SUSTAINABLE TRANSPORT AND TOURISM DESTINATIONS

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SUSTAINABLE TRANSPORT AND TOURISM DESTINATIONS

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CHAPTER 1

INTRODUCTION

Luca Zamparini and Ila Maltese

ABSTRACT

The relationship between transport and tourism is very complex to analyze due to mutual causality. Nonetheless, it is worthwhile investigating it, especially paying attention to sustainable mobility, due to the need to minimize the externalities of transport, which can otherwise reduce the attractiveness of a tourism destination. To this aim, after a brief overview of different analytical frameworks, this chapter focuses on transport at destination and sustainable mobility options, such as local public transport (PT) and active modes (walking and cycling). In particular, it provides some insights from the literature about both tourists' mobility patterns — by taking into account both psychological aspects of tourism experience and the localization of the amenities — and specific modal choices, more focused on the impact of transport on the environment. It then concludes by presenting short summaries of each chapter of the book, in order to provide an overview of the investigated topics, which are dealing with both geographical (islands, coastal areas, natural areas) and management/administration (technical solutions, PT provision, transport demand) issues.

Keywords: active transport modes; mobility patterns; modal choice; public transport; sustainable mobility; transport for tourism

The relationship between transport and tourism is very complex to analyze (Page & Ge, 2009), due to reasons that are both theoretical, given the strong mutual causality between the two sectors, and empirical, as it is often difficult to distinguish whether the user of the transport service is a tourist or not. Consequently,

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although there are several studies dealing with this connection, they end up privileging one of the two perspectives (tourism or transport). An interesting exception was represented by the holistic and multidisciplinary approach of Page (2005), according to which the analysis of the relationship between transport and tourism should consider three main aspects: actually, not only transport clearly encourages and facilitates tourism (transport for tourism) but also tourism promotes the development of the transport sector (tourism for transport), in terms of new technologies, new forms of marketing, product development (e.g., as the complete package including accommodation and travel). Moreover, when carried out on specific means of transport, the trip itself becomes a tourism experience (transport is tourism).

Focusing on the first causal nexus, it is quite evident the importance of "transport" as a part of the "destination" tourism product (together with accommodation, catering, and all collateral services). More specifically, it could be worthwhile to distinguish between the different types of transport services that can be used by tourists, as they deal not only with different mobility patterns and different transport modes, but also with different aspects of the destination itself. First of all, the definition itself of tourism, "traveling to and staying in places outside one's own usual environment" for not more than one consecutive year (and not less than 24 hours) for leisure, business and other purposes (WTO, 1995) highlights the need to cover a certain distance that can be satisfied by the transport sector.

Transport from the origin to the tourist destination is thus the main theme, dealing with a multi-faceted concept of the tourist destination accessibility, which heavily depends on the presence of infrastructures and their intermodality level (physical dimension), on the tariffs system (economic dimension), and on the information level (communication dimension). More broadly speaking, the improvement in efficiency and the decrease of cost of the different modes of transport (Culpan, 1987; Duval, 2007) has allowed to reduce distances and times and to increase the service capacity, Jointly with some socio-economic (more leisure time and higher income) and regulatory (e.g., the liberalization of passenger movement) changes, such improvements in transport have allowed the development of mass tourism. Moreover, the increase in average income of individuals and the consequent possibility of having a car has led to the development of shorter and medium-range tourism.

Another topic that has attracted the attention of both scholars and practitioners is related to the transport activities between multiple tourist destinations. Once arrived at the main destination, tourists may want to visit other places not far from each other or they may have made prior arrangements in order to stay at a central location from which it is possible to make excursions to neighboring places (Plog, 1974). This implies to focus on the infrastructure for rail or bus services running from one location to another and strengthening the degree of connectivity among the different locations. In other cases, tourists choose a unique destination for their journey, arousing the interest on Transport within tourist destinations, which in most cases becomes part of the tourism product. The local public transport (PT) plays a crucial role, since it deals with several interesting aspects for tourism: (a) the management of feeder services for the major transport

infrastructures (airports, railway, and maritime stations, etc.); (b) the capillarity of the service, with respect to the amenities of the tourist destination; (c) the tariff integration, together with special offer for tourists; (d) the multilingual and technological management of the information and communication service, both on-site (announcements and signs), and remotely (website) which allows displaying maps, pedestrian and cycle paths. Furthermore, due to the shorter distance to be covered, local PT can be easily replaced by walking or cycling. In any case, it is quite evident that the sustainable mobility choices at this stage are crucial also for residents and for the attractiveness of the destination itself. Within this context, sustainable mobility policy for tourism should be designed and implemented. In this context, the technology may be very important in several respects. First, the socio-economic trends, such as, for example, the aging of population, which leads to new challenges in terms of accessibility to tourist destinations. Then, the decrease in the motorization rate among the new generations, which will create "new tourists," more digitized and caring to sustainability issues, and therefore more likely to adopt "sharing" and "green" means of transport for traveling.

