that growth is sustainable, equitable, just and fair is of utmost importance. This ambition is clearly expressed in SDG11: Make cities inclusive, safe, resilient and sustainable.[16] While cities are home to approximately 55% of the world's population[17] and are key drivers of socioeconomic growth, they also account for 60% of global energy consumption, 70% of global waste and more than 70% of global greenhouse gas emissions.[18] Developing and deploying models, frameworks and practices that support the long-term sustainable development of urban communities is the joint responsibility of national and local governments, multilateral organizations, the private and third sector, and civil society.[19]

Urbanity and tourism are deeply interconnected. Over the past decades, tourism has undoubtedly become a major pillar of urban economic development.[20] In many cities, tourism drives urbanization processes while in others, urbanization has led to the rapid development of the tourism sector.[21] Cities are attractive tourism destinations as they offer a wide range of activities, services, well-established infrastructure and tend to be major gateways or transport hubs. Affordable and improved mobility have made it possible for people to visit cities mostly as short getaways or as part of multi-destination trips. In European cities, some estimates show that the sector's contribution to local GDP is around 10%.[22]

The revenue generated from tourism activities supports businesses directly or indirectly and provides livelihood to many. Tourism revenue can be used to fund the improvements or maintenance of public services,

12 United Nations Human Settlements Programme (2022), *World cities report 2022. Envisaging the future of cities.*

13 United Nations Human Settlements Programme (2022), *World cities report 2022. Envisaging the future of cities.*

14 World Bank (2023), *Urban Development*, online available at: https://www.worldbank.org/en/topic/urbandevelopment/overview [07-07-2023].

15 UN-Habitat (n.d.), *The New Urban Agenda*, online available at: https://habitat3.org/the-new-urban-agenda/ [25-07-2023].

16 United Nations (n.d.), Goal 11: Make cities inclusive, safe, resilient and sustainable, online available at: https://www.un.org/sustainabledevelopment/cities/ [26-07-2023].

17 United Nations, Department of Economic and Social Affairs (2018, May 16), '68% of the world population projected to live in urban areas by 2050, says', UN | UN DESA | United Nations Department of Economic and Social Affairs, online available at: https://www.un.org/development/desa/en/news/population/2018-revision-of-world-urbanization-prospects.html [13-07-2023].

18 World Bank (2023), *Urban Development*, online available at: https://www.worldbank.org/en/topic/urbandevelopment/overview

19 United Nations (n.d.), 'Goal 11: Make cities inclusive, safe, resilient and sustainable', online available at: https://www.un.org/sustainabledevelopment/cities/ [26-07-2023].

20 UN Tourism's work on urban tourism and the related publications are online available at: https://www.unwto.org/urban-tourism [27-07-2023].

21 Hall, C. M., Ram, Y. and Finsterwalder, J. (2015), 'Shaping, experiencing and escaping the tourist city. LA', *Pleasure Fall,* pp. 84–90.

22 Gonzalez, A., Santos-Lascueva, R. and Fosse, J. (2017), *Urban tourism policies and sustainability,* Ecounion Publishing.

infrastructure, the transport network, cleanliness of public spaces, and the preservation of natural and cultural heritage for the benefit of both residents and visitors. Such developments contribute to the attractiveness and international reputation of cities, making them more competitive and more desirable places to live, work, study and invest.

In addition to being a major source of economic value and revenue, tourism is a key contributor to employment, both directly and indirectly.

While the importance of travel and tourism in socioeconomic development of the cities is evident, many challenges in terms of the sector's impacts on resources, infrastructure and social fabric remain. Informality and poor working conditions remain some of the major challenges in the tourism labour market.[23] Since tourism is a resource intensive sector relying heavily on local infrastructure, water, waste disposal capacity, energy and the availability of public space, conflicts have emerged between residents and visitors in some cities. Negative social responses to tourism-related issues of gentrification and commercialization have been widely reported. However, when the COVID-19 pandemic hit, cities found themselves deprived of visitors which resulted in major economic damage, with the hospitality industry reporting some of the largest losses. The pandemic proved that while poor-managed tourism can lead to negative environmental, spatial, socioeconomic and cultural impacts, the lack of tourism (especially in cities with less diversified economies) can be similarly devastating. Undoubtedly, given the sector's importance and vulnerability, better understanding of tourism performance in city destinations at the global scale is a must. It must also be acknowledged that while understanding economic performance is key, expanding tourism statistics into the social and environmental domains, especially at the local level where most challenges arise and require attention, is crucial. Initiatives such as the Statistical Framework for Measuring the Sustainability of Tourism (SF-MST)[24] and the UN Tourism International Network of Sustainable Tourism Observatories (INSTO)[25] all point to this direction (see section 2.4).

Los Angeles, USA. © F11photo | Dreamstime.com

23 International Labour Organization (2022), *The future of work in the tourism sector: Sustainable and safe recovery and decent work in the context of the COVID-19 pandemic. Report for the Technical Meeting on COVID-19 and Sustainable Recovery in the Tourism Sector. (Geneva, 25–29 April 2022).*

24 For further details, consult:
World Tourism Organization (n.d.), 'Measuring the Sustainability of Tourism', UN Tourism, Madrid, online available at: https://www.unwto.org/tourism-statistics/measuring-sustainability-tourism [01-02-2024].

World Tourism Organization (n.d.), 'Statistical Framework for Measuring the Sustainability of Tourism', UN Tourism, Madrid, online available at: https://www.unwto.org/tourism-statistics/statistical-framework-for-measuring-the-sustainability-of-tourism [02-02-2024].

25 For further details, consult:
World Tourism Organization (n.d.), 'UN Tourism International Network of Sustainable Tourism Observatories', UN Tourism, Madrid, online available at: https://www.unwto.org/sustainable-development/unwto-international-network-of-sustainable-tourism-observatories [01-02-2024]; and

World Tourism Organization (n.d.), 'World Tourism Organization International Network of Sustainable Tourism Observatories', online available at: https://www.unwto.org/insto/ [30-06-2023].

1.2 The importance of understanding urban tourism

Tourism plays a significant role in the development of cities. Understanding the magnitude of the sector's contribution to and impact on the local, as well as global economy, and the social and environmental challenges arising from it, requires good quality, comparable and transparent data. Moreover, players in the tourism supply chain require market insights to optimize their products and services, while public authorities need reliable information to ensure the sustainable development of the sector. In other words, multiple factors indicate the need for a better understanding of the state of play of urban tourism.

Firstly, tourism is directly linked to SDG11: Make cities inclusive, safe, resilient and sustainable.[26] Understanding and measuring the way tourism contributes to – or potentially hinders – cities' efforts to protect cultural, built and natural heritage, to support local communities, and the greening of city infrastructure and services is crucial. Efficient local, national, international and supra-national policies require an in-depth understanding of the way tourism functions in cities and of its interconnections with other sectors and territorial scales. Furthermore, the need to compare city-regions around the world emerges for the purposes of benchmarking, knowledge sharing, collaborative learning and the estimation of the sector's global impact.

Secondly, decisions on urban development and management are increasingly evidence driven. Tourism is fully intertwined with urban life, therefore tourism-related investments such as improving accessibility, managing or creating new transport links, defining adequate regulations, opening new attractions, expanding the accommodation stock, developing visitor infrastructure, improving public amenities, attracting new events, optimizing waste disposal practices or managing resources such as water, all have great impact on urban planning and management. While these tourism-related investments can improve accessibility and the range of amenities and services, as well as enhance the quality of public space, making it more inclusive, safe and secure, they are costly and need to be considered carefully. Furthermore, city destinations are experiencing increasing competition. Therefore such investments need to take into account the destination's competitive position, current and forecasted tourism demand, market share, projected return on investment, as well as the impact on and the vision of the city and its residents.[27]

Lastly, marketing and communication strategies are also data-driven. Accurate visitor profiles and efficient targeting strategies require in-depth understanding of key source markets, travel behaviour and spending patterns, destination image, risk perception, satisfaction and the quality of visitors' experience.

Therefore, a well-functioning, open database of credible, accurate and timely urban tourism data can benefit a multitude of players and support wider societal goals. Moreover, as tourism is highly interconnected with many sectors and domains in cities such as housing, mobility, infrastructure development and fiscal policies, such data would be relevant to many stakeholders outside of the tourism sector.

26 World Tourism Organization (n.d.), 'SDG11 – Sustainable cities and communities', UN Tourism, Madrid, online available at: https://tourism4sdgs.org/sdg-11-sustainable-cities-communities/ [23-06-2023]

27 Ostertag, J. and Wöber, K. W. (2010), 'European city tourism statistics'; in: Mazanec, J. A. and Wöber, K. W. (eds.), *Analysing international city tourism*, (2nd ed). Springer.

02. Current state of global urban tourism data

Summary: This chapter provides a brief overview of existing statistical frameworks, indicators and data focusing on or relevant to urban tourism. It also highlights the efforts and initiatives taken in the past years and points to some of their shortcomings

Key words: Urban tourism | measuring | monitoring | big data | open data | statistical standards | database | indexes | benchmarks | sustainability | management

Key messages:

- While a publicly accessible global urban tourism database does not exist, there are examples of supra-national and national databases on city tourism.
- Due to the challenges associated to the collection and reporting of data at a local level, Indexes that offer benchmarking across city destination scarce.
- Cities must engage in a timely measurement and monitoring of the impact of tourism not limited to economic factors but to the social and environmental spheres.
- Having access, capacity and know-how to harvest and analyse data at a local level gives destinations a competitive advantage and the ability to better plan and manage tourism.

Melbourne, Australia. © David Iliff | Dreamstime.com

2.1 Statistical standards adopted by the United Nations

Due to the statistical developments of the past decades, more city insights than ever before are produced.[28] The internationally agreed methodological frameworks for tourism statistics refer to national and subnational levels, and have been around for some time: *The International Recommendations for Tourism Statistics 2008* (IRTS2008)[29] and the *Tourism Satellite Account: Recommended Methodological Framework 2008* (TSA:RMF2008)[30] are the worldwide references for producing tourism statistics. Together, they constitute a framework which enables countries to compile tourism statistics and indicators that are comparable across countries, sectors and over time.

While these standards focus on national statistics, they also recognize the importance of subnational data collection and many of the definitions can be applied at lower territorial scales,[31] and the IRTS2008 provides some useful recommendations that support the measurement at subnational levels. For instance, it is recommended that national statistical offices, tourism authorities and/or other organizations with direct responsibility for tourism statistics, promote the use of national instruments to collect tourism data at the regional and local levels, using the common set of definitions provided in the IRTS2008.

Applying TSA:RMF2008 to the subnational level requires some adaptation. The Tourism Satellite Accounts (TSAs) can be seen as an extension of the national accounts, focussing only on tourism. However, a national accounts framework does not exist at subnational level, and many national accounting concepts are not directly applicable at subnational level. Still, given the relevance of and high interest in TSA data, some regions and cities are embarking on developing their own TSAs. Examples of subnational TSAs include the ones produced by the Australian Trade and Investment Commission, Tourism Research Australia, since 2006. These provide annual data for Australia's tourism regions.[32] More recently, the city of Berlin started compilling its TSA and has published reports for the years 2019 and 2020.[33] TSA accounts for the Flemish Region and the Brussels-Capital Region are also available.[34]

Countries that implement the TSA at a national level will usually start with the tables that are considered the most feasible in view of available data and then gradually extend their accounts. That said, the level of implementation of national TSAs often differs between countries, which limits the possibility of comparing a wider range of indicators.[35]

28 Dickey, A., Acuto, M., and Washbourne, C.-L. (2021), *Urban observatories: A comparative review. Connected Cities Lab,* University of Melbourne.

29 United Nations (2010), *International Recommendations for Tourism Statistics 2008*, UN, New York, online available at: https://www.e-unwto.org/doi/book/10.18111/9789211615210

30 United Nations; Commission of the European Communities, Eurostat; World Tourism Organization and Organisation for Economic Co-operation and Development (2010), *Tourism Satellite Account: Recommended Methodological Framework 2008*, UN, New York, online available at: https://www.e-unwto.org/doi/book/10.18111/9789211615203

31 World Tourism Organization (2022), 'Statistical framework for measuring the sustainability of tourism (SF-MST)'.

32 Australian Trade and Investment Commission, Tourism Research Australia (n.d.), 'Regional tourism satellite account', online available at: https://www.tra.gov.au/data-and-research/reports/regional-tourism-satellite-account/regional-tourism-satellite-account [24-06-2023].

33 Senate Department for Economics, Energy and Enterprises, Economics Department (2023), 'Tourism in figures', online available at: https://www.berlin.de/sen/wirtschaft/branchen/tourismus/tourismus-in-zahlen/ [24-06-2023].

34 The reports are online available at: https://toerismevlaanderen.be/nl/cijfers/onderzoek/economie-toerisme [24-06-2023].

35 Eurostat (2023), *Tourism Satellite Accounts in Europe—2023 edition,* Publications Office of the European Union.

2.2 The legal framework in the European Union

Based on the above-mentioned international recommendations, legislation in the European Union (EU) ensures "the systemic development, production and dissemination of European statistics on tourism".[36] Member states are required to submit data on both tourism supply and demand. The corresponding regulations, both in force since 2011, are the regulation 692/2011 concerning European statistics on tourism,[37] and the implementing regulation No 1051/2011 on tourism regarding the structure of the quality reports and the transmission of the data,[38] which in August 2019 were amended for regulating the transmission deadlines and other adaptadions.[39] With this legal act, data collection has been extended to the Nomenclature of Territorial Units for Statistics (NUTS) 3,[40] region and city level. As a result, since 2020, Eurostat collects data on nights spent in tourist accommodation establishments by residents and non-residents in selected cities. The database includes all capital cities, cities with a minimum population of 200 000 inhabitants, and "cities that, jointly, account for 90% of the annual nights spent at tourism accommodation in cities in the country".[41]

Paris, France. © Aliaksandr Kazlou | Dreamstime.com

36 European Parliament (n.d.), 'Regulations', online available at: https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex:32011R0692 [26-06-2023].

37 European Union (2011), 'Consolidated text: Regulation (EU) No 692/2011 of the European Parliament and of the Council of 6 July 2011 concerning European statistics on tourism and repealing Council Directive 95/57/EC (Text with EEA relevance)Text with EEA relevance', EUR Lex, European Union, ELI: http://data.europa.eu/eli/reg/2011/692/2020-01-01

38 European Union (2011), 'Commission Implementing Regulation (EU) No 1051/2011 of 20 October 2011 implementing Regulation (EU) No 692/2011 of the European Parliament and of the Council concerning European statistics on tourism, as regards the structure of the quality reports and the transmission of the data Text with EEA relevance', EUR Lex, European Union, ELI: http://data.europa.eu/eli/reg_impl/2011/1051/oj

39 European Commission and Eurostat (2019), 'C/2019/5572 final$ – Commission Delegated Regulation (EU) .../... amending Regulation (EU) No 692/2011 of the European Parliament and of the Council concerning European statistics on tourism, as regards the transmission deadlines and adaptation of Annexes I and II,' European Union, online available at: https://op.europa.eu/s/zfoP [02-02-2024].

Eurostat (n.d.), 'City statistics – tourism', Statistics Explained, European Commission, online available at: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=City_statistics_-_tourism#Tourism_statistics_on_cities [26-06-2023].

40 Eurostat (n.d.), 'NUTS-Nomenclature of Territorial Units for Statistics, Overview', European Commission, online available at: https://ec.europa.eu/eurostat/web/nuts/overview/ [15-02-2024].

41 Eurostat (n.d.), 'City statistics – tourism', Statistics Explained, European Commission, online available at: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=City_statistics_-_tourism#Tourism_statistics_on_cities [26-06-2023].

2.3 Supra-national and national city tourism databases

While a publicly accessible global urban tourism database does not yet exist, there are examples of supra-national and national databases on city tourism. One such supra-national database, and potentially the most comprehensive, is TourMIS.[42] TourMIS was developed by the Modul University Vienna with the financial support of the Austrian National Tourist Office and the European Travel Commission (ETC), and additional support from a wide range of other companies and organizations. It is an open access marketing information system that collects data on the number of arrivals, bednights and capacities in European cities.[43] Cities also have the possibility to report on the number of visitors at all attractions/sights. Over 100 European cities are registered in the TourMIS database, however not all of them are active. The cities provide data on a voluntary basis hence the quality, timeliness and quantity of the information varies. It is also advised to take precautions when attempting to compare data across cities as definitions and methodologies vary between them.

Regarding data sharing in Europe, the most recent initiative is Tourism Data Space.[44] The project is funded by the EU and aims to contribute to the European Commission's vision on a single marketplace for data sharing for the region. The initiative aims to establish mechanisms and business models for data sharing at the national, regional and local levels, as well as across sectors.

An example of a national database is the online dashboard of the International Trade Administration of the United States of America, which ranks the country's cities according to the number of overseas visitors.[45]

Osaka, Japan. © Maicyber | Dreamstime.com

42 Information on TourMIS is online available at: https://www.tourmis.info/ [28-06-2023].

43 For methodological guidelines consult the TourMIS Handbook online available at https://www.tourmis.info/index_e.html [28-06-2023].

44 Information on the Data Space for Tourism initiative is online available at: https://dsft.modul.ac.at/ [28-06-2023].

45 International Trade Administration (n.d.), US states and cities visited by overseas travellers, online available at: https://www.trade.gov/data-visualization/us-states-cities-visited-overseas-travelers [29-06-2023].

2.4 Measuring the sustainability of tourism in city destinations

Destinations must engage in a comprehensive process of evidence-based decision-making to optimize tourism development. This involves establishing clear baselines, conducting regular and timely measurements or monitoring, and setting agreed targets. Such a process ensures that the assessment of the impact of tourism is not limited to economic factors alone, but also includes social and environmental considerations. Such insights can be used to steer tourism planning and management towards the long-term ambitions outlined in the Paris Agreement,[46] the New Urban Agenda,[47] and the SDGs.[48]

Since the early 1990s, UN Tourism has played a key role in the development and implementation of indicators for the monitoring and measurement of the sustainable development of tourism destinations. The 2004 guidebook *Indicators of Sustainable Development for Tourism Destinations*[49] is considered a seminal work that centres the use of indicators, and emphasizes their importance in sustainable tourism planning and management. This landmark study was used as the basis for various indicator systems and toolkits as discussed below.

At the global level, with the support of the United Nations Statistics Division (UNSD), the International Labour Organization (ILO) and other parties, UN Tourism is leading the development of a Statistical Framework for Measuring the Sustainability of Tourism (SF-MST).[50] The SF-MST provides an integrated framework describing the main concepts, definitions and data organization structures to support the production and organization of internationally comparable data on the impacts and dependencies of tourism on the economy, society and the environment, at both national and subnational levels. The SF-MST provides an agreed approach to building harmonized data at the subnational level to support the analysis of tourism activity and its sustainability at all scales. As such, it supports comparability of the data between destinations, between national and subnational level, and of tourism with other sectors.

The ultimate aim of the SF-MST is to enable the production of credible, internationally comparable data on the sustainability performance of both countries and subnational tourism destinations.

The European Tourism Indicators System (ETIS)[51] was launched by the European Commission in 2013,

46 United Nations Framework Convention on Climate Change (n.d.), 'The Paris Agreement', online available at: https://unfccc.int/process-and-meetings/the-paris-agreement [29-06-2023].

47 United Nations Human Settlements Programme (n.d.), 'The New Urban Agenda', online available at: https://habitat3.org/the-new-urban-agenda/ [25-07-2023].

48 World Tourism Organization (n.d.), 'SDG11 – Sustainable cities and communities', UN Tourism, Madrid, online available at: https://tourism4sdgs.org/sdg-11-sustainable-cities-communities/ [23-06-2023]

49 World Tourism Organization (2004), *Indicators of Sustainable Development for Tourism Destinations A Guidebook*, UN Tourism, Madrid, DOI: https://doi.org/10.18111/9789284407262

50 World Tourism Organization (n.d.), 'Measuring the Sustainability of Tourism', UN Tourism, Madrid, online available at: https://www.unwto.org/tourism-statistics/measuring-sustainability-tourism [29-06-2023].

World Tourism Organization (n.d.), 'Statistical Framework for Measuring the Sustainability of Tourism', UN Tourism, Madrid, online available at: https://www.unwto.org/tourism-statistics/statistical-framework-for-measuring-the-sustainability-of-tourism [02-02-2024].

51 European Commission (n.d.), European Tourism Indicators System for sustainable destination management, online available at: https://single-market-economy.ec.europa.eu/sectors/tourism/eu-funding-and-businesses/funded-projects/sustainable/indicators_en [30-06-2023].

based on UN Tourism's pioneering *Indicators of Sustainable Development for Tourism Destinations* and the introduction of an evidence-based approach to sustainable tourism. ETIS is a voluntary management tool that helps destinations measure their sustainable tourism performance using 27 core indicators and 40 optional indicators. The indicators are grouped into four main categories: (i) destination management, (ii) social and cultural impact, (iii) economic value and (iv) environmental impact. Upon the establishment of ETIS, destinations (such as the Italian cities of Rome, Venice, Milan, Naples, Rimini and Florence committed to the implementation of the framework. Together, these cities form the GDITS Network – Great Italian Destinations for Sustainable Tourism. In 2014, the cities participated in the second testing phase of the ETIS toolkit.[52] The activities of the network are part of the 2017–2022 implementation of Italy's *Strategic Tourism Plan of the Directorate General of Tourism of the Ministry of Heritage, Cultural Activities and Tourism.*[53]

Similar to the ETIS toolkit are the Global Sustainable Tourism Council's (GSTC)[54] criteria for destinations, also based on the 2004 UN Tourism *Indicators of Sustainable Development for Tourism Destinations*. The performance indicators are grouped into four main categories ((i) sustainable management, (ii) cultural sustainability, (iii) socioeconomic sustainability and (iv) environmental sustainability), aiming to help destinations maximize their contribution to the 2030 Agenda for Sustainable Development and better integrate the SDGs into their management decisions.

Another global initiative is the UN Tourism International Network of Sustainable Tourism Observatories (INSTO),[55] which recognizes destinations committed to base their sustainable development on evidence within a participatory and transparent approach. INSTO was created in 2004 with the aim to support monitoring and evaluation of the performance and impacts of the tourism sector, with particular attention to sustainability. The initiative provides stakeholders with the tools necessary to optimize information management procedures, thereby contributing towards the development and deployment of sustainable tourism policies and strategies. INSTO highlights the crucial role observatories play in sustainable destination development, and how tourism monitoring and reporting help promote understanding of the sector's contribution to wider societal goals.

