The Rotterdam way: a new take on urban tourism management

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Introduction

While most of the popular urban tourism destinations of North-Western Europe are famed for their historic city centres, a growing number of destinations, such as Rotterdam, challenge the conditionality of having a picturesque historic centre for being a successful tourist destination. The city of Rotterdam, which is shaped by its industrial past as well as a significant scar left by carpet bombings during World War II, is currently witnessing an urban revival. While just decades ago the city was mostly shunned because it was described as rough, edgy and even boring (Kasteleijn & Maas, 1995), present day visitors appreciate the diverse and iconic modern architecture, as well as the creative and vibrant atmosphere in which the roughness and edginess actually seem to work in Rotterdam’s favour (Richards & Wilson, 2004). In this light, the city is acclaimed by the international media as a must-visit destination, with Rotterdam featuring in Lonely Planet’s “best in travel list” of 2016, describing it as a “metropolitan jewel of the Netherlands riding a wave of urban development, redevelopment and regeneration” (Lonely Planet, 2016).

The effects of this redevelopment and regeneration can be seen in the recent rise of the city’s popularity as a tourist destination. Rotterdam is currently the second largest urban tourism destination in the Netherlands, considering nights spent by tourists (CBS, 2019a). The growing influx of tourists follows three decades of developments aimed at shifting the city’s economy from a predominance of port-related industrial production and services towards a more diverse economic system with a strong focus on culture and consump-
tion (Van Tuijl & van den Berg, 2016). As in other former industrial cities, an economic transition aimed at cultural-driven regeneration has played an important part in this transformation (Richards & Wilson, 2004; Russo & van der Borg, 2010; Zukin, 1995).

While several indicators highlight the rapid expansion of tourism in Rotterdam, the question of the extent to which this development can be considered beneficial for the city needs to be posed. Post-industrial cities such as Rotterdam face myriad challenges while working towards an economically, socially and environmentally sustainable urban future (Judd & Fainstein, 1999; van Tuijl & van den Berg, 2016). Empowering marginal socio-economic groups, creating opportunities for local businesses and start-ups, and dealing with the consequences of climate change are among these challenges. Additionally, the rising awareness of the adverse effects tourism can have on local living conditions has set a new challenge for cities (Colomb & Novy, 2016; but see also Van der Borg et al., 1996); the praised solution of the past decades, using cultural regeneration and the visitor economy to reinvent cities, seems to be turning into a problem in cities such as Barcelona, Berlin and Amsterdam (Colomb & Novy, 2016; Füller & Michel, 2014; Pinkster & Boterman, 2017). Even though Rotterdam is not experiencing anything like the level of tourism in the cities focused on in this debate, the rapid growth in overnight stays during the past six years, the changing consumption landscape and economic make-up of the city, and the increasing attention given by print and online media fuel the need to create a proactive strategy in which the challenges posed by growing tourism in combination with the broader ones faced by the post-industrial city are addressed.

While recent developments make Rotterdam an interesting case study for illustrating how post-industrial cities can reinvent themselves based on the visitor economy by becoming attractive places to live, work and visit, the present case study aims to go one step further. Even though Rotterdam has come a long way, a relatively large part of the population is still in a vulnerable socio-economic position and inequality in the city is growing due to gentrification processes as a result of Rotterdam’s popularity (Doucet & Koenders, 2018; Hochstenbach & Musterd, 2018). In addition, like many other cities, Rotterdam is increasingly confronted with issues related to climate change and aims, for example, to halve all greenhouse gas emissions by 2030 (Hölscher et al., 2019; Rotterdamse Klimaat Alliantie, 2019). In this chapter we consider how tourism can be integrated into the wider urban policy agenda by making it achieve broader goals rather than simply pursuing its growth by making the city attractive to visitors. At the same time, we aim to contribute to ideas about sustainable urban tourism development based on the observation made by
Ashworth and Page (2011) a decade ago that often, in urban tourism policy, “the local is explored and exploited in search of the unique global competitive advantage by a tourism industry that is itself global with a strong tendency towards a risk-averse replication of products and their delivery”. This shows that a balance should be sought between the expansion of the visitor economy for the better, and the extent to which tourism policy allows the “city to be sold”. This chapter is thus intended to indicate how and to what extent Rotterdam manages to integrate tourism proactively in the diverse landscape of contemporary urban issues and challenges and to make it work for the city.

