Accessibility in tourist sites in Spain: Does it really matter when choosing a destination?

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Abstract

This work aims to analyse and characterise accessibility in tourism —defined as the conditions for people with access needs— and its relationship with tourism performance. Accessibility is a critical concept —to be defined and measured in a rigorous way— that helps shed light on the particularities of the phenomena, considering consumers and producers of tourism. Spain's solid background in accessible tourism portrays the possibility of elaborating different accessible indicators. We propose and identify an exhaustive set of proxy measures for accessibility under the accessible tourism theoretical framework of the tourism travel chain. We also computed an accessibility index using disaggregated data of 152 Spanish tourist sites (National Statistics Institute of Spain), introducing those measures of accessibility as explanatory variables in a model of tourism performance of sun and cultural destinations. Our results show that accessibility seems not to be a determinant in tourist sites' performance. Sun destinations have better tourism performances than cultural ones, having or not accessible conditions. The findings not only reveal the need to improve and consolidate accessible conditions in cultural destinations, but also disseminate and deepen information channels, especially for people with access needs, before choosing a destination.

Keywords: Accessibility, constraints, accessible tourism travel chain, tourism destination competitiveness, tourism performance

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Introduction

Over the last two decades, tourism researchers have shown particular interest in identifying, systematizing, and measuring variables that determine the competitive position of tourism destinations and their economic performance (Ritchie and Crouch, 2003; Dwyer and Kim, 2003; WEF, 2011). Some of these variables, such as sustainability, accessibility and technological issues, are crucial for economic and managerial decisions made by policymakers, destination managers, tourism entrepreneurs, and stakeholders (Domínguez Vila *et al.*, 2015, Pulido-Fernández and Rodríguez-Díaz, 2016; Porto *et al.*, 2018, 2019). Particularly, in this research, we focus mainly on one key issue named accessibility as the conditions which enable people with disabilities, seniors, pregnant women, among others, to use and enjoy environments, products, and services in equal conditions for everyone (UN, 2006; Darcy & Dickson, 2009). Accessibility is becoming an important strategic factor within the tourism industry (Darcy & Dickson, 2009; Domínguez Vila *et al.*, 2015; European Commission, 2014; Fernández Alles and Moral-Moral, 2011; Hernandez-Galán, 2017) and a reality that city governments have to face in designing fully inclusive cities, services, spaces, and information (Kiss *et al.*, 2015). In this sense, accessibility is understood as a condition which enables people with disability to live and participate in their daily life without barriers (UN, 2006; Darcy & Dickson, 2009), and a way to contribute with some of the Sustainable Development Goals —reduce inequality within and among countries, and make cities inclusive, safe, resilient and sustainable (UN, 2015). At the same time, it is considered a pillar of smart destination models (Segittur, 2015; Ivars-Baidal *et al.*, 2021) and holds a place in the measurement of competitiveness (Domínguez Vila *et al.*, 2015; Porto *et al.*, 2019) and, consequently, into the tourism performance of destinations.

Three primary facts illustrate why accessibility should be taken into account in tourism studies. First, more than a billion people —about 15% of the world's population—, are currently estimated to live with some form of disability (i.e. people with permanent and temporary disabilities and chronic diseases such as diabetes, cardiovascular diseases, cancer, and mental health disorders) (World Health Organization (WHO) & World Bank, 2011). Although the Global Disability Action Plan 2014–2021 (WHO, 2013) considers the importance of the collection of internationally comparable data on disability and its related services, this number has not been updated since 2011, and WHO (2020) is still referring to it as a worldwide disability population number. This figure is increased when we consider pregnant women, families with young children, seniors, among others. Second, the Convention on Rights of People with Disabilities includes universal design principles throughout accessibility, personal mobility, and participation in cultural life, recreation, leisure, and sport as specific rights for persons with disabilities (UN, 2006). Third, for the first time in history, by 2050, the number of senior citizens —those over 65 years old— will be higher than the number of children in the 0-14 aged group (European Commission, 2014). This reversing of the “population pyramid” (UN, 2019) is leading to significant social transformation in every area —including tourism and leisure— and will increasingly do so (Huber *et al.*, 2018). These facts show a growing population which face barriers regarding physical, sensory, intellectual, or mental impairments. This tendency shows a great need to make the services, buildings, and information accessible, available, and inclusive to everyone, especially in those areas related to tourism. Although the relevance of studying accessibility in the tourism field is clear and concise, the need of study accessibility on the tourism performance of destinations worldwide should be reinforced.

The aim of this research is to examine the relationship between tourist destinations' accessibility measures and their tourism performance. To do so, we propose different accessibility measures in the accessible tourism travel chain —defined as a series of supply-based transactions for tourism products, services, and experiences required by the accessible tourism market (Buhalis and Darcy, 2011; UNWTO, 2014). As a point of departure, we identify the constraints that people with access needs have to face

when traveling (before, during, and after the trip). This research is focused on Spain due to its international tourism importance and its worldwide disability and accessible tourism background (UNWTO, 2014). On the one hand, Spain is not only ranked number one in the World Travel and Tourism Competitiveness Index (World Economic Forum, 2019); in 2018 it was the second tourism destination in the world both in terms of international tourist arrivals (82.8 million) and receipts (64.4 billion euros). That year, tourism represented 11.7% of Gross Domestic Product and 12.8% of employment (INE, 2019a). International tourists come mainly from the United Kingdom, Germany, and France (INE, 2019a), the most important European source markets demanding accessible tourism (Miller, 2014). On the other hand, the country has promoted and developed several actions to improve the accessibility conditions in destinations as a way to gain competitiveness in the sector at different levels: improvements in the accessibility conditions on beaches or cultural heritage sites, the Queen Sofia Universal Accessibility Awards for Municipalities since 2005, and the Access City Award by the European Commission since 2011 (Domínguez Vila *et al.*, 2015; Darcy *et al.*, 2020). Even more, Spain is the only country in the world with a technical standard for the management of smart tourism destinations (UNE 178501 and 178502), being accessibility one of its five pillars.

The collection of data of this research encompasses two major sources: the use of the *tourist sites* dataset of Spain—which are defined as municipalities with a significant tourist offer by the National Statistics Institute of Spain (INE)—, and the elaboration of a set of indicators to represent the different stages of the accessible tourism travel chain considering previous literature and the availability of data. To estimate the effect of the accessibility on the tourism destination performance of the *tourist sites*, we use an econometric model with different specifications. As one of the main contributions of this study, the use of this dataset allows the identification of accessibility constraints and conditions in the accessible tourism travel chain at a municipal scale, contributing to the knowledge and expertise of researchers, stakeholders, travel agencies and tour operators, decision-makers, as well as Destination Management Organizations (DMO). Although studies on accessibility—be it those comparing countries or those which take a city as a study case—have gained worldwide relevance, there is no evidence of other studies using the whole disaggregated sample data of the *tourist sites*. Our study is an approach to fill the gap in the accessible tourism field and lays the foundations for future research on this topic.

The structure of the paper is the following. The next section presents a brief review of the literature on the access needs of people as consumers, the constraints they have to face, and the identification of relevant variables in the different stages in the accessible tourism value chain. Section Methodology deals with the data collection process. Afterwards the results are presented, followed by the discussion and concluding remarks.

Conceptual framework

The conceptual framework section is divided into two subsections. The first one summarises the different barriers that people with access needs face when they prepare and plan a journey to a destination, and then identifies the accessibility measures included in this research. Under the social model of disability, eliminating these barriers guarantees the rights of people with access needs when travelling and collaborates with the competitive advantages of destinations. The second subsection refers to the accessible tourism market in Spain, justifying the study case and reinforcing how universal accessibility could become a distinctive feature for the tourism industry in the country.