As of November 2023, there are 42 observatories across three world regions in the network. Among the observatories we find multiple that operate at the subnational, regional level, encompassing cities within their scope. Examples of observatories operating at the city level include the Chinese cities of Henan Luoyang, Henan Jiaozuo, Henan Kaifeng and Jiangmen, as well as the prefecture of Xishuangbanna in Yunnan province. Other observatories which report city-level data are, Buenos Aires (Argentina), São Paulo (Brazil), Bogotá (Colombia), Antigua Guatemala (Guatemala), Guanajuato (Mexico), and Barcelona and Malaga (Spain), among others.

INSTO requires participating observatories to monitor 11 mandatory issue areas: tourism seasonality, employment, destination economic benefits, governance, local satisfaction, energy management, water management, wastewater (sewage) management, solid waste management, accessibility, and climate action. Destinations can choose the indicators that are available and best suited to measure the impact of tourism in the mentioned domains. INSTO observatories are frontrunners when it comes to the measurement of performance and impact in all three pillars of sustainability (environmental, economic and social sustainability), however, the multiplicity of indicators used in the 11 mandatory reporting areas hinders benchmarking efforts.

52 City of Venice (n.d.), 'GDITS Network – Great Italian Destinations Sustainable Tourism', online available at: https://www.comune.venezia.it/it/content/network-gdits-grandi-destinazioni-italiane-turismo-sostenibile [27-07-2023].

53 City of Venice (n.d.), 'GDITS Network – Great Italian Destinations Sustainable Tourism', online available at: https://www.comune.venezia.it/it/content/network-gdits-grandi-destinazioni-italiane-turismo-sostenibile [27-07-2023].

54 Global Sustainable Tourism Council (n.d.), 'GSTC destination criteria', online available at: https://www.gstcouncil.org/gstc-criteria/gstc-destination-criteria/ [27-07-2023].

55 World Tourism Organization (n.d.), 'World Tourism Organization International Network of Sustainable Tourism Observatories', UN Tourism, Madrid, online available at: https://www.unwto.org/insto/ [30-06-2023].

2.5 City destination indexes and benchmarks

While there are recognized statistical frameworks to quantify tourism at the local level, indexes that offer benchmarking across cases are rather scarce. Furthermore, most indexes are based on independently developed methodologies, therefore lack consistency and comparability. Moreover, with some exceptions, there is little information on the validity of the data that these indexes are based on.

The Global Destination Sustainability (GDS) Index[56] was inspired by the Scandinavian Destination Sustainability Index created by 15 cities in 2010. The GDS-Index itself was launched in 2015 and is run in partnership with the International Congress and Convention Association, ICCA IMEX Exhibitions, City Destinations Alliance (CityDNA), MCI Group and GUBI consulting. 65 city destinations participated in the latest round of assessments.[57] The local municipality or destination management organization (DMO) is responsible for providing the necessary data and evidence by completing an online questionnaire. Experts from GDS-Index then verify the submission. The index includes 70 qualitative and quantitative indicators across four main categories: (i) the city's environmental strategy and infrastructure, (ii) its social sustainability performance, (iii) the industry supplier support and (iv) the DMO strategy and initiatives. The indicators are in line with the SDGs and the Agenda 2030, and are informed by the GSTC Destination Criteria v2.0[58] and the main principles of the United Nations One Planet Sustainable Tourism Programme.[59]

To ensure quality, cities are required to use official data sources or trustworthy open data sources such as the World Bank.

Top 10 Cities GDS-Index 2022

1. Gothenburg, Sweden – 92.98%
2. Bergen, Norway – 88.36%
3. Copenhagen, Denmark – 86.7%
4. Aalborg, Denmark – 86.41%
5. Bordeaux, France – 85.1%
6. Glasgow, United Kingdom – 84.09%
7. Stockholm, Sweden – 84.08%
8. Belfast, United Kingdom – 84.01%
9. Aarhus, Denmark – 83.45%
10. Oslo, Norway – 83.18%

Non-European Cities in Top 30 GDS-Index 2022

18. Goyang, South Korea – 78.34%
20. Melbourne, Australia – 76.55%
24. Montreal, Canada – 74.46%
27. Sydney, Australia – 73.76%
28. Bangkok, Thailand – 73.66%

Note: Overall score on 70 indicators out of 100%
Source: GDSM (2023), *Raising the bar. Results, trends, and insights from the 2022 Global Destination Sustainability Index (GDS-Index)*

56 More information on the GDS-Index is online available at: https://www.gds.earth/index/ [30-06-2023].

57 GDSM (2023), *Raising the bar. Results, trends, and insights from the 2022 Global Destination Sustainability Index (GDS-Index)*

58 Global Sustainable Tourism Council (n.d.), 'GSTC destination criteria', online available at: https://www.gstcouncil.org/gstc-criteria/gstc-destination-criteria/ [27-07-2023].

59 World Tourism Organization (n.d.), 'The One Planet Sustainable Tourism Programme', online available at: https://www.unwto.org/sustainable-development/one-planet [30-06-2023].

Another example of a global index is the Euromonitor International Top 100 City Destinations Index.[60] The Index is published on a yearly basis and assesses cities based on more than 50 indicators grouped into six main categories: (i) economic and business performance, (ii) tourism performance, (iii) tourism policy and attractiveness, (iv) tourism infrastructure, (v) health and safety and (vi) sustainability. The data used for the Index is derived from Passport (a market research database of Euromonitor International) and other secondary data sources including public domain materials.

The World Tourism Cities Development Report[61] is published on a yearly basis by WTCF. Its evaluation index focusses on 100 major city destinations covering all world regions. The report consists of one main index and six subindexes: (i) city popularity, (ii) industry prosperity, (iii) city intelligence, (iv) tourism safety, (v) economic contribution and (vi) tourist satisfaction. These are in turn comprised of a total of 31 subindexes and 62 component indicators. The majority of the data is derived from an external the business consulting firm, while some of the data is obtained from official organizations such as UN Tourism.

Last published in 2019, Mastercard's *Global Destination Cities Index*[62] is another benchmark report, covering 200 cites based on third-party research. The cities are ranked according to the number of international overnight visitor arrivals and cross-border spending. Visitor expenditure per resident, the ratio of international overnight visitors' expenditure to GDP, the number of jobs supported by 1,000 additional overnight tourists, average length of visit and average daily spend are also included.

An example of a European city destinations index is the *City Travel Report* by City Destinations Alliance,[63] produced based on TourMIS data. The latest edition (2022–2023) features 115 European cities and provides insights into bednights, bed supply, occupancy and tourism densities.

Finally, a national index that allows for comparison based on selected indicators is UrbanTUR. UrbanTUR is one of the main initiatives of EXCELTUR (Alliance for Excellence in Tourism), a non-profit entity formed by the 32 leading tourism companies in Spain. Launched in 2013, UrbanTUR aims at "encouraging the best urban policies to reinforce tourism competitiveness in the main Spanish cities, highlighting the best practices in public leadership and tourism governance, urban planning, public spaces qualification, city mobility, city marketing and on-line communication tools".[64] It ranks the 22 most important Spanish city destinations according to their competitiveness. 63 indicators are grouped into six categories: (i) attraction capacity of the offer of leisure products, (ii) attraction capacity of business products, (iii) competitive determinants of the urban environment and local life, (iv) accessibility and mobility, (v) governance and strategic management and (vi) economic and social performance.[65] Together, the 22 UrbanTUR cities account for 87% of total urban tourism and 23% of total tourism in Spain.[66]

60 Euromonitor International (n.d.), 'Top 100 City Destinations Index 2022', online available at: https://www.euromonitor.com/top-100-city-destinations-index-2022/report?recid=2670395679165&id=768850 [03-07-2023].

61 The report is online available at: https://en.wtcf.org.cn/20230902/653c4f83-b423-c750-2b99-c0dcee22785b.html [20-09-2023]

62 Mastercard (n.d.), 'Global Destinations Cities Index', online available at: https://www.mastercard.com/news/insights/2019/global-destination-cities-index-2019/ [27-07-2023].

63 City Destinations Alliance (n.d.), *City Travel Report*, online available at: https://citydestinationsalliance.eu/latest-city-travel-report-by-citydna-unveils-impressive-post-pandemic-recovery-of-european-city-tourism-in-2022/ [27-07-2023].

64 Information on EXCELTUR is online available at: https://www.exceltur.org/exceltur-in-english/ [29-06-2023].

65 For the detailed list of indicators see the latest URBANTUR report online available at: https://www.exceltur.org/urbantur/ [29-06-2023].

66 For the detailed list of indicators see the latest URBANTUR report online available at: https://www.exceltur.org/urbantur/ [29-06-2023].

2.6 The potential of big data for measuring urban tourism

Cities and big data are increasingly intertwined. *Big data* should be understood as an umbrella term that refers to a range of tools and processes related to the generation, analysis and storage of data.[67] It is characterized by the 4Vs: volume, velocity, variety and veracity.[68] Essentially, big data supports the understanding of human and monetary or other transactional flows. Given that most tourism statistics deal with either human flows (movements and spatial behaviours of tourists) and/or monetary flows (e.g. tourism revenue), the connection between big data and tourism is evident.[69]

The digital footprint of tourists is enormous, especially when they visit cities.[70] Hence, having access, capacity and know-how to harvest and analyse this data gives destinations a competitive advantage and the ability to better understand past and future travel demand. Big data sources with potential for understanding the spatial and temporal distribution of visitors, as well as the ways they interact with the city, can be grouped into six categories as shown in table 2.1.

Data from both **mobile network operators** (MNO) and **smart mobile devices** offer ways to measure the spatial movements (frequency, distances, destinations, preferred route etc.) of tourists. Geo-positioning data stored by smart devices such as mobile phones, laptops, tablets and smart watches are however considered more accurate than MNO data.[71] Despite the benefits, both methods pose limitations. Access to MNO data remains one of the main barriers, and for both sources, information may need to be supplemented from traditional data sources.

User generated content from social networks, including photo and video sharing, micro-blogs and tweets, offer a

Using big data to monitor, forecast and evaluate visitor flows and tourism impacts in Hangzhou, China

This big data platform for tourism on the city-level, developed by the Hangzhou Tourism Committee and managed by the Hangzhou Tourism Economy Laboratory, collects data based on searches, reservations, passenger flows and consumption. Based on the data, the platform allows for forecasts about hot spot congestion and waiting times, among others, which tourists receive via mobile applications, SMS or social media platforms.

Source: World Tourism Organization; Centre of Expertise Leisure, Tourism & Hospitality; NHTV Breda University of Applied Sciences; and NHL Stenden University of Applied Sciences (eds., 2019), *'Overtourism'? – Understanding and Managing Urban Tourism Growth beyond Perceptions, Volume 2: Case Studies*, UNWTO, Madrid, DOI: https://doi.org/10.18111/9789284420629

67 Peters, S., and Keller, P. (2022), 'Applications and issues of big data in tourism research', *Traveland Tourism Research Association: Advancing Tourism Research Globally*, 18.

68 Smalec, A. (2021), 'Big Data as a tool helpful in communication management', *Procedia Computer Science*, 192, 5156–5165. DOI: 10.1016/j.procs.2021.09.293

69 Eurostat. (2017), *Tourism statistics: Early adopters of big data? 2017 edition.*

70 Salas-Olmedo, M. H., Moya-Gómez, B., García-Palomares, J. C., and Gutiérrez, J. (2018), 'Tourists' digital footprint in cities: Comparing Big Data sources', *Tourism Management*, 66, 13–25. DOI: 10.1016/j.tourman.2017.11.001

71 Eurostat. (2017), *Tourism statistics: Early adopters of big data? 2017 edition.*

Using social network analysis based on TripAdvisor reviews in the city of Antwerp, Belgium

With the help of a web-based scraping software, relevant reviews of the city of Antwerp were collected and grouped into two databases: the reviewer profiles and the reviews themselves. The collected data shows how review and (spatial) behavioural patterns of local, Belgian, European and non-European visitors differ. The findings were used to provide recommendations on the spatial distribution of visitors.

Source: World Tourism Organization; Centre of Expertise Leisure, Tourism & Hospitality; NHTV Breda University of Applied Sciences; and NHL Stenden University of Applied Sciences (eds., 2019), DOI: https://doi.org/10.18111/9789284420629

range of opportunities to understand tourism behaviour. Many of the platforms provide freely accessible data – some even in real time – and useful information on the whereabouts, movements and activities of tourists.[72] Nevertheless, the limitations related to the quality and continuity of the data generated from social media are noteworthy.

Web activity and online search behaviour (e.g., Google Trends Data) can reveal important insights about the interest, source of inspiration and motivation of travellers. However, it is not easy to differentiate tourism and non-tourism related search activities. Additionally, via **web scraping** of rating and review websites such as TripAdvisor, Booking.com and Airbnb, a range of information can be obtained regarding the visitor experience. From the point of view of official statistics, however, both methods have shortcomings and are used mostly for marketing purposes and on an ad-hoc basis.

Data generated via **financial transactions** (e-commerce or point-of-sale) or reservation and ticketing systems can reveal important insights about spending patterns, booking behaviour and personal preferences, among other aspects. Smart travel card data in city destinations is also often used to understand the impact of tourists on urban mobility.[73]

As **sensory devices** are becoming more sophisticated and widespread, especially in urban areas, their use for (tourism) data generation has been gaining momentum. Traffic sensors can transmit data about the concentration and flow of traffic, smart sensors used in buildings can provide information about energy and water consumption, while satellite images can help understand land-use patterns.

Despite the advancements in the use of devices, platforms and technologies able to generate large amounts of data, the full potential of these new data sources is yet to be exploited.[74] Some of the main concerns linked to them are:

1. **Access to data:** The majority of players in travel and tourism use third party data which tend to be costly and difficult to obtain and analyse.[75]

2. **Availability:** With a few exceptions, the use of big data in developing regions is much more limited due to the slower pace of technological and social advancements.[76]

72 Salas-Olmedo, M. H., Moya-Gómez, B., García-Palomares, J. C., and Gutiérrez, J. (2018), 'Tourists' digital footprint in cities: Comparing Big Data sources', *Tourism Management*, 66, 13–25. DOI: 10.1016/j.tourman.2017.11.001

73 Gutiérrez, A., Domènech, A., Zaragozí, B., and Miravet, D. (2020), 'Profiling tourists' use of public transport through smart travel card data', *Journal of Transport Geography*, 88, 102820. DOI: 10.1016/j.jtrangeo.2020.102820

74 Andrienko, G., Andrienko, N., Boldrini, C., Caldarelli, G., Cintia, P., Cresci, S., Facchini, A., Giannotti, F., Gionis, A., Guidotti, R., Mathioudakis, M., Muntean, C. I., Pappalardo, L., Pedreschi, D., Pournaras, E., Pratesi, F., Tesconi, M., and Trasarti, R. (2021), '(So) Big Data and the transformation of the city', *International Journal of Data Science and Analytics*, 11(4), 311–340. DOI: 10.1007/s41060-020-00207-3

75 Peters, S., and Keller, P. (2022), *Applications and issues of big data in tourism research. Traveland Tourism Research Association: Advancing Tourism Research Globally.*, 18.

76 Bannister, J., and O'Sullivan, A. (2021), *Big Data in the city. Urban Studies*, *58*(15), pp. 3061–3070, DOI: 10.1177/00420980211014124

3. **Continuity and comparability:** Big data tends to be owned by third parties, who may or may not provide continuous access to the data. This can cause breaks in timeseries and affect the possibility and robustness of comparative studies.[77]

4. **Data often not suitable for official statistics:** Although official statistics increasingly come from varied data sources including censuses, surveys, administrative data and unstructured data sources like big data, the use of big data for official statistics, and the development and implementation of studies making use of this data, are mostly done on an ad-hoc, experimental basis which often make them unsuitable for systematic comparison.

5. **Privacy laws and regulations:** General data protection regulations (GDPR) regarding the collection, storage, analysis and sharing of data can act as limitations.

6. **Quality:** The data is often contaminated which means data preparation can be time-consuming.[78]

7. **Skills:** Processing, analysing, and interpreting large amounts of data require technical knowledge and skills which may not be readily available within travel and tourism businesses and organizations.

Monitoring search interest for flights to Amsterdam on Kayak

The city of Amsterdam monitors indexed search volume for flights to Amsterdam on the online travel search engine Kayak.

Source: World Tourism Organization; Centre of Expertise Leisure, Tourism & Hospitality; NHTV Breda University of Applied Sciences; and NHL Stenden University of Applied Sciences (eds., 2019), DOI: https://doi.org/10.18111/9789284420629

Predicting the popularity of city destinations using flight search and ticketing data

ForwardKeys reports on the most popular city destinations in summer 2023, using data from flight search engines and ticketing websites.

Source: ForwardKeys. (2023). The most popular city destinations in summer 2023. Charting the course of travel in the post-COVID-19 era.

Monitoring the carrying capacity of the historic city centre using cameras and artificial intelligence (AI) in Dubrovnik, Croatia

The Dubrovnik Visitors visitor counting system has been in operation since 2019. The cameras placed on the city gates count the visitors entering the area. With the help of machine learning the system can also make predictions and forecasts about visitor flows.

Source: World Tourism Organization; Centre of Expertise Leisure, Tourism & Hospitality; NHTV Breda University of Applied Sciences; and NHL Stenden University of Applied Sciences (eds., 2019), DOI: https://doi.org/10.18111/9789284420629

77 Eurostat. (2017), *Tourism statistics: Early adopters of big data? 2017 edition.*

78 Smalec, A. (2021), *Big Data as a tool helpful in communication management. Procedia Computer Science*, *192*, pp. 5156–5165, DOI: 10.1016/j.procs.2021.09.293

Table 2.1: **Overview of big data sources and their use**

Big data source	Type of data	Examples of use for (city) tourism statistics
Communication systems	▪ Mobile network operator (MNO) data: call data records, user profile data, location data, user behaviour, user spend data; ▪ Smart mobile devices data: sensors installed throughout the city can capture MAC (media access control) addresses of devices with Wi-Fi or Bluetooth; and ▪ Data captured from mobile applications.	▪ Spatial data: tourist flows (direction and volume) and mobility patterns; ▪ Identification of tourism hotspots; ▪ Temporal data (length of stay); ▪ Auxiliary information (origin of visitors etc.); ▪ Seasonality; and ▪ Information on hard to measure same-day-visitors and domestic tourism.
Social network engagements (Facebook, X [formerly known as Twitter], Instagram, Pinterest etc.)	▪ Text: posts, text messages, micro-blogs etc.; ▪ Sound; ▪ Videos; ▪ Photo-sharing; and ▪ Geo-location and time stamp.	▪ Visitor satisfaction; ▪ Sentiments and detailed information on the overall visitor experience; ▪ Resident sentiment towards tourism; ▪ Tourist motivation and inspiration; ▪ Visitor behaviour; ▪ Mobility patterns; ▪ Popularity of touristic locations (spatial and temporal patterns); and ▪ Visitor profiles.
Web activity	▪ Search engine data; and ▪ Data from rating and review websites.	▪ Travel interest and demand; ▪ Travel and social trends based on online search behaviour; ▪ Tourism demand forecasts; ▪ Visitor satisfaction; ▪ Visitor preferences; ▪ Popularity of touristic locations; and ▪ Sentiments and detailed information on the overall visitor experience.
Financial and business transactions	▪ Payment card data (e-commerce and point-of-sale); and ▪ Cashier data.	▪ Tourism related revenue (amount); ▪ Seasonality (intensity of transactions); ▪ Spending patterns (location of spending, type of services, commodities purchased etc.); and ▪ Auxiliary information (origin of visitors etc.).
Booking, ticketing systems and transaction processors	▪ Flight reservation systems data ▪ Accommodation reservations systems data; ▪ Car rentals data; ▪ Car and bicycle sharing data; ▪ Travel card data; and ▪ Data from other reservation and ticketing systems.	▪ Visitor profiles; ▪ Cost of travel; ▪ Traveller trajectories: Mode of transport, type of accommodation, destination preferences, time and date of travel, length of stay, size of travel party etc.; ▪ Tourism demand forecasts; and ▪ Historical travel patterns.
Sensors	▪ Traffic monitoring systems; ▪ Sound recorders; ▪ Smart energy meters; ▪ Water meters; ▪ Parking sensors; ▪ Waste management sensors on public bins; and ▪ Satellite images.	▪ Mobility patterns (public transport, pedestrians, cyclists etc.); ▪ Traffic intensity and flow; ▪ Energy and water consumption; ▪ Seasonality (e.g., fluctuations due to temporary vs permanent population); and ▪ Land-use patterns (e.g., zoning tourism vs non-tourism developments).

Note: based on Eurostat. (2017), *Tourism statistics: Early adopters of big data? 2017 edition.*

2.7 The use of open data in city destinations

Open data refers to "data that can be freely used, re-used, and redistributed by anyone – subject only, at most, to the requirement to attribute and sharealike".[79] This definition implies that the data must be available in its entirety free of charge or at a reasonable cost, and in a usable format. The data must be legally distributable, re-usable and interoperable. There should be no restrictions on the use and re-use of the data by certain fields, persons or groups. Currently, open data is provided mostly by public sector institutions, public service providers or third sector organizations, however an increasing number of private companies also give access to their databases.

Cities have been at the forefront of the open data movement and have been driving developments in the field,[80] while tourism was among the first sectors to make use of these innovations.[81] Although national tourism organizations (NTOs), as well as regional or local DMOs have recognized the importance of data sharing, working with a multitude of data producers and providers is challenging. Furthermore, partly due to the competitive nature of the tourism sector, access to many of these databases are restricted or linked to membership.

Open data can be hugely beneficial for policymaking, adapting destination management and marketing strategies based on changes in demand and supply, and producing performance and impact assessments to ensure that sustainability goals are met. Furthermore, many of the benchmarking reports focussing on city destinations are produced by private consultancy or research firms, making them costly to access while the credibility of the data is often questionable.

On the demand side, the popularity of data-driven services used by tourists have grown tremendously. These tools and applications, highly dependent on interoperable data, support tourists with their decision-making processes and therefore play a key role in marketing destinations and tourism businesses.[82]

Nordstat database: Statistics on the largest cities in the Nordic region

The Nordstat open database contains comparable data for 16 cities in the Nordic countries, starting from the early 1990s. It is built from official statistics using internationally accepted definitions for each category and is updated once a year. While the database does not contain tourism statistics at present, it is a great example of regional cooperation.

Source: Helsinki Region Infoshare (n.d.), Nordstat : statistics on largest Nordic cities, online available at: https://hri.fi/data/en_GB/dataset/nordstat-tilastoja-pohjoismaiden-suurimmista-kaupungeista-ja-kaupunkiseuduista [13-07-2023].