The chapter will subsequently discuss the history and transformation of the city from an industrial port city into a diverse city with a port, industrial roots and an increasingly important visitor economy, position the city in the light of contemporary and future challenges, and provide an insight into the way urban tourism is currently being integrated in the wider policy landscape. Through the latter topic, critical examination of the development and organization of urban tourism in Rotterdam can provide insights into the discussion on what could help urban tourism contribute to a sustainable urban future and give colourful insights for academics and policymakers dealing with this topic in transforming industrial cities.

Introduction of the case of Rotterdam

Although the real story of Rotterdam is one of centuries rather than mere decades, the story of modern day Rotterdam often starts with the devastation of the city centre during World War II. On 14 May 1940, the German Luftwaffe dropped bombs on the city to support their troops and to break Dutch resistance in order to force surrender. The explosions and subsequent fires killed almost 900 civilians and made another 85,000 Rotterdammers homeless (van der Pauw, 2006). These events colour Rotterdam to this day, providing the groundwork for a story about resilience and working together to get things done. The current city marketing slogan, “Rotterdam. Make it Happen” connects directly to the “can-do mentality” that Rotterdammers are still known for, just like shortly after the war. The current perspective towards promoting the city reaches beyond storytelling as it is rooted in the modern history of the city. The bombing and subsequent rebuilding of the city centre according to a modernist planning approach had a major effect on the development of the city itself, ensuring that the new city looks nothing like other typical Dutch cities (Rooijendijk, 2005). The current image of the city as related to modern
architecture, as well as the presence of a well-developed cultural infrastructure and the present-day mentality, all have their origin in the need to rebuild the city after World War II (Hitters, 2000).

Rotterdam was long seen as the ugly duckling of Dutch cities, being famed for many things a typical city does not want to be known for. A touristic image study comparing 18 Dutch cities conducted in 2010 ranked Rotterdam as the most unsafe and unfriendliest city and ranked it second-to-last for cleanliness and beauty (LAgroup, 2010). Next to the touristic image, Rotterdam suffers from high crime levels, high unemployment and low education levels compared with other Dutch cities (Snel & Engbersen, 2009). Over the last few years, however, the city seems to have found its second youth, becoming more popular nationally and internationally, leading to an increase in inhabitants (CBS, 2019b), expats (Rotterdam Partners, 2019a) and a general growth of the economy (Gemeente Rotterdam, 2019a). In addition, the city has become increasingly attractive in recent years, also from a tourism perspective.

Rotterdam is currently the second most-visited city of the Netherlands. Although Amsterdam hosts considerably more tourists, Rotterdam’s tourism statistics are striking because of the constant and significant growth the city has witnessed since the global recession and subsequent Eurozone financial crisis, with a staggering 68% growth in nights spent between 2012 and 2018 leading to over 2 million nights in the city’s official accommodation (CBS, 2019a), and an estimated additional 350,000 nights in the informal accommodation sector (van der Zee & Krist, 2019). Also, compared with Amsterdam and The Hague, the first and third cities ranked according to number of nights spent there by tourists, and in the Netherlands in general, Rotterdam shows a remarkably strong growth rate. Since 2012, this has reached between 4% and 16% more nights spent per annum, which is faster than the Dutch average growth or the growth in any other Dutch city (Figure 7.1). While the demand-side thus shows significant growth patterns, the tourism industry has been expanding rapidly as well. Between 2012 and 2018 the number of hotel beds rose by 37% (CBS, 2019c) and, between 2013 and 2018 the number of restaurants grew by 34% (van Vliet, 2018), indicating the visitor economy is increasing in both absolute and relative terms. The presence of an impressive number of one-off and repetitive events, such as the European Capital of Culture in 2001, the Grand Depart of the Tour de France in 2010, the postponed (due to Covid-19) 2020 Eurovision Song Contest, the annual International Film Festival and World Port Days, along with the ongoing addition of hallmark architecture such as “de markthal” also illustrate this development.
These developments, however, have not remained unquestioned. The growing popularity of the city as a place to live, work and visit also leads to an increasing pressure on the city, its housing prices, access to public space and liveability, leading to debates concerning the city’s accessibility for lower and medium income groups (Doucet et al., 2011; Hochstenbach & Musterd, 2018; Stouten, 2017). As a result, in 2017, a large-scale study on the prospects of the city’s development over the next 20 years was conducted with 9000 residents, certified by the city administration (Het verhaal van de stad, 2017). Tourism was one of the six main themes derived from the study, showing both support for and hesitation about the city’s newfound popularity. Its inhabitants feel a sense of pride because the city is also acknowledged by visitors, they appreciate the positive impact visitors can have on the economy and also like how their direct environment has become more lively. At the same time, people are wary of the negative effects the increasing numbers of visitors might have. In the report, the general sentiment has been voiced that “Tourists are beneficial for the economy, but we have to steer clear of the situation in Amsterdam, where tourists have taken possession of the city. The city must remain ours!” (Het verhaal van de stad, 2017, 44, translated by the authors).

