

# **Preservation and Sustainability: Balancing Cultural Heritage and Modern Development in Bergen's Bryggen Area**

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## Abstract

Bergen boasts a rich harbor-centric historical narrative, rooted in its erstwhile prominence as a key Hanseatic Office outpost. The evolutionary trajectory of its port infrastructure has engendered substantial urban development, epitomized by the emergence of the Bryggen precinct. Bryggen, constituting an urban fabric derived from Bergen's medieval settlement, has retained its structural integrity from the 12th century to contemporary times. Revered as an emblematic facet of Bergen's cultural legacy, this picturesque enclave within the port precinct garnered early recognition as one of UNESCO's inaugural World Heritage sites.

Sustaining Bryggen's esteemed status on the heritage roster mandates the formulation of rigorous management protocols and judicious interventions aimed at conserving its historical authenticity. Conversely, Norway's steadfast commitment to advancing its sustainability agenda engenders imperatives to curtail vehicular and maritime traffic within the vicinity. How, then, do these divergent imperatives reconcile to achieve a symbiotic equilibrium?



## Introduction

Figure 1

Photo of a cruise in front of the Bryggen area by Arkikon AS/Byantikvaren, Bergen municipality, n.d.



Note : Arkikon AS/Byantikvaren, (n.d.), Bergen municipality

In the present worldwide context, there is an inclination to try to become more and more sustainable. Especially countries that are part of The United Nations are aiming to follow the 2030 agenda guidelines. However, in some instances, the historical context creates tensions in the development of a more livable and green environment. For example, sites that are part of the UNESCO Heritage List have to follow their guidelines and have their approval on the different interventions that are made.

An example of the tight relationship between a Listed UNESCO Heritage site and a state aiming to become more and more sustainable is the Bryggen area in Bergen's port. Known as one of the oldest harbors in North Europe, Bergen's port, which started at first as a small fisherman port was then chosen to be one of the establishments of the "Hanseatic Office" (Spurkeland & Håland, 2021). This development, from being just a city port to becoming one of the biggest trading harbors of North Europe required the construction of stockhouses where to stock goods: the Bryggen area. This then became one of the most recognizable features of Bergen. Indeed, the relationship between the port of Bergen and Bryggen is quite close, with one facing the other. There is a tension created by the oppositions of the two realities: the harbor city postcard facade and the port with its infrastructures.

The thesis aims to analyze the different interventions that have been made in Bergen's Harbor and Bryggen area. It offers a more in-depth understanding of the stakeholders who have intervened and continue to intervene in the World Heritage Site. How did being a UNESCO-listed area influence the change in the perception of the site? How did the interventions requested by UNESCO change the site, particularly with the introduction of a proper management plan? In dealing with the development of the sustainability process in Norway (Spurkeland & Håland, 2021), how did stakeholders manage to maintain a balanced relationship without risking removal from the List? Through this analysis, it will become clearer how Bryggen has influenced the residential aspect of the Bergen port.

During the centuries Port cities were not only trade areas but part of the city's social aspect too (Hein, 2016). Therefore, while analyzing a port, in this case, Bergen's port, it's important to try to understand the former relation to the water. Bryggen, where the former port stock houses were located, has always been a harbor that had a strong connection with the water. The sea was the main transportation method to connect the different communities of northern Europe (Mumford, 1961). For example, there were areas specially dedicated to the people living in the city to have a direct interaction with the water. Confirming Hein's words, on how ports were treated as leisure places that were part of the city.

Nevertheless, the reality of a port city transcends its picturesque waterfront representation; it must be regarded as an integral part of the urban fabric. It cannot be simply treated as a commercial zone but rather integrated into the city, ensuring that it does not remain exclusively designated for commercial use, and inaccessible to citizens (Kowalewski, 2021). In Bryggen, a similar scenario unfolds where an area, specifically Vryggen, remained inaccessible due to unreachable quays, thus departing from the historical integration of the port into the city. As Daldanise & Clemente (2022) stated these areas need to have a tailor-made solution to resolve these intricate situations.

These problems have come up, especially after the post-industrialization era when there were many issues in the development of port areas and their relation with the city centers (Sheena, et al., 2022). In most cases, the ports are still non-urbanized



areas that need to be developed and turned into part of the city. They are of great value from a cultural and social point of view.