79 Open Knowledge Foundation (n.d.), *Open data handbook*, online available at: https://opendatahandbook.org/guide/en/what-is-open-data/ [13-07-2023].

80 Pesonen, J., and Lampi, M. (2016), *Utilizing open data in tourism.*

81 Longhi, C., Titz, J.-B., and Viallis, L. (2014), 'Open Data: Challenges and Opportunities for the Tourism Industry', in: M. M. Mariani, R. Baggio, D. Buhalis, and C. Longhi (Eds.), *Tourism Management, Marketing, and Development*, Palgrave Macmillan US, pp. 57–76, DOI: 10.1057/9781137354358_4

82 European Commission (n.d.), *Open data in tourism*, online available at: https://data.europa.eu/en/publications/datastories/open-data-tourism [13-07-2023].

03. Case studies: key findings

Summary: The analysis of the 22 case studies selected for this report confirmed many of the issues linked to the lack of credible and comparable data on city-level, as well as the multiplicity of statistical standards, frameworks, indexes and differing methodologies, introduced in the previous chapters. The following sections outline these challenges in further detail.

Key words: Urban tourism statistics | transport statistics | international tourism data | domestic tourism data | socioeconomic indicators

Key messages:

- The two main, well-known challenges concerning urban tourism statistics are the lack of availability and the lack of comparability of data.
- The challenges related to availability revolves around the ability and willingness to collect and share data, including metadata, while the comparability of data depends on the alignment of statistical procedures.
- While differences in methodologies and conceptualizations exist, the range of indicators used to understand the state of urban tourism is to a large extent aligned.

Cape Town, Shouth Africa. © Neil Bradfield | Dreamstime.com

3.1 The lack of availability of urban tourism statistics

Authorities attach varying importance to the collection of tourism data at the local level, hence they may be reluctant to allocate sufficient resources (or none at all) to these practices. In other cases, the know-how and skills needed to systematically collect and report urban tourism data is limited or absent.

As the analysis of the 22 selected cities revealed, the type of data sources and the range of indicators used vary widely. Measuring urban tourism on the basis of accommodation statistics remains the leading practice. In certain cases, accommodation statistics are supplemented with information from visitor and household surveys, attraction monitors and transport monitors where passengers are counted at bus, train, airport, ferry and cruise terminals. Working with big data is done mostly on an experimental, ad-hoc basis. Figures 3.1. and 3.2. show the main data sources used and the type of indicators measured by the cities studied in this report while tables 3.1 and 3.2 provide a more detailed overview. The categorization of indicators is aligned to a large extent with the categories used in the UN Tourism Tourism Data Dashboard[83]. For a detailed list of indicators per case study see chapter 5.

Figure 3.1: **Urban tourism data sources**

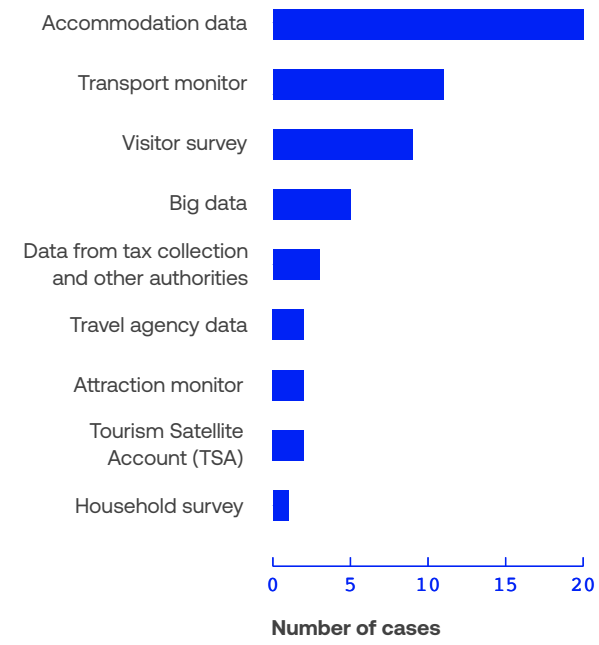
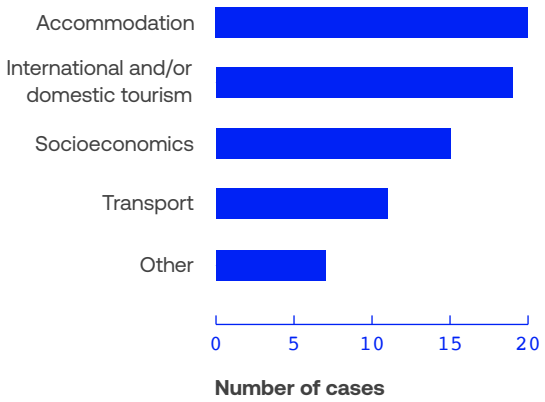


Figure 3.2: **Urban tourism indicator categories**



83 For the detailed list of categories see the UN Tourism Tourism Data Dashboard available at: https://www.unwto.org/tourism-data/global-and-regional-tourism-performance

Table 3.1: **Urban tourism data sources**

City	Accommodation data	Transport monitor	Visitor survey	Big data	Data from tax collection and other authorities	Travel agency data	Attraction monitor	Tourism Satellite Account (TSA)	Household survey
Africa									
Cape Town, South Africa	■	■					■		
Marrakesh, Morocco	■	■							
Americas									
Buenos Aires, Argentina	■	■	■	■					■
Las Vegas, United States of America	■	■	■		■				
Los Angeles, United States of America	■	■	■	■	■				
São Paulo, Brazil	■	■			■				
Vancouver, Canada	■	■							
Asia and the Pacific									
Beijing, China	■					■			
Kyoto, Japan			■	■					
Melbourne, Australia	■		■					■	
Osaka, Japan			■	■					
Singapore	■	■	■			■			
Europe									
Amsterdam, Netherlands	■		■						
Barcelona, Spain	■	■							
Berlin, Germany	■	■						■	
London, United Kingdom	■		■				■		
Paris, France	■	■		■					
Tel Aviv, Israel	■								
Middle East									
Abu Dhabi, United Arab Emirates	■								
Dubai, United Arab Emirates	■								
Muscat, Oman	■								
Riyadh, Saudi Arabia	■								

Note: Only data sources/reporting mechanisms that could be clearly identified in the cases based on publicly available official information are included. The list should not be considered exhaustive.

Table 3.2: **Urban tourism indicator categories**

City	Accom-modation	International[a] and/or domes-tic tourism	Socio-economics	Transport	Other
Africa					
Cape Town, South Africa	■	■		■	
Marrakesh, Morocco	■	■			
Americas					
Buenos Aires, Argentina	■	■	■	■	
Las Vegas, United States of America	■	■	■	■	■
Los Angeles, United States of America	■	■	■	■	
São Paulo, Brazil	■	■	■	■	
Vancouver, Canada	■	■	■	■	■
Asia and the Pacific					
Beijing, China	■	■	■		
Kyoto, Japan		■			
Melbourne, Australia	■	■	■		
Osaka, Japan		■			
Singapore	■	■	■	■	■
Europe					
Amsterdam, Netherlands	■	■		■	
Barcelona, Spain	■	■	■	■	■
Berlin, Germany	■	■	■	■	■
London, United Kingdom	■	■	■		■
Paris, France	■	■	■	■	■
Tel Aviv, Israel	■		■		
Middle East					
Abu Dhabi, United Arab Emirates	■				
Dubai, United Arab Emirates	■	■			
Muscat, Oman	■		■		
Riyadh, Saudi Arabia	■	■	■		

Notes: Only indicators that could be clearly identified in the cases based on publicly available official information are included. The list should not be considered exhaustive.

For a detailed overview of the indicators in each category please see the proceeding chapters. For an explanation on the categories please see the methodology in the introduction.

a) As per IRTS (2008), international tourism comprises inbound tourism and outbound tourism, that is to say, the activities of resident visitors outside the country of reference, either as part of domestic or outbound tourism trips and the activities of non-resident visitors within the country of reference on inbound tourism trips. In this study however, international tourism refers to inbound tourism only.

3.2 The lack of comparability of urban tourism statistics

The varying extent to which cities report on their tourism activities, alongside the often narrow range of indicators used, is a problem on its own, but it can be tackled by extending the scope to a list of commonly agreed, most relevant indicators. The question of comparability, however, is more complex. The harmonization of the statistical procedures behind the collection, analysis and dissemination of the data requires eliminating (as much as possible) the conceptual and methodological differences that currently exist.

In this section the main barriers to the harmonization of urban tourism statistics are reviewed in detail, with examples from the report case studies. The main barriers are as follows:

1. **Conceptual differences**

   - **The spatial definition of city destinations:** Conceptual differences in what the unit of analysis is and what should constitute the boundaries of the city destination.

   - **The definition of tourism related products, services and activities:** Differences in the interpretation of what falls within the scope of the tourism sector.

2. **Methodological differences**

   - **Differences in data collection, analysis and reporting procedures** (analytical procedures).

   - **The indicators used in each category of measurement:** While there is alignment in the category of performance/impact measured in city destinations (e.g., arrivals), the indicators used to measure that category are often chosen based on the availability of data, which leads to difficulties when comparing them.

   - **Systemic vs. experimental research:** the systematic collection of urban tourism data as opposed to ad-hoc, experimental projects.

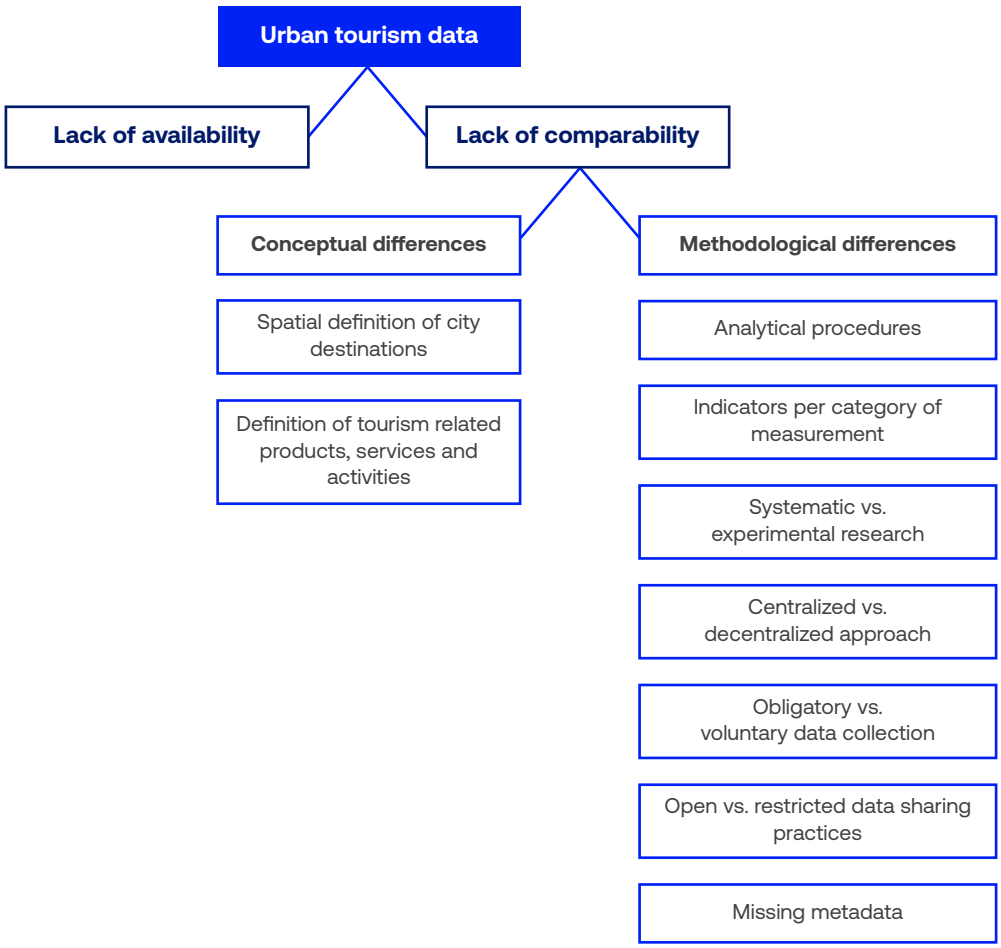
   - **Centralized vs. decentralized approach to data collection and reporting:** Urban tourism data is derived from multiple sources while statistics are reported by multiple agencies. This complexity often leads to inconsistencies in the information reported.

   - **Obligatory vs. voluntary data collection and reporting:** In some cases, data collection and reporting are obligatory and/or sanctioned by law, while in other cases it happens on a voluntary basis.

   - **Open vs. restricted data sharing practices:** While many urban destinations have comprehensive, publicly accessible databases, in other cases access to information is restricted and/or subject to membership.

   - **Missing metadata:** The difficulty of forming a thorough understanding of the statistical procedures behind the collection, analysis and dissemination of data, and the degree of its comprehensiveness.

Figure 3.3: **Conceptual and methodological differences across city destinations**



3.2.1 Conceptual differences

The spatial definition of city destinations

Without a standardized method of measurement and a clear understanding of spatial boundaries the challenges will remain. Therefore, what a city is and what constitutes its boundaries are key questions[84] – and ones that have not been universally answered.

For reporting general urban population data, various definitions are used. Some are based on a single criterion (e.g., population threshold), others on a combination of multiple criteria (e.g., administrative boundaries, population density and economic activity). Definitions such as city proper, urban area, urban agglomeration or metropolitan area, cover different territorial scales and are often used interchangeably with the term of *city*.[85] In addition, the meaning of these concepts can change over time and across regions and countries.

Multiple attempts have been made to find a functional, universal definition, not necessarily to replace the definitions used by national statistical offices, but to support the alignment of subnational statistics. One of the

84 United Nations Human Settlements Programme (2020), *What is a city?*, UN-Habitat, Nairobi, online avaialbe at: https://unhabitat.org/sites/default/files/2020/06/city_definition_what_is_a_city.pdf [03-02-2024].

85 United Nations Human Settlements Programme (2020), *What is a city?*, UN-Habitat, Nairobi, online avaialbe at: https://unhabitat.org/sites/default/files/2020/06/city_definition_what_is_a_city.pdf [03-02-2024].

two definitions[86] that is deemed to be the most useful by UN-Habitat is one that defines the city based on its urban extent (built-up and urbanized space) using satellite imagery, developed by a team of researchers at New York University. The second definition is provided by the European Commission using the degree of urbanization. This method looks at the share of local population residing in units coined as "Local Administrative Units Level 2 (LAU2)"[87].

It has also been recognized that it might not be necessary or even feasible to monitor each and every city in a country. Hence the National Sample of Cities approach[88] was created by UN-Habitat to better understand dominant patterns across cities in a national context.

While these definitions and methodologies help to define spatial boundaries of cities (even though they require further work), measuring the tourism phenomena – and therefore delimiting the "tourist city" – is often done based on other criteria such as density and concentration of visitors and visitor amenities, destination image or the responsibility of the local tourism authority.[89] Furthermore, none of the generally accepted guidelines for collecting tourism statistics at the local level provide recommendations on the demarcation of city destinations.

The analysis of the 22 cities revealed the complexity outlined in the definitions shown in the boxes. In most cases, the term *city* is used without a clear definition. In other cases, we find data reported at the level of the city proper (e.g., Las Vegas downtown area or Vancouver downtown area), at the metropolitan area level (e.g., Cape Town, Amsterdam or Berlin) or a specific tourism area/ region such as the Las Vegas Strip, Melbourne Tourism Region or Destination Barcelona.

Definitions as per SF-MST (2022):

The Statistial Framework for Measuring the Sustainability of Tourism defined the following spatial areas for measurement of city tourism:

1. **Municipal or city-region scale:** The municipal or city-region scale is used to refer to the level of administrative units corresponding to local but relatively large populations. Large cities may have a number of municipalities and some municipalities may be sufficiently large such that submunicipal areas can be defined (e.g., districts, boroughs).
2. **Local scale:** The local scale is used to refer to the contiguous areas or zones (a) within a given municipality or (b) across multiple municipalities, that exhibit particularly concentrations, agglomerations or clusters of commonly purposed or aligned activities and businesses. The focus is on concentrations of tourism activity, but other activities may also be of particular interest. It is not expected that the local scale would coincide with administrative units at this spatial level.

Source: World Tourism Organization (n.d.), 'Statistical Framework for Measuring the Sustainability of Tourism', UNWTO, Madrid, online available at: https://www.unwto.org/tourism-statistics/statistical-framework-for-measuring-the-sustainability-of-tourism [01-07-2023].

86 United Nations Human Settlements Programme (2020), *What is a city?*, UN-Habitat, Nairobi, online avaialbe at: https://unhabitat.org/sites/default/files/2020/06/city_definition_what_is_a_city.pdf [03-02-2024].

87 Eurostat (n.d.), 'NUTS-Nomenclature of Territorial Units for Statistics, Local administrative units (LAU)', European Commission, online available at: https://ec.europa.eu/eurostat/web/nuts/local-administrative-units [15-02-2024].

88 United Nations Human Settlements Programme (n.d.), 'National sample of cities', online available at: https://unhabitat.org/national-sample-of-cities [13-07-2023].

89 Ostertag, J., and Wöber, K. W. (2010), *European city tourism statistics*. In J. A. Mazanec and K. W. Wöber (Eds.), *Analysing international city tourism* (2nd ed). Springer.

Overview of some definitions found in key documents

European Commission – OECD

- **Cities** are those local administrative units (LAU) where at least 50% of the population lives in an urban centre.
- An **urban centre** is a cluster of contiguous grid cells of 1 km2 with a density of at least 1,500 inhabitants per km2 and collectively a population of at least 50,000 inhabitants.
- The **functional urban area** (FAU) consists of a city and its commuting zone. (This was formerly known as larger urban zone (LUZ).)
- The **greater city** is an approximation of the urban centre when this stretches far beyond the administrative city boundaries.
- **Densely populated area** (alternative names: *cities* or *large urban area):* An area where at least 50% of the population live in high-density clusters. In addition, each high-density cluster should have at least 75% of its population in densely-populated LAUs; this also ensures that all high-density clusters are represented by at least one densely-populated LAU, even when this cluster represents less than 50% of the population of that LAU.
- **Intermediate density area** (alternative name: *towns and suburbs* or *small urban area):* An area where less than 50% of the population lives in rural grid cells and less than 50% live in high-density clusters.
- **Thinly populated area** (alternative name: *rural area):* An area where more than 50% of the population lives in rural grid cells.

Source: United Nations Human Settlements Programme (n.d.), *National sample of cities. A model approach to monitoring and reporting performance of cities at national level.*

New York University

- **Urban built-up area:** Pixels where the walking distance circle has a built-up density greater than 50%.
- **Suburban built-up area:** Pixels where the walking distance circle has a built-up density between 25% – 50%. It also includes subdivided land, whether it is wholly unbuilt or not.
- **Rural built-up area:** Pixels where the walking distance circle has a built-up density of less than 25% and that are not on subdivided land.

Source: United Nations Human Settlements Programme (n.d.), *National sample of cities. A model approach to monitoring and reporting performance of cities at national level.*

TourMIS

- City Destinations Alliance differentiates between the census-areas **inner city (area)** and **greater city (area),** including outskirts districts. An exact delimitation is still being discussed in the CityDNA Research and Statistics Working Group while tourism managers are still in the process of classifying their individual census areas.
- All definitions without the adjunct greater city (area) refer to city areas in the closer sense.

Source: TourMIS (n.d.), online available at: https://www.tourmis.info/cgi-bin/tmintro.pl [13-07-2023].

Other definitions

(often used interchangeably with the term *city)*

- **City proper:** The smallest unit of analysis, the single unit of political jurisdiction which is part of the historical city centre. It does not consider adjacent areas that affect the functionality of the city.
- **Urban agglomeration:** This concept integrates the city proper and the suburban areas that are part of what can be considered as city boundaries.
- **Metropolitan area:** This concept has statistical, technical, administrative, and political meanings. Metropolitan areas usually comprise of multiple jurisdictions and municipalities, as well as satellite cities, towns and intervening rural areas that are socioeconomically tied to the urban core.

Source: United Nations Human Settlements Programme (2020). *What is a city?*, UN-Habitat, Nairobi, online avaialbe at: https://unhabitat.org/sites/default/files/2020/06/city_definition_what_is_a_city.pdf [03-02-2024].

Table 3.3: **Territorial scale of urban tourism statistics**

City	City (unclear boundaries)	City proper	District level	Metropolitan area	Specific tourism area/region	County/province/ emirate
Africa						
Cape Town, South Africa	■			■		
Marrakesh, Morocco	■					
Americas						
Buenos Aires, Argentina	■		■			
Las Vegas, United States of America	■	■		■	■	■
Los Angeles, United States of America	■	■		■		■
São Paulo, Brazil	■					
Vancouver, Canada	■	■		■		
Asia and the Pacific						
Beijing, China	■					
Kyoto, Japan	■					
Melbourne, Australia					■	
Osaka, Japan	■					
Singapore	■					
Europe						
Amsterdam, Netherlands	■			■		
Barcelona, Spain	■				■	■
Berlin, Germany	■			■		
London, United Kingdom	■			■		
Paris, France	■	■		■		
Tel Aviv, Israel	■			■		
Middle East						
Abu Dhabi, United Arab Emirates	■					■
Dubai, United Arab Emirates	■					
Muscat, Oman	■					
Riyadh, Saudi Arabia	■					

The definition of tourism related products, services and activities

Alongside the challenges related to the spatial demarcation of urban destinations, defining the boundaries of tourism related products, services and activities is equally problematic. While the IRTS2008 and the TSA-RMF2008 outline the definition and scope of tourism expenditure and consumption (demand perspective), and provide a classification of products and productive activities for tourism (supply perspective),[90] the international comparison of local level data remains challenging. Classification based on the national context and local characteristics seems to dominate over internationally comparable classification standards.

When it comes to the widely reported accommodation statistics, the classification and type of accommodation included vary from case to case. Most statistics cover only paid accommodation services, but some include non-commercial (un-paid) accommodation as well (e.g., visiting friends and relatives or staying in owner-occupied homes). In some instances, a threshold of minimum number of bed places or bedrooms is applied, leading to the exclusion of the establishments not meeting it (e.g., in Amsterdam or Paris). Lastly, not all accommodation statistics are based on a census; some are collected using quota sampling, others approach it from the demand side using visitor surveys.

Table 3.4 shows examples of the operationalized definitions in some of the cities and the variations in the type of accommodation included in accommodation statistics.

