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INCLUSIVITY & ACCESSIBILITY of Historic Public Spaces

Approach & Digital Tool

POLITECHNIKA LUBELSKA
LUBLIN UNIVERSITY OF TECHNOLOGY

UNIVERSIDAD DE GRANADA

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INCLUSIVITY AND ACCESSIBILITY OF HISTORIC PUBLIC SPACES

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INCLUSIVITY AND ACCESSIBILITY OF HISTORIC PUBLIC SPACES

1. INTRODUCTION

Historic public spaces have long served as vital stages for cultural exchange, civic engagement, and the cultivation of collective memory. From the bustling agoras of ancient Greece to the grand squares of the Renaissance, these spaces reflect the social priorities and aesthetic sensibilities of their time. However, even as societies have evolved, many of these environments remain shaped by historical design paradigms that excluded considerations of universal accessibility. It was not until the late 20th and early 21st centuries that global frameworks—such as the UN Convention on the Rights of Persons with Disabilities (2006) and the European Accessibility Act (2019)—began to establish formal obligations for inclusive and barrier-free design. Yet even these legal advances are implemented unevenly, with significant disparities in the interpretation and application of the law across regions, leading to persistent gaps in both policy and practice.

In this context, accessibility emerges as the most immediate and measurable aspect of the broader goal of inclusivity, which encompasses the social, cultural, and digital spheres. Physical interventions—such as ramps, tactile paving, legible signage, and auditory navigation systems—constitute the fundamental infrastructure necessary for inclusive participation. Without these elements, people with mobility, sensory, or cognitive disabilities are effectively excluded from full participation in public life. It is important to emphasize that accessibility should not be reduced to a checklist of technical solutions; rather, it should be adopted as a design philosophy that values human diversity, promotes autonomy, and recognizes the right of all people to inhabit and shape shared environments.

However, implementing these inclusive principles in historic public spaces presents distinct methodological and ethical challenges. On the one hand, conservation standards often limit interventions that could alter or obscure original architectural features. On the other hand, contemporary accessibility requirements demand substantial modifications to ensure equitable use. Navigating this tension requires a multidisciplinary approach, one that brings together heritage professionals, accessibility advocates, urban planners, and local communities. Increasingly, digital technologies such as 3D scanning, virtual reality wayfinding tools, and GIS-based accessibility audits allow stakeholders to visualize and test design interventions before physical implementation. These innovations offer promising pathways to reconcile the two imperatives of preservation and progress, ensuring that historic spaces remain not only culturally significant but also inclusive.

2. CHARACTERISTICS OF PUBLIC SPACES IN HISTORIC CITIES

2.1. INCLUSIVITY AND ACCESSIBILITY IN THE PUBLIC SPACES OF HISTORIC CITIES. AN APPROACH BASED ON LITERATURE

2.1.1. HISTORICAL PUBLIC SPACE AS A SOCIAL AND PHYSICAL PALIMPSEST

The public spaces of historic cities represent one of the most complex and richest manifestations of the built environment. They cannot be understood as mere containers of activities or simple voids between buildings, but rather as palimpsests, manuscripts upon which layers of history, collective memory, social practices, and physical transformations have been superimposed over centuries. This stratified condition is what confers upon them their unique heritage value, but also what poses the most significant challenges for their adaptation to the needs of a contemporary society that aspires to be fully inclusive. Academic literature on urbanism and urban design has addressed this duality from diverse perspectives, recognizing that these spaces are simultaneously cultural artifacts that must be preserved and living stages for social interaction that must be accessible to all.

The conceptualization of public space as a fundamental sphere for civic life has deep roots in urban theory. Authors such as Appleyard and Moudon (1991) laid the groundwork for understanding streets not only as transit corridors, but as "public spaces for public use," places for meeting, socializing, and community expression. This vision is especially relevant in historic centers, where the street, the plaza, or the atrium are not isolated elements, but rather components of a continuous and coherent urban fabric that has evolved organically. The morphology of these spaces—narrow, winding streets, historic pavements, irregular topographies, and a dense network of buildings—is a fundamental determinant of their character. As explored in general works on urban landscape and design, such as those by Carmona (2016) or Casanovas Soley and Losantos (2008), these physical characteristics are not a passive backdrop, but an active agent that shapes human experience, the perception of place, and the possibilities for movement and interaction.