People with access needs: from constraints in the accessible tourism travel chain to competitive advantages

People with access needs —seniors, people with disabilities among which are reduced mobility or communicative, pregnant women, or those with temporary limitations— have the desire and the right to travel like everyone else (Yau, McKercher and Packer, 2004; Buhalis and Michopoulou, 2011; Blichfeldt and Nicolaisen, 2011; Michopoulou *et al.*, 2015). However, when people with access needs decide to experience tourism activities and travel to a destination, they may face situations and constraints that other people do not, which disproportionately affect them (Smith, 1987; Gassiot Melian *et al.*, 2018). Even simple trips, such as travelling to visit a museum or an exposition, could become extremely difficult (Liu *et al.*, 2016), and a wide variety of travel planning needs to be made days or months in advance (Buhalis and Darcy, 2011). For seniors aged 65 years old or over,¹ the lack of accessibility appears as an obstacle and constraint that prevent them from participating in tourism activities (Kazemina *et al.*, 2015; Huber *et al.*, 2018). Therefore, when people with access needs choose not to travel on holiday is sometimes due to the absence of reliable information, the lack of accessible services and places, and negative prior experiences (Buhalis and Michopoulou, 2011; European Commission, 2014). Among the reasons for not travelling, only 1% of people with disabilities identified their impairments (Darcy, 2010), while others cited communicational and environmental constraints as reasons (Daniels *et al.*, 2005).

Constraints in leisure and tourism have been studied deeply (Crawford and Godbey, 1987; Smith, 1987; Jackson, 1988; Hung and Petrick, 2012). Most authors consider that constraints can be classified into three types: intrapersonal, interpersonal, and structural (Crawford and Godbey, 1987; Smith, 1987). According to Smith (1987), the first is related to a tourist's skills, characteristics, and functioning level; the second, to communication and interaction with others; and the third, to the environment where the tourism experience occurs. Regarding specifically structural constraints, they are the tourism-inhibiting factors, predominantly external to the tourist, and imposed by social or physical conditions (Smith, 1987; Daniels *et al.*, 2005; Figueiredo *et al.*, 2012; Michopoulou and Buhalis, 2013).

The main barriers faced by people with access needs during its tourism experience refer to information, communication, infrastructure and transportation, buildings, attractions, sightseeing activities, and attitudinal barriers. They are disruptive and generate a break in the accessibility travel chain (Domínguez Vila *et al.*, 2020). Dependency, despair, despondency, and indignity are some of the uncomfortable feelings that people with disability should not experience if every stage of the travel chain were accessible (Patterson and Pegg, 2011; Poria *et al.*, 2009; Small and Darcy, 2011; Veitch and Shaw, 2011; Wang, 2011). However, three specific requirements allow people with disabilities to travel (Buhalis and Michopoulou, 2011): accessibility of physical or built environment, information regarding accessibility, and accessible information online (Buhalis *et al.*, 2005). Both the travel planning (access to information and booking processes) and the travel stage (physical access) are essential for the improvement of the quality of services as well as for complying with customers' needs (Buhalis *et al.*, 2005). According to Hernandez-Galán (2017), the lack of reliable accessibility information is the barrier that represents the most significant risk for tourists with access needs. The possibility to receive information about accessibility features at the tourism destination is a crucial quality criterion that will influence all tourists' decision-making and the booking process (Buhalis *et al.*, 2005). While families, friends, and associations are still the main sources of information, the use of the internet has gained an important place in choosing a destination to visit (Domínguez Vila *et al.*, 2020). Online information about accessibility is the first contact tourists have with their destinations; however, many tourism cities do not provide information on their official websites, are unclear, insufficient, or even hard to find on the website (Domínguez Vila *et al.*, 2017). Although sometimes questioned (Santana-Santana *et al.*, 2021), local public administrations of different countries —such as Spain, France or Argentina— have

developed a series of awards and voluntary accessibility certificates that allow them to differentiate themselves from other destinations in terms of accessible tourism and serve as a first-sight signal (Fernández Alles and Moral-Moral, 2011). In this way, accessible tourism appears as an opportunity in which people with access needs can enjoy new experiences, new challenges, and opportunities for social inclusion in addition to benefits to their physical and emotional well-being and social participation (McCabe, 2020; Buhalis and Darcy, 2011; Blichfeldt and Nicolaisen, 2011; Higgins Desbiolles, 2020).

In this sense, universal design and accessibility are needed when barriers appear in products, services, and environments (before, during, and after the trip). This shows the importance of having accessibility conditions on the whole travel chain as defined by Buhalis and Darcy, 2011, pp. 10-11:

"Accessible tourism is a form of tourism that involves collaborative processes between stakeholders that enables people with access requirements, including mobility, vision, hearing, and cognitive dimensions of access, to function independently and with equity and dignity through the delivery of universally designed tourism products, services, and environments. This definition adopts a whole of life approach where people through their lifespan benefit from accessible tourism provision."

Within the wide range of research studies on accessible tourism, Table 1 shows the variables of accessibility that have been included in studies which measure accessible tourism into destination competitiveness. Most of the studies have highlighted the opportunities that the accessible tourism market can lead to the competitiveness of a destination in terms of spending and seasonality, among others. Regarding people demanding accessibility, a study of the European market size showed that 70% of them have both the financial and physical capabilities to travel (Bowtell, 2015), and accessible tourism market is seen as an opportunity to attract new customers and increase tourism revenue at a time when conventional market segments are weaker (Chikuta *et al.*, 2019). That is reinforced by Domínguez Vila *et al.* (2015), who consider that the combined issues of disability and seniors create a powerful argument for the accessible tourism market, which all businesses must address to maintain their competitive advantage.

Among the different authors devoting their work to measuring accessibility into destination competitiveness –e.g., the political will of countries on accessible tourism, indicators of accessibility to measure the global destination competitiveness (Madeiros Barbosa, 2008; Figueiredo *et al.*, 2012; Domínguez Vila *et al.*, 2015; Pulido-Fernández and Rodríguez-Díaz, 2016; Porto *et al.*, 2017, 2019; and Porto and Rucci, 2019), Domínguez Vila *et al.* (2015); Porto *et al.* (2019); and Porto and Rucci (2019) are the most relevant. They measured accessible tourism into destination competitiveness, developed indicators, and collected data for different countries. Another contribution in this field is the theoretical setting of indicators representing the different stages of the accessible tourism travel chain provided by UNWTO (2015). There are a few works about accessibility and competitiveness that focus their study on a city or analyse them from a theoretical perspective (i.e., Kastenholz *et al.* (2012), Smith *et al.* (2013)). However, none of them comprises accessibility comparative measures in tourism municipalities from the same country.

Table 1. *Accessibility indicators included in competitiveness destination studies*

Tourism competitiveness	Competitiveness in accessible tourism	Indicators for assessing accessibility in tourism	Political will in accessible tourism	Tourism Accessibility Index (TAI)
(Madeiros Barbosa, 2008 & Ministry of Tourism of Brazil, 2015)	(Dominguez Vila, Darcy & Gonzalez Alen, 2015)	(UNWTO, 2015)	(Porto & Rucci, 2019)	(Porto, Rucci, Darcy, Garbero & Almond, 2019)
Dimensions and indicators				
Infrastructure	Core resource and attractors	Planning, prior information & booking	International tourism and disability's importance	General Information
General Infrastructure	Physiography and climate	Information web sites & booking	Importance of accessible tourism	Population, Area, Density, GDP, Human Development Index
Access	Mix of activities	Travel agencies	Population with disability	PWD
Tourism	Culture and history	Transportation from / to destination	Legal & Political recognition	Total Population with disabilities (% Total Pop.), different kinds of disabilities
Tourist equipment and services	Tourism superstructure	Transportation infrastructure	UN CRPWD ratification	Tourism
Tourist Attractions	Special events	Material transport (vehicles)	Inclusion of rights for PWD in the Constitution	International tourist arrivals, Inbounds, Expenditure, Receipts
Destination's promotion and marketing	Market ties	Transport operators	Tourism normative	Infrastructure
Public Policies	Entertainment	Accommodation	Disability normative	Nº International Airport, Accessible facilities main airline, Nº Domestic Airport
Public Policies	Supporting factors and resources	Hotels and similar establishments	Accessible Tourism normative	Accommodation with accessibility
Regional Cooperation	Accessibility	Hotel companies	National Tourism Organization	Accessibility to World Heritage Sites
Monitoring	Infrastructure	Food & Beverage	National Disability Organization	Nº of WHS fully and partially accessible (cultural, natural, and mixed)
Economy	Hospitality	Food & beverage establishments	Accessible Tourism Organization	Legal Framework
Local Economy		Food & beverage companies	Accessibility in tourist attractions	Adherence to International Treaties; National-Disability Law
Business capacity	Political will	Urban & Inter-urban transportation in destination	World Heritage Sites with access conditions	Disability National Organization; National-Tourism Organization
Sustainability	Qualifying and amplifying determinants	Infrastructure and station services		Accessible Tourism Lay and Organization
Social Aspects	Cost/Value	Bus stop transportation		Stats and Availability of information