The topic of sustainable transport within tourist destinations will be the focus of the various contributions that constitute the book. It then appears useful to present a brief review of the main studies that have been proposed in the literature. While tourism is of paramount importance for many local economies, it could also be harmful in terms of natural resources over-consumption and environment degradation, reducing the destination attractiveness. Among the many different issues addressed by sustainable tourism, transport is probably the most relevant one (Gössling, 2002).

In this context, the mobility behavior of tourists once at destination has attracted the attention of scholars. The related studies can be distinguished between two main lines of research. The first one deals with mobility patterns and it is focused on the psychological aspects of the tourism experience and on the amenities' management. The second one considers the modal choices with a particular emphasis on transport and its impact on the environment.

As it concerns the first line of research, several works can benefit from the new and widespread technologies such as GPS tracking devices or mobile phones for collecting data on tourist movement patterns within confined areas. Lau and McKercher (2006) analyzed the itinerary of tourists in Hong Kong by mapping their movements throughout a daily trip diary and GIS data. They also try to ascertain the factors that drive tourists' decision-making and behavior and group them into three main categories: (a) trip factors (specific to the trip, such as type and duration); (b) human factors (related to demographic and psychological characteristics of the tourist); and (c) physical (related to the destination such as configuration, transport network, and attractions). More recently, using GPS tracking technology, Zheng, Huang, and Li (2017) collected movement information from tourists in the Summer Palace in Beijing, while De Cantis, Ferrante, Kahani, and Shoval (2016) focused on cruise passenger in the port of Palermo; Orellana, Bregt, Ligtenberg, and Wachowicz (2012) analyzes the movements in the 37 km^2 Dwingelderveld National Park (the Netherlands) while Reif (2019) analyzes the spatiotemporal behavior of same-day visitors in Hamburg.

The second line of research appears to be more relevant with respect to sustainable mobility at destinations. Masiero and Zoltan (2013) discovered that the spatial extent of the visited destination, in terms of attractions and their localization, is linked to the modal choice of the tourist which is, in turn, explained by demographics. Several studies have dealt with the local PT used by tourists. Barr and Prillwitz (2012) segmented tourists in four market segments: (a) "Reluctant PT users" (older and retired people, forced from their restricted accessibility to the car); (b) "Committed green travelers" (middle-aged people, managers or professionals who usually prefer active transport); (c) "Aspiring green travelers"; and (d) "addicted car users," who are less likely to use PT. Furthermore, an in-depth survey of the literature on the tourists' use of PT at destinations allowed Le-Klähn and Hall (2015) to draw some conclusions. Heterogeneities in PT use (and provision) first depend on rural or urban destinations. In this context, both push (concerning tourist's motives and preferences) and pull (regarding PT characteristics and provision) factors (Dann, 1999) play a determinant role. At the urban scale, the users of PT are generally younger and concerned about the environment and sustainable mobility. They are also more confident about a reliable PT. In rural areas, elderly people may feel unsecure to drive and they may also have a higher willingness to enjoy the journey/trip/travel in terms of landscape and social engagement (Stradling, Carreno, Rye, & Noble, 2007). Moreover, it is worth to notice that the modal choice toward destination certainly affects the modal choice within destination (Hergesell & Dickinger, 2013): rail or road PT, replacing the private mode, can be helpful in achieving sustainable mobility, fostering local PT or slow modes at destination.

By focusing on the supply side, it emerges that services planning must be carefully considered (Gronau, 2017; Gross & Grimm, 2019). Not only in terms of sustainability but also because it may enhance the accessibility and promote a better environment within the tourist destination. This may increase the satisfaction of tourists, the attractiveness of the destination, and the number of repeated visits (Barros, 2012; Fu & Chen, 2019; Reyes Vélez, Pérez Naranjo, & Rodríguez Zapatero, 2019). Lastly, other scholars (Dickinson, Calver, Watters, & Wilkes, 2004; Gronau, 2017) have analyzed the possibility to adopt a mix of reward for PT users and of penalties for private transport adopters to stimulate a more sustainable modal share.

STRUCTURE OF THE BOOK

The following chapters of the book will explore in depth many of the issues that have been considered in the first part of the Introduction by means of a large series of case studies. The chapters are grouped according to several interesting themes. In particular, Chapters 2 and 3 consider, respectively, the changes of transport in cross-border tourist regions in the Polish-Slovak borderland and the mobility choices of tourists in an important Polish seaside destination. Chapters 4 and 5 are related to the management of transport activities in urban tourism destinations. Chapters 6 and 7 discuss the transport activities and choices

in the case of islands' tourism by taking into account Malta and the island of Ischia in the Italian gulf of Naples. Chapter 8 will consider the challenges for PT provision in a coastal mass destination. Chapter 9 will analyze the transportation demand management (TDM) in the case of important events. Chapters 10 and 11 will consider transport mobility in natural areas, by proposing two case studies in Italy and in Spain. The following are brief summaries of the contents and aims of the abovementioned chapters.