This understanding of historic space as a complex and living system was pioneered in interventions such as that of Bologna's historic center, documented by Cervellati, Scannavini, and De Angelis (1976). The Bolognese approach represented a turning point by proposing a methodology of "comprehensive restoration" that transcended mere monumental conservation. Its objective was not to fossilize the historic center, but to revitalize its social, residential, and economic function, understanding that preserving the physical fabric only made sense if it guaranteed the continuity of the life that inhabited it. This historical precedent is fundamental, as it establishes a conceptual framework in which the social dimension of space is inseparable from its material dimension. However, what was understood in the 1970s as "social revitalization" has evolved. Today, the debate has shifted toward the concepts of inclusivity and universal accessibility, demanding that the "life" that is sought to be preserved and fostered in historic centers be accessible to all citizens, without exception. The very morphology that defines the identity of these places thus becomes the main challenge to overcome. The cobblestone pavement that evokes centuries of history

is, at the same time, an insurmountable barrier for a wheelchair; the monumental staircase that articulates a square is an obstacle for a person with reduced mobility; and the complexity of the medieval layout can be disorienting for a person with a cognitive disability. Addressing accessibility in this context, therefore, is not simply a matter of applying standardized technical solutions, but of reinterpreting the very nature of historic public space in the 21st century.

2.1.2. THE DEBATE BETWEEN HERITAGE PRESERVATION AND THE RIGHT TO THE CITY

The core of the debate on accessibility in historic centers lies in a fundamental tension, often presented as an irreconcilable conflict: the dialectic between the imperative of preserving cultural heritage and the affirmation of the right to the city for all citizens. On the one hand, protecting the historical, artistic, and testimonial value of established urban environments is a cultural and legal mandate, aimed at safeguarding the material and immaterial integrity of these places for future generations. On the other hand, the right to the city, a concept that transcends mere physical access to encompass full participation in urban life, demands that public spaces be arenas of equality, not exclusion. Contemporary literature strives to move beyond viewing this dilemma as a zero-sum game, proposing instead an analytical framework that seeks synthesis and compatibility between both principles.

This conflict manifests itself tangibly in the practice of urban planning and management. García-Esparza (2022) analyzes policies for protecting the "urban scene" in World Heritage Cities in Spain, highlighting how efforts are focused on maintaining the visual and material authenticity of the landscape. While these policies are crucial for conservation, they can directly clash with interventions necessary to guarantee accessibility. The introduction of a ramp, the replacement of historic paving with continuous paving, or the installation of an elevator can be perceived as unacceptable alterations to the heritage character. Simultaneously, studies such as that of Martín et al. (2022) specifically investigate accessibility considerations on pedestrian routes in these same historic centers, revealing the enormous existing deficiencies and the systematic exclusion they generate. The juxtaposition of these two lines of research highlights the dilemma facing urban managers: how to fulfill the duty to protect heritage without violating the fundamental right of access to and enjoyment of it?

To delve deeper into this issue, it is necessary to move beyond a purely architectural perspective and adopt an approach rooted in social geography. Olivera Poll (2013) offers a crucial theoretical framework by analyzing the relationship between disability, accessibility, and the creation of "exclusionary spaces." From this perspective, physical barriers are not merely technical obstacles, but rather active producers of social segregation. An inaccessible historic center not only hinders the mobility of certain groups, but also denies them participation in the civic, cultural, and economic life that unfolds there, reinforcing their marginalization. Space, therefore, is not neutral; its physical configuration has direct social and political consequences. This idea is further developed by Jaramillo Cruz (2022), who explicitly links disability to the "right to the city" within the context of the social production of public space. This author argues that the struggle for accessibility is not a request for technical adaptations, but a demand for full citizenship. It is about recognizing that the ability to use, enjoy, and take ownership of the city's central spaces is an indispensable

condition for exercising social and political rights. Consequently, the dialectic between heritage and accessibility is revealed not as a technical dispute between conservators and designers, but as a fundamental political debate about what kind of city we want to build and for whom. Resolving this tension does not lie in the victory of one principle over the other, but in the search for innovative solutions that demonstrate that a historic space can be both authentic in its character and universal in its accessibility.

