

Sustainable Tourism in Prague



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1. Introduction

Each year, 1.4 billion tourists travel to foreign countries, seeking new experiences and cultures and spending large sums of money. However, growing tourist populations can begin to eclipse the entire local culture and damage tourism in the long run (Roser, 2017). Over-tourism occurs when “hosts or guests, locals or visitors, feel that there are too many visitors and ... [when] the quality of life in the area or the quality of the experience has deteriorated unacceptably” (Goodwin, 2017). Given the radical growth of tourism in the last 70 years, tourists may outweigh the local population in some regions, especially around major cultural heritage sites in city centers. In these areas, local businesses like restaurants, hotels, and others capitalize more and more on tourist spending, leaving locals without access to affordable shopping or even housing. Several cities, including Prague in the Czech Republic, have begun to feel the effects of overcrowding and have begun to lose their locals and their local culture as a result of tourism, all of which may deter tourists from visiting in the future and may make tourism unsustainable in the long run.

The World Tourism Organization (WTO) coined the term *sustainable tourism* in 2002 to denote the promotion of governmental trust in tourism business management, the protection of heritage from over-tourism, and the involvement of local communities in determining the fates of their local tourism industries (Al-Ansi et al., 2021). Researchers and social scientists frequently adapt this concept and modify it to fit the parameters of their studies, but at its core, sustainable tourism is focused on maintaining the local culture and the locals themselves. Researchers fundamentally accept sustainable tourism as the essential framework or lens for viewing or tackling over-tourism across the world.

Like many other tourist-heavy cities around the world, Prague in the Czech Republic has a tourist-dominated city center, known as the Royal Way, and because so many tourists congregate in and around it, most businesses in the center of Prague now prioritize meeting the demands of visitors. Each year, particularly during the Summer, tourists outnumber local citizens six to one, boosting the local tourism industry to lucrative heights (Haluga, 2019). Despite the profits generated by tourism, the conditions of over-tourism are detrimental to local life. Over-commercialization, when applied to tourism, occurs when businesses conform to “temporary and seasonal tourism peaks, which have enforced permanent changes to locals’ lifestyles, access to amenities, and general well-being” (Milano, 2018). Over 90% of the establishments located in Prague’s historic center are tourist-based attractions, some with little relevance to the cultural heritage of Prague (Dumbrovská, 2017). As a result, the center of Prague suffers from seasonal overcrowding, and the quality of life for local citizens continues to decline because many businesses in the historic center focus on pleasing tourists rather than addressing the needs of locals. As a result, many locals perceive Prague’s tourism industry as unsustainable (Dumbrovská, 2017).

Prague has faced many of the symptoms of over-tourism for well over a decade. Tourists are drawn to the city for its unique history, architecture, and culture, but many top tourism websites only foster further centralization and over-commercialization of tourism. Our preliminary research found that it is common practice for tourist websites like TripAdvisor ([tripadvisor.com](https://www.tripadvisor.com)) to promote Prague's central, core attractions, and to further encourage visits to zoos, museums visits, cheap beer, and other attractions that bring the most attention to those websites and the travel agencies running them. As a result, some websites promote attractions and businesses that may have no relation to Prague’s culture or that may even distort visitors’ perceptions of authenticity. While the city has started to develop alternate websites like

PragueUnlocked.EU ([Prague.eu](https://prague.eu)), seeking to bolster sustainable tourism, their ability to compete with top tourism search engines in visibility and user-friendly information remains unclear. However, Prague has made other small steps towards improving their tourism scene as government officials began closing down irrelevant or misleading businesses and reducing available rentals. Unfortunately, current information on which attractions the government would like tourists to visit has not changed (Schlagwein, 2020).

Our initial research did not uncover a comprehensive and popular online guide to Prague that directly assesses the authenticity of local tourist attractions and businesses, helps diffuse the focus of tourism away from the center of the city, and promotes businesses that are in tune with the local culture. As the tourism industry grows every year, so too do the issues of over-tourism. There is an opportunity to research how tourists choose attractions to visit and to develop a corresponding resource to steer them out of the city center, to widen tourists' perception of Prague's heritage, and to promote sustainable tourism.

The goal of our project is to develop a website that encourages tourists to discover the authentic and relevant aspects of Prague's rich heritage, especially its lesser-known treasures outside of the Royal Way, and in doing so, making Prague's tourism scene more sustainable in the future. Such a resource would, inevitably, require the input of locals as well since they determine which attractions and businesses truly reflect Prague's culture. To achieve this goal, our team will:

1. Analyze prior sustainable tourism initiatives in other cities, their presence, mission, strategies, stakeholders, and backing.
2. Develop a perspective on authentic and relevant experiences in Prague.
3. Design a website framework to promote sustainable tourism.

4. Develop a preliminary website.

During our seven weeks in Prague, we will make extensive use of general, background research, interviews, and surveys to gather input from local citizens, businesses, authorities, as well as tourists. We will analyze and use our results to design our Prague website that can assist Prague in its push to make its tourism industry more sustainable.

2. Background

Arguably the first documented case of over-tourism occurred in 1324 C.E. when King Mansa Musa of Mali came to Egypt and derailed its gold-based economy by spending and giving away huge amounts of gold (National Geographic Society, 2020). However, in modern times, over-tourism stems more from the quantity of tourists visiting rather than the wealth of any one individual. The tourism industry has never experienced such documented growth as it has in the last 70 years. In 1950, the number of tourist arrivals around the world was approximately 25.2 million, but the advent of tourist and travel websites on the World Wide Web, the Schengen Area in the European Union (EU), and cheap commercial flights would catapult that number to 1.4 billion in 2018, as seen in Figure 2.1 (Roser, 2017). Such a vast number of tourists has naturally generated an enormous quantity of wealth for many countries and cities, even making a number of national economies dependent on tourism. However, despite the economic benefits for popular destinations, tourism can have hidden costs and dangers that make tourism unsustainable. This chapter investigates sustainable tourism around the world, the history of tourism in Prague, the issues created by over-tourism in Prague, the city's efforts to combat it, and finally introduces our proposed project, designed to help promote sustainable tourism.

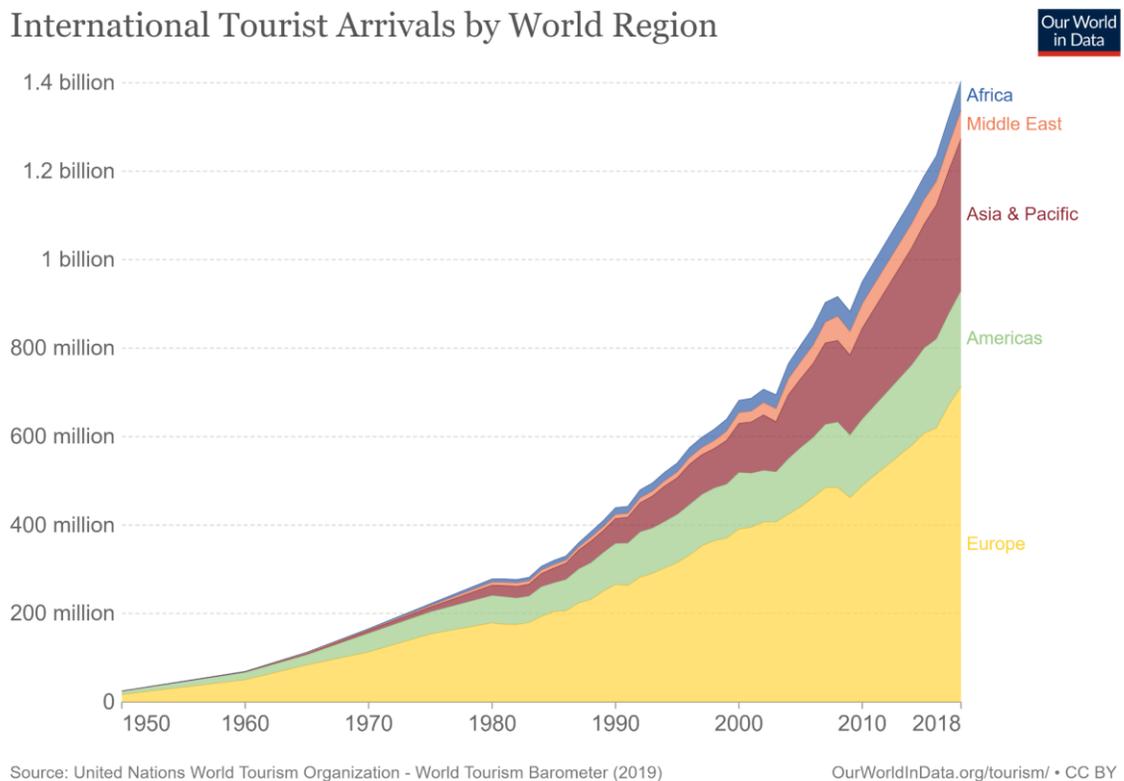


Figure 2.1 International Tourist Arrivals Around the World (Roser, 2017)

2.1 The Emergence of Sustainable Tourism

As they face rising numbers of visitors, urban communities grow and develop to meet the needs of those visitors, forcing locals and local businesses to adapt to their new environment.