Tourism competitiveness	Competitiveness in accessible tourism	Indicators for assessing accessibility in tourism	Political will in accessible tourism	Tourism Accessibility Index (TAI)
(Madeiros Barbosa, 2008 & Ministry of Tourism of Brazil, 2015)	(Dominguez Vila, Darcy & Gonzalez Alen, 2015)	(UNWTO, 2015)	(Porto & Rucci, 2019)	(Porto, Rucci, Darcy, Garbero & Almond, 2019)
Dimensions and indicators				
Environmental Aspects	Location	Material transport (bus, metro, tram)		Accessibility in official web sites, Information in web sites
Cultural Aspects	Safety/Security	Transport operators		Statistics
	Awareness/Image	Tourist environment		Building Code/Accessible transport law
	Destination planning and management	Tourist resources		Books/Guides of Accessible Tourism
	Quality of services/experience Positioning and branding	Public administration of tourism		
Methodology				
Data collection: questionnaire	Principal determinant and cluster analysis	Theoretical: indicators	Data collection: statistics, normative and policies	Data collection: statistics, normative and policies
Dimension of analysis				
13	17	-	11	4
Geographical units				
65 destinations of Brazil (capitals and non-capitals)	Australia and Spain (tourist regions and capitals)	-	Argentina, Brazil, Chile, Paraguay, Uruguay, and Venezuela	Argentina, Brazil, Australia, and New Zealand
Period				
2013-2015	2014	-	1990-2015	1990-2015

Note: (*) All the variables of Domínguez Vila *et al.* (2015) 's model are measured considering the number and level of accessibility.

Source: Elaborated by authors based on Madeiros Barbosa (2008), Domínguez Vila *et al.* (2015), UNWTO (2015), and Porto *et al.* (2019)

Under this framework, we propose and identify an exhaustive set of tourism accessibility variables (see subsection *Identification of accessibility variables*) which consider, on one side, the barriers that people with disabilities face in the stages of travel planning (access to information and booking processes) and, on the other, the difficulties that could arise in products, services and environments while travelling (physical access) (Buhalis *et al.*, 2005; Hernandez-Galán *et al.*, 2017). Figure 1 represents three stages: travel planning and decision making (stage 1), accessible conditions of destination (stage 2) and accessible conditions of tourist attractions (stage 3). It includes the collection of indicators that represents the accessible tourism travel chain on a tourism destination applied to tourist sites of Spain, referencing previous studies that have considered indicators such ours.

Figure 1. Accessibility measures at the different stages of the tourism value chain that influence tourism performance

In the same line, the theoretical framework presented in Figure 1 is extended to a practical one presented in Table 2 (subsection *Identification of accessibility variables*) which resumes the indicators chosen for this study corresponding to the stage of travel planning, their descriptions, values, and sources considered for this study.

Accessible tourism market in Spain

Although the Spanish tourism relevance has already been mentioned, there are several studies about tourists with access needs from different perspectives in the country (Domínguez Vila *et al.*, 2015; Gassiot Melian *et al.*, 2018; Hernandez-Galán *et al.*, 2017). The most recent research was conducted by ONCE Foundation (Hernandez-Galán *et al.*, 2017) and states that improving the conditions to satisfy the tourist with accessibility needs broadens the possibilities and opportunities for the tourism sector, increases the market share, and contributes to the diversification of services and products in destinations. An overview of the results shows that, from the demand side, 56% of Spanish tourists with access needs preferred sun and beach destinations on their national trip. However, only 66% of Spanish urban beaches have adapted access (Ministry for Ecological Transition of the Government of Spain (MITECO), 2019). The three main criteria to choose a destination are adequate treatment, information about accessible products and services, and mobility within facilities and establishments.

Meanwhile, people with disabilities travel almost as often as people without disabilities (94% travelled at least once in the last two years) and spend 28% more than the average. From the perception of the suppliers, results show that 9 out of 10 companies have customers with disabilities. However, 7 out of 10 believe the demand of these clients has no importance. According to a study of awards and quality certificates of accessibility on beaches of Spain, the deficiencies of the universal accessibility criteria reveal “poor access to the sea, a lack of adapted equipment and infrastructures, the seasonality of services and a scarcity of municipal initiatives that promote beach access” (Santana-Santana *et al.*, 2021:11). Even more, a recent study which measures the progress of smart tourism destinations from the Region of Valencia evidences that accessibility is the most complicated axis destinations have to achieve to become smart, showing that accessibility indicators are the dimension of smart destinations with the worst performance (51%) and with the greatest need of improvements (Ivars-Baidal *et al.*, 2021).

Universal accessibility could be a distinctive feature for the tourism industry in Spain (González Velasco, 2008; Fernández Alles and Moral-Moral, 2011; Domínguez Vila *et al.*, 2015). In particular, it could be materialised through the elimination of physical barriers on beaches (Dirección General de Costas, 2001; Yepes Piqueiras *et al.*, 2004), reinforcing the fact that those destination conditions bring several benefits of health and psychological well-being by increasing positive emotions (Peng *et al.*, 2016), whose effects are more significant on people with disabilities (Moore *et al.*, 2018; Cavanaugh *et al.*, 2013). According to Domínguez Vila *et al.* (2015), intrinsic tourist attractions of Spain, such as climate, local, and tourist structure, are the most critical factors for competitiveness in the accessible tourism market of the country. Destinations based only on a sun and beach model need a new focus and innovative products to help improve their competitiveness (Fraiz Bera *et al.*, 2008).

Materials and Methods

The methodology of this study comprises five steps (Figure 2), as follows: (1) theoretical framework; (2) definition of measures and indicators; (3) methodology; (4) results and analysis; and (5) discussions.

Figure 2. Research methodology

Identification of accessibility variables

One of the contributions of our paper is to propose and identify different measures to proxy accessibility under the accessible tourism framework of the tourism travel chain of Spanish *tourist sites*. Then, we introduce them as explanatory variables in a model of tourism performance at local destinations in those *tourist sites*, distinguishing between the sun and cultural destinations. According to literature (Table 1) and availability of data, we compute a set of measures that encompasses the most relevant ones, following the structure of Figure1 (see Table 2):²

- Accessibility web (acc_web): level of accessibility web with values from 0 to 10 according to Web Content Accessibility Guidelines (WCAG 2.0) (own elaboration using data from <http://examinator.net/>, 2019);
- Accessibility information (acc_info): dummy that represents the information about accessible facilities in the official tourism destination website (1 = the website has information; own elaboration using data from the official website of each tourism destination, 2019);
- Accessible hotel room (acc_hotel): percentage of hotel room adapted to the wheelchair (own elaboration using data from Booking, 2019);
- Accessibility award city (acc_city): dummy that represents accessibility' prizes received (1= city awarded by an accessibility prize; Royal Patronage on Disability, 2019, European Commission, 2019 and UNWTO, 2019);
- Accessibility in apps (acc_app): dummy that represents the presence of a tourism app with accessibility features containing information about accessible facilities (1 = the city has an accessible tourism app; own elaboration using data from official tourism destination websites).
- Accessibility on beaches (acc_beach): percentage of beaches with accessibility conditions (own elaboration using data from the Guide of beaches of Spain, Ministerio para la Transición Ecológica y el Reto Demográfico (MITECO), 2019);
- Accessibility in World Heritage Sites by UNESCO (acc_WHS): dummy that represents the inclusion of the WHS in the Accessible Heritage Cities League (own elaboration using data from <http://www.ciudadespatrimonioaccesibles.org/>, 2019).