With the absence of a historic city centre, an important part of the touristic attractiveness of Rotterdam is embedded in its living culture, which is set in a landscape determined by modern and, in some cases, iconic architecture.
In this sense, “tourism is a ‘local’ industry characterised by grassroots cultural production, spatial fixity of the tourism commodity and localised consumption of place” (Gotham, 2005, 1102). Even though global forces have a strong influence on the development of tourism, it can be argued that the recent success of tourism development in Rotterdam can, to an important extent, be attributed to “the local” (Massey, 2005). This makes finding the balance between further tourism development and safeguarding local living conditions while also protecting the local economic and cultural sector of prime importance, but precarious (Ananian et al., 2018; Gotham, 2005; Novy & Colomb, 2019). However, while an increasing number of cities are struggling to find this balance and strive for more sustainable tourism development, “most tourism policies have to date been conceived as stand-alone marketing and promotion strategies” (Pasquinelli & Bellini, 2017, 4) rather than as part of broader urban policy making (Novy & Colomb, 2019).

Urban tourism management is thus in need of practical proof-of-concepts that showcase alternative approaches able to inspire policymakers. In the case of Rotterdam, the rapid growth of visitor numbers, along with the changing sentiment among the city’s inhabitants on the recent development of tourism, prompted the municipality and Rotterdam Partners, the local Destination Management Organization, to take steps towards creating a new vision on tourism for the city of Rotterdam. The remainder of the chapter will shed light on how Rotterdam Partners and the Municipality have been working on creating a shared vision that is supported by a broad range of stakeholders. After going into this collaborative process, the expected level of government intervention in developing more sustainable models of tourism is discussed.

Towards a shared and supported vision on urban tourism

This process towards a new vision consisted of three phases. First, the municipality laid out its ambitions for tourism in the city. Local stakeholders were then asked to reflect on these ambitions and give their input. Lastly, an International Advisory Board (IAB) was formed to give an outsider perspective on the questions asked and advise the municipality on different aspects of the new vision (Gemeente Rotterdam, 2019b). The last two elements of these processes were outsourced to the local DMO, Rotterdam Partners. The findings are bundled in *The Rotterdam Way* (Rotterdam Partners, 2019b).
As worded by the tourism spokesman in a letter to the City Council on 26 March 2019 (Gemeente Rotterdam, 2019b), the municipality wanted to guide the conversation with stakeholders in the city by laying out its own ambitions for tourism in the city. In the letter, the spokesman mentions the need for a different way of thinking, meaning that tourism is no longer seen as a goal in itself, but as a means of achieving municipal ambitions. These are described as (1) work and income for local Rotterdammers; (2) supporting a more sustainable city; (3) lively and liveable neighbourhoods; and (4) a hospitable and proud city (Gemeente Rotterdam, 2019b, 2). These ambitions were then used to start the conversation with stakeholders from within and outside the city with the aim of developing broadly supported and well-informed advice. As reported by Rotterdam Partners (2019b, 15), the stakeholders involved represented a wide range of parties, divided into four groups: Off the beaten track (“hidden” gems such as local and original hotels, city guides and art institutions), Travel (institutions that facilitate a stay for visitors in Rotterdam such as Airbnb, Booking.com), National Experts (tourism experts from the field and academia) and Well-known & Well-liked (famous attractions, hotels, catering, shops, transport companies, festival organisers). In total, approximately 50 different stakeholders participated in focus groups or were consulted during this process.