Many cities and countries have capitalized extensively on the economic and societal benefits of developed tourism, and some, like Poland and Italy, have responded by enacting policies designed to maintain the longevity and sustainability of their tourism industry. The Multidisciplinary Digital Publishing Institute (MDPI), a publisher of open access scientific journals, identifies sustainable tourism as tourism that maintains a place's local culture, population, and heritage without harming local life (Koodsela, 2019). Figure 2.2 illustrates one model of this approach to tourism.

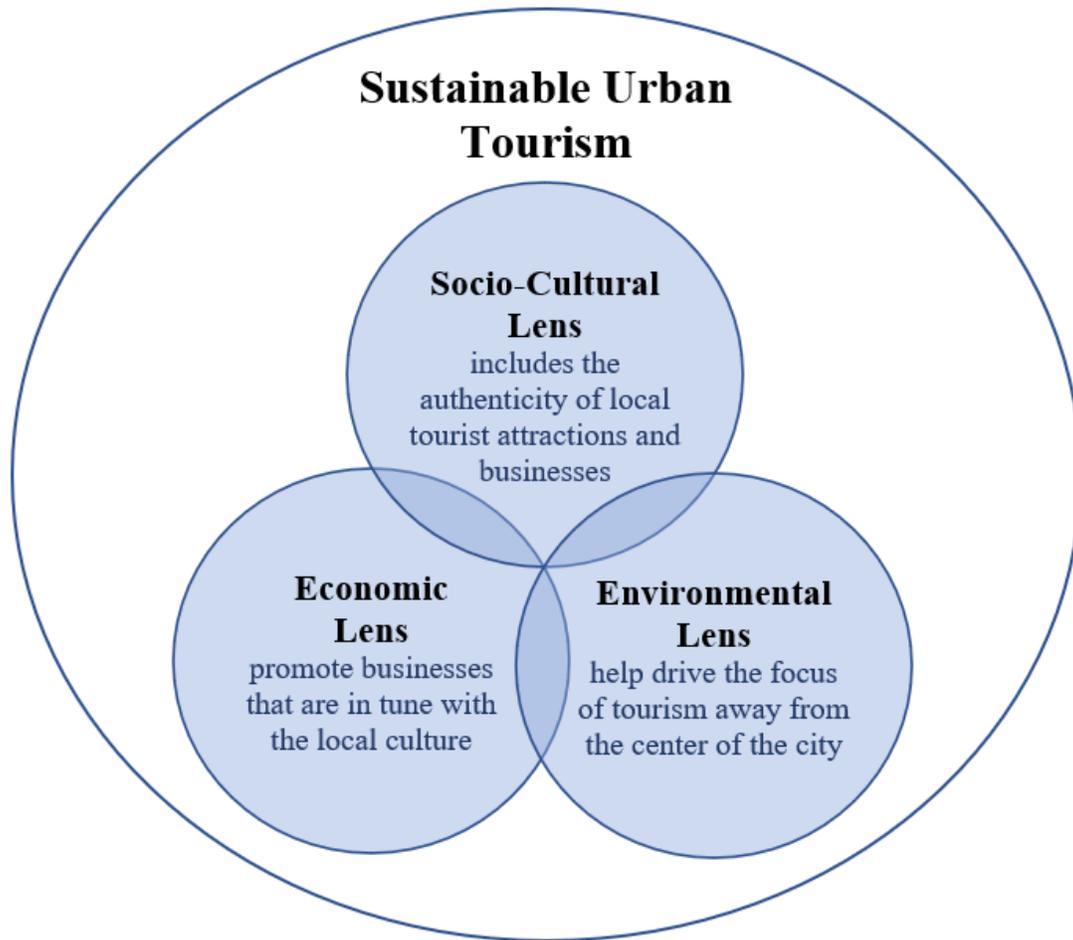


Figure 2.2 Sustainable Urban Tourism Diagram (Created by Authors Based on Principles of MDPI Koodsela, 2019)

The preservation of local communities in the face of over-tourism relies on three facets of sustainable tourism: promoting authentic heritage sites and attractions, diffusing the spread of tourists in heritage-rich areas, and promoting businesses that reflect local tastes and the local culture. Community involvement, however, plays the most significant role in researching and achieving each of these facets. Community involvement entails working with the local community when planning tourism growth, applying and tracking progress, and promoting specific aspects of that community's cultural heritage (Al-Ansi et al., 2021). With sustainable

tourism, the local community retains control of their own culture, the culture they display to tourists, and it can control the balance of visitor vs local-oriented businesses in tourist hotspots. It helps communities retain control of tourism in general by promoting authentic cultural experiences, spreading out tourists over a larger service area and attracting tourists to businesses that exhibit the cultural values that the local government and citizens want to encourage. Ensuring trust and collaboration between all stakeholders, locals, local businesses, city government officials, and tourists themselves will greatly enhance a given community's ability to successfully implement sustainable tourism. The implementation of policies promoting sustainable tourism has already improved the sustainability of tourism in nations like Poland and Italy.

2.1.1 Poland's Economic Growth

In Poland, Czechia's neighbor to the northeast, the local government has instituted a program called the Tourism Development Program, which supports private businesses and organizations that foster sustainable development of the tourism economy (Kopacz, 2015). The program sought to entice the local tourism industry to take "account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment, and host communities" (UNWTO & UNEP, 2005). The Polish government has made it clear that policy is crucial to tourism as Poland aims to increase its short-term and long-term revenue by making tourism more sustainable (Kopacz, 2015). After implementing the policy in 2015, Poland saw immediate economic growth; in 2018, tourism revenue increased 6.8% compared to 2017 (OECD, 2020). In addition, Poland experienced a 1% increase in the number of jobs related to the travel industry, including hotels, restaurants, and tourist-driven stores. The number of international and domestic tourists that traveled to Poland increased by 7.5% and 3.9%, respectively (OECD, 2020). Even with a small sample size of data over a one-

year spread, there were significant enough increases that the OECD study authors concluded that Poland's Tourism Development Program is directly benefiting its tourism scene and making it more sustainable.

Poland's desire to improve tourism did not stop with the Development Program as they coupled it with a new, self-explanatory marketing strategy called "Poland See More - Weekend at half price" in 2018. This strategy brought in over 60,000 tourists on the first weekend and over 77,500 tourists on the second weekend. As these half-off weekends proved to be so successful, the country implemented these to occur two times each year (OECD, 2018). These policy changes indicate that increasing tourism and its development in this manner can benefit a country's economy and local communities (Croes et al., 2021).

2.1.2 Italy Over-tourism Issues

Due to the COVID-19 pandemic, many Italian cities actively dealt with the freezing over of a major source of their income, tourism, in the summer of 2020. As a result, its reliance on tourism and the challenges brought on by the halt in tourism prompted Italy to take action. When analyzing the case of the cities dealing with over-tourism in Italy, Italian researchers identified that many cities shared several common characteristics: a variable tourist population that is much larger than the local population and an economy devoted more to tourists than locals.

Researchers from the University of Naples remarked that reducing tourist-heavy areas would be an important aspect to tackle in order to bring back local-oriented businesses and achieve sustainable tourism. The study also suggested that partially diverting tourist attention away from the city center would reduce the tourist to local ratio across the city, incentivize the revival of businesses catering to locals near the city center, and decrease crowding, which would benefit locals (Pasquinelli et al., 2021). To fully commit to sustainable tourism, Italy may need to actively diffuse the population of tourists focused in city centers.

Italy currently faces a population issue as the country has lost a small percentage of the native population over the last four years. According to ISTAT, the Italian National Institute of Statistics, Terravecchia, a region in southern Italy, lost 35.1% of its population since 2011. The National Institute of Statistics projects that Italy's population will decline to 59 million people in 2045 and 54.1 million people in 2065, in comparison to the estimate of 60.6 million people in 2017 (National Institute of Statistics, 2018). Venice is another location in Italy that faces very similar issues surrounding over-tourism and the decline in local population. Over the last 50 years, Venice lost over 60% of its local population, partly because of climate change and flooding, but also in part because of the negative effects of tourism (Seraphin et al., 2018). Locals vacated Venice as they lost their sense of the city feeling like home as the over-tourism caused crowding of urban areas. Venice now recognizes the need for change and the need to limit the number of incoming tourists, as tourism only continues to grow (Seraphin et al., 2018). Its current and continual decline in population indicates that Italy faces issues related to sustainable tourism as much of the current population begin to relocate.

By using all the stakeholders in the city, the locals, tourists, government officials, and business owners, sustainable tourism works to set up a city to be economically successful and culturally sustainable while remaining tourist-driven. The results in Poland show the effectiveness of sustainable tourism and how this development can bolster the economy. When examining the solutions to Italy's issues, commonalities of overcrowding and businesses focusing on tourists are a common problem for both Italy and Prague. Prague has been drastically affected by tourism. Since the Middle Ages, Prague has been a major tourist center in Eastern Europe. However, due to its sheer growth in popularity since the fall of the Iron Curtain and its position at the heart of Europe, Prague now struggles with controlling its tourism industry and combating over-tourism.