The seven indicators previously described were summarised into a comprehensive measure of accessibility, representing an approach to the accessible tourism travel chain taking values from 0 to 7 (sum_acc_7). Accessibility web, accessible hotel rooms, and accessibility in beaches were transformed into dummies to compute the summary measure (considering values above and below the average value). That means that, for example, if the percentage of the accessible beaches of a tourist site is above the average, the variable takes a value of 1; and the other way around (if the percentage of the accessible beaches of the tourist site is below the average, it takes a value of 0.

Table 2. *Accessibility indicators considered for the study*

Indicators	Stages of the travel chain		Previous studies that have used similar indicators	Description of the indicator used in the research		
	Buhalis <i>et al.</i> (2005)	UNWTO (2015)		Description	Values	Source
Accessibility web	Access to information and booking processes	Planning, prior information & booking	Domínguez Vila & Darcy (2017); Akgül & Vatansever (2016); Porto <i>et al.</i> (2019); Domínguez Vila <i>et al.</i> (2020)	Level of accessibility web with values from 0 to 10 according to Web Content Accessibility Guidelines (WCAG 2.0)	0-10	Own elaboration using data from http://examinator.net/ , 2019
Accessibility information	Access to information and booking processes	Planning, prior information & booking	Eichhorn <i>et al.</i> (2008); Darcy (2010); Buhalis & Michopoulou (2011); Porto <i>et al.</i> (2019); Domínguez Vila <i>et al.</i> , 2017	Information about accessible facilities (such specific information, adapted accommodation, conditions of beaches, among others) in the official tourism destination website	0-1	Own elaboration using data from the official website of each tourism destination, 2019
Accessible hotel room	Access to information and booking processes	Accommodation	Darcy (2010)	Percentage of hotel room adapted to the wheelchair	0-45.92	Own elaboration using data from Booking, 2019
Accessible award city	Physical access	Tourist environment	Fernández and Moral-Moral (2011); INVAT-TUR (2019); Ivars-Baidal <i>et al.</i> (2021)	Accessibility' prizes received	0-3	Own elaboration using data from "Queen Sofia Universal Accessibility Awards for Municipalities," Royal Patronage on Disability, 2019; "Access City Award" European Commission, 2019; and "Accessible Tourism Destination," UNWTO, 2019
Accessibility in apps	Access to information and booking processes	Planning, prior information & booking	INVAT-TUR (2015); Ivars-Baidal <i>et al.</i> (2021); Rucci <i>et al.</i> (2021)	Existence of tourism app with accessibility features which contents information about accessible facilities	0-1	Own elaboration using data from official tourism destination websites
Accessibility on beaches	Physical access	Tourist resources	Santana-Santana <i>et al.</i> (2020); Santana-Santana <i>et al.</i> (2021)	Percentage of beaches with access conditions like accessible toilets, easy pathways to access to the beach, among others	0-100	Own elaboration using data from the Guide of beaches of Spain, Ministerio para la Transición Ecológica y el Reto Demográfico (MITECO), 2019
Accessibility in World Heritage Sites	Physical access	Tourist resources	Porto <i>et al.</i> (2017); Rucci (2018); Porto <i>et al.</i> (2019)	Inclusion of the World Heritage List by UNESCO into the Accessible Heritage Cities League	0-1	Own elaboration using data from http://www.ciudadespatrimonioaccesibles.org/ , 2019).

The model

After identifying and measuring the different accessibility dimensions of the accessible tourism travel chain in a destination, we analyse their relation with the tourism performance of destinations through an econometric approach. As a case study, the whole number of municipalities considered as *tourist sites* by the Statistics National Institute of Spain (Data by tourist sites. Demand, INE) were selected (152 Spanish *tourist sites* distributed into 51 provinces in 17 autonomous communities) (INE, 2019b-d). The analysis corresponds to the year 2019 (See Appendix 1).

We estimate, through Ordinary Least Square (OLS) methodology, the following model:

$$Tourism_i = \beta_0 + \beta_1 X_i + \beta_2 Tdestination_i + \beta_3 Accessibility_i + \beta_4 (Tdestination_i * Accessibility_i) + \mu_i$$

We proxy the tourism performance of *tourist sites* $Tourism_i$ by different measures: the total annual visitors per capita (Visitors); the total annual overnight stays per capita (Overnights); the percentage of annual hotel occupancy rate (Hotel); and the annual average Airbnb occupation rate (Airbnb). Visitors and overnights' indicators consider both domestic and international tourism. X_i refers to the group of control variables that characterise destinations as the usual determinants of tourism performance. In this case, *tourist sites* population over 1000 inhabitants (p1000) and annual municipal Gross Domestic Product per capita in euros (GDP_pc). Both represent the leading measures of the development of an area. This usually implies a higher quality of a wide range of services, which in turn, may constitute an attractor of tourism (Zamparini *et al.*, 2016). $Tdestination_i$ is a dummy that represents the predominance of the main typology of a tourism destination (d_td; 1 = Sun destination;).³ An alternative measure for proxy the sun or cultural destinations is the number of beaches (beach_n) and World Heritage Sites (WHS_n), respectively. $Accessibility_i$ includes the proxy variables described in subsection *Identification of accessibility variables*. Table 3 provides a simplified interpretation of the main coefficients.

Table 3. Interpretation of individual coefficients (*ceteris paribus*)

Betas	β_2	β_3	β_4
Representation	Sun or cultural destinations	Different measures of accessibility	Sun or cultural destination interacted with accessibility conditions
Interpretation	variation in the dependent variable as a consequence of the effect of sun destinations over cultural destinations	variation in the dependent variable as a consequence of an increase of accessibility (independent variable) by one unit	variation in the dependent variable as a consequence of the joint effect of the two variables acting together (sun and accessible destinations over the rest of destinations, (sun destinations without accessibility conditions, or cultural destinations with or without accessibility conditions))

Results

Descriptive analysis

This section gives some descriptive insights about the tourism performance, characterization variables, and accessibility measures in Spain, considering the tourism destination typology (Table 4). Focusing on population distribution among cities, the sample is divided into three types of cities: 'small cities'

(less than 25,000 inhabitants), 'medium-sized cities' (between 25,000 and 100,000 inhabitants), and 'large cities' (more than 100,000 inhabitants).