However, its being part of the World Heritage Sites List makes it more difficult to find a meeting point in how the site should be treated. The site needs to have a Management plan considering the different aspects needed to keep its Historic relevance (Leask & Fyall 2006) to not be removed from the List. That has happened to the Liverpool Port (Dai & Hein, 2021), where the decision to introduce a new management plan that went against the requirements of UNESCO made it lose its World Heritage List place in 2021. There was indeed the request to fulfill the needs of the city caused them to have a two-option choice: keeping the heritage status or developing its infrastructure to become a liveable area.

This intricate relationship has been shown even in the Bergen example where both the UNESCO requirements and the Norwegian ones come together into one site, therefore finding a compromise between the Heritage one and the Sustainable development of the city.

This intricate relationship has been shown even in the Bergen example where both the UNESCO requirements and the Norwegian ones come together into one site, therefore finding a compromise between the Heritage one and the Sustainable development of the city.

The Thesis will analyze firstly the different alterations that have been made in the past 20 years, therefore looking at the Bryggen Project interventions, and then exploring more in-depth interventions that will be made in the port area to follow the Green Strategy requirements of the Norwegian state. Therefore primary sources, as for policy documents will be the foundations of the thesis aiming to find how they are related and if the social aspect is taken into consideration.

The organization of the thesis is into several chapters that analyze the case study. The initial two chapters delve into historical aspects: the first explores the history of the Bryggen area, while the second investigates the establishment of the World Heritage List. The subsequent section of the thesis examines various projects undertaken in the Bryggen area. The first part focuses on restoration and preservation efforts aimed at maintaining the site's original organization, while the second part addresses transportation and accessibility is-

## Bryggen: Exploring the Evolution and Preservation of Bergen’s Historic Port Area

With its long-lasting history, Bergen was and still is one of the main ports of the North Sea. The city was founded in 1070, by King Olaf III Haraldsson also known as Olaf Kyrre, after the end of the Vikings. Around 1100 in the Vågen harbor, a castle was built establishing Bergen’s relevance as a city and, therefore its political and quick commercial importance (The Editors of Encyclopedia Britannica, 2024).

Figure 2-3

Illustrations of Bergen in the 14th century



Note : Arkikon AS/Byantikvaren, (n.d.), Bergen municipality

Initially, the harbor started as a small quay for fishermen. Over the centuries, it gradually developed into a trading port in the 12th century, expanding beyond its initial status as a small village port. With its impressive growth, there arose the necessity for a specified area of the port where goods could be stocked. Therefore, in the 14th century, the Bryggen area was established, serving as a place where warehouses were settled (Fig. 2 -3). These warehouses functioned similarly to the Venetian Fondacos, providing places where merchants could rest and keep their merchandise during their voyages (UNESCO World Heritage Centre, n.d.).

The remarkable development of the harbor over the years caught the attention of the Hanseatic League, which held a monopoly on merchandise in Northern Europe. In 1350, the Hanseatic League established its Office in Bergen, further expanding the city’s relevance as a trading port. The Hanseatic Office did not have many offices around; indeed, Bryggen became one of the four main ones. This relationship endured until 1754 when the “German Office” was re-

placed by the “Norwegian Office,” a transition that lasted until 1899. After this period, the Bryggen area was mainly used for urban trade, consequently losing its reputation as a center for the dried fish trade (Spurkeland & Håland, 2021).

The Bryggen area, owing to its historical trading background, is renowned for its emblematic buildings. It is intriguing to note that the buildings listed in the UNESCO World Heritage sites are not the original structures from the 14th century. The wooden constructions, vulnerable to destruction due to the fragile nature of wood as a building material, have been repeatedly devastated by fire. Most notably, a significant portion of the buildings burned down in 1702 and were subsequently reconstructed. Nonetheless, the surviving structures offer insights into how trade operated and how Hanseatic merchants lived and worked within the “gård,” or stock houses, fostering a robust social community. In certain instances, some “gård” had to be interconnected, as the settlements utilized by the Hanseatic office were based on the original urban layout of Bergen, necessitating larger spaces for storing goods and accommodating merchants (Spurkeland & Håland, 2021).

It’s intriguing to observe how the medieval settlement of Bryggen has been preserved, allowing us to discern its organizational layout: long, narrow rows of houses arranged in single and double yards descending towards the quays and Vågen. The narrow passages served as thoroughfares for transporting goods from the quays and “gård” to the city center. This organization within the urban fabric has profoundly influenced the structure of the buildings.