2.2 The Evolution of Tourism in Prague

The land of Czechia boasts a rich history and strong national heritage, dating back to Ancient and Medieval times, and its many castles, cathedrals, and picturesque cities attract millions of tourists each year. Prague, the historic, well-preserved capital of the region, serves as the focal point of that history and culture, making it more popular with visitors both centuries ago and today.

2.2.1 Medieval Prague and Czechia

Located in the center of Europe, Prague has seen many conflicts, but as a city, it survived many of them largely unscathed. As a result, it boasts a unique amalgamation of its Roman, German, and Slavic influences. In the Medieval Era and the Renaissance, Prague's central position in Bohemia, its access to the Vltava River, and its easily fortifiable hills all led to its designation as a major seat of power. In the 9th century, Prince Bořivoj of Bohemia began construction of a castle complex on a hill on the west bank, opposite the city center, that would come to be known as Prague Castle. Figure 2.3 shows a contemporaneous map of Prague's neighborhoods.

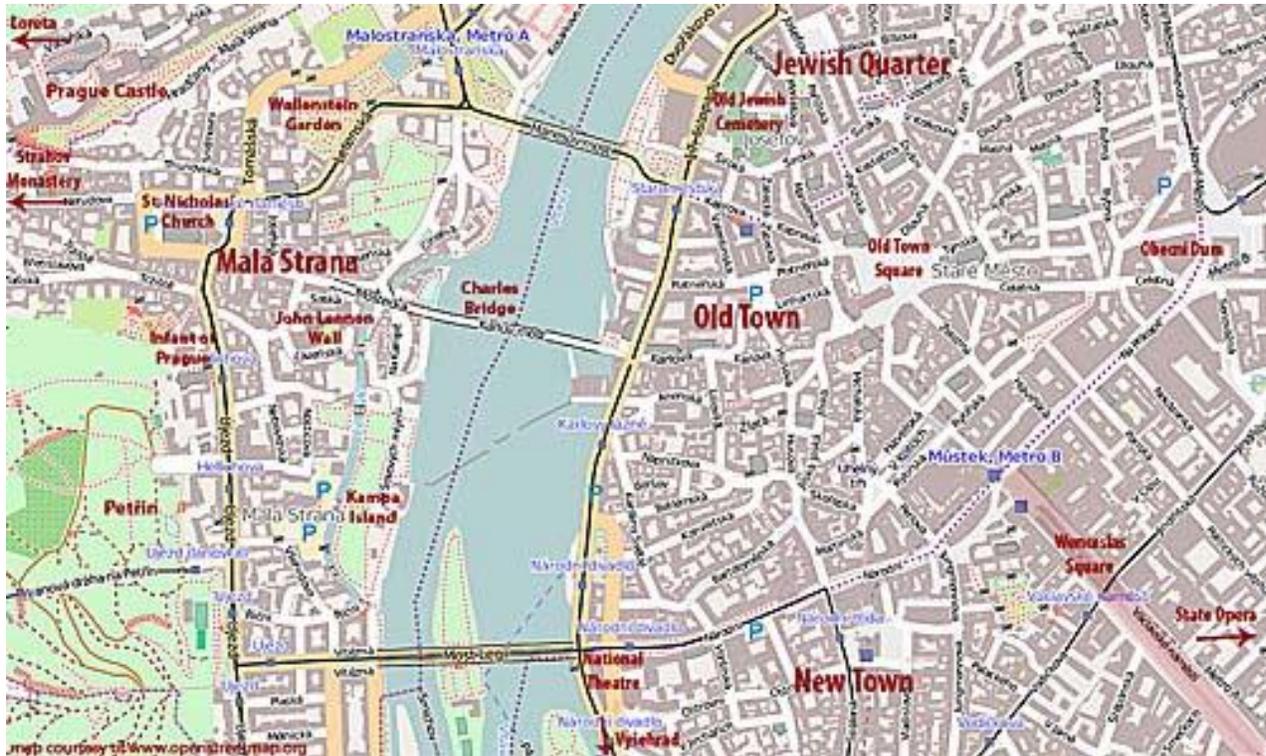


Figure 2.3 Map of the Different Neighborhoods of Prague (Prague Wise, n.d.)

Many heads of state, including modern presidents of the Czech Republic, have designated this castle as their official seat of government. Holy Roman Emperor Charles IV renovated the castle in 1346 and designated it as the capital of the Holy Roman Empire (*History of Prague castle*, n.d.). On the eastern side of the Vltava River, south of the New Town stands Vyšehrad Castle, built in the 10th century to control all southern trade routes coming into Prague. The Vyšehrad Castle allowed Prague to handle increasing amounts of economic activity as well as defend it, solidifying Prague's economic power in the Middle Ages. Moving eastwards towards the Vltava River sits the Charles Bridge, originally called the Stone Bridge, which served as the only bridge crossing the Vltava River near Prague for many years. Hence, it played a crucial role in trade and travel (Přikryl et al., 2011). Not only did these medieval structures bring people to Prague, but they added to Prague's architectural heritage and economic power, allowing it to build still more monuments.



Figure 2.4 St. Vitus Cathedral in Prague Castle (pixabay, n.d.)

In the Medieval Era, Christianity greatly influenced both the culture at the time and how kings chose to spend their money. Duke Wenceslas first built a church in Prague Castle complex to house the arm of Saint Vitus, an ancient, holy relic, but with a rise in worshipers, Prince Spytihnev would replace the church with a new Romanesque Basilica in 1060. Finally, in 1344, Charles IV demolished the basilica and began the construction of the French Gothic cathedral that stands today: St. Vitus Cathedral (see Figure 2.4). Emperor Charles IV sought to display his power and his proximity to God by building such a magnificent cathedral high above Prague in the castle. St. Vitus Cathedral has since served as the resting place of many religious figures and leaders and has brought many pilgrims to Prague, improving foot traffic, trade, and Prague's architectural legacy (Malíková, 1994).

On the eastern side of the Vltava rivers stands the Church of Our Lady before Týn, built on the site of an older, Romanesque church to serve the religious needs of foreign merchants coming to Ungelt during the 11th century. Then, in the 13th century, Konrád Waldhauser and

Milíč of Kroměříž rebuilt the church in the early Gothic style. Finally, in the 14th century, the construction of the present church began with the influence of Matthias of Arras and later Peter Parler. Serving as the main old town church and central church of Prague, The Church of Our Lady before Týn represented Prague's economic and cultural growth at the time and further augmented Prague's status as a major cultural and religious center (*Church of Our Lady before Týn*, n.d.). Its west facade can be seen in Figure 2.5.



Figure 2.5 Church of Our Lady Before Týn (Pexels, n.d.)

All these mentioned historical buildings line a route known as the Royal Way. The Royal Way, shown in Figure 2.6, originally served as a route that Czech kings would follow for their coronation processions. The Royal way also passes the oldest square in Prague, the Old Town Square, dating back to the 10th century. From the 10th century on, merchants from all over Europe traded their goods on this square. Today, tourists gravitate to the Royal Way and the monuments to Prague's heritage along with it.