Table 4. *Descriptive statistics: characterization variables by the typology of tourism destination*

Variables	Sun		Cultural		Total	
	Number	%	Number	%	Number	%
Tourist sites (number)	74	48.68	78	51.32	152	100.00
Beaches (number)	958	76.21	299	23.79	1257	100.00
World Heritage Sites (number)	4	10.00	36	90.00	40	100.00
Information about accessible facilities on tourism destination' website	48	51.61	45	48.39	93	100.00
Accessible city	3	11.54	23	88.46	26	100.00
Accessible app	12	44.44	15	55.55	27	100.00
Accessibility in WHS	1	7.69	12	92.31	13	100.00
Mean (Std. Dv)						
Visitors related to population (number)	16.30 (15.28)		8.09 (12.10)		12.09 (14.30)	
Overnights related to population (number)	89.96 (99.57)		21.01 (35.20)		54.80 (81.53)	
Hotel occupancy rate (%)	64.47 (13.92)		50.05 (8.97)		57.07 (13.67)	
Airbnb average occupation (%)	49.88 (18.43)		41.54 (15.00)		45.60 (17.22)	
Population / 1000	50.03 (75.95)		193.97 (418.68)		123.90 (312.06)	
GDP per capita (euros)	24292.11 (4516.80)		25947.22 (4615.48)		25141.44 (4627.62)	
Accessibility web	2.21 (2.68)		2.02 (2.72)		2.11 (2.70)	
Adapted hotel	6.69 (4.50)		9.12 (7.93)		7.94 (6.58)	
Accessibility beach	45.44 (28.93)		13.00 (25.71)		28.80 (31.72)	
Summary of accessibility	1.69 (1.07)		2.05 (1.20)		1.88 (1.15)	

Although our sample is represented by 58 small cities, 53 medium cities, and 39 large cities, only two cities have more than one million inhabitants: Madrid and Barcelona, with more than 3.2 and 1.6 million

inhabitants, respectively. Almost half of the *tourist sites* are cultural (51.32%), and the other half are sun destinations (48.68%). However, if we consider mixed destinations, we find that 37.50% are sun destinations, 34.21% are cultural destinations, and 21.71% are sun and cultural destinations. Variables related to *tourist sites'* tourism performance (Visitors per capita and Overnight stays per capita — domestic and international—, Hotel occupancy rate and average Airbnb occupation) are higher for sun destinations than for cultural ones. Cultural destinations are mainly more populated than sun destinations, while the annual average of gross domestic product per capita in the *tourist sites* does not vary between types of destinations. Cultural destinations have better accessible conditions considering the value of the summary of accessibility. However, the conditions of accessibility vary depending on the individual indicators. As expected, cultural destinations have many cities awarded with an accessibility prize or have Accessible World Heritage Site than sun destinations. The same happens with the percentage of adapted rooms. Those indicators related to accessible websites, accessible tourism apps, or information about accessible facilities in the official tourism destination website have slightly great values for sun destinations.

One additional feature of the data is the analysis of the spatial pattern of the different specifications for tourism performance (panel a, Figure 3) and the accessibility indicators (panel b, Figure 3) by provinces of Spain. Provinces located along the coast of Spain have the greatest numbers of visitors and overnights per capita, focused on sun destinations of Cataluña, Islas Baleares, and Islas Canarias' regions. However, occupancy rate indicators are more uniformly distributed along with the country. Traditional occupancy rates have a more uniform distribution than the one corresponding to visitors and overnight stays per capita, with higher hotel occupancy rates on inland Andalucía or cultural destinations in Cantabria and País Vasco' regions, and higher Airbnb occupancy rates on cultural destinations in the regions of Castilla y León, Madrid, Aragón, and Andalucía. Accessibility indicators seem to be more homogeneously distributed alongside the country, being Castilla y León, Galicia, and País Vasco the provinces with the highest values of the summary of accessibility. The interesting fact is that information about accessible facilities on the tourism destination website seems to be present all around the country. Finally, most of cities in Castilla y León, La Rioja, Navarra, Extremadura, and Galicia awarded with accessibility prizes are cultural destinations.⁴

Estimations

Different specifications of the econometric models are presented in Table 5. Model 1 estimates the effect of the accessibility (*acc*)⁵ and tourism destination typology on the tourism performance of *tourist sites*. Model 2 introduces an interaction term between accessibility and tourism destination types. In contrast, Model 3 disaggregates the interaction term of Model 2 into the four possible combinations of accessibility conditions and type of destination (sun and accessible destinations, cultural and accessible destinations, sun and non-accessible destinations, and cultural and non-accessible destinations). Estimations were also done considering a transformation of the variables into logarithm, and with robust errors.

Several exercises were done to check the robustness of the estimations. We estimated the model with spending per tourist per day in the main autonomous community (INE, 2019d) and an index of tourism performance (weighted average of the four dependent variables already used) as alternative dependent variables. For independent variables, we include a broader typology of destinations, considering sun, cultural, and sun-cultural (mixed) destinations, and other control variables (such as the distance to tourist sites to Madrid or Barcelona, or different tourism endowments). Estimations results are available upon request but results regarding accessibility conditions, in general, remain unchanged.

Figure 3. Spatial distribution of tourism performance and accessibility by provinces. Spain

The coefficient of accessibility is not statistically significant or presents a negative sign, indicating a counterintuitive result in the spirit of the travel chain model of subsection *Accessible tourism market in Spain*. Nevertheless, one interesting feature is that sun destinations play an important role in the performance of tourism destinations because the coefficient is positive and statistically significant for all the specifications of the dependent variable (Model 1, Table 5). The estimations with the interaction term (Model 2) are in line with the aggregated results from Model 1. Finally, the coefficients for the combined effect of sun and accessible destinations (Model 3.c and 3.d) and the combined effect of sun and non-accessible destinations (Model 3.b and 3.d) are positive and statistically significant concerning the omitted variable (cultural and non-accessible cases), reinforcing the idea of the importance of the type of destinations and not the issue of accessibility. Regarding the interaction term of cultural and accessible destinations, results are not again as expected. Estimations that consider the effects of the summary indicator of accessibility (instead of the dummy variable) over-tourism performance of *tourist sites* show similar results to the previous ones.⁶ As the main conclusion, accessibility seems not to have an explicit role in our models.

We also consider a different specification for the type of destinations: the number of beaches and World Heritage Sites (WHS) as a proxy of sun and cultural destinations, respectively (Table 6). Model 4 (a-d) considers accessibility as a dummy variable and. Model 5 (a-d) adds an interaction term between accessibility and the proxies of types of destinations. Results reinforce the findings of Model 1 and 2 (Table 5), showing that accessibility is not a variable that tourists evaluate —along the travel chain previously explained— when they decide to travel and choose a destination.

Some robustness additional exercises with different specifications were done to investigate thoroughly the individual indicators of accessibility conditions described in subsection *Identification of accessibility variables*. However, results show that these indicators, in general, do not have a significant influence on the tourism performance of *tourist sites*. Also, when the accessibility indicator interacts with the destination typology variable, we conclude that sun destinations, with or without accessibility, better capture the destination's performance. It is worth mentioning that some interesting features deserve a more profound analysis. For example, when we consider disaggregating total overnights into domestic and international overnight stays per capita (INE, 2019b) —as an additional dependent variable—, information about accessible facilities on the official website of tourism destinations seems to play an important influence in sun and cultural destinations indistinctly, even if the tourism destination is highly-regarded for its beaches and WHS. When the interaction term between accessible information on websites and destination typology is estimated, domestic overnights related to population are 22.8 higher in sun accessible destinations. That is in line with previous literature, which indicates that 70% of trips of people with disabilities and seniors in Europe were domestic (Miller, 2014; European Commission, 2014); and which considers that information about accessible facilities as one of the first criteria to choose a destination (Hernandez-Galán *et al.*, 2017; Buhalis, 2005).