2.1.3. DIMENSIONS OF ACCESSIBILITY IN THE CONSOLIDATED URBAN FABRIC

Addressing accessibility in historic centers requires a redefinition and broadening of the concept itself. The trend in the specialized literature is to move beyond a reductionist view, focused almost exclusively on eliminating architectural barriers for people with reduced mobility, and towards a multidimensional and comprehensive approach. This perspective recognizes that the experience of exclusion in the urban environment is multifaceted and affects people with a wide range of abilities and needs. A truly inclusive public space is not only one that can be navigated in a wheelchair, but one that is perceptible, understandable, safe, and welcoming for everyone. Therefore, it is essential to deconstruct accessibility into several interrelated dimensions that must be considered together in any analysis or intervention.

The first and most visible is the **physical accessibility.** This area addresses barriers to mobility. It includes installing ramps with appropriate slopes, creating obstacle-free pedestrian routes, leveling pavements, installing elevators or platform lifts to overcome changes in elevation, and designing ergonomic street furniture. However, even within this dimension, the historical context presents unique challenges. Replacing cobblestone pavements with smooth, continuous surfaces, while improving pedestrian access, can conflict with material preservation criteria. Finding solutions that balance functionality with authenticity, such as repointing cobblestones or creating accessible strips with compatible materials, is an ongoing field of research and practice.

The second dimension is sensory **accessibility.** This addresses the needs of people with visual or hearing impairments. In the complex environment of a historic center, this involves implementing tactile paving to guide and warn of hazards, installing audible signals at traffic lights, using tactile maps and models for the visually impaired at information points, and designing signage with high color contrast and clear typography. The noise and visual pollution of many historic centers, often saturated with commercial and tourist activity, adds a layer of complexity to the design of effective and unobtrusive sensory wayfinding systems.

Thirdly, cognitive **accessibility.** This has proven to be a crucial, though often underestimated, aspect. It refers to the ease with which a person can orient themselves, understand their surroundings, and use them independently. Irregular urban layouts, a lack of clear landmarks, and confusing signage in many historic centers can generate anxiety and disorientation not only in people with intellectual disabilities, but also in tourists, children, and the elderly. Improving spatial legibility through a consistent signage system, intuitive maps, and the use of technologies such as adapted GPS navigation apps is fundamental to ensuring a positive and independent urban experience. Chacón Martínez's (2019) study of the squares in Madrid's historic center offers a practical analysis of how these different dimensions are manifested, or omitted, in specific public spaces, highlighting the need for a holistic approach.

Finally, the **social and cultural accessibility.** It represents the broadest and most encompassing dimension. A space can be physically accessible, sensorially perceptible, and cognitively legible, yet still be exclusionary if it is not perceived as safe, welcoming, and meaningful for a diverse range of people. This implies considering the needs of different age groups, as demonstrated by the work of Agost-Felip et al. (2021) on age-friendly urban environments. The provision of benches for resting, the existence of accessible public restrooms, adequate lighting that increases the perception of nighttime safety, and the programming of cultural activities that reflect the diversity of the community are elements that contribute to the creation of a socially inclusive space. Even in modern heritage contexts, such as the one analyzed by Rey-Pérez et al. (2024) in a neighborhood of Seville, accessibility is shown to be an essential component of heritage value, as it guarantees the continuity of its social use. Ultimately, only the integration of these four dimensions—physical, sensory, cognitive, and social—can lead to the creation of historic public spaces that are truly for everyone.

2.1.4. NEW PARADIGMS AND TOOLS FOR ANALYSIS AND INTERVENTION

The increasing complexity of making historic centers accessible has driven a paradigm shift in intervention approaches. A transition is underway from a reactive model, based on the implementation of isolated, piecemeal solutions—the "ramp policy"—to proactive strategies for comprehensive urban regeneration. This new approach does not consider accessibility as an add-on or a requirement to be met, but rather as a guiding principle and an inseparable component of urban quality, sustainability, and social equity. Recent literature reflects this evolution, documenting both new conceptual frameworks and innovative technological tools that are transforming how inclusivity is analyzed, planned, and managed in the built environment of heritage sites.

This shift in scale, from isolated interventions to city-wide strategies, is fundamental. M. C. Blanco (2022) advocates for a "Euro Urbanism and Urban Regeneration" that integrates the design of accessible public spaces within a broader vision of an "inclusive city." This implies that accessibility cannot be addressed street by street, but must be part of mobility, economic development, and social cohesion plans that encompass the entire historic center. It involves thinking about networks of accessible routes that connect key points of interest (residential areas, services, cultural facilities, public transport) rather than isolated squares or buildings. This strategic approach aligns with international trends in the regeneration of historic centers, such as those analyzed by Tannkul and Hoşkara (2019) in the Mediterranean context, where successful revitalization depends on a balanced combination of physical, economic, and social interventions.