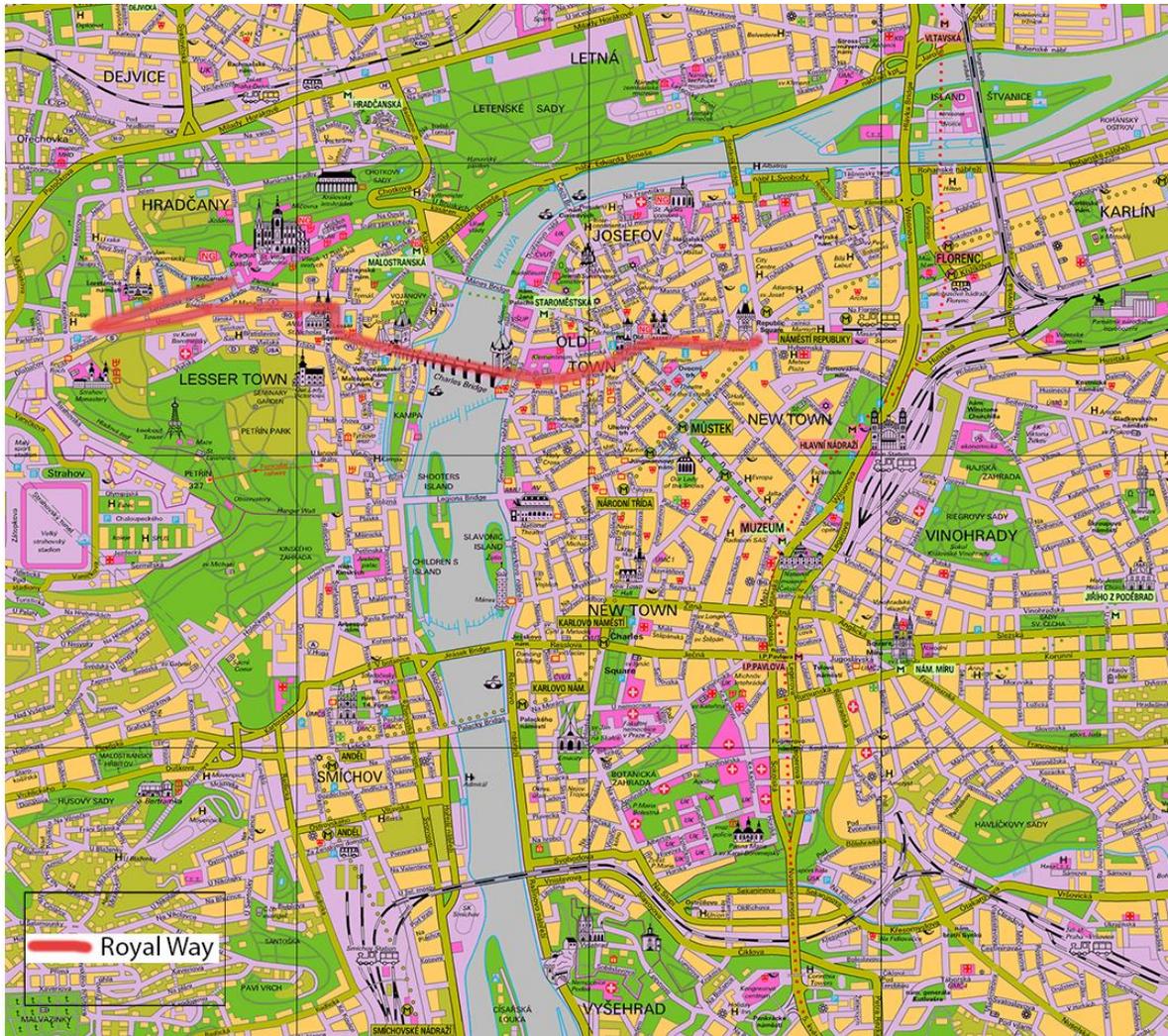


Figure 2.6 Map of Prague, Highlighting the Royal Way (*Prague Map - Maps of Prague - Prague Experience, n.d.*).

2.2.2 Czechoslovakia in the 20th century

500 years later, Prague had not lost its status as a cultural center, but in 1938, the German Reich would begin its invasion and annexation of Czechoslovakia. During this time, Germany and the Allies would bomb the Czech Republic, but the damage they caused pales in comparison to the widespread destruction that remained in other European nations in the wake of WWII. Prague, on the other hand, restored much of its original architecture in the decades after the war, earning the city its status as a very well-preserved city (Diefendorf, 1989). Before the outbreak

of WW2 and the full occupation of the Czech Republic, leaders of Britain, France, Italy, and Nazi Germany signed the Munich Pact, which surrendered Czechoslovakia to the German forces in an attempt to appease Germany and avoid a larger war. The Czech government quickly capitulated. The Nazi's main focus for taking Czechoslovakia was using its industrial power, and Germany used Czechoslovakia as the "arsenal of the Reich" (*Calling All Czechs! The Prague Uprising of 1945*, n.d.). The German army used Czech factories for machinery and munitions for nearly seven years. Consequently, the Allies bombed the Czech Republic only a few times, focusing on its major industrial sites. Both sides almost exclusively bombed factories and airports in Libeň, Prosek, Střížkov, and Vysočany, and the Czech government was easily able to rebuild any damage that did befall Prague. Finally, the Soviets would help liberate Czechoslovakia on the 9th of May 1945 (Hálková, 2005).

With the fall of the German Reich, Czechoslovakia found itself embedded in the political system of the Soviet Bloc. At first, Czechs were very pleased with the Soviets for liberating the country from Nazi occupation and because Czechs saw the Soviets as the only viable deterrent to a German re-invasion of the country (Duchacek, 1950). However, after poverty-stricken Czechoslovakia tried to join the US-backed Marshall plan, the Soviet Union quickly interfered, and after a successful coup in 1948, the Soviet-backed Communist Party of Czechoslovakia (KSČ) seized absolute control over the nation, bringing the full arsenal of Soviet political and economic practices with it. The KSČ implemented full state socialism and a command economy (U.S. Department of State). They nationalized industries and businesses, carried out five-year plans, censored publications, and maintained full control over the media just like the Soviets. At the height of Stalinism in the 1950s, Czechoslovakia also suffered a number of purges, show trials, and the use of labor camps as communist leaders grappled for control. When Alexander Dubček, a reformist elected to the KSČ in 1968, tried to grant the Czechoslovak people more

political freedoms during the Prague Spring, the USSR invaded the country and installed a new leader (U.S. Department of State).

The KSČ focused on increasing the production of producer goods and exports to other Soviet countries and as a result, invested little into anything that did not directly address their power, including the consumer economy, local heritage sites, or for that matter, tourism (Bideleux & Jeffries, 2007). Czechoslovakia played a leading role in trade and industry in the Communist Bloc, yet consumers regularly complained about the quality of goods and the lack of adequate consumer goods (Baum, 1978). However, in and around Prague, the KSČ built, among other things, the state-run and controlled Zizkov Television tower, the Moscow-inspired Hotel Crowne Plaza, and the Panelaks, a series of brutalist housing projects on the outskirts of Prague. Though Soviet influence did leave a mark on Prague, that mark did not alter Prague's historic image with its concrete monoliths. Communism prevented Prague from becoming a popular tourist center as early as western European cities, but this only added to its success after the Velvet Revolution.

2.2.3 Prague after the Collapse of the USSR

In 1989, a series of protests known as the Velvet Revolution marked the peaceful end of the KSČ and Communist rule in Czechoslovakia. Immediately, a new capitalist government came into power, opened borders, and privatized the now free economy. All these sudden changes precipitated tourists flocking to Prague and the country. Since then, Czechia has split from Slovakia, becoming the Czech Republic, and in 2004, the Czech Republic joined the European Union, further easing trade and the flow of tourists from across Europe. Because the KSČ had limited the number of international visitors, and since most foreign visitors were individuals who lived in other Soviet Bloc Countries, the fall of the Iron Curtain spurred an accelerated growth of tourism in Prague. Tourists were now eager to visit formerly inaccessible

Eastern Bloc cities, raising Prague's tourist counts by 475% between 1988 and 1996 (Horáková, 2010). Moreover, because the KSČ no longer controlled the economy exclusively, local citizens and foreign investors began opening businesses to meet tourist demands, only adding to the flow of international travelers. After the fall of the KSČ and the USSR, after travel agencies began using the Web to advertise travel, and in the wake of Czechia joining the EU, tourism quickly began to assert its dominance over the Czech economy and to grow at a substantial rate.

2.2.4 Prague's Appeal Today

Currently, tourists flock to Prague in part for its many historic, popular festivals like the Bohemian Carnevale, the Czech Beer Festival, Prague's many international music festivals, the Czech Harvest festival, and other holiday celebrations each year (see Table 2.1). Prague hosts many events during which visitors can gain an authentic feeling of Prague's rich heritage and traditions. The Bohemian Carnevale, dates back to the medieval ages as a religious celebration involving colorful costumes, parades, and music. The spectacle and the authentic Czech food festival draw many tourists each year (*Bohemian Carnevale / Prague.Net*, n.d.). The Czech Beer Festival gives visitors a chance to try more than 70 brands of Czech beer over 17 days in May. The Prague Spring Music Festival and Autumn International Music Festival comprise the two biggest music shows in the Czech Republic each year. The Czech Harvest Festival involves a church festival called Posviceni and a second celebration called Obzinky. The Posviceni is a church service held to give thanks to God for a good harvest and asking Him to bless it. The Obzinky celebrates a bountiful harvest and involves dance and feast with sauerkraut and kolache, and both celebrations draw a number of both Czech and foreign visitors (*Czech Republic Festival: Harvest Festivals from Around the World at HarvestFestivals.Net.*, n.d.).

Table 2.1 Number of Visitors at Major Events in 2018 (*Visitor Statistics for Prague Heritage Sites*, n.d.)

Major Events

Event	Visitor numbers
Signal Festival	500,000
Prague Museum Night	120,000
Designblok	50,000
Open House Praha	50,000
United Islands of Prague	45,000
Letní Letná	45,000
Májáles	40,000
Prague Pride	40,000
Prague Spring	35,000
Metronome Festival	18,000

As indicated in Table 2.2, tourists also visit Prague for its many museums, galleries, and theaters, including the National Museum, National Gallery, and National Theater. Prague's National Museum, founded in 1818, is the largest museum in the Czech Republic and houses nearly 14 million items (*National Museum*, n.d.). Initially, the museum focused on the natural sciences since many of its first collections consisted of minerals donated by nobles and scientists. Today, the National Museum exhibits a number of historical documents, historical artifacts, and other items pertaining to Czech history, natural history, ethnography, and other topics (*National Museum*, n.d.). The National Gallery, on the other hand, holds the Czech Republic's largest collection of art, exhibiting a mix of both Czech and foreign masterpieces. Founded in 1796 by the Society of Patriotic Friends of the Arts as a Picture Gallery, it became the central art collection of the Czechoslovak state in 1949 (*National Gallery in Prague*, 2013). Prague's National Theatre is the Czech Republic's representative stage and offers many operas, ballets, and plays. The National Theatre remains one of Prague's most important cultural institutions after its opening in 1881 and reopening in 1883 after a fire destroyed it. Millions of tourists visit both museums annually, as described in Table 2.2.