Table 5. Model 1 to 3 (a-d) estimations. Predominance of typology destination (dummy)

Models	Model 1				Model 2				Model 3			
	visitors	overnights	Hotel	Airbnb	visitors	overnights	Hotel	Airbnb	visitors	overnights	Hotel	Airbnb
prooo	-0.00409 (0.00385)	-0.0015 (0.0213)	0.00499 (0.00327)	0.0121*** (0.00446)	-0.00404 (0.00390)	-0.0125 (0.0216)	0.00475 (0.00331)	0.014** (0.00449)	-0.00404 (0.00390)	-0.0125 (0.0216)	0.00475 (0.00331)	0.014** (0.00449)
GDP_PC	-0.000307 (0.000257)	-0.00145 (0.00142)	0.000601*** (0.000218)	0.00107*** (0.000297)	-0.000308 (0.000258)	-0.00142 (0.00142)	0.000607*** (0.000219)	0.00109*** (0.000296)	-0.000308 (0.000258)	-0.00142 (0.00142)	0.000607*** (0.000219)	0.00109*** (0.000296)
destination	6.192*** (2.221)	61.31*** (12.30)	15.99*** (1.886)	11.96*** (2.569)	5.901* (3.507)	67.02*** (19.35)	17.30*** (2.974)	15.79*** (4.035)				
typology												
accessibility	-6.634*** (2.266)	-26.56*** (12.53)	-1.058 (1.924)	0.746 (2.621)	-6.890** (3.285)	-21.52 (18.20)	0.0975 (2.786)	4.099 (3.780)				
interaction					0.484 (4.494)	-9.515 (24.85)	-2.189 (3.812)	-6.355 (5.171)				
SA									-0.505 (3.377)	35.98* (18.57)	15.21*** (2.864)	13.55*** (3.886)
SNA					5.901* (3.507)	67.02*** (19.35)	17.30*** (2.974)	15.79*** (4.035)				
CA												
Constant	21.35*** (6.590)	78.70** (36.39)	34.21*** (5.596)	10.90 (7.623)	21.54*** (6.858)	74.85** (37.85)	33.33*** (5.817)	8.325 (7.892)				
Observations	152	151	152	152	152	151	152	152				
R-squared	0.171	0.222	0.346	0.235	0.171	0.223	0.348	0.243	0.171	0.223	0.348	0.243

Standard errors in parentheses, ** p<0.01, * p<0.05, * p<0.1 Note: interaction means the interaction term between destination typology and accessibility; SA means Sun and Accessible destinations; SNA means Sun and Non-Accessible destinations; and CA means Cultural and Accessible destinations

Table 6. *Model 4 to 5 (a-d) estimations. Beach and WHS as a proxy of sun and cultural destinations*

Models	Model 4				Model 5			
Variables	(a) visitors	(d) overnight s	(a) Hotel	(b) Airbnb	(c) visitors	(d) overnight s	(a) Hotel	(b) Airbnb
p1000	-0.00491 (0.00393)	-0.0224 (0.0226)	0.000743 (0.00386)	0.00962** (0.00470)	-0.00507 (0.00396)	-0.0231 (0.0226)	0.000420 (0.00384)	0.00963** (0.00469)
GDP_PC	-0.000330 (0.000265)	-0.00147 (0.00152)	0.000587** (0.000260)	0.00108*** (0.000316)	-0.000347 (0.000267)	-0.00158 (0.00152)	0.000554** (0.000259)	0.00106*** (0.000316)
WHS_n	-3.587 (2.316)	-27.16** (13.36)	-1.900 (2.275)	-3.938 (2.767)	2.985 (5.782)	-22.87 (32.94)	-9.102 (5.601)	-10.70 (6.838)
beach_n	-0.00212 (0.105)	0.705 (0.602)	0.304*** (0.103)	0.197 (0.125)	0.246 (0.152)	2.040** (0.867)	0.414*** (0.147)	0.269 (0.180)
accessibility	-6.453*** (2.356)	-25.19* (13.53)	-1.602 (2.315)	0.818 (2.815)				
interaction between WHS and accessibility					-8.137 (5.997)	-6.214 (34.23)	8.174 (5.809)	8.095 (7.092)
interaction between beaches and accessibility					-0.342** (0.168)	-1.974** (0.957)	-0.189 (0.163)	-0.136 (0.199)
Constant	25.90*** (6.766)	111.0*** (38.84)	41.18*** (6.648)	16.28** (8.086)	21.96*** (6.830)	96.71** (38.91)	41.07*** (6.616)	17.07** (8.078)
Observations	152	151	152	152	152	151	152	152
R-squared	0.141	0.130	0.094	0.154	0.133	0.135	0.111	0.164

Note: interaction WHS means the interaction term between WHS and accessibility; interaction beach means the interaction term between beaches and accessibility.

Discussion and concluding remarks

Defining and measuring accessibility is a challenge and a pending account in the field of accessible tourism research. Although existing literature has studied issues regarding tourism accessibility for a while, one step ahead of this paper is to enhance the existing theory regarding the relationship between accessibility constraints for people with access needs, the accessible tourism travel chain, and its impact on the tourism performance of destinations.

This paper aims to analyse and characterise accessibility in tourism conditions for people with access needs in Spain's *tourist sites* and their relationship with the local tourism performance. Our research identified just a few previous accessible tourism studies that measure accessibility into destination competitiveness models. After that, we identified the indicators and variables of accessibility considered in those studies: competitiveness, performance, and tourism travel chain, as mentioned in Table 1. From the theoretical framework (Table 1) and taking into account the availability of data, we elaborate a set of indicators to represent the different stages of the accessible tourism travel chain (Figure 2 and Table

2). Considering the lack of reliable information about accessible conditions, one contribution of our paper is the identification and measurement of a set of proxies of accessibility that represent an approach to the accessible travel chain of a destination and then its relationship with tourism performance. We select the case of Spain due to its paradigmatic strong background in disability and accessible tourism policies and regulations (UNWTO, 2014). Besides, previous literature considers the accessibility of this country as a competitive advantage and as an axis into smart destinations strategies (Domínguez Vila *et al.*, 2015; Segittur, 2015; Ivars-Baidal *et al.*, 2021). We found that none of the tourist sites reached the highest accessibility value; however, the cities of Ávila and Barcelona were pointed 5, which are the greatest values for the summary of accessibility. Although descriptive results indicate that cultural sites are relatively well-endowed with accessibility conditions, most of the specifications of our econometric models strongly support the sun preference of consumers. This result goes in line with literature regarding tourists with access needs (Hernandez-Galán *et al.*, 2017; Blichfeldt and Nicolaisen, 2011), and neglects that accessibility really matters for performance tourism. While people with and without access needs prefer sun destinations (Hernandez-Galán *et al.*, 2017), conditions of accessibility in inland provinces of Spain with cultural predominance are better. It is the typology of the destination and not its accessible conditions that make the difference.

This study has practical implications. On one side, attracting accessible tourism market to cultural destinations could help Spain to diversify and potentiate the country's tourism offer and have better tourism performance in those destinations —competitive advantages over sun destinations—. On the other side, all the destinations should be working on giving visibility to their current accessibility conditions and also improving new ones. Tourism stakeholders need to minimise or remove barriers to boost the competitiveness of a destination (Yau, McKercher and Packer, 2004; Darcy, 2004), while policymakers must include accessibility in their decision-making process to plan accessible, sustainable, and smart cities (Ivars-Bidal *et al.*, 2021; UN, 2015), ensuring the means and instruments to have a tangible impact on the society.

Although accessibility is an issue embroiled in the public agenda of tourism (UNWTO and Sustainable Development Goals), it appears as a challenge for destinations. Accessibility is a right that must be included in all activities and services offered. However, what is learned from this study as practical implications is that stakeholders, travel agencies, tour operators, and DMO of all countries, need to identify and cater more to the heterogeneous needs of tourists with access needs; at the same time, they should also provide precise and trustable, specific, personalised, easily accessible and readily available information or even an inventory of the current offer in terms of infrastructure, services and possibilities for improvement. Destinations should ask for feedback from people with access needs about the tourist experience within the destination to gradually improve the offer, include accessibility in long-term planning and investments, and reach an accurate, current, and practical impact. Those destinations that already have accessibility conditions should improve marketing and advertising strategies by considering accessibility features to promote the destination for specific groups of people. Stakeholders and DMO's should articulate to provide the accessible tourism service through a global approach to facilitate information, services, and a good experience for people with access needs.