To underpin these comprehensive strategies, much more sophisticated diagnostic and evaluation tools have emerged. Technology plays a crucial role here. The use of Geographic Information Systems (GIS) allows for precise quantitative analyses of urban morphology and its impact on equity. Jiménez-Espada et al. (2022) demonstrate how GIS tools can be used to map architectural barriers, analyze street slopes, and model the interrelationship between urban form and access to services, providing planners with a solid evidence base for decision-making. This quantitative approach is complemented by innovative qualitative

methods that seek to capture the subjective user experience. In this regard, social network data analysis has become a cutting-edge tool. Research such as that by Bernabeu-Bautista et al. (2023) and Serrano-Estrada et al. (2024) use geolocated data from platforms like Instagram or Twitter to map "heritage engagement" (where people spend their time, what they value, what they photograph) and correlate it with accessibility analysis. This method offers an unprecedented view of how different groups use and perceive public space, allowing the identification not only of physical barriers, but also "experiential barriers."

Finally, this paradigm shift is reflected in the development of new evaluation frameworks that go beyond mere compliance with technical regulations. The "Friendly City" proposal by Gallardo Ramirez et al. (2016) is an example of this. This framework proposes a cross-cutting evaluation of public space quality that considers not only accessibility, but also comfort, safety, vitality, and the identity of the place. It aims to measure the "friendliness" of the environment from the pedestrian's perspective, recognizing that a truly inclusive space is one that invites lingering, strolling, and social interaction. This qualitative approach, centered on human experience, represents the culmination of the new paradigm: accessibility ceases to be a technical problem to be solved and becomes an essential component of value creation. An accessible historic city is not only a fairer city, but also a more pleasant, more vibrant and ultimately more successful and sustainable city, as suggested by the growing interest in "accessible tourism" documented by Jurado-Almonte (2014), who identifies it as an emerging and high-value tourism product.

2.1.5. CITIZEN PARTICIPATION AND CO-CREATION OF INCLUSIVE PUBLIC SPACE

The creation of a truly inclusive historic public space cannot be understood solely as a technical or design challenge. The most critical and advanced literature in this field emphasizes that it is fundamentally a political process requiring a redefinition of power relations in urban planning. Citizen participation, in this context, is not merely a consultative formality or a mechanism to legitimize decisions already made, but an indispensable condition for the success and relevance of interventions. It implies the co-creation of space, where the expert knowledge of architects and urban planners engages in dialogue on equal footing with the experiential knowledge of citizens, especially those groups that have been historically excluded from decision-making processes.

Calderon (2013) offers a theoretical framework for "politicizing participation" in the design of public spaces. He criticizes tokenistic or superficial models of participation and advocates for an approach that challenges existing power structures and empowers marginalized communities. Applied to the context of accessibility, this means that people with disabilities and their representative organizations should not be mere "consultants" whose opinions are sought on a pre-existing design, but rather active agents involved from the earliest stages of project diagnosis and conceptualization. Their lived knowledge of the environment, everyday barriers, and solutions that actually work is an invaluable resource that technical design alone cannot replicate. This participatory approach ensures that the proposed solutions are not only technically sound but also socially relevant and appropriate to the context.

This political dimension of participation is intimately linked to the concept of social sustainability. Parés i Franzi (2006) analyzes the consequences and paradoxes of urban models in relation to sustainability,

public space, and participation, arguing that environmental and economic sustainability cannot be achieved without a solid foundation of equity and social cohesion. An inclusive and participatory design process contributes directly to this social sustainability in several ways. First, it fosters a greater sense of ownership and belonging within the community. Spaces co-created with citizens are more valued, cared for, and used, thus ensuring their long-term vitality. Second, it promotes social capital by creating networks of trust and collaboration among the administration, technical experts, and various community stakeholders. Finally, it leads to better design outcomes, as the diversity of perspectives enriches the creative process and allows for the anticipation of problems and opportunities that might be overlooked from a purely technical perspective. In the complex landscape of historic cities, where every intervention must be carefully considered, the collective intelligence that emerges from a genuine participatory process is the best guarantee for achieving a sustainable balance between preserving the past and building a more inclusive future. Accessibility, therefore, is not the ultimate goal, but rather the outcome of a democratic process of spatial design that recognizes the right of all citizens to shape the city they inhabit.