Table 2.2 Number of Visitors at Major Attractions in 2018 (*Visitor Statistics for Prague Heritage Sites*, n.d.)

Major Sites

Site	Visitor numbers
Prague Castle	2,444,885 ¹
Petřín Funicular	2,032,300
Prague Exhibition Grounds	1,743,750
The City of Prague Museum	1,533,981
Prague Zoo	1,427,353
O2 Arena	950,000
Jewish Museum in Prague	721,193
Prague National Gallery	711,928
Petřín Lookout Tower	697,567
Old Town Hall	599,509
National Museum of Agriculture	592,555
National Theatre	513,882
Czech National Library of Technology	505,540
Municipal House	423,250
National Technical Museum	383,377
Prague Botanical Garden Troja	371,292
The Museum of Decorative Arts in Prague	362,350
Chairlift at the Zoo	330,965
Kingdom of Railways	261,495
New Town Hall	239,300

Other aspects of Prague's culture that draw tourist attention to it include its beer, farmers' markets, and theaters. Beer is a major staple in Prague as the city has the highest beer consumption per capita and many Czechs call Prague the beer capital of the world. Over 400 local breweries supply Prague's many bars, and tourists readily frequent them for their beer (Bujdosó et al., n.d.). In addition, Prague hosts many seasonal markets that showcase regional fresh produce from March to November with several even running during the winter, though these offer fewer products. The Náplavka waterfront, the 'Kulaťák' roundabout, and the Jiřák frequently host such farmers markets (Spilková et al., 2013). Prague today, given its numerous cultural and historic attractions, continues to grow in popularity with visitors (FG Forrest, a.s. (n.d.).

2.2.5 Tourist Preferences and Demographics

In 2019, approximately 8.5 million tourists visited Prague, each with their tastes and travel goals, and each choosing attractions to experience based on those tastes and travel goals (Tracz & Bajgier-Kowalska, 2019). Czech citizens represent only 26% of Prague's annual visitors and in 2019, foreign tourists came predominantly from Germany, Great Britain, United States, Spain, France, and Italy (see Figure 2.7) (Tracz & Bajgier-Kowalska, 2019). A survey done by researchers from the Institute of Geography and Spatial Organization found that in 2017, the average length of a tourist's stay in Prague lasted from two to four days and most tourists were from Europe. The study found that visitors from the United States and Canada tended to stay the longest, staying five days or more on average (Tracz & Bajgier-Kowalska, 2019). Unfortunately, since 58% of tourists come from Europe and tend to only stay for a few days at a time, they tend to congregate in and around the Royal Way, visiting exclusively Prague's most famous sites (Severová et al., 2021).

Percentage of Tourists by Country visiting Prague in 2019

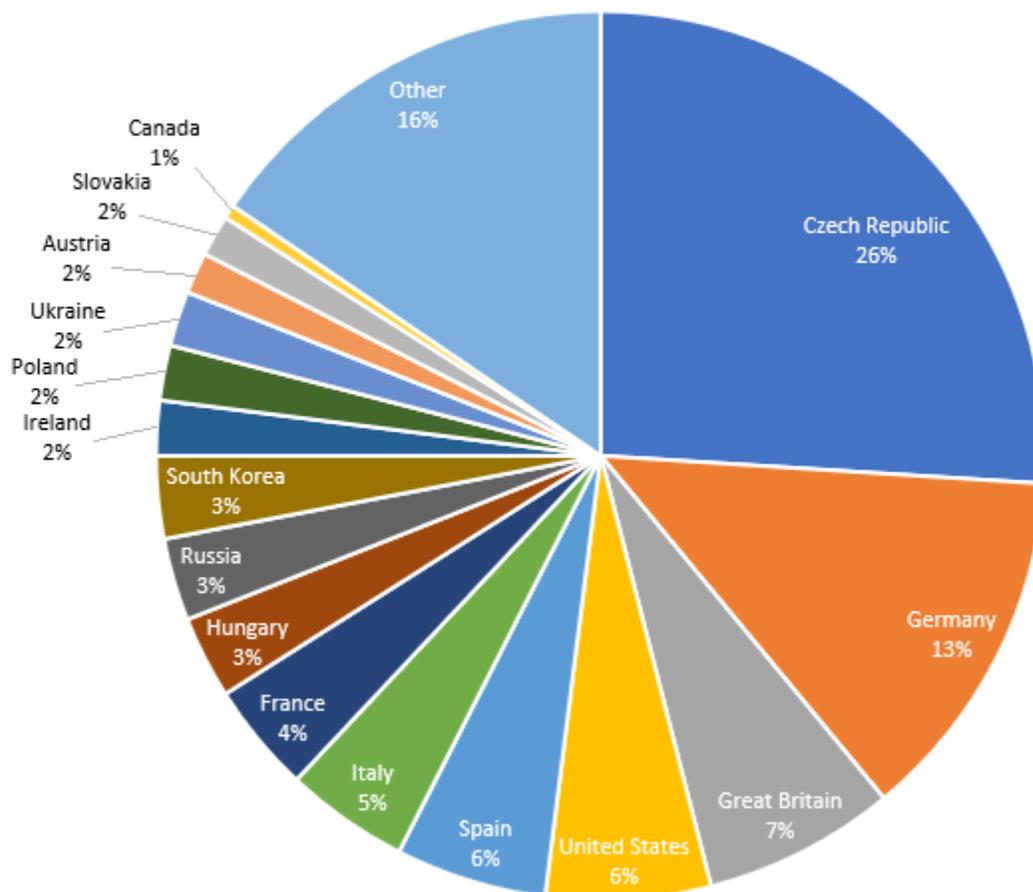


Figure 2.7 Percentage of Tourists by Country visiting Prague in 2019 (Authors' Own Work Based on Tracz & Bajgier-Kowalska, 2019)

The age group Prague attracts the most ranges from 20 to 39 years of age, representing 67% of tourists. On the other hand, senior citizens account for the smallest share of tourists in Prague at 4.5%. Figure 2.8 illustrates the distribution of ages. Each age group that the Institute of Geography and Spatial Organization studied disclosed different reasons for visiting Prague. Younger tourists, ages 15 to 29, wanted to discover unknown places, learn about the local culture, and participate in Prague's nightlife through festivals and bars. 30 to 39-year-old tourists focused more on visiting historical sites and museums, but they still wanted to participate in

entertainment events. For all age groups combined, tourists were most interested in sightseeing, historical heritage, and the nightlife in Prague (Tracz & Bajgier-Kowalska, 2019).



Figure 2.8 Age of Tourists in Prague in 2019 (Authors' Own Work Based on Tracz & Bajgier-Kowalska, 2019)

Because tourists in Prague prioritize sightseeing, historical heritage, and nightlife, they often congregate in the small area of the Royal Way or only see Prague's top tourist attractions, especially if they do not plan on staying long in Prague (Haluga, 2019).

2.3 Over-Tourism and its Effects in Prague

Since the 1990s, tourism has stood as a key element of Prague's economy. However, over-tourism in Prague occurred as a direct result of the huge influx of tourists to the city, leading to the creation of culturally irrelevant attractions, overcrowding in the city center, and, as

a result, lower quality of life for locals. As the tourism industry generates new economic opportunities, the need for sustainable tourism becomes more pressing.

2.3.1 Concerns for Authenticity

In the past decade, several museums have appeared in Prague that have no obvious historical or cultural relevance to Prague. For example, in 2011, the Gallery of Steel Figures opened as the world's first museum of recycled scrap metal sculpture. The sculptures take inspiration from cartoons, sci-fi, fantasy, fairy tales, pop culture, animals, and the automotive world (Gallery of Steel Figures, 2019). Similarly, the Museum of Senses opened in 2017. International artists, designers, and architects created this museum with separate zones for kids and adults to ‘awaken all their senses and inspire them to discover and feel more sensations (Aplitap, 2021). These museums provide visitors and locals with exciting experiences, but enterprising individuals could have just as easily created them in any other European city, unlike attractions specifically involving the history and culture of Prague. Although these museums are popular destinations, tourists visiting these attractions may miss out on some of Prague’s more authentic attractions and heritage. Unfortunately, the lack of authenticity in Prague’s attractions is not limited to museums but expands to shops and products sold as well.