Rotterdam is a forerunner when it comes to collaborative governance, in which the importance of including many stakeholders is part of effective policy making and place making (Kavaratzis, 2017; Koen's et al., 2019). The aims of such collaborative processes and place making are to address community impact and achieve sustainable tourism development (Bramwell & Lane, 2011; Hardy et al., 2002), while also creating a liveable and lively place for residents that is closely aligned with their identity and that of the city (Braun et al., 2013). The destination in this way becomes attractive without decreasing the quality of life in the city (Colomb & Kalandides, 2010; Marques & Borba, 2017; Markusen & Gadwa, 2010). In the process of forming a tourism vision for Rotterdam, however, residents are not consulted, even though they could be considered important stakeholders in the tourism network (Klidas & Papageorgiou, 2018; Rodríguez-Díaz & Espino-Rodriguez, 2008; Tham et al., 2015). The absence of residents as stakeholders in Rotterdam is interesting to note as community well-being and balanced tourism for city residents are an important factor in the city’s tourism development strategy. Part of the explanation for this is that, in practice, involving a large number of stakeholders can be complicated as opinions are often diverse, which makes it difficult to come to a shared vision (Kasabov, 2015; Koen's et al., 2019; van der Zee et al., 2017).
In the case of Rotterdam, it might thus come as no surprise that the different stakeholders consulted in this process had many overlapping views about the future of tourism, as most of them work closely with the tourist industry. First, it was noted by the stakeholders that they feel Rotterdam still has room to grow but that tourism should not engulf the city. According to them this could be done by promoting the right kind of growth, meaning visitors are well distributed throughout the year and tourism is well aligned with Rotterdam’s identity. A second point the different stakeholders agreed on was that the whole city should be able to benefit from tourism and not only certain (central) parts. As a consequence, tourism could be developed in different parts of the city that are not yet noticed by tourists. An UNWTO report (2019) noted that dispersing tourists across time and space has indeed been identified as a potential measure to achieve a more balanced form of tourism. However, effectively achieving this can be difficult in practice (Koens et al., 2019; van der Zee et al., 2020).

Furthermore, stakeholders agreed that the “Rotterdam Way” should remain central in all tourism development activities. This means that only certain types of tourist profiles that match the city’s ambitions should be approached through promotion strategies. Finally, there is a general consensus that the municipality should play a major role in the development of tourism in the city by adopting a clear vision and working towards a specific goal, and thus also excluding certain things that do not fit with this vision and goal. In short, these mostly commercially oriented stakeholders would like to see growth, but seem to support a coherent and strong governmental approach that guides this growth towards a more balanced and sustainable form of urban tourism.

To clarify the direction Rotterdam should or should not take, related to the development of tourism, all stakeholders were asked to collaboratively form doom and dream scenarios for tourism development. Stakeholders also held similar views on the worst-case scenarios for the future of tourism in Rotterdam. According to them, one of the worst things that could happen is for the city to resemble a touristic theme park in which big international chains predominate and Rotterdam loses its authentic identity, a perception that is quite common in more mature tourist destinations in Europe (Cócola Gant, 2015; Gotham, 2005). Local entrepreneurship would then slowly disappear and with that the city would take on a generic nature (Russo, 2002). According to recent contributions in the literature, this process of tourism-driven gentrification is a clear and imminent threat, especially in post-industrial cities (Sequera & Nofre, 2018). An opposing scenario is for the city to become unattractive and unpopular again, as it was for many years in the past. These two doom-scenarios already clearly indicate that there is a strong need for
a governance strategy in which a balance between the two is maintained. Other negative scenarios described relate to attracting “the wrong kind of tourist”, such as drug tourists and hen and stag parties that mostly lead to disturbance for local inhabitants. Furthermore, city life becoming too expensive and the feeling of alienation from the city because of its changed character are described as doom scenarios. Finally, stakeholders describe a scenario in which the municipality is not prepared for tourism that would lead to an imbalance between residential city life and tourism, which again shows that there is a clear need for a strategy that safeguards balanced urban tourism activities.