The area remained almost completely preserved until the 1900s when the southern or inner part of Bryggen, situated between Vetrilidsallmenningen and Nikolaikirkeallmenningen, underwent demolition, except Finnegården. However, such demolition was not possible for the wharf area due to its protection under the “Building Preservation Act” of 1927. Nevertheless, the explosion of 1944 and subsequent fires in 1955 and 1958 inflicted significant damage on the area. As a result, only a quarter of the buildings constructed after 1702 remain standing today (Spurkeland & Håland, 2021).

The Bryggen area began to be recognized as an important cultural site in the 1960s. Initially, it was listed in the Norwegian Cultural

Heritage Act and subsequently protected through the Norwegian Planning and Building Act. This new perspective on the area led to the establishment of projects and foundations aimed at its preservation. One such example is the Bryggen Foundation, founded in 1962, by Stiftelsen Bryggen, whose goal is to preserve Bryggen and unite the various stakeholders, including private owners and the municipality, under one foundation (Stiftelsen Bryggen – Stiftelsen bryggen, n.d.).

Following these developments, only one major intervention took place in 1965, involving the relocation of some of the rear buildings to create space for fire emergency purposes. However, this intervention was closely tied to the restoration efforts, aiming to minimize the use of “non-original” materials, particularly wood. An Important year for Bryggen was 1979 when the area was listed as part of the World Heritage List, considering its historical relevance for the city, the port, and its social aspect. After being listed, there was the need to keep track of the requirements asked by UNESCO to keep being part of the Heritage List. Therefore management plans on how to keep the site as close as its original state was established, following the requirements from UNESCO.

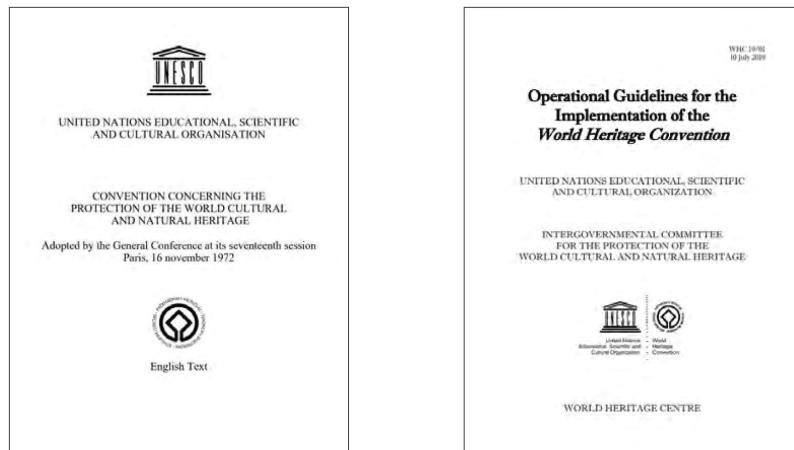
The Bryggen Project is one of these, it was started in 2000 by the Directorate for Cultural Heritage. It is a long-period project spanning a 30-year duration from 2000 to 2030, aimed at monitoring, safeguarding, and restoring the Bryggen area. This extensive and long-term initiative concentrates on both: archaeological deposits and standing buildings within Bryggen. The decision to create this project for the Bryggen area facilitated a more thorough analysis of the interventions made, thereby placing greater emphasis on the materials and methods used to maintain authenticity and reconnect with the original ones.

The Bryggen project served as a pivotal starting point for the revitalization of the area. Subsequently, numerous other projects were proposed and implemented, including the Cleaner Port of Bergen project, which will be examined later in this analysis.

## The Historical Background of the UNESCO World Heritage Site List

Figure 4-5

Left: Cover of “Convention Concerning the Protection of the World Cultural and Natural Heritage” of 1972.  
Right: “Operational Guidelines for the Implementation of the World Heritage Convention” of 2017.

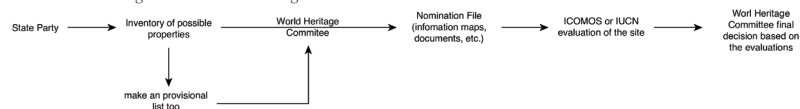


In 1972, UNESCO’s General Conference in Paris spotlighted the neglect of cultural and natural heritage sites. Economic priorities often overshadowed preservation needs, leading to their deterioration. This realization spurred the establishment of the World Heritage Sites List during the Paris Convention, setting out principles for their preservation and management (Fig. 4).