Definition of *accommodation* as per IRTS2008

Accommodation for visitors include:

- Short-term accommodation activities: Hotels, resort hotels, suite/apartment hotels, motels, motor hotels, guesthouses, pensions, bed and breakfast units, visitor flats and bungalows, time-share units, holiday homes, chalets, housekeeping cottages and cabins, youth hostels, and mountain refuges. This class excludes: provision of homes and furnished or unfurnished flats or apartments for more permanent use, typically on a monthly or annual basis.
- Camping grounds, recreational vehicle parks and trailer parks.
- Other accommodation: This class includes the provision of temporary or longer-term accommodation in single or shared rooms or dormitories for students, migrant (seasonal) workers and other individuals. The accommodation is provided by: student residences, school dormitories, workers hostels, rooming and boarding houses, railway sleeping cars.
- Real estate activities with own or leased property:* This class includes: buying, selling, renting, and operating of self-owned or leased real estate, such as: apartment buildings and dwellings, non-residential buildings, including exhibition halls, self-storage facilities, malls and shopping centres, land. It includes the provision of homes and furnished or unfurnished flats or apartments for more permanent use, typically on a monthly or annual basis.
- Real estate activity on a fee or contract basis.*

Note: *) Part related to second homes and time-share properties.
Source: United Nations (2010), International Recommendations for Tourism Statistics 2008, UN, New York, online available at: https://www.e-unwto.org/doi/book/10.18111/9789211615210

90 United Nations (2010), *International Recommendations for Tourism Statistics 2008*, UN, New York, online available at: https://www.e-unwto.org/doi/book/10.18111/9789211615210.

United Nations; Commission of the European Communities, Eurostat; World Tourism Organization and Organisation for Economic Co-operation and Development (2010), *Tourism Satellite Account: Recommended Methodological Framework 2008*, UN, New York, online available at: https://www.e-unwto.org/doi/book/10.18111/9789211615203.

Definitions and classifications of *accommodation establishments* used by Eurostat and TourMIS

Eurostat

Tourist accommodation establishments mean a local kind-of-activity unit providing as a paid service – although the price might be partially or fully subsidised – short-term or short-stay accommodation services as described in the groups below:

- 55.1: Hotels and similar accommodation;
- 55.2: Holiday and other short-stay accommodation; and
- 55.3: Camping grounds, recreational vehicle parks and trailer parks.

This excludes 'non-rented accommodation' meaning, *inter alia*, accommodation provided without charge by family or friends and accommodation in owner-occupied vacation homes, including time share properties.

Source: Eurostat (n.d.), *Glossary: tourist accommodation establishment*, online available at https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Tourist_accommodation_establishment [20-07-2023].

TourMIS

All accommodation establishments include private accommodations and collective establishments:

- Private accommodation includes:
- Private rental; and
- Private non-rental accommodation (i.e., rented and/or owned).
- Collective establishments include:
- Hotels and similar establishments (motels etc.);
- Specialized establishments (holiday camps, conference centres, etc.); and
- Other collective establishments (tourist campsites, holiday dwellings, etc.).

Note: The classification used by TourMIS is based on the UNWTO's *Recommendations on Tourism Statistics* (1994). That official definition and classification used by UNWTO was revised in United Nations (2010), *International Recommendations for Tourism Statistics 2008,* UN, New York, online available at: https://www.e-unwto.org/doi/book/10.18111/9789211615210.

Source: TourMIS Handbook online available at https://www.tourmis.info/index_e.html [28-06-2023].

Other differences emerge in terms of data related to employment, revenue or tax income. The subsectors included in tourism-related employment statistics also show variations. The IRTS2008 classification of products and tourism industries includes the categories of "retail trade of country-specific tourism characteristic goods", and "country-specific tourism characteristic industries", which leaves room for flexibility.[91]

Likewise, the scope of tourism-related expenditure, as well as tax revenue varies greatly across the case studies. In the instances where metadata is not available, it is impossible to tell what falls within and outside the scope.

The challenges stemming from conceptual differences are demonstrated by the fact that to accommodate the large discrepancies in the definitions used, databases such as TourMIS defines only in broad terms[92] the data that is required from the participating cities.

91 Everything that falls outside the following categories: accommodation for visitors, food and beverage serving industry, railway passenger transport, road passenger transport, water passenger transport, air passenger transport, transport equipment rental, travel agencies and other reservation services industry, cultural industry, sports, and recreational industry.

United Nations (2010), *International Recommendations for Tourism Statistics 2008*, UN, New York, online available at: DOI: https://www.e-unwto.org/doi/book/10.18111/9789211615210

92 Information on definitions used by TourMIS is available online at: https://www.tourmis.info/ [20-09-2023]

Table 3.4: **Examples of the type of properties included in accommodation statistics in cities**

Data sources	Accommodation establishments included in the statistics
London	
Every month, the England Occupancy Survey measures bedroom and bedspace occupancy across the serviced accommodation sector, including mostly hotels, with a very small proportion of serviced apartments and larger bed and breakfasts/guesthouses. Data is collected from a panel of participating accommodation businesses.	▪ Serviced accommodation: Hotel, motel, inn basis, serviced apartment, guest house, bed and breakfast and farmhouse. ▪ Commercial property rental: Staying in rented flat/apartment or similar, staying in rented house/cottage/lodge or similar, in someone else's home on a commercial basis: rental of room only and in someone else's home on a commercial basis: rental of full property. ▪ Caravan, camping, glamping: touring caravan, campervan, motorhome, static caravan: owned, static caravan: not owned, tent and glamping, alternative accommodation e.g., yurt, tipi, tree house, ecopod etc. ▪ Someone's private home or second home, timeshare, and friend or relative's home. ▪ Other accommodation: hostel, boat, cruise ship, train, sleeper cab lorry, in transit, university, school.
Paris	
Monthly survey in collective tourist accommodation establishments.	▪ Collective tourist accommodation: hotels classified or not, with more than 5 bedrooms, camping and other collective tourist accommodation (youth hostels, international centres of residence, sports centres, tourist residences and residential hotels, family holiday homes and holiday villages). ▪ For hotels, the survey covers the activities defined by the French classification of activities (NAF rev. 2): 55.10Z codes (hotels and similar accommodation), i.e., tourist-oriented hotels, whether classified or not. ▪ For camping, the survey covers activities defined by NAF rev. 2: 55.30Z (campsites and parks for caravans or recreational vehicles). Outdoor accommodations exclusively for residential use are excluded. ▪ For other collective tourist accommodations, the units surveyed are collective tourist accommodation subject to regulation: youth hostels, international centres of stay, sports centres, tourist residences and residential hotels, family holiday homes, and holiday villages.
Amsterdam	
Monthly reporting of the capacity (type of accommodation, rooms, beds) in Amsterdam in all hotels, motels, boarding houses, apartments with hotel services, youth accommodation, and bed and breakfasts with at least five sleeping places.	Overnight accommodations include hotels, motels, guest houses, apartments with hotel services, youth accommodations or bed and breakfast accommodations, campsites, holiday parks, and group accommodations.

Note: For the source see the individual case studies

3.2.2 Methodological differences

Differences in data collection, analysis and reporting procedures

It is not only conceptual differences that hinder wide-scale comparison of city destination data, but also operational differences related to the collection, analysis and reporting of data. Table 3.5 provides an overview of the most common data collection techniques.

Accommodation data is derived primarily from surveys using quota sampling or probability sampling, a centralized statistical data collection platform, or secondary, big data sources on short-term rentals.[93]

Information on international (inbound) and/or domestic tourism is collected, for instance, from international tourism surveys that can be done via in-application questionnaires, telephone or computer assisted personal interviewing. The differences in data collection techniques make it difficult (or potentially impossible) to harmonize the data output at a later stage.

In addition to the differences in data collection techniques, the frequency and timing of data collection and reporting show large variations across the case studies, ranging from weekly or monthly to quarterly and yearly data collection and publication.

Table 3.5: Data collection techniques per indicator categories

Data collection	International and/or domestic tourism	Accommodation	Socioeconomics	Transport	Attractions
Accommodation survey using quota sampling		■			
Accommodation survey using probability sampling		■			
International tourism survey (e.g., in-application questionnaire or computer assisted personal interviewing)	■			■	
Household travel and tourism survey (e.g., telephone or computer assisted interviewing)	■			■	
Centralized statistical data collection platform – accommodation services		■			
Centralized statistical data collection platform – travel agents	■				
Business surveys			■		■
Mobile data	■				
Passenger count (reported by transport authorities and companies)	■			■	
Tax authorities	■		■		
Other secondary data sources on big data from short-term rentals (e.g., the ones provided by AirDNA or Transparent)		■			

93 Such as the ones provided by companies like AirDNA or Transparent. For more information see: https://www.airdna.co and https://www.mylighthouse.com/ [19-09-2023].

Indicators used in each category of measurement: the example of data on employment

Tourism is a key contributor to employment. Therefore, collecting and providing labour market statistics is crucial. Employment statistics using publicly accessible official data sources were only available in 10 out of the 22 cities studied. The type of indicators varies widely, ranging from total employment in tourism to employment in specific tourism attractions or hospitality subsectors. Some cities report the number of employees, while others focus on the number of jobs or the number of businesses related to tourism. Some cities, such as Tel Aviv, also indicate the average monthly wage (in the hotel industry). However, none of the cities provided publicly accessible, detailed accounts of the workforce as described in the IRTS2008:[94]

- Employment by age group, sex and nationality/ country of residence;
- Employment by type of establishment (size, formal/ informal, etc.);
- Employment classified by occupation and status in employment;
- Permanent/temporary employment expressed in terms of number of jobs, hours of work, full-time equivalence, etc.;
- Employment by educational attainment, skills;
- Hours of work (normal/usual, actually worked, paid for);
- Additional labour costs (e.g., worker transport, clothing, labour hire taxes); and
- Mixed income of self-employed persons.

Beijing Opera, China. © Liang Du | Dreamstime.com

94 United Nations (2010), *International Recommendations for Tourism Statistics 2008*, UN, New York, online available at: https://www.e-unwto.org/doi/book/10.18111/9789211615210

Table 3.6: **Labour market indicators**

City	Number of employees in tourism	Number of employees in the hospitality industry	Number of employees at visitor attractions	Number of jobs	Number of businesses in tourism	Wages and salaries
Americas						
Los Angeles, United States of America [a]				■		
São Paulo, Brazil				■	■	
Asia and the Pacific						
Melbourne, Australia [b]				■	■	
Europe						
Barcelona, Spain	■	■			■	
Berlin, Germany	■	■				
London, United Kingdom			■			
Paris, France [c]	■					
Tel Aviv, Israel [d]				■		■
Middle East						
Muscat, Oman [e]		■				■

Notes:
a) Data represents Los Angeles County.
b) Data shows full-time, part-time, direct, indirect employment.
c) Data is presented for the accommodation, leisure, catering, transport subsector.
d) Number of jobs and wages refer to the hotel industry only.
e) Wages and salaries refer to the hotel industry only.

Systematic vs. experimental research

Closely linked to the methodological challenges is the systematic collection of urban tourism data as opposed to ad-hoc, experimental projects. While accommodation and transport statistics are collected in a strategic, systematic way in most cases, big data projects, and visitor and resident sentiment surveys tend to be conducted on an ad-hoc basis. While such ad-hoc projects are not suitable for wide-scale comparison, they can, however, serve as a basis for identifying trends, as well as new data sources and collection techniques that can be deployed across multiple cities in the future.

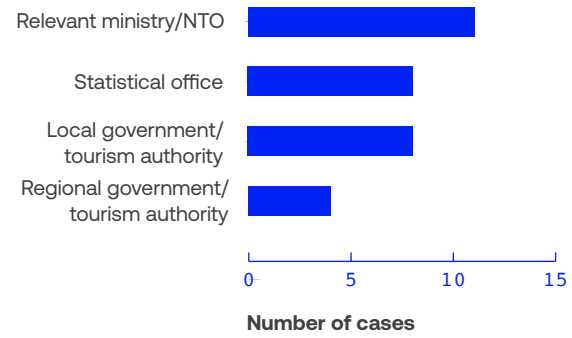
Centralized vs. decentralized data collection and reporting

In most cases data is collected with the help of the statistics office and other relevant authorities, however not all insights are generated by official parties. In some cities, such as Cape Town or Los Angeles, certain research or information activities are outsourced to external consultancy and market research companies, especially in the case of accommodation statistics. Outsourcing to global consultancies can be an advantage, as the companies use standardized methods in all the cities they work with. However, data collected by external agencies is costly, access for the public is often limited, and they often deviate from IRTS2008.

As urban tourism data is derived from multiple sources, statistics are reported by multiple agencies (see figure 3.4 and table 3.7). While most city level data is reported by the local government and/or tourism authority, in many instances the main source of information for detailed statistics and/or metadata is the local, regional or national statistical office. In some cases, the national government/ tourism authority also reports on city level data. The multiplicity of reporting agencies can be confusing as data is often reported without significant efforts to ensure consistency, leading to contradicting information.

However, among the cases analysed for this report, there are examples of a more centralized approach to data collection and particularly reporting. Singapore demonstrates an integrated approach by providing a comprehensive online dashboard with all available data operated by the Singapore Tourism Analytics Network. Cities with tourism observatories, including the UN Tourism INSTO members Barcelona, Buenos Aires and São Paulo, also operate platforms with comprehensive data on the state of tourism in their cities. Clearly defined roles on data collection, dissemination and reporting are essential and can largely aid future ambitions of harmonizing practices across city destinations.

Figure 3.4: **Overview of reporting agencies**



Singapore Tourism Analytics Network (STAN)

STAN is a data analytics platform to examines and visualizes tourism-related data. The platform has an automated built-in visual analytics tool, which aggregates tourism data into graphs and figures. STAN is operated by the Singapore Tourism Board.

Source: Singapore Tourism Analytics Network (n.d.), online available at: https://stan.stb.gov.sg/content/stan/en/home.html [19-09-2023].

Dubai, UAE. © Liliia Epifanova | Dreamstime.com

Table 3.7: **Overview of reporting agencies**

City	Relevant Ministry/NTO	Statistical office	Local government/ tourism authority	Regional government/ tourism authority
Africa				
Cape Town, South Africa			■	
Marrakesh, Morocco	■			
Americas				
Buenos Aires, Argentina			■	
Las Vegas, United States of America	■		■	
Los Angeles, United States of America	■			■
São Paulo, Brazil			■	
Vancouver, Canada			■	■
Asia and the Pacific				
Beijing, China		■		
Kyoto, Japan	■			
Melbourne, Australia	■			■
Osaka, Japan	■			
Singapore	■	■		
Europe				
Amsterdam, Netherlands		■	■	
Barcelona, Spain		■	■	
Berlin, Germany		■	■	
London, United Kingdom	■		■	■
Paris, France		■	■	
Tel Aviv, Israel		■		
Middle East				
Abu Dhabi, United Arab Emirates	■			
Dubai, United Arab Emirates			■	
Muscat, Oman	■	■		
Riyadh, Saudi Arabia	■			

Obligatory vs. voluntary reporting

Businesses participation in data collection poses further challenges. In the case of accommodation, transport and attraction monitors, the participation of all relevant businesses is crucial to form an accurate picture of the state of the sector and its contribution to the wider socioeconomic development of cities. Some cities, such as London or Melbourne, collect data from accommodation providers and/or attractions on a voluntary basis. As there is no compulsory registration scheme it is difficult to estimate the accurate size of the sector.

Elsewhere, participation in data collection is obligatory, in some instances even sanctioned by law, and therefore much more accurate information can be obtained. Berlin or Beijing require accommodation service providers to

transmit the data electronically via a centralized statistical reporting system.

Even though legal environments and frameworks can prevent cities from imposing obligatory data provision on tourism-related businesses, in order to harmonize urban tourism data, the possibility of systemic data collection should be considered.

Data sharing: open vs. restricted

This research relied entirely on publicly available data. That said, it became obvious that even though NTOs, as well as regional or local DMOs have recognized the importance of data sharing, and many of them, especially in Europe, transmit data to UN Tourism, Eurostat or TourMIS, access to many of their own databases is restricted or linked to membership.

The lack of trust, clear agreements, data sharing and transfer procedures, and use and re-use protocols, as well as the lack of know-how and technical resources, often undermine willingness to engage in data exchange. Recognizing the importance, value, and potential of collaborative arrangements when it comes to data and metadata exchange is vital for the harmonization of tourism statistical systems. Support on data collection is particularly important for destinations that are lacking the knowledge, skills, and recourses to build an urban tourism database.

Missing metadata

Metadata is "data that define and describe other data and processes".[95] Statistical metadata "describe various elements of the statistical processes, including collection, processing, and production of statistical data, and indicate the data sources and tools that are instrumental in statistical production, such as statistical standards and classifications, business registers and frames, statistical methods, procedures, and software".[96]

The case study analysis shows that it is hardly possible to form a thorough understanding of the statistical procedures behind the collection, analysis and dissemination of data, and its degree of comprehensiveness. In most cases, the notes accompanying the data is insufficient to establish its credibility and potential use for comparison. Crucial information on reporting frequency, data source and methodology, the reporting group, participation (obligatory vs. voluntary where relevant), output frequency, statistical concepts and definitions, spatial comparability, time series, comparability over time and cross-statistical coherence is in most cases only partially or not at all provided.

Monthly tourism survey, Berlin, Germany

The monthly tourism survey provides information on the economic development of the accommodation sector in Berlin, and is conducted by the Office for Statistics Berlin-Brandenburg. Based on the Accommodation Statistics Act in connection with the Federal Statistics Act, and the Regulation (EU) No 692/2011 of the European Parliament and of the Council and Commission Implementing Regulation (EU) No 1051/2011, it is obligatory for establishments with 10 beds or more, and for campsites with 10 or more parking spaces, to participate in the survey.

Source: Amt für Statistik Berlin Brandenburg (n.d.), 'Gäste, übernachtungen und Beherbergungskapazität in Berlin und Brandenburg', Amt für Statistik Berlin Brandenburg, Potscam, online available at: https://www.statistik-berlin-brandenburg.de/g-iv-1-m [19-09-2023].

95 United Nations Statistics Division (2017), 'Chapter 18: Metadata – B. Metadata: basic concepts and definitions and the role of the Statistical Data and Metadata Exchange', *MSITS 2010 Compilers Guide Home*, *UN, New York*, online available at: https://unstats.un.org/wiki/display/M2CG/MSITS+2010+Compilers+Guide+Home [28-07-2023].

96 United Nations Statistics Division (2017), 'Chapter 18: Metadata – B. Metadata: basic concepts and definitions and the role of the Statistical Data and Metadata Exchange', *MSITS 2010 Compilers Guide Home*, *UN, New York*, online available at: https://unstats.un.org/wiki/display/M2CG/MSITS+2010+Compilers+Guide+Home [28-07-2023].

To understand the quality of the data and to ensure its appropriate interpretation, countries and cities need to eliminate, as far as possible, the boundaries preventing the sharing and dissemination of this crucial information on city data. The wrong interpretation of data, or its potentially low quality, may lead to the wrong assumptions on the scale and magnitude of urban tourism.

The importance of metadata has been recognized by UN Tourism since 2004, when the organization issued the publication *Tourism Statistics Metadata Project: General Guidelines for Documenting Tourism Statistics*.[97] The Statistical Data and Metadata Exchange (SDMX)[98] is another initiative of the United Nations Statistics Division to create and maintain technical and statistical standards, and to provide guidelines and recommendations on IT architecture and tools.

Abu Dhabi, UAE. © Elnur | Dreamstime.com

3.3 Data similarities across city destinations

While differences in methodologies and conceptualizations exist, the range of indicators used to understand the state of urban tourism is to a large extent aligned. In this section, indicators related to accommodation, international (inbound) and/or domestic tourism, transport and socioeconomics are looked at in more detail.

3.3.1 Accommodation statistics

Accommodation data is the most common source of information used to describe the state of urban tourism. These are short-term indicators that are relatively easy to measure. Especially where the data is collected on a census basis, credible information can be obtained on the size and performance of the industry. Publicly accessible data was provided by 20 out of the 22 cases. Cities report on both the supply of and demand for accommodation services. The most common type of indicators found in the cities are listed in table 3.8. Out of these, the following are the most frequently used:

- Number of rooms;
- Number of establishments;
- Number of guest nights;
- Occupancy rate;
- Average daily rate (ADR); and
- Revenue per available room (RevPAR).

97 World Tourism Organization (2004), *WTO Metadata Project: General Guidelines for documenting tourism statistics (English version)*, UN Tourism, Madrid, DOI: https://doi.org/10.18111/9789284407200.

98 For more information on SDMX please consult: United Nations Statistics Division (n.d.), 'Methodoloy – Statistical Data and Metadata Exchange – SDMX', UN, New Yor, online available at: https://unstats.un.org/unsd/methodology/sdmx/ [28-07-2023].

Table 3.8: **Indicators in the accommodation sector**

City	Number of establishments	Number of rooms	Number of beds	Number of guest nights	Number of arrivals	Average length of stay	Occupancy rate	ADR	RevPAR
Africa									
Cape Town, South Africa							■	■	■
Marrakesh, Morocco			■	■					
Americas									
Buenos Aires, Argentina	■	■	■	■	■	■	■		
Las Vegas, United States of America		■					■	■	■
Los Angeles, United States of America	■	■					■	■	■
São Paulo, Brazil							■	■	■
Vancouver, Canada	■	■					■	■	■
Asia and the Pacific									
Beijing, China	■			■	■				
Kyoto, Japan									
Melbourne, Australia	■	■					■		■
Osaka, Japan									
Singapore	■	■		■			■	■	■
Europe									
Amsterdam, Netherlands	■	■	■	■	■				
Barcelona, Spain	■	■	■	■	■	■	■		
Berlin, Germany	■	■	■	■	■	■	■		
London, United Kingdom	■	■					■	■	■
Paris, France	■	■		■	■	■	■	■	■
Tel Aviv, Israel	■	■		■	■		■		
Middle East									
Abu Dhabi, United Arab Emirates	■	■		■	■	■	■	■	■
Dubai, United Arab Emirates	■	■			■	■	■	■	■
Muscat, Oman	■	■	■	■	■		■		
Riyadh, Saudi Arabia							■	■	

Notes: ADR = Average daily rate | RevPAR = Revenue per available room

Table 3.9: **Accommodation indicators: case studies and supra-national databases**

	Case studies	Eurostat	TourMIS
Number of arrivals	■		■
Number of establishments	■		■
Number of rooms	■		
Number of bed-places in (paid) tourist accommodation establishments	■	■	■
Total nights spent in (paid) tourist accommodation	■	■	■
Nights spent in (paid) tourist accommodation establishments by residents		■	
Nights spent in (paid) tourist accommodation establishments by non-residents		■	
Occupancy rate	■		■
Average length of stay	■		
Average daily rate (ADR)	■		
Revenue per available room (RevPAR)	■		

When looking at existing supra-national urban tourism databases, we can see that the indicators from the cases largely overlap, especially in TourMIS. However, as discussed in section 3.2.1, the classification of accommodation establishments and the method of data collection differ among the case studies.