It is worth highlighting that this study is focused on studying the accessibility conditions of destinations. Such conditions can make cities gain or lose the accessible tourism market and, therefore, become more competitive, not in considering motivations or preferences of people with disabilities when choosing a destination. There is still some area of vacancy in the literature to be considered in future studies. However, the lack of reliable and trustable related data is one of the main limitations of this study as previous ones in this field (Domínguez Vila *et al.*, 2015; Porto and Rucci, 2019; Porto *et al.*, 2019). Although our study is limited to Spain, we consider that the theoretical framework analysed and

the alternative measures of accessibility proposed could be replicated to other places around the world, considering their own different contexts and particularities. In the case of Spain, it is mandatory to expand on some issues related to transforming constraints into competitive advantages through the application of the principles of universal design even though tourists that visit Spain seem not to care about accessible conditions. The background is solid, but there is always room for improvement.

Researchers should, therefore, learn, evaluate, and discuss both, theoretically and empirically, not only about the awareness of the diversity of access needs and patterns of travel behaviour across different groups and countries, but also across individuals within groups. In this sense, to target them most appropriately, in the discussion of the relationship about accessibility in destinations, inclusion, and competitiveness.

Endnotes

¹ Some literature criteria define 'senior' as those over 50 to 65 years old. However, most of them agree on considering 65 and older as of the official retirement age in many countries (Sert, 2019).

² A measure of the legal framework regarding accessibility regulations and legislation (Stage 2, Figure 1) was not included because regulations and legislation related to the most relevant features of the rights of people with disabilities are homogeneous all around the country.

³ This variable highlights the predominance of the tourism destination typology. The tourist sites could have both sun and cultural attractions.

⁴ Herfindahl–Hirschman Index (HHI) (Hirschman, 1964) was computed to visitors per capita, overnights per capita, and the summary of accessibility. The HHI's results for the first two variables show a significant concentration ($HHI > 1$) and a low concentration for the summary of accessibility ($HHI < 1$).

⁵ We transform the summary of the accessibility variable (sum_acc_7) into a dummy (acc) with values 1 and 0. "Acc" equals 1 means that the value of the summary accessibility of the tourist site is above the average, and the other way around for "Acc" equals 0.

⁶ Results are available upon request.

Appendix 1

Tourist site	Region	Sun	Cultural	acc_web	acc_info	acc_city	acc_hotel	acc_beach	acc_WHS	acc_app
Adeje	Canarias	1	0	0	1	0	5.6	64.71	0	0
Albacete	Castilla-La Mancha	0	1	4.7	1	0	18.75	0	0	0
Albarracín	Aragón	0	1	0	0	0	2.43	0	0	0
Alcalá de Henares	Madrid	0	1	0	0	0	16.22	0	1	1
Alcudia	Islas Baleares	1	0	0	1	0	4.8	28.57	0	0
Algeciras	Andalucía	1	0	6.8	1	0	7.41	66.67	0	0
Alicante/Alacant	Comunidad Valenciana	1	0	0	1	0	9.09	38.46	0	1
Almería	Andalucía	0	1	0	1	0	9.2	56.25	0	0
Almonte	Andalucía	0	1	5.4	1	0	40	33.33	0	0
Almuñecar	Andalucía	1	0	5	1	0	4.25	61.11	0	0
Antigua	Canarias	1	0	7.5	0	0	11.11	33.33	0	0
Arcos de la Frontera	Andalucía	0	1	5.5	0	0	3.37	0	0	0

Tourist site	Region	Sun	Cultural	acc_web	acc_info	acc_city	acc_hotel	acc_beach	acc_WHS	acc_app
Arnuero	Cantabria	0	1	0	0	0	0	50	0	0
Arona	Canarias	1	0	5	1	1	0	70	0	1
Ávila	Castilla y León	0	1	5.3	1	1	7.02	0	1	1
Badajoz	Extremadura	0	1	6.2	0	1	35.29	0	0	0
Barbate	Andalucía	1	0	0	0	0	4.17	16.67	0	1
Barcelona	Cataluña	0	1	7.8	1	1	14.64	100	0	0
Begur	Cataluña	1	0	0	1	0	1.77	44.44	0	0
Benalmádena	Andalucía	1	0	3.9	1	0	7.17	43.75	0	0
Benasque	Aragón	0	1	0	0	0	4.12	0	0	0
Benicassim	Comunidad Valenciana	1	0	0	1	0	5.83	100	0	1
Benidorm	Comunidad Valenciana	1	0	0	1	0	1.52	60	0	0
Bilbao	País Vasco	0	1	5	1	1	9.09	0	0	0
Burgos	Castilla y León	0	1	0	1	1	6.25	0	0	0
Cáceres	Extremadura	0	1	0	1	1	0	0	1	1
Cadaqués	Cataluña	1	0	4.3	0	0	4.12	69.23	0	0
Cádiz	Andalucía	0	1	0	1	0	5.85	66.67	0	0
Calella	Cataluña	1	0	6.4	1	0	8.65	66.67	0	0
Calvia	Islas Baleares	1	0	0	1	0	12.77	80	0	0
Cambrils	Cataluña	1	0	0	0	0	1.09	87.5	0	0
Cangas de Onís	Asturias	0	1	0	0	0	4.48	0	0	0
Capdepera	Islas Baleares	1	0	0	0	0	12.12	20	0	0
Carboneras	Andalucía	1	0	6.8	1	0	9.38	42.86	0	0
Cartagena	Murcia	0	1	0	1	0	45.92	26.03	0	0
Castelldefels	Cataluña	1	0	6.3	1	0	7.76	100	0	0
Castellón de la Plana	Comunidad Valenciana	1	0	4.1	1	0	10.92	100	0	0
Castell-Platja d'Aro	Cataluña	0	1	5	0	0	7.05	0	0	0
Cazorla	Andalucía	0	1	5.3	1	0	8.46	0	0	0
Chiclana de la Frontera	Andalucía	1	0	0	0	0	3.23	75	0	0
Chipiona	Andalucía	1	0	4.9	0	0	15.38	50	0	0
Ciudad Real	Castilla-La Mancha	0	1	0	1	0	21.74	0	0	0
Ciudadella de Menorca	Islas Baleares	1	0	5.5	1	0	6.31	0	0	0

Tourist site	Region	Sun	Cultural	acc_web	acc_info	acc_city	acc_hotel	acc_beach	acc_WHS	acc_app
Conil de la Frontera	Andalucía	1	0	0	0	0	8.05	37.5	0	1
Córdoba	Andalucía	0	1	0	1	0	1.6	0	1	0
Coruña (A)	Galicia	0	1	5.2	1	0	13.04	60	0	1
Cuenca	Castilla-La Mancha	0	1	0	1	0	7.61	0	1	1
Denia	Comunidad Valenciana	1	0	5.6	1	0	6.14	30.77	0	0
Donostia-San Sebastián	País Vasco	0	1	0	1	0	4.88	50	0	0
Eivissa	Islas Baleares	1	0	4	1	0	4.56	60	1	1
El Puerto de Santa María	Andalucía	0	1	4.7	0	0	1.69	42.86	0	0
Elche/ Elx	Comunidad Valenciana	0	1	0	1	1	9.09	83.33	0	0
Estepona	Andalucía	1	0	0	0	0	5	58.33	0	0
Formentera	Islas Baleares	1	0	0	1	0	3.17	8.33	0	0
Fuengirola	Andalucía	1	0	4.8	1	0	5.39	100	0	0
Gandía	Comunidad Valenciana	1	0	0	1	0	11.39	25	0	1
Gijón	Asturias	0	1	0	1	0	8.16	71.43	0	0
Girona	Cataluña	0	1	5.2	1	0	3.47	0	0	1
Granada	Andalucía	0	1	5	1	0	7.73	0	0	0
Grove (O)	Galicia	1	0	0	0	0	6.94	20	0	0
Guadalajara	Castilla-La Mancha	0	1	0	1	0	15	0	0	0
Huesca	Aragón	0	1	0	1	0	8.7	0	0	0
Jaca	Aragón	0	1	5	0	0	10.96	0	0	0
Jerez de la Frontera	Andalucía	0	1	4.1	0	1	5.97	0	0	0
Las Palmas de Gran Canaria	Canarias	1	0	5.5	1	0	2.25	22.22	0	0
León	Castilla y León	0	1	0	0	0	7.02	0	0	0
Llanes	Cataluña	0	1	5.1	1	0	8.01	21.05	0	0
Lleida	Asturias	0	1	0	0	1	3.02	0	0	0
Lloret de mar	Cataluña	1	0	0	1	0	12.9	15.38	0	0
Llucmayor	Islas Baleares	1	0	0	1	0	4.42	14.29	0	1
Logroño	La Rioja	0	1	0	1	1	4	0	0	0