Chapter 2, "Changes of Transport in Cross-border Tourist Regions in the Polish–Slovak Borderland: An (un)Sustainable Development?" by Daniel Michniak and Marek Więckowski, aims at developing some concepts linking sustainable development with transport and tourism, by paying particular attention to the conflict between sustainability and transport development and to some elements of transport injustice. It analyzes the theoretical aspects of a relationship between transport and tourism and it assesses selected changes in cross-border transport that have influenced tourism in Polish-Slovak tourism regions. The chapter then considers the changes that have occurred both in terms of transport infrastructure and transport activities in the borderland between 1990 and 2020. It also enquires whether the development of transport is in accordance with the sustainable development goals. It consequently highlights the interactions between tourism, transport, borders, and sustainability in mountainous areas. The proposed case study is the Polish–Slovak borderland.

Chapter 3, "Tourist Sustainable Mobility at the Destination. A Case Study of a Polish Conurbation" by Piotr Zientara, Magdalena Jażdżewska-Gutta, and Anna Zamojska, considers how foreign tourists move around in a conurbation made up of three cities (Gdansk, Sopot, and Gdynia) and located in Poland; a country that has recently experienced an important surge in visitor numbers. The chapter, which draws on the case study method, focuses on foreign tourists' mobility patterns in the winter season where major tourist attractions and facilities are dispersed over a wide area which makes it particularly well-suited to researching visitor mobility patterns. The case study that forms the core of the chapter is based on a paper-and-pencil questionnaire survey conducted among foreign tourists visiting the area in January 2020 as well as on direct observation of reality. The chapter considers the use of local PT modes by foreign visitors and it attempts to provide several insights into the issues at hand.

Chapter 4, "Walking and Sustainable Tourism: "StreetsAvisor." A Stated Preference GIS-based Methodology for Estimating Tourist Walking Satisfaction in Rome" by Michela Le Pira, Andrea Gemma, Valerio Gatta, Stefano Carrese, and Edoardo Marcucci, proposes a methodology to develop a tool aimed at helping tourists moving sustainably in a large city, focusing on the "last mile" of their transport experience, that is, walking trips. The methodology consists of the development of a stated preference survey, where tourists' preferences are elicited with respect to alternative configurations of walking paths. This is performed by taking into consideration path accessibility, interference with other modes of transport, and thermal comfort aspects. Moreover, georeferenced data are collected and systematized with the overall aim to create a geographical information system (GIS) of the first municipality of Rome. Additionally, the chapter

provides the preliminary considerations needed for the definition of a "tourist walking satisfaction indicator" related to their walking experience with two aims. First, it provides useful information for policy-makers on how to design and manage walking networks; second, it provides a framework for a tourist traveler information system that can guide them in the city on the base of their heterogeneous preferences.

Chapter 5, "Environmental Sustainability of City Sightseeing Cruises: A Case Study on Battery-powered Electric Excursion Boats in Berlin, Germany" by Ralph Wahnschafft and Frank Wolter, analyzes the viewpoints of the various stakeholders, identify opportunities, discuss constraints, and offer policy recommendations with a view to enhance the sustainability of waterborne transport in tourist destination cities. The chapter first describes the structure of the local leisure and tourism cruise industry in Berlin. It then considers the initial entrepreneurial initiatives that have introduced the eco-innovation e-mobilty on water and presents results of a local survey among these operators of electric cruise boats summarizing viewpoints and important initial experiences. As a part of this case study, the chapter also discusses the results of structured questionnaire-based interviews with passengers on-board during their battery-powered sightseeing cruises with the aim to assess local customer preferences and the potential willingness to pay a higher fare for a more environmentally benign sightseeing cruise service.

Chapter 6, "Sustainable Tourism Mobility in Malta: Encouraging a Shift in Tourist Travel Behavior Through an Innovative Smartphone App for Trip Planning" by Suzanne Maas, Mark Bugeja, and Maria Attard, takes into account a smartphone application (MyMaltaPlan) that enables tourists to plan trips and schedule itineraries between touristic sites. The chapter reports that the app, which was launched in the summer of 2019, aims to encourage a shift toward greener travel behavior. The second part of the chapter is based on a survey conducted with tourists to understand current tourist travel behavior, and tourists' use of smartphone or web applications for trip planning. Moreover, the chapter relates that a focus group was held with a series of volunteers who shared their experiences in a joint discussion. This last step of the research had the aim to discuss the positive features and the weaknesses of the proposed app.