3.3.2 International (inbound) and/or domestic tourism data

To form a comprehensive picture of domestic and international (inbound) tourism, accommodation statistics should be supplemented with additional data as they only provide information on overnight visitors. The second category of data collected by most cities is related to the volume and movement of international (inbound) and/or domestic overnight and/or day visitors. The most common type of indicators found in the cities are listed in table 3.10. Out of these, the following are the most frequently used:

- Number of tourists;
- Source markets;
- Number of visitors to attractions; and
- Information on the profile of visitors (e.g., origin, reason to visit, travel party, trip planning, satisfaction, travel purpose, age, gender, income, previous experience at the destination, among others).

Most cities focus solely on overnight visitors with some of the information being derived from the already discussed accommodation statistics. Other examples of sources used to collect (and combine) the data are international tourism surveys, household travel and tourism surveys, travel agent statistics, mobile data, transport statistics, attraction monitors, and business surveys.

Table 3.10: **International and/or domestic tourism indicators**

City	Number of tourists	Number of day trips	Source markets	Season-ality	Number of visitors to attrac-tions	Visitor profiles [a]
Africa						
Cape Town, South Africa			■		■	
Marrakesh, Morocco	■					
Americas						
Buenos Aires, Argentina	■ ■		■	■ ■		■
Las Vegas, United States of America	■					■
Los Angeles, United States of America	■ ■					■
São Paulo, Brazil						
Vancouver, Canada	■		■			
Asia and the Pacific						
Beijing, China	■ ■					
Kyoto, Japan	■					■
Melbourne, Australia	■ ■					
Osaka, Japan	■					■
Singapore	■					■
Europe						
Amsterdam, Netherlands	■				■	
Barcelona, Spain						■
Berlin, Germany			■		■	■
London, United Kingdom	■ ■	■		■	■	■
Paris, France	■		■		■	■
Tel Aviv, Israel						
Middle East						
Abu Dhabi, United Arab Emirates						
Dubai, United Arab Emirates	■		■			
Muscat, Oman						
Riyadh, Saudi Arabia	■ ■					

Notes: ■ The blue dot indicates data sets where domestic tourism is specified. On the other hand, ■ the darker dot may include both international (inbound) and national (overnight) visitors.

a) Visitor profiles: complete or partial profiles, e.g., age, gender, reason to visit, travel party, booking behaviour, among others.

3.3.3 Transport statistics

Visitor mobility is a strategic matter in most cities. The most popular city destinations are often transport hubs and main gateways with well-developed transport infrastructure. Such entry and exit points to the cities (and often the country) can provide important data on the volume of visitors. On the other hand, visitor mobility at the destination can provide knowledge on the spatial distribution of visitors.

One of the main challenges of the use of transport statistics for tourism purposes is the ability to differentiate among the various user groups and purpose of travel. Not all of the data is relevant to tourism. Consequently, such statistics need to be supplemented with information from other sources e.g., visitor surveys.

Cities with cruise and ferry terminals, such as Singapore, Amsterdam or Barcelona, are examples of where key figures related to (sea and/or river) cruise and/or ferry operations are reported amongst the tourism relevant data.

When it comes to land transport, the Observatory of Tourism and Events of the City of São Paulo (OTE)[99], monitors the number of disembarked passengers and the number of buses arriving at the city's bus terminals on a monthly basis. According to the OTE, the data on the movement at bus terminals can provide information on the importance of road tourism for the city of São Paulo.

As an important part of the mobility infrastructure, train transport figures are reported by the Barcelona Tourism Observatory[100]. The number of national and international destinations having a direct train connection with Barcelona is monitored and reported on a regular basis.

Water passenger transport statistics

The main indicators used in cities with cruise and ferry terminals such as Singapore, Amsterdam or Barcelona are: number of vessels, number of embarked and disembarked passengers and revenue generated.

Railway and road passenger transport statistics

The Observatory of Tourism and Events of the City of São Paulo (OTE) monitors movements at bus terminals to gather insights on road tourism. The Barcelona Tourism Observatory registers the number of national and international destinations with a direct train connection to the city. The city of Las Vegas monitors the daily car traffic with the help of the Nevada Department of Transportation (NDOT).

99 Observatory of Tourism and Events of the City of São Paulo available online at https://observatoriodoturismo.com.br/

100 Barcelona Tourism Observatory available online at: https://www.observatoriturisme.barcelona/en

Table 3.11: **Transport data sources**

City	Aviation data	Cruise data	Ferry passenger data	Train transport data	Movement at bus terminals	Mode of transport
Africa						
Cape Town, South Africa	■					
Marrakesh, Morocco	■					
Americas						
Buenos Aires, Argentina	■					■
Las Vegas, United States of America	■					■
Los Angeles, United States of America	■					■
São Paulo, Brazil	■				■	
Vancouver, Canada	■	■				
Asia and the Pacific						
Beijing, China	■					
Kyoto, Japan	■					
Melbourne, Australia	■					
Osaka, Japan	■					
Singapore	■	■				■
Europe						
Amsterdam, Netherlands	■	■				
Barcelona, Spain	■	■	■	■		
Berlin, Germany	■					■
London, United Kingdom	■					
Paris, France	■					
Tel Aviv, Israel	■					
Middle East						
Abu Dhabi, United Arab Emirates	■					
Dubai, United Arab Emirates	■					
Muscat, Oman	■					
Riyadh, Saudi Arabia	■					

3.3.4 Socioeconomic indicators

When it comes to tourism's socioeconomic contribution, the most common indicators are visitor expenditure and the number of employees in the tourism sector. Some cities report on the number of employees for the hospitality sector only. Tax revenue is only reported by a small number of cities, while gross value added (GVA) and gross regional product (GRP) are only available in the cities that produce (or have produced in the past) TSAs, such as Melbourne or Berlin.

As discussed in section 3.2.2, the studied cities tend to use a narrow set of indicators to understand the labour market and tourism's contribution to employment. Likewise, the scope of tourism-related expenditure, as well as tax revenue varies greatly across the few cases that provide publicly available official data. Figure 3.5 and table 3.12 provide an overview of the socioeconomic indicators identified through the study and their use.

Amsterdam, Netherlands.
© Jeremyreds | Dreamstime.com

Figure 3.5: **Socioeconomic indicators**

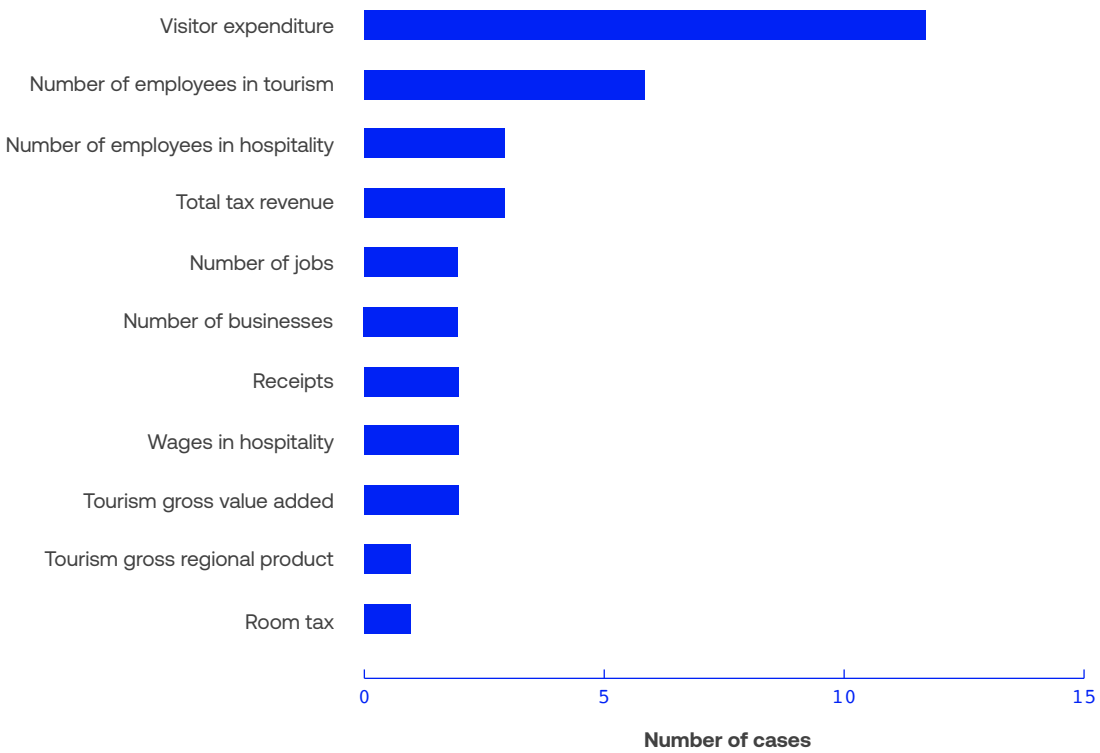
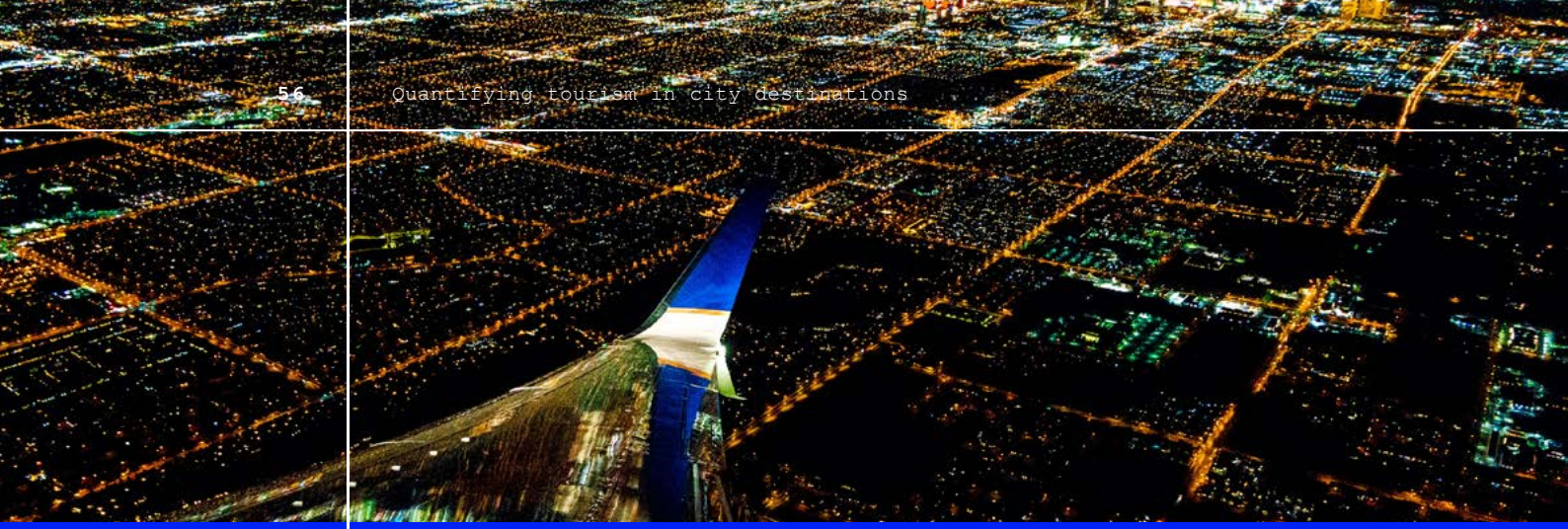


Table 3.12: **Socioeconomic indicators**

City	Visitor expenditure	Number of employees in tourism	Number of employees in hospitality	Total tax revenue	Number of jobs	Number of businesses	Hospitality wages	Receipts	Tourism GVA – direct, indirect, and total	Tourism GRP – direct, indirect, and total	Room tax
Africa											
Cape Town, South Africa											
Marrakesh, Morocco											
Americas											
Buenos Aires, Argentina	■										
Las Vegas, United States of America	■										■
Los Angeles, United States of America	■			■	■			■			
São Paulo, Brazil	■			■	■	■					
Vancouver, Canada		■									
Asia and the Pacific											
Beijing, China	■										
Kyoto, Japan											
Melbourne, Australia	■	■							■	■	
Osaka, Japan											
Singapore	■							■			
Europe											
Amsterdam, Netherlands											
Barcelona, Spain	■	■				■					
Berlin, Germany	■	■	■						■		
London, United Kingdom	■	■									
Paris, France	■	■		■							
Tel Aviv, Israel			■				■				
Middle East											
Abu Dhabi, United Arab Emirates											
Dubai, United Arab Emirates											
Muscat, Oman			■				■				
Riyadh, Saudi Arabia	■										



04. Considerations for the creation of a global urban tourism database

Summary: In this section, considerations for the creation of a possible global database on urban tourism are presented. The recommendations are not intended to be detailed technical advice on the standardization of statistical procedures. Instead, they aim to serve as a basis to engage relevant stakeholders in city destinations in a positive dialogue about the optimization of urban tourism data.

Key words: Urban tourism | global urban tourism database | territorial scope | boundaries of tourism products and services | common urban tourism indicators | collaboration models

Key messages:

- Before a standardized system to gather and share key data on urban tourism can be developed, the issues related to the availability and comparability of data need to be addressed jointly.
- Both, the indicators selected for comparison and the scope of measurement of tourism related products, services and activities should be aligned.
- There is potential to improve the comparability of urban tourism data focusing on harmonizing the statistical procedures behind a basic set of indicators.
- The most common urban tourism indicators used are: number of arrivals, number or accommodation establishments, number of rooms, number of bed-places, number or guest nights, occupancy rate and average length of stay.
- Collaboration models based in trust are critical to ensure well-functioning data exchange partnerships.
- Diversification of funds and financial resources are key to ensuring the necessary data infrastructure, collection, and reporting of tourism data in cities

Las Vegas, USA. © Alex Grichenko | Dreamstime.com

4.1 The territorial scope

As discussed in section 3.2.1, finding a definition of what a city is, for subnational statistics, is problematic. The challenges increase when tourism authorities measure indicators within individually defined boundaries, such as those based on the density of visitor attractions or the destination image. With such definitions in use, it is impossible to produce globally comparable data.

For the *World Urbanization Prospects*,[101] the United Nations Department of Economics and Social Affairs (UN DESA), does not use its own definition of *urban* either,[102] instead it relies on the definitions used by the individual countries. To report their city data, about one third of the countries use the concept of urban agglomeration, while 39% use the concept of city proper and only 6% report their city data for the metropolitan area. The other half of the countries use a combination of the various definitions.[103]

It must be acknowledged that it is not feasible to create or adapt a unified operational definition of the city for the collection of urban tourism data. However, authorities should at least indicate the territorial scope of the data instead of using the very general term of *city*. As a second approach, the territorial scope of urban tourism data should be aligned to that of the official definitions used for reporting urban data.

Given that national definitions often use very different population size and density thresholds, for supranational urban tourism statistics it might be worth considering the adaptation of the definitions used by the European Commission[104]. The approach is used by European cities, while the cooperation with OECD extends the scope to cities outside of Europe.

Berlin, Germany. © Andrew Chambers | Dreamstime.com

101 United Nations, Department of Economic and Social Affairs, Population Division (2018), The World's Cities in 2018 – Data Booklet (ST/ESA/ SER.A/417).

102 United Nations, Department of Economic and Social Affairs, Population Division (2018), The World's Cities in 2018 – Data Booklet (ST/ESA/ SER.A/417).

103 United Nations Human Settlements Programme (2020), *What is a city?*, UN-Habitat, Nairobi, online avaialbe at: https://unhabitat.org/sites/default/files/2020/06/city_definition_what_is_a_city.pdf [03-02-2024].

104 Eurostat (n.d.), 'City statistics – nomenclature of territorial units', *Statistics Explained*, European Commission, online available at: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=City_statistics_%E2%80%93_nomenclature_of_territorial_units [13-02-2024].

4.2 The boundaries of tourism-related products, services and activities

The TSA:RMF2008 categorizes tourism products and industries.[105] However, in many cases we see deviations in the operationalization of the categories, adhering to the national context and characteristics. In order to create a database with comparable data, both the indicators selected for comparison and the scope of measurement should be aligned as much as possible. To ensure the feasibility of such practice, a set of commonly agreed and accepted guidelines based on the TSA:RMF2008 should be adopted, delimiting the scope of tourism-related products, services and activities in urban destinations. Only data that covers the specified industries and products should be reported to improve comparability.

4.3 The most common urban tourism indicators

An integrated global urban tourism database requires a set of indicators that is already, or can be, measured by most city destinations around the world. Given the regulatory, institutional and data-related challenges, the number of indicators measured by city destinations varies significantly. It is, however, clear that all cities collect data on the supply and demand of accommodation services. The analysis also revealed that the most common indicators are reported in the TourMIS database as well. Therefore, to form a basic set of indicators, the following could be considered:

1. Number of arrivals (national and international);
2. Number of accommodation establishments;
3. Number of rooms;
4. Number of bed-places;
5. Number of guest nights (national and international);
6. Occupancy rate; and
7. Average length of stay.

105 United Nations; Commission of the European Communities, Eurostat; World Tourism Organization and Organisation for Economic Co-operation and Development (2010), *Tourism Satellite Account: Recommended Methodological Framework 2008*, UN, New York, online available at: https://www.e-unwto.org/doi/book/10.18111/9789211615203

It must also be recognized that these will only provide us with a partial image of the state of urban tourism. Depending on the characteristics of the cities and the available resources, additional indicators could be used, however it will be time and resource consuming to align the statistical procedures needed to measure each one. It is advised to create a basic set of indicators and scale up data collection over time, or to establish a sample of cities where the additional indicators are also measured.

Table 4.1: **Proposed set of indicators**

Basic set of indicators	**Additional indicators**		
Accommodation	International and/or domestic tourism	Transport	Socioeconomics
▪ Occupancy rate ▪ Number of establishments ▪ Number of rooms ▪ Number of bed-places ▪ Number of guest nights (national and international) ▪ Number of arrivals (national and international)	▪ Number of tourists ▪ Number of visitors to attractions ▪ Source markets ▪ Visitor profiles	▪ Number of air arrivals ▪ Aircraft movement (arrivals and departures) ▪ Number of vessels (cruise and ferry) ▪ Number of embarked and disembarked passengers (cruise and ferry) ▪ Number of buses (coaches) at bus terminals ▪ Average daily car traffic ▪ Number of train connections ▪ Means of transport used to/ in the destination	▪ Visitor expenditure ▪ Number of employees ▪ Number of businesses ▪ Total tax revenue ▪ Tourism gross value added (GVA) ▪ Tourism gross regional product (GRP) or local gross domenstic product (GDP)

Tel Aviv, Israel. © Xantana | Dreamstime.com

4.4 Harmonizing the statistical procedures

Streamlining data collection, analysis and reporting is a crucial process for establishing a foundation for an integrated, global urban tourism database. However, standardized frameworks may not always be possible given the diversity of the legal and regulatory environment, as well as the context specific methodologies and conceptualizations in the different countries. Furthermore, regulatory frameworks and statistical procedures do not just differ, they also continuously evolve and change.

Nevertheless, building on existing best practices, statistical guidelines and data exchange initiatives, there is potential to improve the comparability of urban tourism data. Focussing on harmonizing the statistical procedures behind a basic set of indicators should help limit the scope, the magnitude of the task and the resources needed.

Harmonization efforts can target two different areas:

1. Input harmonization; and

2. Output harmonization.

Input harmonization refers to the standardization of measurement processes, methods, definitions, indicators and classifications to produce comparable outputs. It is a common strategy used in multinational contexts.[106] *Output harmonization*, on the other hand, refers to the practice of collecting and processing data based on methods chosen by the individual countries.[107] Therefore, while the desired output is reached, varying methodologies are used. Given the wide range of conceptual and methodological challenges that currently exist in the tourism sector, focussing on output harmonization, especially in a global context, is likely to be insufficient. Therefore, the possibility of input harmonization should be examined.

Dialogue with relevant authorities from city destinations to explore the possibilities and the extent to which context-specific variations can be reduced and a common framework established is needed. Such an action should be initiated by a trustworthy, credible global organization with the capacity to bring a large number of stakeholders together.

To improve the comparability of urban tourism data, building on this initial research, the following actions could be considered:

- **Identification of a basic set of indicators** facilitating an integrated, global urban tourism database for benchmarking, and a better global and regional understanding of urban tourism data and trends;

- **Revision of conceptual differences,** including, for example, territorial scope and the tourism sector;

- **Revision of the compatibility of existing data collection methods linked to the indicators,** and the extent to which these methods can be harmonized;

- **Revision of harmonization procedures** given the financial, human and technical resources available (minimizing additional burden);

106 Granda, P. and Blasczyk, E (2010), *Data Harmonization*, manuscript.

107 Granda, P. and Blasczyk, E (2010), *Data Harmonization*, manuscript.

- Where harmonization is not (or only partially) possible, **revision of the strategies that enable local authorities to collect the data in the most efficient manner.** In this case output harmonization could be considered;

- **Revision of resource and skills shortages and mechanisms** to provide support through funding, knowledge-exchange platforms, partnerships etc.; and

- **Establishing a pilot** with a group of cities.

The following agreements and protocols would be envisaged as an outcome:

- Clear indication of the territorial scope of the data;

- Clear definition of the scope of the tourism sector;

- The list of indicators that should be monitored by each city, starting with the basic set of indicators;

- Data collection methods and the necessary infrastructure;

- Time of data collection and the frequency of reporting;

- Provision of metadata;

- Data sharing and transfer procedures; and

- Data use and re-use protocols.

Riyadh, KSA © Manfred Thuerig | Dreamstime.com

4.5 Collaboration models

Alongside the conceptual and methodological differences that hinder the quantification of urban tourism on a global scale, challenges related to data exchange are just as critical.

Collaborative data sharing initiatives exist in many forms and shapes. Most city level data is collected and shared in muti-party arrangements. While local government and/or tourism authorities together with the statistics offices take the lead in compiling urban tourism data, they largely depend on the engagement of the private sector to report it in the first place.