UNESCO lacked the expertise to determine the value of potential World Heritage sites, prompting a collaboration with ICOMOS (International Council on Monuments and Sites) and IUCN (International Union for Conservation of Nature). This joint effort aimed to safeguard cultural heritage. ICOMOS, a global network of experts, is dedicated to conserving and enhancing monuments and sites worldwide. As such, ICOMOS played a crucial role in reviewing cultural heritage nominations during the convention where Bergen was listed (ICOMOS mission - International Council on Monuments and Sites, n.d.).

Figure 6

Process of becoming a Listed World Heritage Site



Notes: author, (2024)

The process of becoming a World Heritage site is complex. The State Party creates a “tentative list” of potential sites, which helps identify properties for possible inscription within 5 to 10 years. Once selected, the nomination process begins, involving the preparation of a detailed “nomination file” with maps and documentation. This file is submitted to the World Heritage Centre for review before being evaluated by advisory bodies like ICOMOS and IUCN. These bodies provide assessments to the World Heritage Committee.

After evaluations, the Committee convenes annually to decide on site inscriptions. To be included, a site must demonstrate significant cultural value and meet at least one of the ten selection criteria outlined in the Operational Guidelines. These criteria expanded from six to ten in 2004, with six for cultural heritage (I-VI) and four for natural heritage (VII-X).

In 1978, during the second session, the initial 12 sites were selected to be included in the World Heritage List. Subsequently, during the third session in 1979, an additional 45 sites were added. Among these was the Bryggen area. Considering its early-stage entrance the site was one of the ones that had to go through the VI criteria and be chosen by ICOMOS. Meaning that after 2013 the OUV (Outstanding Universal Value) description had to be revisited by The World Heritage Committee (Spurkeland & Håland, 2021). Bryggen area is inscribed in the list based on criteria III :

*“be a unique, or at any rate exceptional, testimony of a cultural tradition or a civilization that is alive, or that has disappeared”*

Hence, the fascination with the Bryggen area lies in its social dimension, revealing insights into the structured society of the Hanseatic era and the organization of daily life and trade. Consequently, the lifestyle of its inhabitants significantly influenced the urban layout of the port area. Intriguingly, the enduring frame structure established by the Hanseatic office persisted even after its closure. While residents of Bergen assumed control, the area’s well-organized layout continued to support trade development. This continuity ensured the maintenance of established building structures as a framework for intangible heritage.

Certainly, the significance of the Bryggen area lies in its tradition-

al architecture and the compact arrangement of buildings. These structures typically feature gabled roofs and consist of 2 or 3 stories. Fascinating to discover how society interacted closely within these tightly-knit spaces. Additionally, some buildings are interconnected to optimize storage capacity and create shared areas. For instance, many houses in the area had a single kitchen in amalgamated buildings, a measure taken to minimize the risk of fire in wooden structures. However, this is not the only interesting aspect of the area: seeing how the buildings are very close to each other, so not having big roads, explains what was the most important aspect: being the transportation veins from the pier to the city center (Spurkeland & Håland, 2021)(Figure 7).

Figure 7

Bryggen small roads connecting the port to the city centre



Notes: unknown, (n.d.),Bergen municipality

Upon closer examination, it becomes apparent how the organization of life within the Bryggen area unfolded. Numerous remnants scattered throughout the Heritage site denote the preservation of diverse building typologies: modest one-story wooden sheds, pole houses, firehouses, barns, and stone cellars. These architectural vestiges serve as tangible representations of the socio-cultural milieu, shedding light on the lifestyles, traditions, and prevalent daily practices of the inhabitants. Consequently, the inclusion of these elements has culminated in the city's designation as a World Heritage Site, even though the extant structures do not align with the "original" ones, particularly those of the 14th century (Spurkeland & Håland, 2021).



## Preserving Bryggen: Evolving Strategies for UNESCO Compliance and Environmental Resilience

Since its inclusion in the World Heritage List in 1979, the Bryggen area has grappled with meeting evolving UNESCO standards. As one of the earliest listings, it has faced regulatory changes that have heightened awareness of its value. Consequently, significant alterations have been necessary, spanning from restoration efforts to the formulation of new management plans. These changes have ultimately contributed to the site's ongoing development and preservation.