Chapter 7, "Tourists, Residents and Sustainable Mobility in Islands: The Case of Ischia, Italy" by Ila Maltese, Luca Zamparini, and Clarissa Amico, explores the green attitude of residents and tourists of an Italian small island when choosing their mobility patterns. To this aim, a survey has been carried out in Ischia, a small island located in the Gulf of Naples, in the South of Italy in October 2017 on the modal choices of tourists and residents, both at home (domestic behavior) and on holiday (tourist behavior) and presents a discussion of the spatial behavior and the consequent mobility patterns of tourists and residents. It first provides an overview of the scientific literature on tourism and mobility in islands, focusing on environmental issues and mobility behavior. It then describes the case study in terms of general and specific characteristics of both the survey and the place. Lastly, it presents and discusses the results of the analysis, highlighting the need of joint planning strategies aimed at achieving sustainable mobility, such

as the improvement of the local PT supply and of the infrastructural system for active modes.

Chapter 8, "Sources of Data to Tackle the Challenges of PT Provision in Seasonal Tourist Destinations" by Daniel Miravet, Aaron Gutiérrez, and Antoni Domènech, is based on three demanding challenges that tourist destinations need to face-up: to increase environmental sustainability, to enhance destination competitiveness, and finally to assure quality and comfort of PT services for the local resident population. The chapter analyzes the situation in Camp de Tarragona region, where Costa Daurada (one of the most important Spanish tourist brands) is located, to illustrate how different data sources can aid to confront those challenges. The chapter is based on data from smart travel cards provided by the consortium that manages the PT system in the region. It relates that data unveiled the impact of seasonality on the evolution of demand throughout the year, the type of transport tickets used, or changes occurred in the geographical distribution of the mobility. Lastly, the chapter considers also alternative data sources such as surveys and passive mobile positioning data, considering their pros and cons.

Chapter 9, "Validity of Repeated Applications of TDM Measures Toward Sustainable Development in Tourism Destinations: A Case Study on Managing Peak Hourly Congested Traffic After the Formula 1 World Championship Japanese Grand Prix at Suzuka" by Kazuo Nishii, Kuniaki Sasaki, Masahiro Emori, and Ken Yokoyama, sheds light on a brief review of previous studies on the TDM measures. The aim is to identify the current trends in both their methodological and problem-oriented approaches. The chapter then introduces a novel approach called the AMMA (area marketing and management approach) that should drive the sustainable development of transport in tourism destinations. Based on the concept of the AMMA, the chapter describes a set of the Smart TDM measures; among them, the development of the application software that will be used as an interactive communication tool. The validity of the repeated applications of the Smart TDM measures is empirically examined by assessing the most recent experiences at the SUZUKA F1 until 2017. The limitations to what the current Smart TDM measures can do are finally discussed to improve the smartness of these TDM measures to contribute to the sustainable area development.

Chapter 10, "Cycle Tourism as a Driver of Local Development. The Case of a Natural Tourist Destination in a North-Western Area of Italy" by Elena Maggi, Paola Ossola, Daniele Grechi, and Daniele Crotti, discusses the characteristics of cycle tourism both in terms of its contribution to the sustainable development and of demand and supply features. Moreover, the chapter proposes a case study based on an Italian area that is strongly investing in the development of this form of mobility: "Insubria," which is located in the Lombardy region, near the Swiss border and which includes, as main cities, Varese and Como. The chapter explores whether the supply of the tourism product in this area is aligned with the current and future demand trends of cycling and tourism. The chapter ends with some suggestions about possible improvements in the area and for the long-term industry competitiveness.

Chapter 11, "Proposals for Sustainable Transport in Natural Areas: A Case Study of Teide National Park" by Rosa Marina González, Concepción Román, and Ángel Simón Marrero, analyzes a research carried out in Teide National Park in 2016 with the aim of defining suitable TDM strategies. The chapter first describes the current situation of Teide National Park and it then presents three studies based on a survey combining revealed and stated preferences of tourist visitor preferences with regard to the use of alternative transportation systems. The first reported study had analyzed visitors' preferences regarding the implementation of a public bicycle-sharing system in Teide National Park (TNP). The second study had explored visitors' preferences with regard to the potential implementation of a shuttle-bus. It had also ascertained individuals' willingness-to-pay measures for reducing CO_2 emissions, for saving time while searching for a parking space, and for reducing the waiting time required to start the visit in the shuttle-bus. The third considered study had investigated the recreational monetary value of the natural site.

The concluding chapter of the book, written by the editor, is explicitly comparative in orientation. It analytically draws the similarities and the heterogeneities of the themes, frameworks, and policies introduced and discussed in the previous chapters. It also highlights the new contributions that emerge from the chapters for both scholars and practitioners.

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