Supra-national initiatives such as TourMIS, tend to involve both the public and the third sector (voluntary and community organizations, as well as educational institutions). In the case of TourMIS, the data is managed by the Modul University which has the capacity and skills to gather and analyse the data, while the initiative is co-financed by credible organizations such as the Austrian National Tourist Office, the European Travel Commission (ETC) and the City Destinations Alliance. The initiative rests on guidelines and agreements on the provision and use of data.

What all these initiatives have in common is trust amongst the parties involved. Trust is a precondition for well-functioning data exchange partnerships, however overcoming trust challenges is not an easy task. Agreeing in mechanisms outlined in section 4.4 can build trust at the local, as well as global scale.[108]

Building trust for new data exchange initiatives is more difficult than building on existing practices. UN Tourism databases and dashboards contain and disseminate the most comprehensive data on national and international tourism, globally. The data is obtained from official institutions of the respective countries and territories, such as NTOs, statistics offices and central banks, or by international organizations. As evident by the case studies, many of the NTOs report city-level data too. Likewise, statistics offices play a key role in recording tourism-relevant information at the local scale. With this in mind, the following opportunities present themselves:

- Using existing partnerships while expanding the scope of data collection to city-specific data;
- Expanding the collaboration to local and/or regional governments, tourism organizations, statistics offices and other relevant partners; and
- Optimizing and expanding existing supra-national urban tourism databases via inter-agency collaboration to minimize resource constraints.

108 See also United Nations, Department of Economic and Social Affairs (2018, May 16), *68% of the world population projected to live in urban areas by 2050, says UN | UN DESA | United Nations Department of Economic and Social Affairs*, online available at: https://www.un.org/development/desa/en/news/population/2018-revision-of-world-urbanization-prospects.html [13-07-2023].

4.6 Finance and funding mechanisms

Ensuring financial sustainability is a major concern and challenge for most data exchange initiatives. Setting up the necessary data infrastructure and providing a continuous flow of data streams is time and resource consuming.

Most DMOs, whether private, public or mixed, offer services related to tourism research and data. Their capacity to collect, analyse and report urban tourism data largely depends on the availability of financial and human recourses. Concerning reporting, while some of the DMOs offer comprehensive, interactive dashboards with detailed information on the state of tourism in the city, others are still at an earlier stage in the process of data management. Most of these activities are publicly funded or there is a subscription or membership fee to cover the costs.

Many of the tourism observatories, on the other hand, are funded by governmental bodies and/or entities involved in local public administration, which is the case in São Paulo and Barcelona. Cross-regional cooperation within countries, such as Nordstat, tend to rely on public funds too.

Lastly, cross-border data exchange initiatives, such as TourMIS, tend to have mixed funding models and rely partially on public/private funds, as well as donor and grant funding. Mitigating the financial risks and ensuring the continuous operations often requires the diversification of funds and financial resources.

Tourism and Events Observatory of the city of São Paulo

The observatory is operated by São Paulo Turismo (SPTuris), the official tourism and events company of São Paulo. SPTuris is a publicly held company with the São Paulo City Hall as its majority shareholder.

Source: SPTuris, online available at: https://spturis.com/sobre/quem-somos/ [04-08-2023].

Barcelona Tourism Observatory: city and region

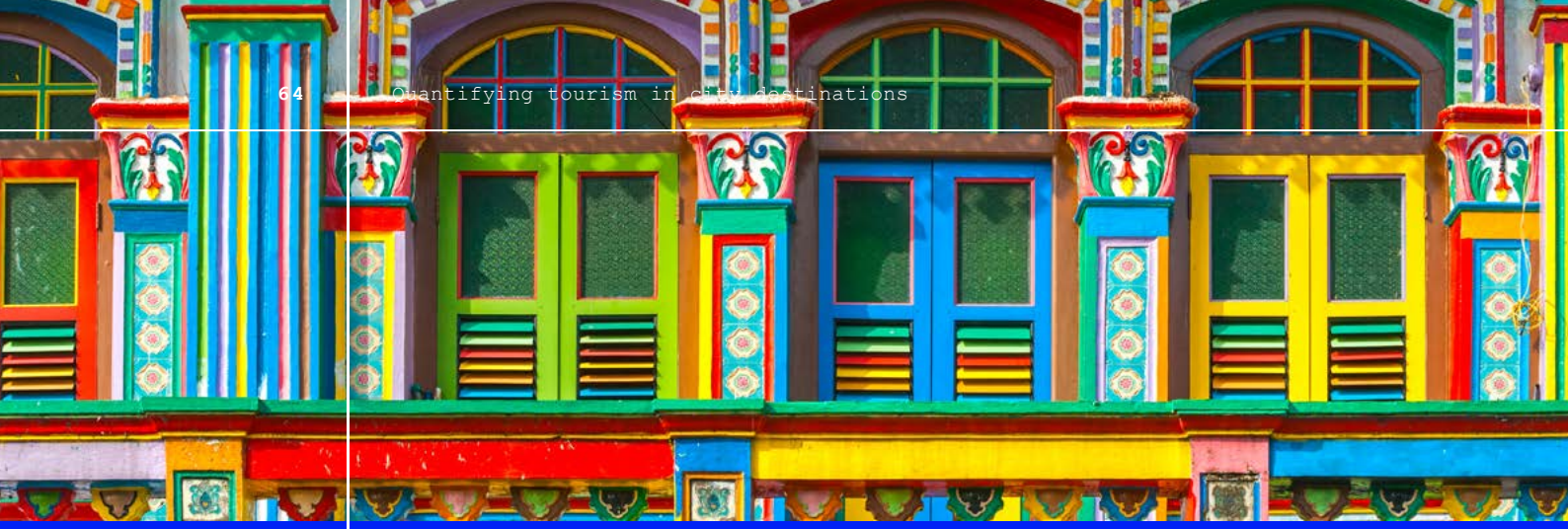
The Barcelona Tourism Observatory: city and region (OTB) is operated by the Barcelona City Council, the Barcelona Regional Council, Barcelona Chambre of Commerce, and the consortium Turisme de Barcelona.

Source: Barcelona Tourism Observatory, online available at: https://www.observatoriturisme.barcelona/en/otb-0 [04-08-2023].

TourMIS

TourMIS is funded by the Austrian National Tourist Office and the European Travel Commission, with support from a range of partners, mostly tourism boards.

Source: TourMIS, online available at: https://www.tourmis.info/ [04-08-2023].



05.
Case studies

Singapore. © Luciano Mortula | Dreamstime.com

5.1 Africa

5.1.1 Cape Town, South Africa

Inventory of data sources

	Cape Town International Airport arrival figures	Accommo-dation sector performance	Top Tourism Attractions Performance	CTT Annual Report	Cape Town accommoda-tion perform-ance review and forecast report
Reporting agency					
Cape Town Tourism (CTT) [a]	■	■	■	■	■
Territorial scope					
Cape Town	■	■	■	■	
Cape Town Metropolitan Area					■
Data available per category					
International and/or domestic tourism					
Number of visitors to tourist attractions			■	■	
Source markets				■	
Accommodation					
Average occupancy rate		■		■	■
Average room rate		■		■	■
Revenue per available room (RevPAR)		■		■	■
Growth year-on-year		■			
Proportion of room nights sold per source market					■
Transport					
Airport arrivals (domestic)	■				
Airport arrivals (international)	■				
Airport arrivals (regional)	■				
Total arrivals per city airport	■				
Growth year-on-year	■			■	

	Cape Town International Airport arrival figures	Accommodation sector performance	Top Tourism Attractions Performance	CTT Annual Report	Cape Town accommodation performance review and forecast report
Methodological notes					
Data source	Not known.	Not known.	Not known.	Not known.	Based on survey data provided by Horwath HTL, a hotel, tourism, and leisure consulting company, using random sampling. The survey outcomes are reported by CTT.
Access to outputs/open data	Online dashboard, most content is available for members only.	Online dashboard, most content is available for members only.	Online dashboard, most content is available for members only.	Annual report.	Monthly report.
Metadata	Not accessible.	Not accessible.	Not accessible	Not accessible.	Partially available.
Comparability					
Spatial comparability	Not known.	Not known.	Not known.	Not known.	Should be used only as a guideline for comparison.
Time series	From 2019 to 2022.	From 2019 to 2022.	From 2019 to 2022.	Not known.	From 2013 to the present day.
Comparability over time	Not known.	Not known.	Not known	Not known.	Should be used only as a guideline for comparison.
International tourism database	No.				
INSTO	No.				

Source: a) Cape Town Tourism (n.d.), *Industry Dashboard*, online available at: https://research.capetown.travel/destination-intelligence-insights/ [02-05-2023].

5.1.2 Marrakesh, Morocco

Inventory of data sources

	Key figures [a]
Reporting agency	
Ministry of Tourism, Handicrafts, Social and Solidarity Economy	■
Territorial scope	
Marrakesh	■
Data available per category	
International and/or domestic tourism / Transport	
Number of tourist arrivals at border posts (Marrakesh airport)	■
Accommodation	
Overnight stays in tourist accommodation establishments	■
Number of hotel beds	■
Methodological notes	
Data source	Not known.
Access to outputs/open data	Statistical tables with annual data.
Metadata	Partially available.
Comparability	
Spatial comparability	Not known.
Time series	From 2013 to 2021.
Comparability over time	Not known.
International tourism database	No.
INSTO	No.

Source: a) Ministry of Tourism, Handicrafts, Social and Solidarity Economy (n.d.), *Key figures*, online available at: https://mtaess.gov.ma/fr/tourisme/chiffres-cles/ [02-05-2023].

Marrakesh, Morocco. © Kasto80 | Dreamstime.com

5.2 Americas

5.2.1 Buenos Aires, Argentina

Inventory of data sources

	International tourism statistics	National tourism statistics	Tourist mobility	Hotel occupancy	Air connectivity
Reporting agency					
Turismo Buenos Aires – Tourism Observatory [a]	■	■	■		
Territorial scope					
City of Buenos Aires	■	■	■	■	■
District level data – Buenos Aires			■		
Data available per category					
International and/or domestic tourism					
Number of international tourist arrivals	■				
Arrivals per source market	■				
Reason to visit		■			
Number of national tourist arrivals		■			
Travel party		■			
Volume and distribution of national tourists			■		
Volume and distribution of international tourists			■		
Accommodation					
Type of accommodation used	■	■			
Hotel occupancy				■	
Room occupancy				■	
Number of establishments per category				■	
Number of rooms offered				■	
Number of bed places offered				■	
Number of guests				■	
Average length of stay				■	
Number of overnight stays		■		■	

	International tourism statistics	National tourism statistics	Tourist mobility	Hotel occupancy	Air connectivity
Transport					
Average weekly frequencies (international and national aviation)					■
Number of destination cities (international and national aviation)					■
Number of airlines (international and national)					■
Top 5 cities of origin (international and national aviation)					■
Type of transport used					
Socioeconomics					
Annual visitor spending (international)	■				
Average spending per visitor (international)	■				
Annual visitor spending (national)		■			
Average spending per visitor (national)		■			
Methodological notes					
Data source	▪ Monthly International Tourism Survey conducted by the General Directorate of Market Intelligence and Observatory and the National Directorate of Migration. ▪ Information reported by the airports is also included.	▪ Monthly Household Travel and Tourism Survey conducted by the National Directorate of Markets and Statistics of the Ministry of Tourism and Sports. ▪ Information from the Hotel Occupancy Survey is also included.	Mobile data – every eight hours, any roamers who were present in each census area are counted.	Hotel Occupancy Survey carried out by the National Directorate of Markets and Statistics of the Undersecretariat of Tourism Development, within the Ministry of Tourism and Sports, and by the Directorate of Basic Statistics and the Department of Statistics and Censuses of the Government of the Autonomous City of Buenos Aires.	Data is provided by Aeropuertos Argentina 2000.
Access to outputs/open data	Online dashboard.	Online dashboard.	Online dashboard.	Online dashboard.	Online dashboard.
Metadata	Partially available.	Partially available.	Partially available.	Partially available.	Not accessible.

	International tourism statistics	National tourism statistics	Tourist mobility	Hotel occupancy	Air connectivity
Comparability					
Spatial comparability	Not known.	Not known.	Not known.	Not known.	Not known.
Time series	From 2019 to the present day.	From 2018 to the present day.	From January 2022 to the present day.	From 2016 to the present day.	From 2016 to 2022.
Comparability over time	Not known.	Not known.	Not known.	Not known.	Not known.
International tourism database	No.				
INSTO	Turismo Buenos Aires – Tourism Observatory.				

Source: a) Tourismo Buenos Aires – Tourism Observatory (n.d.), *Analysis and monitoring dashboards*, online available at: https://turismo.buenosaires.gob.ar/es/observatorio/tableros [08-05-2023].

Buenos Aires, Argentina. © Diego Grandi | Dreamstime.com

5.2.2 Las Vegas, United States of America

Inventory of data sources

	Las Vegas historic tourism statistics [a]	Monthly tourism indicators for Las Vegas [a]	Las Vegas visitor profile study [a]	LVCVA tourism tracker [b]	US states and cities visited by overseas travellers [c]	International air travellers (SIAT) survey data on non-U.S. residents visiting the united states [d]
Reporting agency						
Las Vegas Convention and Visitors Authority (LVCVA)	■	■	■	■		
International Trade Administration, National Travel and Tourism Office					■	■
Territorial scope						
The City of Las Vegas	■	■	■			
Las Vegas Metropolitan Area				■	■	■
Las Vegas Strip				■		
Downtown Las Vegas				■		
Clark County				■		
Data available per category						
International and/or domestic tourism						
Number of visitors	■	■		■	■	■
Number of visits			■			
Reasons to visit			■			
Advance trip planning			■			■
Length of stay			■			■
Visitor satisfaction			■			
Entertainment activities and spending			■			
Number of overseas visitors						
Market share of overseas visitors					■	

	Las Vegas historic tourism statistics [a]	Monthly tourism indicators for Las Vegas [a]	Las Vegas visitor profile study [a]	LVCVA tourism tracker [b]	US states and cities visited by overseas travellers [c]	International air travellers (SIAT) survey data on non-U.S. residents visiting the united states [d]
Type of activities/purpose						■
Travel party			■			■
Accommodation						
Hotel room inventory	■	■		■		
Hotel occupancy	■	■		■		
Type of lodging used			■			■
Location of lodging used			■			
Method of booking accommodation			■			
Average spend per night on lodging used			■			
Number of room occupants			■			
Average daily rate (ADR)		■		■		
Revenue per available room (RevPAR)		■		■		
Socioeconomics						
LVCVA room tax collections	■	■				
Expenditure						■
Transport						
En/Deplaned air passengers	■	■		■		
Average daily car traffic (NV/CA border)	■	■				
Mode of transport to travel around Las Vegas				■		
Means of transport used to travel to Las Vegas						■

	Las Vegas historic tourism statistics [a]	Monthly tourism indicators for Las Vegas [a]	Las Vegas visitor profile study [a]	LVCVA tourism tracker [b]	US states and cities visited by overseas travellers [c]	International air travellers (SIAT) survey data on non-U.S. residents visiting the united states [d]
Other						
Convention attendance	■	■	■	■		
Clark County gaming revenue	■	■		■		
Gaming behaviour and budget			■			
Methodological notes						
Data source	Secondary data provided by Harry Reid International Airport, Nevada Department of Transportation (NDOT), and Nevada Gaming Control Board.	Secondary data provided by Harry Reid International Airport, NDOT, and Nevada Gaming Control Board.	▪ In-person interviews and surveys. ▪ In 2022 an online component was added to reach a broader cross-section of visitors to Las Vegas.	Secondary data.	Not known.	Monthly self-administered questionnaires.
Access to outputs/open data	Annual reporting.	▪ Monthly reports; and ▪ Annual reports.	Annual reports.	Online dashboard.	Online dashboard.	▪ Online dashboard; ▪ Quarterly reports; and ▪ Annual reports.
Metadata	Not accessible.	Not accessible.	Available.	Not accessible.	Not accessible.	Available.

	Las Vegas historic tourism statistics [a]	Monthly tourism indicators for Las Vegas [a]	Las Vegas visitor profile study [a]	LVCVA tourism tracker [b]	US states and cities visited by overseas travellers [c]	International air travellers (SIAT) survey data on non-U.S. residents visiting the united states [d]
Comparability						
Spatial comparability	Not known.	Not known.	Not known.	Not known.	Not known.	Data is collected for cities across the United States.
Time series	From 1970 to the present day.	Year-end summary available for 2019.	From 1975 to the present day.	From 1980 to the present day.	Not known.	From 1983 to the present day.
Comparability over time	Not known.	Not known.	Not known.	Not known.	Not known.	The survey was modified in 1985, 1990, 1993, 1996 and 2012.
International tourism database	No.					
INSTO	No.					

Sources:
a) Las Vegas Convention and Visitors Authority (n.d.), *Visitor statistics*, online available at: https://www.lvcva.com/research/visitor-statistics/ [08-05-2023].
b) Las Vegas Convention and Visitors Authority (n.d.), *LCVA tourism tracker*, online available at: https://www.lvcva.com/research/ [08-05-2023].
c) International Trade Administration, U.S. Department of Commerce (2021), *US states and cities visited by overseas travellers*, online available at: https://www.trade.gov/data-visualization/us-states-cities-visited-overseas-travelers [08-05-2023].
d) International Trade Administration, U.S. Department of Commerce (n.d.), *SIAT inbound survey monitor*, online available at: https://www.trade.gov/data-visualization/siat-inbound-survey-monitor

5.2.3 Los Angeles, United States of America

Inventory of data sources

	The Economic Impact of Travel in California report	L.A. County and submarkets lodging metrics [a]	California lodging report	Domestic visitor report	California airport passenger traffic (Los Angeles Airport)	US states and cities visited by overseas travellers [b]	International air travellers (SIAT) survey data on non-U.S. residents visiting the United States [c]
Reporting agency							
Visit California [d]	■	■	■	■	■		
International Trade Administration, National Travel and Tourism Office						■	■
Territorial scope							
Los Angeles County	■	■	■				
Los Angeles City		■			■		
Downtown L.A. (CBD)		■					
Los Angeles Metropolitan Area				■		■	■
Data available per category							
International and/or domestic tourism							
Number of domestic visitors (overnight)				■			
Visitor share by origin market and state				■			
In-state metro market share				■			
Number of overseas visitors						■	■
Visitor profile (origin, age, gender, income, destinations visited etc.)							■
Trip planning							■
Travel party							■
Type of activities/purpose							■
Average length of stay							■
Market share overseas visitors						■	■

	The Economic Impact of Travel in California report	L.A. County and submarkets lodging metrics [a]	California lodging report	Domestic visitor report	California airport passenger traffic (Los Angeles Airport)	US states and cities visited by overseas travellers [b]	International air travellers (SIAT) survey data on non-U.S. residents visiting the United States [c]
Accommodation							
Hotel occupancy		■	■				
Average daily rate (ADR)		■	■				
Revenue per available room (RevPAR)		■	■				
Number of properties		■	■				
Number of rooms		■	■				
Revenue generated			■				
Paid accommodation supply and demand				■			
Type of accommodation used							■
Socioeconomics							
Travel industry earnings	■						
Direct visitor spending	■						■
Employment	■						
Tax revenue	■						
Transport							
Means of transport used							■
Airport passenger traffic (domestic and international)					■		

	The Economic Impact of Travel in California report	L.A. County and submarkets lodging metrics [a]	California lodging report	Domestic visitor report	California airport passenger traffic (Los Angeles Airport)	US states and cities visited by overseas travellers [b]	International air travellers (SIAT) survey data on non-U.S. residents visiting the United States [c]
Methodological notes							
Data source	Data provided by Dean Runyan Associates, a travel and tourism research firm.	Data provided by STR Inc. a provider of data benchmarking, analytics and marketplace insights for the global hospitality industry.	Data provided by STR Inc.	▪ Data provided by Near, STR, AirDNA. ▪ Mobile data: Visitors traveling more than 50 miles from home and staying overnight in the 12 California tourism regions.	Los Angeles-LAX airport.	Not known.	Monthly self-administered questionnaires.
Access to outputs/open data	▪ Online dashboard; and ▪ Annual reports.	Report.	▪ Online dashboard; and ▪ Report.	▪ Online dashboard; and ▪ Quarterly reports.	Online dashboard.	Online dashboard.	▪ Online dashboard; ▪ Quarterly reports; and ▪ Annual reports
Metadata	Available.	Not accessible.	Not accessible.	Available.	Available.	Not accessible.	Available.
Comparability							
Spatial comparability	Some destinations in California calculate visitation and economic impacts using different definitions of visitors and different data-gathering methods, so figures may not match.	Not known.	Not known.	In some cases, slight adjustments to a region's definition were made to account for transport routes and geographic features.	Not known.	Not known.	Data is collected for cities across the United States.
Time series	From 2013 to the present day.	Not known.	Not known.	Not known.	Not known.	Not known.	From 1983 to the present day.

	The Economic Impact of Travel in California report	L.A. County and submarkets lodging metrics [a]	California lodging report	Domestic visitor report	California airport passenger traffic (Los Angeles Airport)	US states and cities visited by overseas travellers [b]	International air travellers (SIAT) survey data on non-U.S. residents visiting the United States [c]
Comparability over time	Not known.	Not known.	Not known.	Not known.	Not known.	Not known.	The survey was modified in 1985, 1990, 1993, 1996 and 2012.
Cross-statistical coherence	Not known.	Not known.	Not known.	Mobile data: variations in data collection, data cleaning, and other definitions that are used in this analysis may create variations when compared to similar analyses with mobile location data sets or with analyses provided by other vendors.	Not known.	Not known.	Not known.
International tourism database	No.						
INSTO	No.						

Sources: a) Los Angeles Tourism and Convention Board (n.d.), *LA County and submarket lodging metrics*, online available at: https://www.discoverlosangeles.com/Research [10-05-2023].

b) International Trade Administration, U.S. Department of Commerce (2021), *US states and cities visited by overseas travellers*, online available at: https://www.trade.gov/data-visualization/us-states-cities-visited-overseas-travelers [08-05-2023].

c) International Trade Administration, U.S. Department of Commerce (n.d.), *SIAT inbound survey monitor*, online available at: https://www.trade.gov/data-visualization/siat-inbound-survey-monitor [08-05-2023].

d) Visit California (n.d.), ***Research and trends***, online available at: https://industry.visitcalifornia.com/research/researchdashboard [10-05-2023].