Souvenirs throughout Prague, specifically along the Royal Way, have sparked debate because of questions about their authenticity and relevance to Czech culture. Almost all Prague souvenirs — 90% — are manufactured in bulk by foreigners with little reference to Prague’s heritage (Dumbrovská & Fialová, 2020). Most collectibles range from postcards, clothes, and jewelry, but souvenirs that are most true to Prague’s culture are Bohemian crystals and jewelry, which frequently come with certificates of authenticity and with higher price tags. However, some souvenir vendors along the Royal Way sell cheaper replicas marketed as authentic Czech goods, seeding doubts about the entire souvenir market’s authenticity (Dumbrovská & Fialová,

2020). The perception of authenticity is an important factor with tourists buying souvenirs, which is evident from the demand for Czech goods with certificates of authenticity. As a result, the drop in perceived authenticity of souvenirs and the difficulty in differentiating between authentic and inauthentic goods have left a bad impression of shop owners in Prague. (Dumbrovská & Fialová, 2020).

2.3.2 Overcrowding in Prague's City Center

With the growth in tourism along the Royal Way and around Prague's city center, locals living nearby have experienced drastic changes in their interactions with the now crowded and tourist-oriented space which they call home. Life in the city once offered plentiful access to entertainment, amenities, grocers, the epicenter of Czech culture, jobs, schools, etc. However, many citizens today report issues with noise levels, overcrowding, a lack of non-tourist businesses, and drastic increases in prices and the cost of living (Dumbrovská, 2017). As a result, many citizens use spatial coping mechanisms to deal with large crowds. Citizens living near the Royal Way have tried, for example, taking a different route to work than normal to avoid the crowds or going to open spaces like parks and fields to experience Prague without the tourists. Local citizens have remarked that they commonly leave for the countryside every weekend during the summer months or take elongated holidays (Dumbrovská, 2017). The evidence demonstrates that the negative effects of tourism affect their quality of life, forcing them to change their lifestyles.

The increase in the number of tourists visiting Prague has created a huge demand for housing accommodations like hotels and Airbnb's. Dating back to 1996, the demand for housing led to the building of 275 new housing establishments since 1989. The same time period saw a 300% increase in the number of beds in hotels (Dumbrovská, 2017). However, the Czech Statistical Office states that from 2012 to 2017, the number of beds available throughout the

Czech Republic has decreased by around 30,000 (Severová et al., 2021). The rapid rise in the temporary housing market because of popular listing sites like Airbnb, which currently displays over 14,000 Airbnb listings in Prague alone, has contributed to the decline in number and need for hotels (Brokes, 2019). As a result, property prices in Prague have skyrocketed given the profitability of renting out living space near the center of Prague, driving out locals who are no longer able to afford housing in the center of their capital city.

Further, it is also clear that tourism and tourist-oriented businesses have begun to economically dominate the center of Prague. A 2015 study conducted by researchers at Charles University in Prague, found that of the over 300 establishments along the Royal Way in the city center, over 90% were tourist-driven. Retail stores, like monetary exchange offices, Thai massage parlors, the Museum of Chocolate, Museum of Torture, Wax Museums, a Ghost and Legends Museum, and souvenir shops and jewelers make up the establishments located on the Royal Way. (Dumbrovská, 2017). Charles University researchers also discovered that local citizens were deeply concerned that tourism has fundamentally taken over the city and indicated that tourist-driven attractions have replaced places like small cafes, movie theaters, bookstores, and diverse food markets (Dumbrovská, 2017). As businesses gear their products and services towards tourists and their needs, authenticity in goods like souvenirs becomes a worry for both tourists purchasing those souvenirs and for locals.

However, despite the difficulties Czech citizens face when living in central Prague, they still have a positive outlook on tourists and tourism in the Czech Republic. According to a study conducted by researchers at Charles University in the summer of 2015, 88% of local respondents held either positive or impartial views on tourists. Furthermore, the same study concluded that 27% of respondents want tourism to increase (Dumbrovská, 2017). Over-tourism Prague has damaged both the city and immediate local culture, but tourism has greatly helped the country's

economic status. On the other hand, locals believed culturally irrelevant attractions in Prague to be insulting to the culture that Prague has tried to preserve (Dumbrovská, 2017). The locals' attitudes towards tourism demonstrate both the need for the continuation of tourism and the need to renovate Prague tourism.

2.3.3 The Path to Sustainable Tourism

Due to the vast economic impact of tourism in Prague, the city has avoided addressing the issue of “over-tourism” for fear of losing income and damaging the local economy (Gosling, 2021). However, Prague's current condition has made clear the need for city officials, locals, and the tourism industry to address the economic and socio-cultural pillars of sustainable tourism: promoting authentic heritage sites and attractions, diffusing the spread of tourists into heritage-rich areas, and promoting businesses that reflect local tastes and the local culture. The COVID-19 pandemic has forced city officials to make fundamental changes to tourism as a whole in order to protect against infectious disease. These visible adjustments have made Prague's over-tourism and reliance on tourism all the more evident. In recent years, mass tourism in Prague has swamped the center of the city and lowered the quality of life. However, when Prague's tourism industry shut down due to the pandemic, locals were able to explore and embrace their city (Gosling, 2021). With the drastic changes brought on by the COVID-19 pandemic, city officials finally began taking serious action to renovate Prague's tourism scene.

Prague's policy changes focused on attracting and regulating tourists interested in the historical, architectural, and cultural aspects of Prague. Unfortunately, historical and cultural experiences are the main motivation for only 41% of tourists from all backgrounds (Haluga, 2019). However, as part of its efforts, Prague plans to raise awareness for authentic Prague experiences that have gone unnoticed by tourists. Mayor Zdenek Hrib stated that he has enacted plans to “close fraudulent exchange offices and other tourist traps” (Schlagwein, 2020). The city

seeks to eliminate the operation of individuals, shops, and services (or tourist traps) exploiting tourist crowds. These establishments are not only detrimental to the tourist experience in Prague, but they have replaced businesses that residents relied on (Schlagwein, 2020). Another tactic that Mayor Hrib has implemented to limit over-commercialization and lower property prices is to restrict rentals via platforms like Airbnb (Schlagwein, 2020). In order to incentivize tourists to spend more time in Prague and help the city more broadly, the city monitors the number of rentals available in Prague and plans on taxing shorter rentals. On the other hand, this could also cause tourists to skip Prague and not come at all, decreasing the number of tourists visiting the city for only a day or two at a time. This effort should, in theory, favor locals trying to buy properties in Prague, and reduce crowding in the center of the city caused by short-term visitors.

In an effort to reduce overcrowding in select areas of the center of the city, specifically the Royal Way, the city has started planning for alternative tourist routes outside the historic center (Gosling, 2021). Policy changes have proven critical to promoting sustainable tourism in countries like Poland and Italy, but the promotion of certain attractions over others cannot originate in policy alone as demonstrated in these cases. Prague has recently developed a website and an app for visiting tourists called *At home in Prague* (pragueunlocked.eu) in an attempt to promote attractions relevant to Prague's culture all over Prague, not just along the Royal Way. Tourists earn points for visiting historically relevant places on the app, and they can use these points to pay for other entrance gamifications. This website and app promote sustainable tourism by spreading awareness for authentic experiences in Prague and diffusing tourism away from the Royal Way. Additionally, it is an incentive for visitors to stay longer because the website's point system makes visiting more attractions cheaper (*At home in Prague*). Figure 2.9 provides a screenshot of the instructions of the *At Home in Prague* system and Figure 2.10 provides a screenshot of the information part of the website.

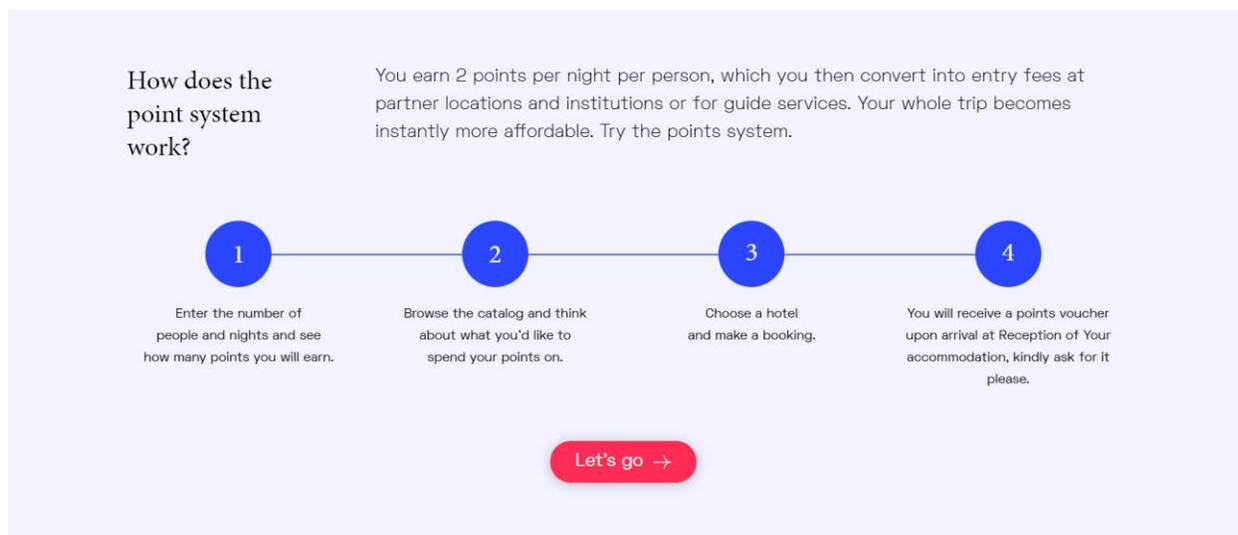


Figure 2.9 *At Home In Prague* Incentive Instructions

Find inspiration for your trip to Prague!