The most relevant ones are the changes to the Guidelines for being part of the World Heritage List of 2004. As a result, Bergen municipality initiated work on a management plan, considering various interventions and requirements for the site. The proposed projects aimed to clean and restore the area in compliance with the mandates of the UNESCO Heritage List and the Norwegian Cultural Heritage Act. These efforts are integral to the Bryggen World Heritage Site management plan, established in 2005 to align with the requirements of the UNESCO Heritage Sites List.

Since then the Bryggen area had multiple interventions, most of which are not visible but are more concerning the ground and the sea. One of the main interventions that has been done is the Bryggen Project (De Beer, et al., 2016) which was established in 2000, by the Directorate for Cultural Heritage, which is the owner of 38 buildings, out of the 62 still existing, in the Bryggen area. The Bryggen Project's scope is to work on different interventions from the year 2000 to 2030.

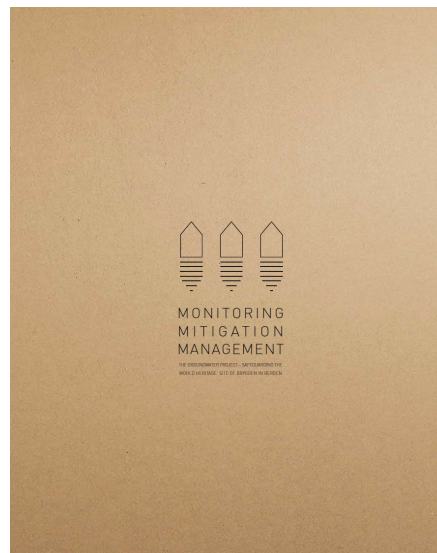
The organization of the project has been developed in cooperation between different actors, from the public realm, Bergen municipality to the private, as for private owners. This way of dealing with multiple stakeholders was made to have a broadened knowledge of what is happening and what has happened on the site during the years. The aim was to try to keep an open communication that could help to figure out problems in the area before turning them into irreversible ones. The main scope of the project is to keep track of the underground water and soil composition to control the chemicals in the saturated and unsaturated zones, through different science fields trying to achieve the best solution. This multidisciplinary analysis is extremely inno-



vative, and it is explained in “Monitoring Mitigation Management”, which resumes the historical findings in the Bryggen area and the results of the operations (Fig. 8). All the interventions are then based on excavations in the site, in settled areas that are checked to see the development. It aims to restore, safeguard, and monitor the Bryggen area: the buildings and the archeological deposits (Rytter & Schonhowd, 2015).

Figure 8

Cover of “Monitoring Mitigation Management, The Groundwater Project – Safeguarding the World Heritage Site of Bryggen in Bergen”, 2015



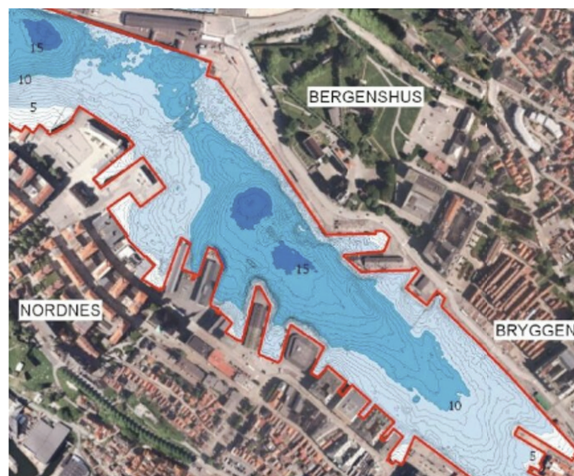
Similar to this another intervention has been made, this time more related to the environment around the Bryggen area and Vågen, the old harbor. The Cleaner Port of Bergen Project’s aim was to clean the sea area around the port, especially by cleaning the sea bed from pollution and toxins (Renere havn Bergen Norway, n.d.). The intervention made by COWI started from Bergen Port considering its area relevance, therefore being part of the UNESCO Heritage List and protected under the Norwegian Cultural Heritage Act.