2.2. INCLUSIVITY AND ACCESSIBILITY IN THE PUBLIC SPACES OF HISTORIC CITIES. AN APPROACH BASED ON EUROPEAN AND SPANISH LEGISLATION

2.2.1. INTERNATIONAL PRINCIPLES AS A FRAMEWORK FOR FUNDAMENTAL RIGHTS

The foundation upon which the entire regulatory framework for universal accessibility is built is not technical or urban planning-related, but rather grounded in fundamental human rights. Contemporary legislation, at both the European and national levels, is the result of a long process of conceptual evolution driven by international organizations that have positioned accessibility not as a concession or a charitable measure, but as an indispensable precondition for the exercise of full citizenship and participation in society on equal terms. This rights-based approach is essential for understanding the scope and binding nature of the regulations that apply to public spaces, including those in historic cities.

The highest-ranking legal instrument and the turning point at a global level is the **Convention on the Rights of Persons with Disabilities.** Adopted by the United Nations General Assembly in 2006, this international treaty, ratified by Spain and the European Union, represents a paradigm shift from a medical or welfare-based model of disability to a social and rights-based model. Article 9 specifically addresses accessibility, obligating States Parties to adopt measures to ensure that persons with disabilities have equal access to the physical environment, transportation, information, and communications. It is crucial to emphasize that the Convention does not consider accessibility as an end in itself, but rather as an "instrumental" or "cross-cutting" right—that is, a right necessary for exercising many other rights, such as the rights to education, work, health, leisure, and participation in cultural life.

This rights framework has been strengthened and aligned with global development goals through the **2030 Agenda for Sustainable Development** (United Nations, 2015). The central theme of the Agenda, "Leaving no one behind," encapsulates the principle of inclusivity. More specifically, the **Sustainable Development Goal (SDG) 11**The UN Sustainable Development Goals, which aim to "make cities and human settlements inclusive, safe, resilient and sustainable," include in Target 11.7 the objective of "providing universal access to safe, inclusive and accessible green and public spaces, particularly for women and children, older persons and persons with disabilities." The explicit inclusion of accessibility in the main global development agenda elevates it to the status of a global political priority and directly links it to the concept of urban sustainability.

In parallel, other international instruments have also addressed the dimension of cultural heritage from a rights-based perspective. **Council of Europe Framework Convention on the Value of Cultural Heritage for Society.** The Faro Convention (2005), also known as the Faro Convention, introduces an innovative vision by defining heritage as a resource for human development, quality of life, and intercultural dialogue. This convention underscores the right of every person to engage with the cultural heritage of their choice. This perspective is fundamental to the debate in historic cities, as it provides a philosophical and legal basis for arguing that excluding people from enjoying heritage due to accessibility barriers constitutes a violation of this right. If the value of heritage lies in its capacity to enrich the life of society, then it must be accessible to everyone. Similarly, the **Convention for the Safeguarding of the Intangible Cultural Heritage**

UNESCO (2003) protects the practices, uses, and social expressions that develop in these spaces. Ensuring the physical accessibility of these spaces is therefore a necessary condition for people with disabilities to participate in community life and contribute to the continuity of this living heritage.

2.2.2. THE SUPRANATIONAL FRAMEWORK OF THE EUROPEAN UNION: DIRECTIVES AND STRATEGIES

The European Union has played a fundamental role in translating international human rights principles into concrete and harmonized legal obligations for its Member States. Through a combination of binding directives, policy strategies, and support programs, the EU has created a regulatory ecosystem that promotes accessibility on multiple fronts, with a direct and growing impact on the configuration of public space and the services provided within it. This supranational framework not only establishes minimum requirements but also promotes excellence and innovation, acting as a powerful engine for change.

The most significant and far-reaching legislative instrument in recent years is the **Directive (EU) 2019/882**, known as the **European Accessibility Act.** This directive's main objective is to improve the functioning of the internal market by removing barriers to the free movement of accessible goods and services. While it does not directly regulate the accessibility of the built environment as a whole, its impact on public space is considerable. The Act establishes mandatory accessibility requirements for a range of key products and services commonly used in urban environments, such as ATMs, ticket and check-in machines, payment terminals, and passenger transport services (regarding their websites, apps, e-tickets, and real-time information). This means that any such element installed in a square or street in a historic center must comply with European accessibility standards. In this way, the directive creates an indirect but powerful effect, driving the integration of accessibility into the design of street furniture and city information systems.