Tourist site	Region	Sun	Cultural	acc_web	acc_info	acc_city	acc_hotel	acc_beach	acc_WHS	acc_app
Lugo	Galicia	0	1	0	1	1	5.83	0	0	1
Madrid	Madrid	0	1	0	1	0	2.88	0	0	1
Málaga	Andalucía	0	1	4.4	1	1	5.38	75	0	0
Marbella	Andalucía	1	0	0	0	0	2.63	37.04	0	0
Mazarrón	Murcia	1	0	4.6	1	0	3.7	21.25	0	1
Mérida	Extremadura	0	1	5.6	1	0	6.08	0	1	1
Mogán	Canarias	1	0	0	1	0	4	31.58	0	0
Mojácar	Andalucía	1	0	0	1	0	5.75	57.14	0	0
Monachil	Andalucía	0	1	0	0	0	8.92	0	0	0
Murcia	Murcia	0	1	0	1	1	10.34	0	0	0
Muro	Islas Baleares	1	0	0	0	0	9.32	100	0	0
Naut Arán	Cataluña	0	1	0	0	0	9.04	0	0	0
Nerja	Andalucía	1	0	0	0	0	5.7	18.75	0	0
Níjar	Andalucía	1	0	0	1	0	6.43	11.54	0	0
Oliva (La)	Canarias	1	0	0	0	0	5.43	33.33	0	0
Oropesa del Mar/Oropesa	Comunidad Valenciana	1	0	5.2	1	0	9.52	57.14	0	0
Ourense	Galicia	0	1	0	0	0	11	0	0	0
Oviedo	Asturias	0	1	0	0	0	13.64	0	0	0
Pájara	Canarias	1	0	0	0	0	6.25	20	0	0
Palafrugell	Cataluña	1	0	5.1	0	0	6.35	20	0	0
Palencia	Castilla y León	0	1	8	0	1	7.28	0	0	0
Palma de Mallorca	Islas Baleares	1	0	4.7	1	0	6.67	25	0	1
Pamplona/Irún	Navarra	0	1	0	0	1	7.92	0	0	0
Peñíscola	Comunidad Valenciana	1	0	0	1	0	5.29	6.67	0	0
Plasencia	Extremadura	0	1	0	0	1	9.38	0	0	0
Pollença	Islas Baleares	1	0	4.6	0	0	0.63	25	0	0
Ponferrada	Castilla y León	0	1	0	0	0	7.5	0	0	0
Puerto de la Cruz	Canarias	1	0	5.5	1	0	6.82	100	0	0
Ribadeo	Galicia	1	0	6	0	0	6.67	14.29	0	0
Ribadesella	Asturias	1	0	0	1	1	11.11	80	0	0
Ronda	Andalucía	0	1	5.7	1	0	3.78	0	0	0
Roquetas de Mar	Andalucía	1	0	0	1	0	8.49	88.89	0	0

Tourist site	Region	Sun	Cultural	acc_web	acc_info	acc_city	acc_hotel	acc_beach	acc_WHS	acc_app
Roses	Cataluña	1	0	5.8	1	0	6.61	33.33	0	0
Sabiñanigo	Aragón	0	1	6.1	0	1	0	0	0	1
Salamanca	Castilla y León	0	1	0	1	0	5.64	0	1	1
Sallent de Gállego	Aragón	0	1	6.2	0	0	10.25	0	0	0
Salou	Cataluña	1	0	0	1	0	5.4	30	0	0
San Bartolomé de Tirajana	Canarias	1	0	0	1	0	0	24	0	0
San Javier	Murcia	1	0	0	1	0	0.85	40	0	0
Sant Antoni de Portmany	Islas Baleares	1	0	0	0	0	6.96	0	0	0
Sant Josep de sa Talaia	Islas Baleares	1	0	0	0	0	1.2	40.54	0	0
Sant Llorenç des Cardassar	Islas Baleares	1	0	0	1	0	4.5	100	0	0
Santa Cruz de Tenerife	Canarias	1	0	6.7	1	0	3.64	5.88	0	0
Santa Eulalia del Río	Islas Baleares	1	0	0	0	0	6.95	38.1	0	0
Santa Margalida	Islas Baleares	1	0	4.7	0	0	8.7	28.57	0	0
Santa Susanna	Cataluña	1	0	0	1	1	3.59	100	0	0
Santander	Cantabria	1	0	0	0	0	23.53	69.23	0	0
Santanyí	Islas Baleares	0	1	0	1	1	3.57	14.29	1	1
Santiago de Compostela	Galicia	0	1	0	0	0	8.8	0	0	0
Santillana del Mar	Cantabria	0	1	0	0	0	5.91	0	0	0
Sanxenxo	Galicia	1	0	4.1	0	0	25	59.26	0	0
Sarria	Galicia	0	1	6.5	1	1	3.92	0	1	0
Segovia	Castilla y León	0	1	0	0	0	3.57	0	0	0
Ses Salines	Islas Baleares	0	1	0	1	0	3.45	16.67	0	1
Sevilla	Andalucía	0	1	0	0	0	8.11	0	0	0
Sigüenza	Castilla-La Mancha	0	1	5.2	1	0	5.76	0	0	0
Sitges	Cataluña	1	0	0	1	0	3.57	68.42	0	0

Tourist site	Region	Sun	Cultural	acc_web	acc_info	acc_city	acc_hotel	acc_beach	acc_WHS	acc_app
Son Servera	Islas Baleares	1	0	5.4	1	0	16.25	28.57	0	0
Soria	Castilla y León	0	1	0	1	0	8.77	0	0	0
Suances	Cantabria	1	0	5.8	0	0	2.33	50	0	0
Tarifa	Andalucía	1	0	0	1	0	7.87	37.5	0	1
Tarragona	Cataluña	0	1	0	1	0	9.46	60	1	0
Teguise	Canarias	1	0	4.5	1	0	7.56	18.18	0	0
Teruel	Aragón	0	1	2.6	0	0	18.75	0	0	0
Tías	Canarias	1	0	0	0	0	9.25	63.64	0	1
Toledo	Castilla-La Mancha	0	1	0	1	0	6.22	0	1	0
Torremolinos	Andalucía	1	0	0	1	0	6.15	50	0	0
Tossa de Mar	Cataluña	1	0	0	1	0	6.43	7.14	0	0
Trujillo	Extremadura	0	1	3.7	0	0	7.89	0	0	1
Úbeda	Andalucía	0	1	0	1	0	5.56	0	1	1
Valencia/Vallencia	Comunidad Valenciana	0	1	0	1	1	3.3	77.78	0	0
Vall de Boi (La)	Cataluña	0	1	0	1	0	16.67	0	0	0
Valladolid	Castilla y León	0	1	0	0	1	6.85	0	0	0
Vielha e Mijarán	Cataluña	0	1	0	1	0	2.08	0	0	0
Vigo	Galicia	0	1	6.7	1	1	12.35	59.46	0	0
Vitoria-Gasteiz	País Vasco	0	1	0	1	1	6.31	0	0	0
Viveiro	Galicia	0	1	0	0	0	15.38	50	0	0
Yaiza	Canarias	1	0	4.3	1	0	3.33	12.12	0	0
Zafra	Extremadura	0	1	5.1	0	0	23.53	0	0	0
Zamora	Castilla y León	0	1	0	0	0	10.64	0	0	0
Zaragoza	Aragón	0	1	7.2	1	0	9.92	0	0	0

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