Responsible for the clean-up job is the Bymiljøetaten in Bergen municipality through the Projekt Renere Havn Bergen (Cleaner port of Bergen) (Bergen kommune - Renere Havn Bergen, n.d.). The project started in 2009 and finished in 2021. However it was not easy to work on it, multiple problems came up and needed to be resolved. One of the main ones was how to intervene in the area considering its historical value, especially considering that the Norwegian state trying to clean all port areas and the UNESCO requirements of

keeping the site in the closest condition possible to its original one. The Urban Environment Agency had to delay intervention on the site until receiving professional advice regarding the historical findings. Two potential interventions were suggested: extracting the polluted masses or adding a layer of clean material to restore the seabed. However, executing either option posed a risk of compromising sailing depth and concealing cultural layers. Consequently, the intervention strategy involved dividing Vågen into zones and carefully balancing these factors against each other (Renere havn Bergen Norway, n.d.)(Figure 9).

Figure 9

Analysis depth of water to divide the areas for cleaning



Notes: Unknown, (n.d.), Bergen kommune - Renere Havn Bergen

This intervention also contributed to addressing other water-related issues, particularly concerning the rising water levels attributed to climate change. Therefore helping the Bryggen site from being affected by pollution from water intrusion (Hagen, 2022).

Indeed proximity to the sea makes Bryggen a flood-prone area. Therefore, it is a vulnerable site to rising sea levels and high tides. As has happened in the past flooding can happen in the area putting the World Heritage site at huge risk especially if the water invading the area is extremely polluted. This risk citation has brought to longer-term projections for climate change, especially made by CICERO (Centre for International Climate Research) done for Bergen (Bremer & Johnson, 2023). The study's role was to showcase the different vulnerabilities of communities projected on a city scale. In particular, it is clear how the Bryggen area is more at flooding risk, both for its historical relevance and for the reduction in water in the subsurface cultural layers, therefore the decay of organic layers and historical wooden foundations (Venvik, et al., 2020).

## Preservation Strategies and Interventions in the Bryggen Area: Study of Management Plans

The Bryggen area being an integral part of Bergen's city center, is influenced by all ongoing developments in the city. However, considering its Historical relevance there needs to be a different approach to the alteration of the area, indeed everything needs to be checked by the commune of Bergen, the Riksantikvaren ( Directorate of Cultural Heritage), and UNESCO World Heritage site, to be sure that the developments align with the latter requirements. Bergen, often referred to as "the city between the seven mountains," boasts a strategic location that has been strategic throughout its history. Being positioned amidst the mountains has historically made sea travel more accessible, thereby diminishing the importance of overland transportation methods over the centuries (The Editors of Encyclopedia Britannica, 2024).

Hence, the Vågen harbor, the historic port linked to the Bryggen area, served as the primary gateway to the city, mirroring a situation akin to Venice where the Bacino of San Marco was the main entrance. Nevertheless, in both instances, a shift occurred during the modern age, transitioning from sea-based to land-based access. Consequently, the significance of the water facades evolved from practical utility to becoming tourist attractions.

The port's significance remains, and its historical importance has led to its recognition as one of UNESCO's heritage sites. Consequently, due to its strategic location, in between the fjords, and its historical assets has turned it from a merchant trading area to a destination where tourists can appreciate its historical assets. Therefore, multiple interventions were made over the years, especially in the last decades when after being listed as one of the heritage sites a proper management plan was developed, thanks to UNESCO's direct request.

Various projects have been carried out over the years to integrate the Bryggen area into the city while maintaining a strong connection to its historical roots and addressing the increasing levels of tourism. For example in the Vågen, Kaiene og Bryggen plan of 2006, (Spurkeland, & Håland, 2021). A project proposed by Bergen mu-

nicipality in collaboration with Hordaland County Council and the National Archives. The project aimed to create a zoning plan whose aim was to protect the area by establishing a buffer zone in front of the Bryggen area. This intervention defined the new borders of the Bryggen area expanding it more. Therefore using the same approach from a conservation point of view to more extent area (Knutsen, 2019). The protection plan was subsequently submitted by the Norwegian Cultural Heritage Directorate to the World Heritage Committee in 2019, to formalize it as the designated buffer zone. The objective was to expand the focus beyond solely object-related preservation to encompass a broader interest, specifically examining the connections and interactions between the buildings and seeking to understand the social life of the area in greater depth (Bryggen, n.d.).