We've put together several examples of how the points you earn can be spent. Take a look at them or put together your own program.

Category	Duration & Participants	Activities	Points for Entrance Fees
Family	2 nights, 2 adults, 2 children	1 Private Walking Tour, Prague Zoo (Zoologická zahrada hl. m. Prahy), Prague Botanical Garden, Fata...	16 points
Romance	2 nights, 2 adults	Petřín a zahrada Kinských, Galerie Villa Pellé, Prague Botanical Garden, Fata Morgana greenhouse...	8 points
Art	2 nights, 2 adults, 1 child	Action! Cameral Prague!, DOX Centre for Contemporary Art, Prague City Gallery - Colloredo-Mansfeld Palac...	12 points
Night-time	1 night, 2 adults	2 Group Walking Tour, 1 Private Walking Tour, Municipal House (Obecní dům), New Town Hall...	4 points

Figure 2.10 *At Home In Prague* Information Section

Moreover, our preliminary research of the website noted its lack of customer reviews, a key feature of other travel websites that is extremely useful on trips. Although hotels have ratings on this website, there are no personal experience reviews on each attraction. *At Home in Prague* certainly seeks to promote sustainable tourism in Prague, but it is new and its impact on the local tourism scene and on local life has not yet become evident.

The EU has stepped in and created an official tourist website for Prague called Prague.eu (Prague.eu). This website provides updates pertaining to COVID-19 information, historical and cultural information on attractions, events, and food. Each attraction has pictures and descriptions of the shop or site amenities. However, this website has “top picks” for the week, meaning it only displays about twenty tourist attractions each week. Figure 2.11 below displays a screenshot of the website.

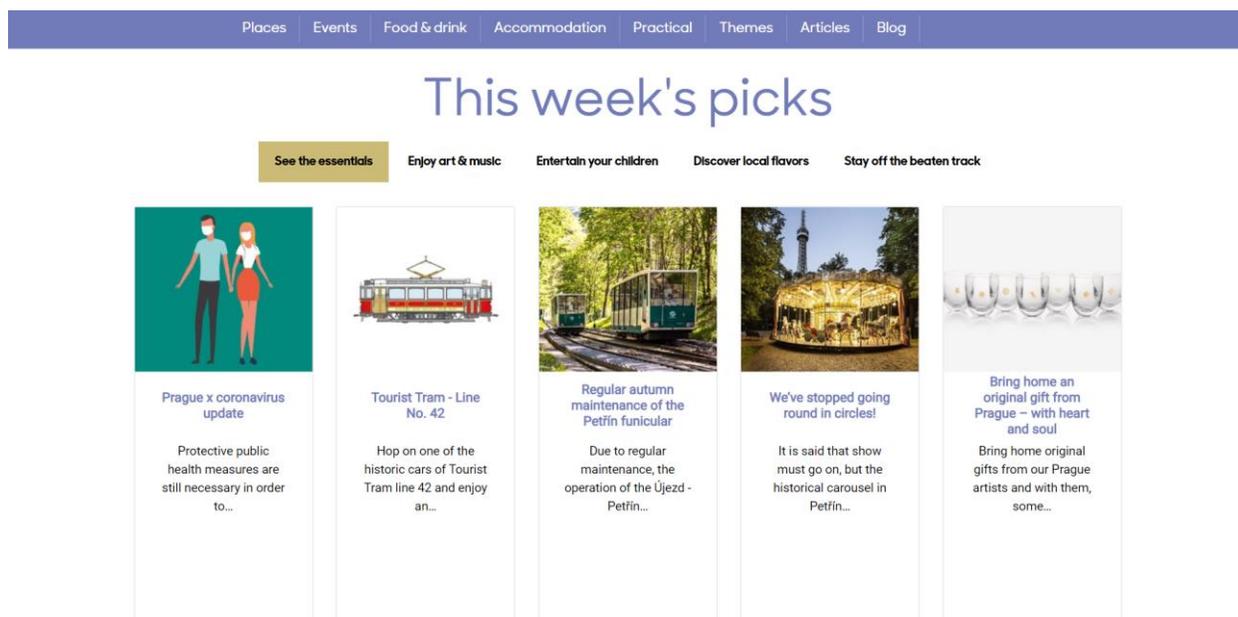


Figure 2.11 Screenshot of Prague.eu Website

On one hand, the website recommendations distribute tourism to different areas of Prague and supports authentic sites, but tourists can seldom rely on it when planning their trip as the information each week changes and does not have a wide variety of options. This website does not display information on pricing, and tourists may have to go elsewhere when creating their itineraries. The EU's website correctly promotes sustainable tourism, but it does not focus on tourists planning their trip.

Despite efforts to promote sustainable tourism with online resources, there are hundreds of unofficial websites and online maps tourists use when seeking activities in Prague. However,

many popular websites such as TripAdvisor ([tripadvisor.com](https://www.tripadvisor.com)) and Culture Trip ([theculturetrip.com](https://www.theculturetrip.com)) direct visitors towards the most popular tourist sites along the Royal Way rather than focusing on the attractions outside the center of Prague. Moreover, they list and promote all tourist attractions, including those with little relevance to Prague's cultural heritage. Although Prague has made strong efforts towards sustainable tourism with legal actions and websites, more action is needed to create truly sustainable tourism. As demonstrated in our background, the climb towards sustainable tourism in the Czech Republic requires the cooperation of all its stakeholders: tourists, local citizens, city officials, city planners, residents, hotel and restaurant owners.

3. Methodology

The goal of our project is to develop a website that encourages tourists to discover the authentic and relevant aspects of Prague's rich heritage, especially its lesser-known treasures outside of the Royal Way, and in doing so, helping the city advance towards sustainable tourism.

To achieve this goal, we have created four research objectives:

1. Analyze prior sustainable tourism initiatives in other cities, their presence, mission, strategies, stakeholders, and backing.
2. Develop a perspective on authentic and relevant experiences in Prague based on local input.
3. Design a website framework to promote sustainable tourism.
4. Develop a prototype website, test it, revise it as necessary, and establish a basis for verifying its impact.

Figure 3.1 illustrates the relationship between our objectives, tasks, and deliverables for this project. Each objective box contains information on how we will gather our data and how we will analyze it, with the deliverable of each marked below. We will complete these four objectives sequentially from left to right, and this chapter will explain the specific methods we plan to use in order to accomplish each objective and to create our website.

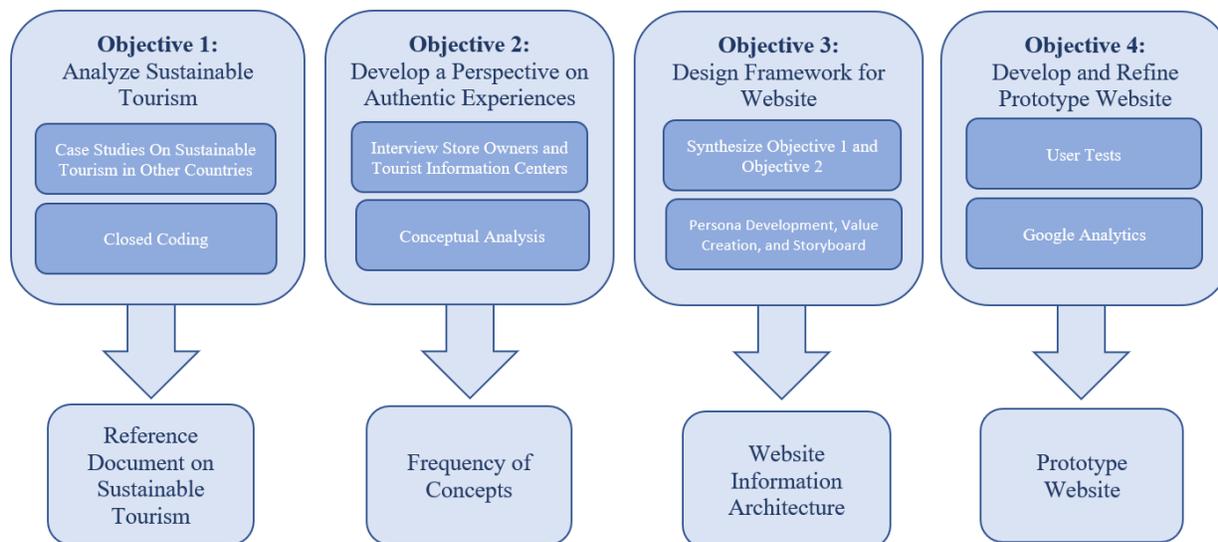


Figure 3.1 Methods Overview for Sustainable Tourism Website

3.1 Objective One: Analyze Sustainable Tourism

To create a user-friendly and impactful website, our first objective is to analyze efforts made towards sustainable tourism in other European cities more extensively. We have already completed preliminary case studies in our background sections 2.1.1 and 2.1.2, but we also plan to conduct case studies focused on Warsaw, Venice, Vienna, and Reykjavik. We will investigate the websites these cities have created and the strategies they used to promote their efforts towards sustainable tourism. Additionally, we will conduct more extensive research on how Prague has made progress towards sustainable tourism and the websites it created to do so. In particular, we plan to determine each website's popularity, content, stakeholders, mission, and financial backing for each city.