Beyond binding legislation, the EU promotes accessibility through strategic and policy frameworks. **European Strategy on the Rights of Persons with Disabilities 2021-2030.** It is the main policy document guiding EU action in this area. The strategy establishes accessibility as one of its key priorities, committing the European Commission to work with Member States to ensure the accessibility of the built environment, transport, and public spaces. To encourage the implementation of these policies, the EU uses tools of "soft power" and recognition. **Accessible City Award.** It is one of the most visible and successful initiatives. Each year, this award recognizes and celebrates European cities that have made outstanding efforts to become more accessible. The winning and finalist cities, which often include cities with significant historic centers, become models of best practices, and their innovative solutions for reconciling heritage and accessibility are widely publicized, inspiring other cities to follow their example.

Furthermore, the EU is developing practical tools to facilitate the exercise of rights throughout the Union. The recent **Directive (EU) 2024/2841**, which establishes the **European Disability Card**. This is an important step in this direction. This card will ensure that disability status is recognized in all Member States, facilitating access to special conditions and services in areas such as culture, leisure, sport, and transport. For a tourist with a disability visiting a historic city in another country, this card will greatly simplify access to museums, monuments, and accessible public transport, reinforcing the inclusive dimension of cultural

tourism. Overall, the EU framework creates a regulatory and policy environment that encourages Member States to move forward in a coordinated manner, establishing a common ground of rights and fostering a culture of accessibility that progressively permeates all areas of urban planning.

2.2.3. TRANSPOSITION INTO THE SPANISH LEGAL SYSTEM: LAWS AND ROYAL DECREES

The Spanish legal system has developed a robust and progressively more detailed body of regulations to guarantee universal accessibility, in line with commitments made at the international and European levels. This legal framework is structured hierarchically, starting with a general law that establishes fundamental rights and principles, and then progressing to royal decrees and ministerial orders that define specific technical conditions. Understanding this structure is essential for navigating the obligations of public administrations in the management of urbanized public spaces, including those of historical significance.

The cornerstone of the entire system is the **Royal Legislative Decree 1/2013, of November 29, approving the Consolidated Text of the General Law on the rights of persons with disabilities and their social inclusion.** This law not only consolidates and updates previous legislation, but also unequivocally establishes that universal accessibility is a prerequisite for the exercise of the rights of people with disabilities. It defines key concepts such as "universal accessibility," "design for all," and "reasonable accommodations." This last concept is particularly relevant for historic settings, as it introduces a principle of proportionality: it requires that necessary and appropriate modifications and adaptations be made when they do not impose a "disproportionate or undue burden." The law establishes deadlines for all existing environments, products, and services to become accessible, and its implementation has been reinforced by subsequent amendments, such as the **Law 6/2022**. This framework law, therefore, is not merely a declaration of intent, but the main source of legal obligations regarding accessibility in Spain.

Based on this general law, regulations are specified through royal decrees that establish the basic accessibility conditions for different areas. For the topic at hand, the foundational document was the **Royal Decree 505/2007, of April 20, approving the basic conditions of accessibility and non-discrimination for people with disabilities in accessing and using urbanized public spaces and buildings.** This royal decree was the first to establish, at the national level, a set of minimum technical criteria that public spaces had to meet to be considered accessible. It addressed aspects such as pedestrian routes, parks and gardens, street furniture, and signage. Although it represented a fundamental step forward, its level of detail was limited, leading to the need for more comprehensive technical development. This royal decree laid the groundwork and established the principle that the accessibility of public spaces was a legal obligation that had to be technically regulated.

The following table summarizes the main regulatory hierarchy that shapes the legal framework for accessibility in Spain, showing the cascade of obligations from international principles to specific technical regulations.

Level	Regulatory Instrument	Year	Main Mandate / Scope of Application
International	UN Convention on the Rights of Persons with Disabilities	2006	It establishes accessibility as a fundamental human right and an obligation for States Parties in all areas, including the physical environment.
International	2030 Agenda for Sustainable Development (SDG 11)	2015	It sets the overall goal of achieving inclusive cities and providing universal access to safe and accessible public spaces.
European	Directive (EU) 2019/882 (European Accessibility Act)	2019	It harmonizes accessibility requirements for key products and services (ATMs, sales terminals, etc.), with a direct impact on public space.
National	Royal Legislative Decree 1/2013 (General Disability Law)	2013	It consolidates the rights of people with disabilities, establishing universal accessibility as a condition for equal opportunities and non-discrimination.
National	Royal Decree 505/2007	2007	It approves the basic accessibility conditions for urbanized public spaces and buildings, laying the foundations for technical regulation.
National	Orden TMA/851/2021	2021	Develops and updates the detailed technical conditions for access to and use of urbanized public spaces (ramps, pavements, signage, etc.).