Figure 10

Illustration of the adopted protection plan



Notes: unknown, (n.d.), Bergenskart

A more comprehensive strategy, the 2012 Bergen Harbor Plan (Spurkeland & Håland, 2021), delves deeper into the future potential of the port areas, aiming for seamless integration into the city. This plan, developed by the municipality of Bergen, serves as a framework for analyzing interventions in the port area until 2025 and understanding the relationship between port activities and those of the city. Given that the port remains Bergen's primary business, its growth is imperative. The plan's objective is indeed to secure existing port operations and facilitate future interventions for harbor area development, focusing on traffic-related challenges (freight, cruise, ferry, and tourist). Certainly, the region is tailored for sea-related ventures. Consequently, everything associated with boats, whether

from a recreational standpoint such as tourist boats, or an economic angle like container ships, is integral to its development (Spurkeland & Håland, 2021). Moreover, the framework analyzes various harbor areas, including the possibility of restoring access to the quays, reflecting the port's original organization.

Based on the previous plans for the area and the Norwegian state's aim of becoming a more sustainable country new projects were planned for Bergen that affect the Bryggen area directly. Indeed Norway is following a zero-growth policy for bigger cities, that tries to decrease the number of cars in the cities by 2030 (Kloos, 2022). In the Bryggen area, the problem is even more highlighted by the amount of cars and buses going past the site (Moldung, et al., 2022). The street in front of the UNESCO site has a taxi stand and bus stop which especially during peak hours creates traffic problems. In addition, the amount of tourism in the area is increasing, making it almost impossible to walk around the site as it was perceived. All these factors were taken into consideration when the possibility of re-designing the area was given, therefore having a smarter approach to the site viability.

The previous municipality plan for the zoning area of Vågen, Kaiene, and Bryggen did not manage to ensure the heritage values of the site. The site was not completely defined as an area but more as a relevant element in the area. This approach has focused on individual buildings, neglecting the area's urban fabric and historical significance. There's been little emphasis on showcasing the intricate relationship between different structures and their historical use by residents. Previous plans prioritized maintaining the area as is, with more attention on Bergen harbor logistics (Moldung, et al., 2022).

From 2018 a new project for the light rail to connect Åsane to Bergen has been introduced. The project aim is to develop the already existing Bybanen line to develop the Green Strategy in Bergen's Municipality. However, the only way of connecting the two cities is by creating a train line that has to pass in front of the Bryggen area. Of course, the theme of what will happen to heritage sites came up and different analyses were done. For example, if the vibration of the works will affect the stability of the buildings that are part of the Heritage site or if the project will hide the site (Moldung, et al., 2022). Therefore, UNESCO had its opinion on the intervention, the main problem was understanding if the site would have been hidden



by the infrastructure connected to the train line. To understand the impact of the intervention on the waterfront in 2018 an architectural competition was held (Fig. 11-12-13). On the matter, the World Heritage Committee required that a Heritage Impact Assessment be carried out to be sure that the plan would not go against the heritage values of Bryggen (Moldung, et al., 2022). In general, the project has a positive impact on several aspects: the reduction of car traffic, noise, and a return to the original urban organization in terms of space utilization.

Figure 11-12-13

Planned Bybanen light rail on Bryggen Quay and modifications carried out throughout the Heritage Impact Assessment process



Notes: Philipp Tebart, (n.d.), mkphc

Connecting to the tourism problem in the Bryggen area some interventions have been made, for example, the 2016 - 2020 Cruise strategy. It aims to develop a more sustainable way of developing cruise tourism taking into account the environment and the local communities (Bergen Reiselivslag, 2016). The port of Bergen is the largest Norwegian port in Northern Europe, so the tourism index is high, especially for the number of people visiting the Bryggen area, creating problems in the viability of the area during the summer period.

Amidst the ongoing pandemic, VisitBergen devised a comprehensive strategy aimed at cultivating a more sustainable model for cruise tourism at the Port of Bergen. The primary impetus behind this initiative was the imperative to mitigate carbon emissions within the port's environs. This imperative prompted a transformative approach, converting the port into a preeminent shore power plant for cruise ships. Consequently, vessels now possess the capability to deactivate their diesel engines and draw energy from the docked shore (Bergen havn - Norges største cruisehavn, n.d.). Furthermore, in 2022, the Bergen city council took proactive measures by implementing specific parameters, including a daily limit of 8,000 passengers and a cap of three ships per

day. This deliberate intervention was introduced to effectively manage the dynamics of cruise ship traffic within the port.