5.2.4 São Paulo, Brazil

Inventory of data sources

	City of São Paulo accommodation supply performance	Tax collection on services	Movement at bus terminals	Movement at airports	Tourism performance indicators
Reporting agency					
Observatory of Tourism and Events of the City of São Paulo (OTE), research and market intelligence centre of São Paulo Turismo [a]	■	■	■	■	
Municipal government – Secretary of Tourism and Travel [a]					■
Territorial scope					
City of São Paulo	■	■	■	■	■
Data available per category					
International and/or domestic tourism					
Volume of tourism activities					■
Accommodation					
Occupancy rate (hotels and hostels)	■				■
Average rate (hotels and hostels)	■				
Average daily rate (ADR)	■				
Revenue per available room (RevPAR)/hotel category	■				
Socioeconomics					
Tourism revenue					■
Tax revenue		■			
Number of employees					■
Number of jobs in the sector					■
Number of companies in the sector					■
Transport					
Vehicle flow					■
Number of buses			■		■
Number of disembarked passengers at the Tietê, Barra Funda and Jabaquara terminals			■		■
Number of passengers (embarkation and disembarkation)				■	■
Number of aircrafts (takeoff and landing)				■	■

	City of São Paulo accommodation supply performance	Tax collection on services	Movement at bus terminals	Movement at airports	Tourism performance indicators
Methodological notes					
Data source	Not known.	Monthly reporting by the Municipal Treasury Department.	Monthly reporting by the terminal management companies.	Monthly reporting by Congonhas, Guarulhos, and Viracopos airports.	Secondary data.
Access to outputs/open data	▪ Monthly report; and ▪ Also reported in the Monthly Tourism Activity Index.	▪ Monthly report; and ▪ Also reported in the Monthly Tourism Activity Index.	▪ Monthly report; and ▪ Also reported in the Monthly Tourism Activity Index.	▪ Monthly report; and ▪ Also reported in the Monthly Tourism Activity Index.	Online dashboard.
Metadata	Partially available.	Partially available.	Not accessible.	Not accessible.	Not accessible.
Comparability					
Spatial comparability	Not known.	Not known.	Not known.	Not known.	Not known.
Time series	From 2022 to the present day.	From 2022 to the present day.	From 2022 to the present day.	From 2022 to the present day.	From 2019 to the present day.
Comparability over time	Not known.	Not known.	Not known.	Not known.	Not known.
International tourism database	No.				
INSTO	Observatory of Tourism and Events of the City of São Paulo (OTE).				

Source: a) Observatory of Tourism and Events of the City of São Paulo (n.d.), *Monthly indicators*, online available at: https://observatoriodeturismo.com.br/ [11-05-2023].

São Paulo, Brazil. © Celso Diniz | Dreamstime.com

5.2.5 Vancouver, Canada

Inventory of data sources

	Overnight visitors by geographic origin (year-to-date and monthly totals) [a]	Availability of hotel/motel rooms [a]	Tourism industry dashboard [b]	Cruise statistics [c]	Air traffic Vancouver International Airport [d]
Reporting agency					
Destination Vancouver	■	■		■	■
Destination British Columbia			■		
Territorial scope					
Metro Vancouver	■	■			
Downtown Vancouver		■	■		
City of Vancouver		■		■	■
Data available per category					
International and/or domestic tourism					
Number of overnight visitors by source market	■				
Accommodation					
Number of properties		■			
Number of rooms		■			
Revenue per available room (RevPAR)			■		
Average daily rate (ADR)			■		
Hotel occupancy			■		
Estimated room revenue			■		
Socioeconomics					
Number of employees in the tourism industry			■		
Transport					
Number of vessels				■	
Number of disembarked passengers				■	
Number of embarked passengers				■	
Number of in-transit passengers				■	
Total revenue passengers				■	
Total enplaned and deplaned passengers					■

	Overnight visitors by geographic origin (year-to-date and monthly totals) [a]	**Availability of hotel/motel rooms** [a]	**Tourism industry dashboard** [b]	**Cruise statistics** [c]	**Air traffic Vancouver International Airport** [d]
Methodological notes					
Data source	Not known.	Not known.	Not known.	Data is provided by the Port of Vancouver.	Data is provided by Vancouver International Airport.
Access to outputs/open data	▪ Monthly report; and ▪ Annual report.	Statistical table.	▪ Monthly report; and ▪ Annual report.	▪ Monthly report; and ▪ Annual report.	Statistical table.
Metadata	Partially available.	Not accessible.	Partially available.	Not accessible.	Partially available.
Comparability					
Spatial comparability	Not known.	Not known.	Not known.	Not known.	Not known.
Time series	Data on monthly overnight visitor volumes is available from 1994 to 2021.	Not known.	From 2014 to the present day.	From 2008 to the present day.	From 1992 to the present day.
Comparability over time	Not known.	Not known.	Not known.	Not known.	Not known.
International tourism database	No.				
INSTO	No.				

Sources:
a) Destination Vancouver (n.d.), *Marketing research,* online available at: https://www.destinationvancouver.com/about/research/# [12-05-2023].
b) Destination British Columbia (n.d.), *Tourism industry dashboard*, online available at: https://www.destinationbc.ca/tourism-industry-dashboard/ [12-05-2023].
c) Port of Vancouver (n.d.), *Reporting, statistics and resources,* online available at: https://www.portvancouver.com/about-us/statistics/ [12-05-2023].
d) Vancouver International Airport (n.d.), *Facts and stats,* online available at: https://www.yvr.ca/en/about-yvr/facts-and-stats [12-05-2023].

Vancouver, Canada. © Vismax | Dreamstime.com

5.3 Asia and the Pacific

5.3.1 Beijing, China

Inventory of data sources

	Outreach of travel agencies to receive tourism	Lodging industry statistics	Activities in tourist areas
Reporting agency			
Beijing Municipal Bureau of Statistics [a]	■	■	■
Territorial scope			
City of Beijing	■	■	■
Data available per category			
International and/or domestic tourism			
Number of outreach (group) tourists (domestic and international)	■		
Number of tourists received (domestic and international)	■		
Number of tourists received			■
Accommodation			
Number of lodging establishments		■	
Number of arrivals (breakdown by type of lodging)		■	
Number of guests staying in star-rated hotels (breakdown by domestic and international residents, Taiwan, Macao and Hong Kong compatriots, foreigners)		■	
Number of guest nights/days in star-rated hotels (breakdown by domestic and international residents, Taiwan, Macao and Hong Kong compatriots, foreigners)		■	
Socioeconomics			
Total revenue tourism activities			■

	Outreach of travel agencies to receive tourism	Lodging industry statistics	Activities in tourist areas
Methodological notes			
Data source	Travel agencies included in the statistical scope submit the data through a centralized statistical data collection platform, in accordance with the requirements of the "Service Industry Statistical Reporting System".	The accommodation units included in the statistical scope report data through a centralized statistical data collection platform, in accordance with the requirements of the "Statistical Reporting System for Wholesale and Retail Industry, Accommodation and Catering Industry".	According to the requirements of the "Service Industry Statistical Reporting System", the statistical data shall be reported through a centralized statistical data collection platform.
Access to outputs/open data	Statistical tables.	Statistical tables.	Statistical tables.
Metadata	Available.	Available.	Available.
Comparability			
Spatial comparability	Not known.	Not known.	Not known.
Time series	From 2005 to 2020.	From 2005 to 2020.	From 2005 to 2020.
Comparability over time	Not known.	Not known.	Not known.
International tourism database	No.		
INSTO	No.		

Source: a) Beijing Municipal Bureau of Statistics (n.d.), *Monthly and quarterly data, tourism*, online available at: http://tjj.beijing.gov.cn/tjsj_31433/yjdsj_31440/ly_32068/2020/index.html [03-05-2023].

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5.3.2 Kyoto, Japan

Inventory of data sources

	Travel dynamics by municipality
Reporting agency	
Japan National Tourism Organization (JNTO) [a]	■
Territorial scope	
Kyoto-shi	■
Data available per category	
International and/or domestic tourism	
Number of visits	■
Number of overnight stays	■
Previous experience visiting Japan (first time or repat visitor)	■
Number of days visited	■
Visitor profile (nationality, residence, etc.)	■
Methodological notes	
Data source	Until 29 September 2023: ▪ The data is the result of adding up GPS data acquired via the Japan Official Travel App – a tourism information app provided by JNTO – with the consent of users. ▪ Information on nationality, number of visits to Japan and residence is acquired via an in-app questionnaire. After 29 September 2023:[b] Not known.
Access to outputs/open data	Online dashboard.
Metadata	Available.
Comparability	
Spatial comparability	Across Japan.
Time series	From 2019 to the present day.
Comparability over time	Not known.
International tourism database	No.
INSTO	No.

Source: a) Japan National Tourism Organization (n.d.), *Japan Tourism Statistics*, online available at: https://statistics.jnto.go.jp/en/ [03-05-2023].
b) Date of termination of the Japan Official Travel App.
For more information consult: https://www.japan.travel/en/app/Termination-of-Japan-Official-Travel-App/

5.3.3 Melbourne, Australia

Inventory of data sources

	Regional tourism satellite account [a]	Australian accommodation monitor	International visitor survey	National visitor survey
Reporting agency				
Australian Trade and Investment Commission – Tourism Research Australia	■			
Victoria State Government [b]		■	■	■
Territorial scope				
Melbourne Tourism Region	■	■	■	■
Data available per category				
International and/or domestic tourism				
Number of international overnight visitors			■	
Number of international overnight stays			■	
Number of domestic overnight visitors				■
Number of domestic overnight stays				■
Number of interstate overnight visitors				■
Number of interstate overnight stays				■
Number of intrastate overnight visitors				■
Number of intrastate overnight stays				■
Accommodation		■		
Supply (rooms available)		■		
Demand (room nights sold)		■		
Revenue		■		
Occupancy		■		
Revenue per available room (RevPAR)		■	■	
Property count		■	■	
Room count		■	■	

	Regional tourism satellite account [a]	Australian accommodation monitor	International visitor survey	National visitor survey
Socioeconomics				
International visitor expenditure (total, per night, per visit)			■	
Domestic overnight visitor expenditure (total, per night, per visitor)				■
Domestic daytrip expenditure (total, per day trip)				■
Tourism gross value added (GVA) – direct, indirect, and total	■			
Tourism gross regional product (GRP) – direct, indirect, and total	■			
Tourism employment by full-time or part-time, direct/indirect	■			
Tourism consumption by visitor type (international or domestic)	■			
Methodological notes				
Data source	▪ Most of the visitor expenditure data is sourced from Tourism Research Australia (TRA) in the National Visitor Survey (NVS) for expenditure by Australian visitors and the International Visitor Survey (IVS) for expenditure by international visitors. This data is supplemented with data from the balance of payments and national accounts. ▪ Employment estimates are taken from the Australian Labour Account and Airfares database. ▪ The ABS annual business surveys collect data for business income and expense items for all broad industry groups in the economy.	Data is provided by STR.	Computer Assisted Personal Interviewing (CAPI) done in four languages in the departure lounges of the eight major international airports.	▪ Computer Assisted Telephone Interviewing (CATI) system with phone numbers selected using random digit dialling. ▪ The survey runs continuously with interviews taking place on each weekday and on weekends (excluding national public holidays).
Access to outputs/open data	Data files.	Data files.	Data files.	Quarterly reports; Annual reports; and Data files.
Metadata	Available.	Available.	Available.	Available.

	Regional tourism satellite account [a]	Australian accommodation monitor	International visitor survey	National visitor survey
Comparability				
Spatial comparability	Comparable across individual regions in Australia.	Not known.	Comparable across the eight cities with major airports in Australia.	Not known.
Time series	From 2006 to 2021.	From 2016 to 2021	From 2009 to 2019.	From 2012 to 2022.
Comparability over time	Not known.	Not known.	TRA revised IVS estimates from 2005 to 2018 with the year ending December 2018 data release.	In 2019, TRA moved the NVS to 100% mobile phone interviewing, creating a break in series between 2018 and 2019.
International tourism database	No.			
INSTO	No.			

Sources: a) Australian Trade and Investment Commission – Tourism Research Australia (n.d.), *Regional tourism satellite account 2021–2022*, online available at: https://www.tra.gov.au/data-and-research/reports/regional-tourism-satellite-account/regional-tourism-satellite-account [04-05-2023].

b) Victoria State Government (n.d.), Tourism industry research, online available at: https://business.vic.gov.au/business-information/tourism-industry-resources/tourism-industry-research [04-05-2023].

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5.3.4 Osaka, Japan

Inventory of data sources

	Travel dynamics by municipality
Reporting agency	
Japan National Tourism Organization (JNTO) [a]	■
Territorial scope	
Osaka-shi	■
Data available per category	
International and/or domestic tourism	
Number of visits	■
Number of overnight stays	■
Previous experience visiting Japan (first time or repat visitor)	■
Number of days visited	■
Visitor profile (nationality, residence, etc.)	■
Methodological notes	
Data source	Until 29 September 2023: ▪ The data is the result of adding up GPS data acquired via the Japan Official Travel App – a tourism information app provided by JNTO – with the consent of users. ▪ Information on nationality, number of visits to Japan and residence is acquired via an in-app questionnaire. After 29 September 2023:[b] Not known.
Access to outputs/open data	Online dashboard.
Metadata	Available.
Comparability	
Spatial comparability	Across Japan.
Time series	From 2019 to the present day.
Comparability over time	Not known.
International tourism database	No.
INSTO	No.

Source: a) Japan National Tourism Organization (n.d.), *Japan Tourism Statistics*, online available at: https://statistics.jnto.go.jp/en/ [03-05-2023].
b) Date of termination of the Japan Official Travel App. For more information consult: https://www.japan.travel/en/app/Termination-of-Japan-Official-Travel-App/

5.3.5 Singapore

Inventory of data sources

	Visitor arrival statistics	Hotel statistics	Travel agent statistics	Hotel landscape	Tourism receipts	Cruise statistics	Visitor profile
Reporting agency							
Singapore Tourism Board – Singapore Tourism Analytics Network [a]	■	■	■	■	■	■	■
Territorial scope							
Singapore	■	■	■	■	■	■	■
Data available per category							
International and/or domestic tourism							
Number of visitor arrivals	■						
Number of overnight visitors	■						
Average length of stay	■						
Total number of visitor days	■						
Visitor arrival trends by geography (source market)	■						
Visitor arrival trends by demographics (age and gender)	■						
Main purpose of visit							■
Frequency of visit							■
Travelling companion							■
Attractions and sites visited							■
Shopping items purchased							■

	Visitor arrival statistics	Hotel statistics	Travel agent statistics	Hotel landscape	Tourism receipts	Cruise statistics	Visitor profile
Accommodation							
Average room rate		■					
Average occupancy rate		■					
Revenue per available room (RevPAR)		■					
Available room nights		■					
Room revenue		■					
Gross lettings		■					
Room stock		■					
Available room nights		■					
Number of accommodation establishments		■		■			
Room stock (licenced accommodation establishments)				■			
Markets share (breakdown by hotel size and hotel type)				■			
Type of accommodation used							■
Transport							
Number of calls at the port						■	
Passenger throughput at the port						■	
Mode of transport used	■						
Socioeconomics							
Tourism receipts (breakdown by major components and place of residence)					■		
Per capita expenditure					■		

	Visitor arrival statistics	Hotel statistics	Travel agent statistics	Hotel landscape	Tourism receipts	Cruise statistics	Visitor profile
Other							
Number of active travel agents			■				
Number of new travel agents			■				
Number of ceased travel agents			■				
Methodological notes							
Data source	Not known.	Gazetted hotels.	Travel agents with a valid licence.	Licenced accommodation establishments.	Not known.	Singapore Cruise Centre.	Overseas Visitors Survey is conducted with visitors at the air, sea, and land departing checkpoints throughout the year.
Access to outputs/open data	Online dashboard.	Online dashboard.	Online dashboard.	Online dashboard.	Online dashboard.	Statistical table.	Statistical table.
Metadata	Partially available.	Partially available.	Partially available.	Partially available.	Partially available.	Partially available.	Available.
Comparability							
Spatial comparability	Not known.	Not known.	Not known.	Not known.	Not known.	Not known.	Not known.
Time series	From 2008 to the present day.	From 2008 to the present day.	From 2008 to the present day.	From 2016 to the present day.	From 2016 to the present day.	From 2009 to the present day.	From 2008 to the present day.
Comparability over time	Not known.	Not known.	Not known.	Not known.	Comparison of data before and after 2016 is not recommended due to changes in methodology.	Not known.	Comparison of data before and after 2016 is not recommended due to changes in methodology.
International tourism database	No.						
INSTO	No.						

Sources: a) Singapore Tourism Analytics Network (n.d.), *Tourism statistics*, online available at: https://stan.stb.gov.sg/content/stan/en/tourism-statistics.html [04-05-2023].
Department of Statistics, Singapore, (n.d.), *Tourism*, online available at: https://www.singstat.gov.sg/find-data/search-by-theme/industry/tourism/latest-data [04-05-2023].

5.4 Europe

5.4.1 Amsterdam, Netherlands

Inventory of data sources

	Accommodation statistics [a]	Visitor insight and impact monitor [b]
Reporting agency		
Statistics Netherlands (CBS)	■	
Amsterdam and Partners		■
Territorial scope		
City of Amsterdam	■	■
Amsterdam Metropolitan Area		■
Data available per category		
International and/or domestic tourism		
Number of overnight stays		■
Number of visits to attractions		■
Accommodation		
Number of accommodation establishments	■	
Type of accommodation establishments	■	
Number of rooms	■	
Number of bed-places	■	
Number of guests	■	
Number of overnight stays	■	
Room occupancy rate		■
Transport		
Incoming foreign passengers at Schiphol Airport		■
Number of sea cruise passengers at the port		■
Other		
Sales City Card		■
Number of visitors to I Amsterdam store		■

	Accommodation statistics [a]	Visitor insight and impact monitor [b]
Methodological notes		
Data source	Surveys.	▪ Primary data from the attractions; and ▪ Secondary data.
Access to outputs/open data	Monthly and annual overview (online).	Full access for members only.
Metadata	Available.	Available.
Comparability		
Spatial comparability	Not known.	Visitor Insight is already being used by cities such as Amsterdam, Toulouse, and Stockholm and is being continuously developed together.
Time series	From 2017 to the present day.	Not known.
Comparability over time	Figures on guests and overnight stays per star rating for the years until 2015 were based on official registrations of the number of stars by the "Bedrijfschap Horeca en Catering". This official registration does no longer exist. Therefore, CBS started asking accommodations about their number of stars in its annual survey. For this reason, the figures are not directly comparable with figures published until 2015.	Not all data is equally up-to-date and complete.
International tourism database	**TourMIS** [c] ▪ – information is provided by CBS ▪ Arrivals in hotels and similar establishments in city area only per year and month; ▪ Arrivals in hotels and similar establishments in greater city area per year and month; ▪ Bednights in hotels and similar establishments in city area only per year and month; and ▪ Bednights in hotels and similar establishments in greater city area per year and month. **Eurostat** [d] ▪ Number of establishments, bedrooms, and bed-places at NUTS 3 level (greater city area) (1990–2011); and ▪ Nights spent at tourist accommodation establishments by NUTS 3 regions (greater city area) (from 2020 onwards).	
INSTO	No.	

Sources:
a) Statistics Netherlands (2023), *Hotels, guests, country of residence, star rating*, online available at: https://www.cbs.nl/en-gb/figures/detail/84037ENG?q=amsterdam%20tourism [15-05-2023].
b) Amsterdam and partners (n.d.), *Dashboard*, online available at: https://amsterdammetropool.visitorinsight.nl/Dashboard [15-05-2023].
c) TourMIS, *Cities*, online available at: https://www.tourmis.info/ [15-05-2023].
d) Eurostat (n.d.), *Establishments, bedrooms and bed-places in tourist accommodation by NUTS 3 regions – annual data (1990–2011)*, online available at: https://ec.europa.eu/eurostat/databrowser/view/TOUR_CAP_NUTS3/default/table?lang=en&category=tour.tour_inda.tour_cap [15-05-2023].
See also Eurostat (n.d.), *Nights spent at tourist accommodation establishments for selected cities (from 2020 onwards)*, online available at: https://ec.europa.eu/eurostat/databrowser/view/tour_occ_ninc/default/table?lang=en [15-5-2023].

5.4.2 Barcelona, Spain

Inventory of data sources

	Hotel occupancy survey [a]	Tourism activity report [b]
Reporting agency		
National Statistics Institute of Spain (INE)	■	
Barcelona Tourism Observatory		■
Territorial scope		
Barcelona city	■	■
Destination Barcelona (Barcelona province)	■	■
Barcelona region (Barcelona province except Barcelona city)		■
Data available per category		
International and/or domestic tourism		
Visitor profile (country of residence, gender, purpose of travel etc.)		■
Accommodation		
Number of accommodation establishments	■	■
Number of rooms	■	
Number of bed-places	■	■
Hotel occupancy rate		■
Hotel occupancy rate by places on weekend	■	
Room occupancy rate	■	
Number of guests	■	■
Number of overnight stays	■	■
Average length of stay	■	■
Seasonality		■
Socioeconomics		
Visitor expenditure		■
Number of businesses and employees in tourism		■
Number of employees (hospitality)	■	

	Hotel occupancy survey [a]	Tourism activity report [b]
Transport		
Barcelona airport operations		■
Barcelona airport number of passengers		■
Seasonality of passengers at Barcelona airport		■
Number of cruise ships at the port of Barcelona		■
Number of cruise passengers		■
Seasonality of cruise passengers		■
Ferries at Barcelona port		■
Number of ferry passengers at Barcelona port		■
Seasonality of ferry passengers		■
Direct international train destinations from Barcelona		■
Direct national train destinations from Barcelona		■
Other		
Citizen sentiment		■
Sustainability (biosphere certificates)		■
Methodological notes		
Data source	The information is supplied monthly by hotel establishments, through a questionnaire.	Until 2021, Barcelona region and Destination Barcelona data were estimated from the INE statistics on hotel establishments, based on the Barcelona hotels data provided by Turisme de Barcelona and Gremi d'Hotels de Barcelona. Since 2022, Barcelona region data is compiled from the difference of available data for Barcelona city and Barcelona province, based on INE.
Access to outputs/open data	Online database.	▪ Annual report; and ▪ Online dashboard.
Metadata	Available.	Available.