The dream scenarios described are mostly the opposite of the doom scenarios. Stakeholders dream of balanced tourism, evenly spread over the city in space and time while causing little disturbance to local residents. Furthermore, in the dream scenarios, Rotterdam attracts young and curious visitors that contribute to the city’s positive development, not just by spending money but also by sharing cultural and social capital with residents and entrepreneurs. The city constantly innovates and looks towards the future by continuously renewing its offer. Another important aspect of the dream scenarios is that residents form an essential part of the development of both tourism and the city. In addition, local residents would be proud of this growing industry and understand that it is an important economic sector and a socio-cultural enrichment for the city.

Even though the stakeholders all work in or with the tourist industry, it is still interesting to note that big international stakeholders, hotels and small local entrepreneurs all hold similar views about tourism development in Rotterdam. This is partly due to the fact that the sessions were designed in such a way that they would lead to a broad shared vision rather than working out all the details in which opinions might differ more from one another. This also shows that a balanced and more sustainable form of tourism in which residential and city life are preserved might be beneficial to all kinds of stakeholders in the long run and is broadly embraced.

**Level of government intervention**

As a final step in looking at the ways and extent to which the government should take part in Rotterdam’s tourism development, an international advisory board was invited to the city to reflect on the outcomes of the stakeholder groups and provide the city with recommendations. This International Advisory Board (IAB) consisted of seven experts in the fields of tourism, city
branding and urban development, with backgrounds in, for example, public policy, consultancy and academia. The IAB gave a series of recommendations to the city supported by several suggestions, examples and possible steps the city should take. For the purpose of clarity, we will only discuss the overarching themes of the IAB’s advice. These themes can be characterized as (1) overarching principles, (2) the need for better and transparent data, and (3) the need for a bottom-up approach in conjunction with (4) clear top-down policies.

The principles the IAB describes in the first recommendation are notions around identity and inclusivity while adopting a holistic approach in which long-term benefits are safeguarded. The complexity of what it calls the visitor economy and the impact this has on the city are mentioned here as an important factor to be considered. According to the IAB, this means that the visitor economy should take these impacts into account, but also that other aspects of city development need to take note of the visitor economy. It is thus clear that tourism is no longer confined to the boundaries of the traditional touristic sector and policy making has to include many other areas as well (Koens et al., 2018; Sequera & Nofre, 2018).

The next recommendation focuses on the need for better and more transparent research into the visitor economy. The IAB notes how current research often only expresses the impact of the visitor economy in financial and economic terms but pays little attention to the impact in other areas. This is a commonly heard critique in the assessment of tourism impact, as made a decade ago by Ashworth and Page (2011) and reflected in various recent publications on sustainable urban tourism development (Wise, 2016). They recommend measuring the environmental, social and cultural effects as well, for example with regard to cruises, hotels and tour operators. Simultaneously, the IAB advises monitoring how local residents feel about the visitor economy as well as the interests of the tourism industry. Monitoring the effects of tourism, both positive and negative, on a broad range of stakeholders is thus an important part of the advice.

In the third recommendation, the IAB mentions the need for an inclusive bottom-up approach to building a tourism vision and strategy. This includes having a conversation with local communities about their needs, but also helping them understand the possible value of the visitor economy and the choices they might have in developing the visitor economy in their neighbourhood. This is something relatively new as many destinations do not yet consider residents one of their primary stakeholders, but is strongly encouraged for those cities seeking to develop more balanced forms of tourism (Koens et al., 2018; Timur & Getz, 2008; UNWTO, 2018). It is, however, important to
note that while the IAB focuses on the needs and ambitions of local citizens and entrepreneurs, it primarily sees a leading role for the municipality.

This brings us to the final recommendation in which the IAB outlines the importance of a top-down approach, which in this case would be complementary rather than contrary to community initiatives. In this sense there could be clear top-down policy guidelines that ensure positive outcomes for the city and its residents as a whole. This top-down approach consists, for example, of defining what constitutes a healthy visitor economy and the implementation of a hotel and home rental policy (Nieuwland & van Melik, 2018). These policies can be implemented proactively to avoid potential undesirable impacts in the future.

Based on these recommendations it seems that, within a framework of general guidelines and policies in the development of tourism, the city should at best have space for citizen engagement and community initiatives. A healthy balance between top-down governance with room for bottom-up initiatives seems to be thought of as most effective. The importance of a collaborative process of developing tourism is thus a strong part of this advice and is in line with many other recommendations from the academic world on more sustainable city and tourism development (for example, Koen et al., 2018; Timur & Getz, 2008; van der Zee et al., 2017; Volgger & Pechlaner, 2014).