It is noteworthy that this intervention aligns with an expanded plan, as the Bergen City Council has declared that, by 2026, all cruises must be equipped to connect to shore power (Kloos, 2022). These interventions are integral components of the Green Strategy for the Port of Bergen, with the overarching goal of establishing itself as the first Zero Emission Smart Port in Europe (“Green ports: Bergen aims to be the greenest, smartest port in Europe,” n.d.).

## Conclusion

The conservation of heritage materials is fundamental in modern society, as it retains a profound meaning linked to the culture of the site and its values. Therefore, in cases like Bryggen the relationship between the different stakeholders is of great value. When big decisions are made there needs to be a hierarchy of which one are factors are more relevant and what is important for the site: Is it more important to be “frozen” in the past or turn into a more sustainable one? Considering that every choice made is well thought there is not only one option, it can be more of them put together trying to find the perfect balance between the heritage (the past) and sustainability (the future).

However, in these extremely intricate relations, there are always more than two perspectives to take into consideration. Usually, the heritage stakeholders (UNESCO and Norwegian Cultural Heritage Act) and the government (Regjeringen and Bergen Kommune) are the main ones who make the final decisions. However, considering that it is one of the biggest cities in Norway the social aspect becomes a relevant one to be considered. Especially taking into consideration the growth of tourism. Bergen’s popularity as one of Norway’s most visited cities is largely attributed to its strategic location amidst the picturesque Norwegian Fjords, making it a favored one-day cruise stop. However, this surge in tourism raises concerns about unsustainable practices, echoing global apprehensions exemplified by cities like Venice. The city’s relatively small size, juxtaposed with the influx of visitors, poses structural and logistical hurdles, notably impacting the livability of areas like Vågen and Bryggen. The strain on infrastructure, coupled with the environmental impact of mass tourism, emphasizes the urgent need for proactive measures to ensure the long-term sustainability of Bergen’s cultural treasures.

The Bryggen area, being the most frequented destination, faces inherent risks, particularly structural issues due to the composition of ground layers supporting historic buildings, exacerbating concerns about their long-term stability. Additionally, inadequate



management strategies for the waterfront area compound these challenges, leading formerly vibrant living spaces toward a state of ‘non-livability.’ Balancing the demands of tourism with the imperative to safeguard historical integrity and environmental sustainability remains a multifaceted challenge, necessitating collaborative efforts and innovative solutions to navigate successfully.

In response to the escalating tourist influx, Bergen has implemented proactive measures, including regulating the number of daily cruise entries. This approach diverges from the uncontrolled tourism surge observed in other countries post-pandemic, underscoring Bergen’s commitment to balancing economic interests with social considerations and preserving its heritage values.

Delving into Bryggen’s heritage environment reveals efforts to uphold cultural traditions through the preservation of traditional materials and construction techniques. However, this preservation must navigate a delicate balance, weighing the need for sustainability against the preservation of cultural authenticity. While maintaining original materials honors cultural heritage, transitioning to more durable alternatives may be necessary. Nonetheless, Bryggen’s evolution encompasses strategic urban plans aimed at enhancing the area while retaining its historical charm.

The imperative for change extends beyond mere preservation; it encompasses a broader vision of sustainability and livability for Bergen’s residents. The increasing congestion and difficulty of navigating the heritage site highlight the need for proactive urban planning. By prioritizing pedestrian-friendly infrastructure and green spaces, Bergen can enhance the quality of life for its residents while preserving the city’s unique cultural heritage.

Bergen’s management approach to the Bryggen area is characterized by a nuanced equilibrium between preservation and progress. Through strategic planning and community engagement, the city is navigating towards a more sustainable and inclusive future, prioritizing the preservation of its cultural heritage while fostering socio-economic development.

This delicate balance involves careful consideration of urban development, tourism management, and environmental sustainability.

Bergen is committed to protecting Bryggen's historical legacy while creating spaces that meet the needs of residents and visitors alike.

Moreover, Bergen is pursuing innovative solutions to promote environmental stewardship and mitigate the impact of tourism on Bryggen's ecosystem. These efforts include initiatives to reduce carbon emissions, enhance waste management practices, and improve green spaces within the heritage area.

In essence, Bergen envisions Bryggen as a harmonious blend of cultural preservation and sustainable development, where residents thrive in a vibrant urban environment. By embracing this vision, the city is laying the groundwork for a prosperous future for Bryggen and its inhabitants.



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