	Hotel occupancy survey [a]	Tourism activity report [b]
Comparability		
Spatial comparability	The concepts used for accommodation establishments align with the definitions used by INE in e.g., Madrid.	The concepts used for accommodation establishments align with the definitions used by INE in e.g., Madrid.
Time series	From 1999 to the present day.	From 2019 to present day
Comparability over time	Given the several updates of the establishment directories, the data regarding different years are not directly comparable.	Not known.
International tourism database	**TourMIS** [c] ▪ information is provided by INE ▪ Arrivals in hotels and similar establishments in city area only/year and month (includes hotels, hotel apartments, motels, hostels, bed and breakfasts, guesthouses); and ▪ Bednights in hotels and similar establishments in city area only/year and month (includes hotels, hotel apartments, motels, hostels, bed and breakfasts, guesthouses). **Eurostat** [d] ▪ Number of establishments, bedrooms, and bed-places at NUTS 3 level (1990–2011); and ▪ Nights spent at tourist accommodation establishments by NUTS 3 regions (from 2020 onwards).	
INSTO	Barcelona Tourism Observatory	

Sources:
a) National Statistics Institute of Spain (n.d.), *Hotel occupancy survey*, online available at: https://www.ine.es/dynt3/inebase/index.htm?padre=238&capsel=238 [16-05-2023].
b) Barcelona Tourism Observatory (2022), *Key figures 2022*, online available at: https://www.observatoriturisme.barcelona/en/key-figures-2022 [16-05-2023].
c) TourMIS, *Cities*, online available at: https://www.tourmis.info/ [16-05-2023].
d) Eurostat (n.d.), *Establishments, bedrooms and bed-places in tourist accommodation by NUTS 3 regions – annual data (1990–2011)*, online available at: https://ec.europa.eu/eurostat/databrowser/view/TOUR_CAP_NUTS3/default/table?lang=en&category=tour.tour_inda.tour_cap [16-05-2023].
See also Eurostat (n.d.), *Nights spent at tourist accommodation establishments for selected cities (from 2020 onwards*, online available at: https://ec.europa.eu/eurostat/databrowser/view/tour_occ_ninc/default/table?lang=en [16-5-2023].

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5.4.3 Berlin, Germany

Inventory of data sources

	Visitor insight [a]	Tourism satellite account [b]	Monthly survey of accommodation establishments [c]	Quality monitor [d]
Reporting agency				
Berlin Tourismus Marketing GmbH – Visit Berlin	■	■		■
Office for Statistics Berlin-Brandenburg			■	
Territorial scope				
Berlin city	■	■	■	■
Berlin/Brandenburg Metropolitan Region (Municipalities, districts, travel areas and federal states as well as regions defined according to EU specifications)			■	
Data available per category				
International and/or domestic tourism				
Visitor numbers at attractions	■			
Guest profile (age, income, travel companion, etc.)				■
Decision and booking process (information sources, booking channels, destination decision)				■
Type of activities				■
Revisit intentions				■
Accommodation				
Key figures from the accommodation market	■			
Type of accommodation used				■
Number of guests			■	
Number of overnight stays			■	
Length of stay			■	■
Available beds/overnight capacity			■	
Bed occupancy/occupancy of sleeping accommodation			■	
Room offer (value)			■	
Room occupancy (only hotels with at least 25 rooms)			■	

	Visitor insight [a]	Tourism satellite account [b]	Monthly survey of accommodation establishments [c]	Quality monitor [d]
Socioeconomics				
Expenditure by tourists from abroad by visitor group		■		
Expenditure by tourists from abroad by tourism product category		■		
Expenditure by tourists from other federal state by visitor group		■		
Expenditure by tourists from other federal states by tourism product category		■		
Expenditure by domestic tourists in Berlin including the domestic share of trips by Berliners by visitor group		■		
Expenditure by domestic tourists in Berlin including the domestic share of trips by Berliners by tourism product category		■		
Gross value added (direct/indirect tourist GVA)		■		
Number of employees in the tourism industry		■		
Number of employees in the hospitality industry			■	
Transport				
Airport statistics	■			
Means of transport used				■
Other				
Conference statistics	■			
Methodological notes				
Data source	Secondary data.	Secondary data (Office for Statistics Berlin-Brandenburg and Senate Department for Economics, Energy and Public Enterprises, and the consulting company DIW Econ).	Data is transmitted electronically every month.	Visitor survey.
Access to outputs/open data	Access to Visit Berlin partners only.	Annual reports.	Interactive geodata and monthly statistical reports.	Reports published every two years.
Metadata	Not accessible.	Available.	Available.	Available.

	Visitor insight [a]	Tourism satellite account [b]	Monthly survey of accommodation establishments [c]	Quality monitor [d]
Comparability				
Spatial comparability	Visitor Insight is used by cities such as Amsterdam, Toulouse, and Stockholm and is being continuously developed together.	Currently national methodologies are not sufficiently harmonised for the data to be fully comparable across countries.	The results are comparable nationwide. Due to methodological differences in the EU member states, an EU-wide comparison is only possible to a limited extent.	Not known.
Time series	Not known.	From 2019 to the present day.	From 1992 to the present day.	From 2007 to the present day.
Comparability over time	Not known.	Results are comparable for 2019 and 2020.	Nationwide results are comparable up to 2010.	Not known.
Cross-statistical coherence	Not known.	Day trips and grey accommodation market (not recorded in the official accommodation statistics e.g., private rooms or staying with friends and relatives) is included in the TSA.	Discrepancies due to conceptual differences.	Statements on the type of accommodation (hotel, guest house, vacation home, etc.) should better not be derived from the Quality Monitor, as it does not take into account the grey lodging market (incl. sharing platforms).
International tourism database	**TourMIS** [e] ▪ Information is provided by Visit Berlin. ▪ Arrivals Arrivals in all forms of paid accommodation in city area only/year and month; and ▪ Bednights in all forms of paid accommodation in city area only/year and month. **Eurostat** [f] ▪ Data is provided by the Federal Statistics Office of Germany ▪ Number of establishments, bedrooms, and bed-places at NUTS 3 level (1990–2011); and ▪ Nights spent at tourist accommodation establishments by NUTS 3 regions (Berlin) (from 2020 onwards).			
INSTO	No.			

Sources:
a) Visit Berlin (n.d.), *Dashboard*, online available at: https://berlin.visitorinsight.eu/Dashboard [18-05-2023].
b) DIW Econ (2019), *Tourism Satellite Account (TSA) for Berlin 2019*, online available at: https://diw-econ.de/en/publications/tourism-satellite-account-tsa-for-berlin-2019/ [18-05-2023].
c) Office for Statistics Berlin-Brandenburg (n.d.), Tourism and hospitality, online available at: https://www.statistik-berlin-brandenburg.de/tourismus-und-gastgewerbe [18-05-2023].
d) Visit Berlin (n.d.), *Knowledge about Berlin's guests – the quality monitor*, online available at: https://about.visitberlin.de/en/node/2156 [18-05-2023].
e) TourMIS, ***Cities***, online available at: https://www.tourmis.info/ [18-05-2023].
f) Eurostat (n.d.), *Establishments, bedrooms and bed-places in tourist accommodation by NUTS 3 regions – annual data (1990–2011)*, online available at: https://ec.europa.eu/eurostat/databrowser/view/TOUR_CAP_NUTS3/default/table?lang=en&category=tour.tour_inda.tour_cap [18-05-2023].
See also Eurostat (n.d.), *Nights spent at tourist accommodation establishments for selected cities (from 2020 onwards*, online available at: https://ec.europa.eu/eurostat/databrowser/view/tour_occ_ninc/default/table?lang=en [18-5-2023].

5.4.4 London, United Kingdom

Inventory of data sources

	Facts of tourism City of London [a]	The City of London attractions monitor [a]	Annual survey of visits to visitor attractions	The Great Britain day visits survey	The Great Britain tourism survey	England / UK occupancy survey
Reporting agency						
City of London Corporation	■	■				
Greater London Authority		■				
VisitEngland and Historic England in collaboration with the market research agency BVA-BDRC [b]			■			
VisitBritain/VisitEngland in collaboration with the Office for National Statistics [b]				■	■	■
Territorial scope						
The City of London	■	■				
Greater London area (NUTS 2 level)			■	■	■	■
Data available per category						
International and/or domestic tourism						
Number of domestic day trips				■		
Number of domestic overnight trips					■	
Number of domestic bed-nights					■	
Number of tourism visits	■					
Number of visitor days	■					
Visitor profile (type, origin, destination)	■			■		
Visitor numbers at attractions	■	■	■			
Admission pricing to attractions			■			
Type of activities				■		
Seasonal distribution of visits				■		

	Facts of tourism City of London [a]	The City of London attractions monitor [a]	Annual survey of visits to visitor attractions	The Great Britain day visits survey	The Great Britain tourism survey	England / UK occupancy survey
Accommodation						
Accommodation supply	■					
Number of rooms available						■
Number of rooms sold						■
Total room revenue						■
Occupancy						■
Average daily rate (ADR)						■
Revenue per available room (RevPAR)						■
Socioeconomics						
Direct expenditure	■			■	■	
Revenue generated by attractions			■			
Employment (permanent, seasonal, unpaid) – attractions			■			
Other						
Funding – attractions			■			
Marketing and digital communication			■			
Access to and sustainability of attractions			■			
Methodological notes						
Data source	Secondary data.	Data is provided by the attractions.	Annual surveys.	Weekly surveys.	Weekly surveys.	Monthly surveys.
Access to outputs/open data	Annual report.	Quarterly report, feeding into the annual Facts of Tourism report.	Annual reports.	▪ Annual reports; and ▪ Quarterly reports.	Annual reports.	Survey reports.
Metadata	Not accessible.	Not accessible.	Available.	Available	Available.	Available.

	Facts of tourism City of London [a]	The City of London attractions monitor [a]	Annual survey of visits to visitor attractions	The Great Britain day visits survey	The Great Britain tourism survey	England / UK occupancy survey
Comparability						
Spatial comparability	Not known.	Not known.	Not known.	Data is collected at the NUTS 2 level.	Data is collected at the NUTS 2 level.	Data is collected at the NUTS 2 level.
Time series	From 2018 to the present day.	From 2010 to the present day.	From 1989 to the present day.	From 1998 to 2019.	From 2006 to present the day.	From 1971 up to the present day. Current reports include a five-year trend.
Comparability over time	Not known.	Not known.	Not known.	The methodology changed over time, comparison is possible between 2011–2018.	In 2016 the methodology changed; however comparison is possible with the re-processed data (before and including 2015).	Not known.
International tourism database	**TourMIS** [c] ▪ Information is provided by Visit Britain/Visit England ▪ Arrivals in all forms of paid accommodation in the greater city area per year; and ▪ Bednights in all forms of paid accommodation in the greater city area per year. **Eurostat** [d] ▪ Number of establishments, bedrooms and bed-places at NUTS 3 level (Inner London West and East, Outer London East, North East, South, West, and North West from 1990 to 2011).					
INSTO	No.					

Sources: a) City of London Corporation (n.d.), *Tourism statistics*, online available at: https://www.cityoflondon.gov.uk/things-to-do/tourism-trends-and-strategies/tourism-statistics [22-05-2023].
b) Visit Britain/Visit England (2022), *England research and insights*, online available at: https://www.visitbritain.org/england-research-insights [22-05-2023].
c) TourMIS, ***Cities***, online available at: https://www.tourmis.info/ [22-05-2023].
d) Eurostat (n.d.), *Establishments, bedrooms and bed-places in tourist accommodation by NUTS 3 regions – annual data (1990–2011)*, online available at: https://ec.europa.eu/eurostat/databrowser/view/TOUR_CAP_NUTS3/default/table?lang=en&category=tour.tour_inda.tour_cap [22-05-2023].
See also Eurostat (n.d.), *Nights spent at tourist accommodation establishments for selected cities (from 2020 onwards*, online available at: https://ec.europa.eu/eurostat/databrowser/view/tour_occ_ninc/default/table?lang=en [22-5-2023].

5.4.5 Paris, France

Inventory of data sources

	Tourist attendance in Paris Region	Paris tourism barometer	Monthly survey in collective tourist accommodation [a]	Tourism in Paris – Key figures [b]
Reporting agency				
Paris Convention and Visitors Bureau	■	■		■
National Institute of Statistics and Economic Studies (INSEE)			■	
Territorial scope				
Paris Il-de-France	■	Not known		
Municipality of Paris (NUTS 3 level)		Not known	■	
Greater Paris (NUTS 2 level)		Not known		■
Data available per category				
International and/or domestic tourism				
Number of overnight stays	■			
Origin market	■			
Means of booking the accommodation	■			
Visitor profile	■			
Type of activities	■			
Satisfaction	■			
Intention to return	■			
Decision and booking process (information sources, booking channels, destination decision)	■			
Number of cultural venues				■
Visitor numbers at cultural venues				■
Accommodation				
Type of accommodation used	■			
Hotel occupancy		■		
Number of guests		■	■	■
Number of overnight stays		■	■	■
Length of stay		■	■	
Average price		■		■
Revenue per available room (RevPAR)		■		■
State of supply and outlook			■	■
Volumes and proportions of business/ leisure nights			■	
Other accommodation capacity (aparthotel)			■	■
Hotel capacity (number of hotels and bedrooms)			■	■
Campsite capacity			■	

	Tourist attendance in Paris Region	Paris tourism barometer	Monthly survey in collective tourist accommodation [a]	Tourism in Paris – Key figures [b]
Socioeconomics				
Visitor expenditure	■			
Employment in tourism (accommodation, leisure, catering, transport)	■			■
Tourism tax revenue				■
Transport				
Passenger traffic (land, air)				■
Other				
Perception of Paris – mentioning in the press				■
Methodological notes				
Data source	Secondary data.	Monthly surveys.	Monthly surveys.	Secondary data gathered from multiple sources.
Access to outputs/open data	Annual reports.	Members only.	Members only.	Annual report.
Metadata	Not accessible.	Not accessible.	Available.	Not accessible.
Comparability				
Spatial comparability	Not known.	Not known.	Not known.	Not known.
Time series	From 2014 to 2020.	Not known.	From 2019 to the present day.	From 2019 to the present day.
Comparability over time	Not known.	Not known.	Several revisions in the years before 2019.	Not known.
International tourism database	**TourMIS** [c] ▪ Arrivals in hotels and similar establishment in city area only per year and month; ▪ Arrivals in hotels and similar establishment in greater city area per year and month; ▪ Bednights in hotels and similar establishment in city area only –per year and month; and ▪ Bednights in hotels and similar establishment in greater city area per year and month. **Eurostat** [d] ▪ Data is provided by INSEE ▪ Nights spent at tourist accommodation establishments by NUTS2 regions (Paris) (from 2020 onwards); and ▪ Number of establishments, bedrooms, and bed-places at NUTS 3 level (1990–2011).			
INSTO	No.			

Sources: a) National Institute of Statistics and Economic Studies (INSEE) (2023), *Monthly attendance survey in collective tourist accommodation*, online available at: https://www.insee.fr/en/metadonnees/source/serie/s1039 [24-05-2023].

b) Paris Convention and Visitors Bureau (n.d.), *Key figures*, online available at: https://press.parisinfo.com/ [24-05-2023].

c) TourMIS, *Cities*, online available at: https://www.tourmis.info/ [24-05-2023].

d) Eurostat (n.d.), *Establishments, bedrooms and bed-places in tourist accommodation by NUTS 3 regions – annual data (1990–2011)*, online available at: https://ec.europa.eu/eurostat/databrowser/view/TOUR_CAP_NUTS3/default/table?lang=en&category=tour.tour_inda.tour_cap [24-05-2023].

See also Eurostat (n.d.), *Nights spent at tourist accommodation establishments for selected cities (from 2020 onwards, online available at:* https://ec.europa.eu/eurostat/databrowser/view/tour_occ_ninc/default/table?lang=en [24-5-2023].

5.4.6 Tel Aviv, Israel

Inventory of data sources

	Tourism and hotel services statistics [a]
Reporting agency	
Central Bureau of Statistics and Israel Ministry of Tourism	■
Territorial scope	
Tel Aviv District	■
Tel Aviv Yafo	■
Data available per category	
Accommodation	
Number of tourist hotels and rooms, by district, and by selected subdistricts and localities	■
Number of tourist hotels and rooms, by level and type in selected localities	■
Number of guests and person-nights in tourist Hotels, by continent and country of residence of guests and by level and type in selected localities	■
Room occupancy in tourist hotels by selected localities	■
Total revenue in tourist hotels by selected localities	■
Revenue from tourists in tourist hotels in selected localities	■
Youth hostels, person-nights, beds and bed occupancy, by district	■
Socioeconomics	
Employee jobs and average monthly wage per employee job in tourist hotels, by selected localities	■
Methodological notes	
Data source	Not known.
Access to outputs/open data	Quarterly statistical tables.
Metadata	Not accessible.
Comparability	
Spatial comparability	Not known.
Time series	From 2016 to the present day.
Comparability over time	Not known.
International tourism database	TourMIS b ▪ Information is provided by Central Bureau of Statistics ▪ Arrivals in hotels and similar establishments in city area only per year; and ▪ Bednights in hotels and similar establishments in city area only per year.
INSTO	No.

Sources: a) Central Bureau of Statistics (2023), *Tourism and hotel services statistics*, online available at: https://www.cbs.gov.il/en/publications/Pages/2023/tourism-and-hotel-services-statistics-quarterly-1-2023.aspx [30-05-2023].
b) TourMIS, *Cities*, online available at: https://www.tourmis.info/ [30-05-2023].

5.5 Middle East

5.5.1 Abu Dhabi, United Arab Emirates

Inventory of data sources

	Annual report – tourism [a]	Abu Dhabi hotel performance report [b]
Reporting agency		
Department of Culture and Tourism – Abu Dhabi	■	■
Territorial scope		
Emirate of Abu Dhabi	■	■
City of Abu Dhabi	■	■
Data available per category		
Accommodation		
Number of hotel rooms	■	■
Number of hotel establishments	■	■
Number of hotel guests	■	■
Number of guest nights	■	■
Hotel occupancy	■	■
Average length of stay	■	■
Hotel revenue	■	■
Distribution of room supply	■	■
Average room rate	■	■
Revenue per available room (RevPAR)	■	■
Hotel guest nationalities		■
Methodological notes		
Data source	Secondary data.	Data is collected via an online revenue and statistics system.
Access to outputs/open data	Annual report.	Annual report.
Metadata	Not accessible.	Not accessible.
Comparability		
Spatial comparability	Not known.	Not known.
Time series	From 2017 to 2020.	From 2015 to the present day.
Comparability over time	Not known.	Caution is advised.
International tourism database	No.	
INSTO	No.	

Sources: a) Department of Culture and Tourism (n.d.), *Media centre*, online available at: https://dct.gov.ae/en/media.centre.aspx [25-05-2023].
b) Department of Culture and Tourism (n.d.), *Hotel performance reports*, available online at: https://dct.gov.ae/en/who.we.are/reports.statistics.aspx [25-05-2023].

5.5.2 Dubai, United Arab Emirates

Inventory of data sources

	Tourism performance report [a]
Reporting agency	
Government of Dubai, Dubai Department of Economy and Tourism	■
Territorial scope	
Dubai	■
Data available per category	
International and/or domestic tourism	
Number of visitors (breakdown by source region and markets)	■
Accommodation	
Hotel inventory by category (number of establishments)	■
Number of hotel guest arrivals (breakdown by international and domestic)	■
Number of available rooms	■
Average occupancy	■
Number of occupied room nights	■
Average length of stay	■
Average daily rate (ADR)	■
Revenue per available room (RevPAR)	■
Methodological notes	
Data source	Field surveys conducted by the Department of Economy and Tourism.
Access to outputs/open data	▪ Monthly reports; and ▪ Annual reports.
Metadata	Partially available.
Comparability	
Spatial comparability	Not known.
Time series	Froom 2018 to the present day.
Comparability over time	Not known.
International tourism database	No
INSTO	No

Source: a) Government of Dubai, Dubai Department of Economy and Tourism (n.d.), *The latest research and insights*, online available at: https://www.dubaitourism.gov.ae/en/research-and-insights [26-05-2023].

5.5.3 Muscat, Oman

Inventory of data sources

	Statistics – accommodation services [a]	Hotel supply and demand data by governorates [b]
Reporting agency		
National Centre for Statistics and Information, Ministry of Heritage and Tourism	■	
Ministry of Heritage and Tourism		■
Territorial scope		
Muscat	■	■
Data available per category		
Accommodation		
Number of hotels	■	■
Number of guests	■	■
Number of rooms (breakdown by governorate and category)		■
Hotel occupancy	■	
Number of guest nights	■	■
Number of room nights		■
Number of beds		■
Hotel revenue	■	
Socioeconomics		
Number of employees in the hotel sector	■	■
Wages and salaries in the hotel sector	■	
Methodological notes		
Data source	All hotels and accommodation facilities as well as furnished hotel apartments and guesthouses registered with the Ministry of Tourism report monthly to the National Centre for Statistics and Information.	All hotels and accommodation facilities as well as furnished hotel apartments and guesthouses registered with the Ministry of Tourism report monthly to the National Centre for Statistics and Information.
Access to outputs/open data	Online dashboard.	Annual statistical tables.
Metadata	Available.	Available.

Comparability		
Spatial comparability	Not known.	Not known.
Time series	▪ From 2005 to 2021. ▪ Data on number of guests and guest nights is available till 2014. ▪ Data on wages and salaries and hotel revenue is available from 2012 to 2014.	▪ From 2009 to 2021. ▪ Data on number of hotels and hotel rooms is available from 2011 to 2022.
Comparability over time	Not known.	Not known.
International tourism database	No.	
INSTO	No.	

Sources: a) National Centre for Statistics and Information (n.d.), *Tourism*, online available at: https://data.gov.om/dedblxg/tourism?regions=1000020-muscat [29-05-2023].
b) Ministry of Heritage and Tourism (n.d.), *Statistics*, online available at: https://mht.gov.om/statistics [29-05-2023].

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5.5.4 Riyadh, Saudi Arabia

Inventory of data sources

	Statistics – accommodation services	Statistics – arrivals
Reporting agency		
Ministry of Tourism – Tourism Intelligence Centre [a]	■	■
Territorial scope		
Riyadh	■	■
Data available per category		
International and/or domestic tourism		
Number of domestic and international overnight visitors		■
Average lengthy of stay – domestic and international overnight visitors		■
Number of nights spent by domestic and international overnight visitors		■
Accommodation		
Average daily rate (ADR)	■	
Hotel occupancy	■	
Socioeconomics		
Visitor spending – domestic and international overnight visitors		■
Methodological notes		
Data source	Not known.	Not known.
Access to outputs/open data	Annual statistical tables.	Annual statistical tables.
Metadata	Not accessible.	Not accessible.
Comparability		
Spatial comparability	Not known.	Not known.
Time series	Data was received for the years 2021 and 2022.	Data was received for the years 2021 and 2022.
Comparability over time	Not known.	Not known.
International tourism database	No.	
INSTO	No.	

Source: a) Information was received from the Tourism Intelligence Centre of the Ministry of Tourism

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