**Conclusion and Discussion**

In summary, we can say that in terms of government intervention there is a clear role for the municipality to steer Rotterdam towards more sustainable forms of tourism that take into account the balance between the potential positive and negative impacts the visitor economy can have on the city. In order to come to those balanced forms of tourism it is the municipality’s role, in association with the local DMO, to integrate tourism into broader policymaking, monitor the impact of tourism on multiple stakeholder groups and include them in the development process, while at the same time creating a broader regulatory framework within which there is room for bottom-up initiatives from the diverse groups of stakeholders. Previous research into the effects tourism can have on urban livelihoods suggests there is a delicate balance between becoming increasingly attractive for tourists and safeguarding local livelihoods (Ananian et al., 2018; Cócola Gant, 2015; Gotham, 2005), which is specifically the case in post-industrial cities (Sequera & Nofre, 2018). The
IAB report concluded that in order to be sustainable, urban tourism development needs both continuous impact monitoring that goes beyond solely economic indicators as well as stakeholder and community involvement. In this sense, tourism development is both urged and forced to pay respect to the living culture that forms the core of the attractiveness of a regenerating post-industrial city such as Rotterdam (Ashworth & Page, 2011; Massey, 2005).

Returning to the ambitions of Rotterdam’s tourism spokesman, we can now draw connections between the dream and doom scenarios from stakeholders and the recommendations of the IAB report and see how they can contribute to more sustainable tourism development in Rotterdam. By following the recommendations of the IAB report and having a better idea of the impact of tourism on the city not only in economic terms, but also taking into account socio-cultural and environmental aspects (Wise, 2016), Rotterdam can adopt data and research driven policies that respect the needs and wishes of multiple stakeholder groups. Taking a holistic approach to tourism and making it part of city-wide policymaking ensures that it will result in long-lasting benefits and values for all residents. Moreover, by opening up more space for bottom-up initiatives with an inclusive approach, the city allows many citizens to benefit from tourism while at the same time working on projects that are closely aligned with the city’s identity and so create a diverse and lively city. A scenario such as this would be very much in line with the dream scenario of the different stakeholders, in which balanced tourism growth that stays close to the identity of the city and in which residents have a prominent role are key to the tourism development of Rotterdam. An important side note must be made here, however. Even though the process of forming a new tourism vision for Rotterdam was aimed at including a broad representation of stakeholders directly related to the city’s tourism sector, as well as external experts, the local residents were not actively included in this process. Our recommendation is that future vision-forming or policymaking activities should also aim to involve local residents in order to be truly inclusive.

The outcomes of the collaborative approach for forming a new tourism vision in Rotterdam have resulted in a widely accepted structure aimed at a new policy approach to developing urban tourism in such a way that it actually works towards achieving the ambitions of the city as laid out by the spokesman, and as explained at the beginning of this chapter: employment and income for all citizens, a more sustainable city, dynamic and liveable residential areas, and staying true to the city’s identity. In this sense, our main recommendation for future urban tourism policymaking is that tourism should not be seen as an outcome but as a means of improving the city for its residents and users in which the growth of tourism numbers is not the main goal. What is clear is
that strong and bold leadership from the municipality and active participation of the local communities are required for this. In Rotterdam, the municipality has already taken various important first steps, for example by being the first major Dutch city to increase the legitimacy of tourism as an integrated element of urban policy by nominating a city council spokesman for tourism. The formation of the tourism vision by the IAB together with local and national stakeholders and experts can be seen as the starting point for creating a comprehensive and contemporary approach to sustainable urban tourism development that is supported and complemented by the various local stakeholders at the core of what makes Rotterdam an attractive tourism destination. The next step would be to follow up on this vision, and further develop “the Rotterdam way” into a guiding example for the wide selection of regenerating and developing post-industrial cities exploring how to make tourism work for the city and its inhabitants.

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References


Kavaratzis, M. (2017). The participatory place branding process for tourism: Linking visitors and residents through the city brand. Tourism in the City (pp. 93–107). Berlin: Springer.