To analyze our data collection, we will use a closed coding system. This entails creating categories and a system to sort them based on the concepts we will gather as part of our preliminary research. Specifically, we will use closed coding to categorize and group the characteristics and aspects of sustainable tourism and over-tourism that other cities have targeted

and analyzed. Through researching and analyzing how these cities have approached the problem of advancing their tourism industries towards their own versions of sustainability, we will have gathered details on strategies professionals in the field have developed and used, the scientific language and categories they used, and the effects of their actions on the communities they worked in. After collecting and sorting these details into our coding system, we will be able to establish a reference document for sustainable tourism. A reference document is an outline of the procedures undertaken during development, and ours will formulate the basis for our strategies for implementing sustainable tourism, our website's target audience, and how users should be able to access that website.

3.2 Objective Two: Develop a Perspective on Authentic

Tourism

Our second objective involves determining which aspects of the tourism scene in Prague, attractions and businesses, the local community considers to be authentic and representative of their Czech culture. This step is vital to our goal as we want to promote and shine light on truly authentic experiences in order to promote sustainable tourism. We plan to conduct three semi-structured interviews with several categories of locals. We will first find our interviewees by emailing and calling different restaurants, tourist information centers, and stores asking locals for a five-minute interview on Prague attractions. Should they consent to the interview and to us recording their responses using the consent statement in Appendix A, we will ask them deductive, close-ended questions we will have developed as part of the reference document in Objective One, depending on which type of local we are interviewing. We have provided sample questions in Appendix B. Afterwards, we will transcribe each interview using intelligent transcription, transcribing every word excluding pauses and filler words.

After we complete the transcriptions, we will systematically categorize excerpts from the interviews to find similarities and patterns between them. With our closed-ended questions, we will then link any similar concepts or locations mentioned between interviews by counting how many times each was mentioned in the interview transcripts. We have provided an example table of word frequencies in Appendix C. After we complete this objective, we will have generated a list of authentic Prague attractions that we would then consider promoting on our website.

3.3 Objective Three: Design the Framework for Our Website

For our third objective, we will design the structure, functionality, and content of our website based on the findings of our research so far. We will first rely on persona development, and a value creation model, to outline the use cases for our website and outline how it would improve Prague's tourism industry respectively. Persona development is a process useful for simulating the backgrounds and needs of people using our website, and it will help us determine the motivations and goals of each category of people using it, allowing us to focus on the needs and wants of people using our website for any foreseeable reason. We will also use the value creation model, as it can be used to simulate how our website will affect all stakeholders, what problems the website may eliminate or cause, and how the end user will be affected. Our value creation model will help us determine how our website affects each user and how the website may impact their choices.

From the personas and value creation model we will have developed, we will form a storyboard outlining the features and information our website needs to have. Storyboards are graphic organizers that outline sequences of concepts needed to accomplish one or more objectives and are useful for the visualization of a website's features, organization, and the

information included. We plan to design the first iteration of the storyboard and then review it amongst ourselves to ensure the layout and structure of information are logical and well suited to promote sustainable tourism. Afterwards, we plan to meet with our sponsor Professor Deskins to ensure that our storyboard coincides with his expectations. After creating the design for our prototype highlighting the structure and content of the website, we will be able to begin developing that website.

3.4 Objective Four: Develop and Refine a Prototype Website

Based on our website design, we will build, test, and refine our preliminary website. Once we develop an initial prototype website, we will obtain feedback from locals and tourists in Prague, our sponsor, Professor Deskins, and select foreigners who have never been to Prague but want to visit in the future, using Appendix D to ask them for consent. We hope to also ask locals and businesses in Prague that we have interviewed in Objective Two for feedback as well. Additionally, we hope to find people online that fit our target audience's demographic, as determined in Objective One. We plan to recruit participants through "snow-balling," a recruitment technique wherein researchers ask participants to identify other potential subjects or to recommend our website to them. We plan to share our survey on social media websites such as Facebook, Instagram, or Twitter, and contact friends, parents, as well as Professor Deskins' contacts to find people who have either been to Prague or are interested in traveling to Prague. Our hope is to survey at least twenty people, and we plan on creating and hosting our survey using Qualtrics, a platform for creating and distributing web-based surveys.

Our target audience and sponsor will provide us with critiques on our website. We will ask participants to interact with the website, tell us any improvements they would like to see, and

what they enjoyed about our website using questions from Appendix E. Should participants turn out to be local citizens, they may also help us decide whether or not the website accurately represents the culture of Prague well. Based on the feedback we receive, we will improve our website and create a media outlet that will have an impact on tourism in Prague. Moreover, if participants end up liking our website, they may boost its popularity either by using it or by recommending it to others. Additionally, based on our outcomes from Objectives One, Two, and Three, we will decide where our website should reside on the web to ensure it will reach our targeted audience, and to make this possible, Professor Deskins will purchase a host for our website.

After we have completed our testing phase, we will configure Google Analytics to work on our website and measure the number of visits it sees, thereby measuring its impact. Google Analytics is a free service for website analytics that helps website owners view data related to their website traffic and activity, and we will add or activate it for our website after our testing period to avoid bias. After the completion of our project, we will give full access to and ownership of our website to Professor Deskins, and Google Analytics will provide him with a tool to further the impact of that website as the city progresses towards sustainable tourism.

4. Our Desired Impact

In creating the prototype for that website, the hope is to improve the overall tourist experience in Prague, helping tourists better enjoy their stay. By promoting sustainable tourism, we also want to help locals in Prague tackle overcrowding, high costs of living, and cultural misrepresentation. Finally, we envision a secondary effect where Prague's government will see higher revenues generated by tourists spending more time on a better experience and by locals moving back into their city. We believe that our project can and will positively impact everyone involved in Prague's tourism industry: tourists, businesses, the government, and most importantly, the local citizens.

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Appendix A - Interview Preamble and Consent

We are students from Worcester Polytechnic Institute in the US. We are conducting research on sustainable tourism in Prague and wish to interview you about your perspective on the current state of Prague's tourism industry. Participation is voluntary, and you may withdraw at any time. Do you agree to be interviewed? If so, may we also record the interview video or audio for data retention purposes? Additionally, please let us know if we may use your name or if you wish to remain anonymous.

Appendix B – Sample Interview Questions

Questions for all Local Interviewees

What do you think of the portrayal of Czech culture through tourism today

Do you feel that there are any aspects of Czech culture tourists are missing? If so, what?

Do you feel that any aspects of Czech culture are misinterpreted?

What sorts of attractions should tourists prioritize the most?

Where do you recommend tourists visit to get an authentic experience in Prague?

Are there any places outside the city center that tourists can go to avoid crowds?

Are there any tourist sights you consider inauthentic to Prague? If so, what are they?

Additional Questions for Restaurant Owners

What sort of food do you consider to be authentic to the Czech heritage?

Where do locals generally go to eat?

Do you have any favorite spots?

Do you promote your restaurant at all? If so, do you target anyone in particular and if so, how do you target them?

Additional Questions for Tourist Center Representatives

Do you advertise certain attractions or businesses over others? If so, why and how?

Appendix C – Sample Word Frequency table

Key Term	Interview 1	Interview 2	Interview 3	Interview 4	Average per interview
Restaurant	2	1	1	2	1.5
Royal Way	3	6	7	8	6
Museum	3	6	2	1	3
Castle	1	7	2	2	3
Beer	2	8	1	1	3

Appendix D – Website Quality Survey Consent Request

We are students from Worcester Polytechnic Institute in the US. We are conducting research on sustainable tourism in Prague and wish to ask you about the quality of the website we have created to promote sustainable tourism. Participation is voluntary, and you may withdraw at any time.

Appendix E – Website Quality Survey Questions

Demographic Questions

What is your relation to Prague? (Select All that apply)

- Local
- former tourist
- future tourist
- None of the Above

Where are you from?

How old are you?

What is your gender?

Likert Scale Questions {done as a matrix in Qualtrics}

Was the information on the website clear and easily accessible?

Was the website easy to use?

Did the website look appealing stylistically?

Were there any attractions on the website you were unaware of? If so, how likely are you to visit them in the future?

As a tourist/local visiting this website, is there anything missing?

Do you feel that this website changes your mind on sights you would like to see?

If you answered yes to being a local, do you believe this website accurately represents Prague's culture?

Open Ended

What did you like or what didn't you like about the website?

If you answered yes to being a local, do you believe our website accurately represents the culture of Prague?