This hierarchical structure demonstrates how a human rights principle is progressively translated into measurable and enforceable technical specifications, forming a coherent legal system that obliges all administrations to guarantee that the design and management of public space, whatever its heritage value, is governed by the principles of inclusivity and universal accessibility.

2.2.4. TECHNICAL SPECIFICATIONS: BASIC ACCESSIBILITY CONDITIONS AND BUILDING REGULATIONS

While laws and royal decrees establish the "what" and "why" of accessibility, ministerial orders and technical documents define the "how." This level of detail has the most direct impact on the work of architects, engineers, and urban planners involved in public spaces. Spanish technical regulations have evolved significantly, moving from general criteria to increasingly detailed and precise specifications that aim to address the diverse situations encountered in the urban environment.

The key document that regulates accessibility in public spaces is the **Order TMA/851/2021, of July 23, which develops the technical document of basic conditions of accessibility and non-discrimination for access to and use of urbanized public spaces.** This order updates and replaces its predecessor, Order VIV/561/2010, and represents the current technical standard in Spain. Its content is comprehensive and addresses all elements that comprise public space. It precisely defines the characteristics that an "accessible pedestrian route" must have, specifying minimum widths, maximum slopes (longitudinal and transverse), pavement characteristics (hard, non-slip, without raised edges), and the correct construction

of curb ramps and curb cuts. Furthermore, it regulates aspects such as the placement of street furniture to avoid creating obstacles, signage characteristics (height, size, contrast), lighting conditions, and requirements for specific elements such as stairs, reserved parking spaces, and public transport stops. For historic city centers, the strict application of this order is the main technical challenge, since its parameters (for example, a maximum slope of 6% for long ramps) can be difficult to achieve in complex topography or narrow streets without substantially altering the existing configuration.

Although the main focus of this report is public space, its accessibility is intrinsically linked to that of the buildings that define it. A person's experience in a historic center is a continuum between the exterior space and the interior of public buildings (shops, museums, offices, restaurants). A perfectly accessible plaza is useless if none of the surrounding buildings are accessible. Therefore, it is relevant to mention the **Royal Decree 173/2010, of February 19, which modifies the Technical Building Code (CTE).** This amendment introduced the Basic Document on Safety in Use and Accessibility (DB-SUA), which establishes the accessibility requirements that buildings must meet. Section SUA 9, "Accessibility," regulates aspects such as access to the building from the street, vertical communication (accessible elevators and ramps), and the accessibility of different interior spaces. The interface between the public space and the building entrance is a critical point in historic centers, where buildings often have access steps. The CTE (Technical Building Code) mandates that this junction be resolved in an accessible manner in new buildings and major renovations, which often requires complex technical solutions coordinated with the urban design of the surrounding area.

The combination of Order TMA/851/2021 for public spaces and the CTE (Technical Building Code) for buildings creates a comprehensive technical framework that aims to guarantee the continuity of the accessibility chain. However, the regulations themselves acknowledge the difficulty of their application in pre-existing environments, and especially in those with heritage value. Therefore, they introduce the concept of "alternative solutions." The legislation allows for proposing solutions different from those specified in the standard, provided that it is documented that equivalent performance results are achieved in terms of accessibility. This flexibility mechanism is the main legal tool for addressing the compatibility between accessibility and heritage protection. It allows, for example, the use of non-standard materials or designs if it is demonstrated that they fulfill the same function, opening the door to innovation and context-sensitive design, an aspect explored in the following section.

2.2.5. CHALLENGES OF APPLICATION IN HERITAGE CONTEXTS AND GUIDELINES FOR GOOD PRACTICES

The existence of a detailed legislative and technical framework does not, in itself, eliminate the inherent tension between universal accessibility and heritage preservation in historic cities. In fact, the application of these regulations generates complex challenges that require an approach that goes beyond mere literal compliance. Recognizing this complexity, the legal system does not create a dead end, but rather establishes what can be understood as a "productive tension": a dynamic that compels professionals and administrations to seek creative and innovative solutions that satisfy both sets of values. In this context,

best practice guides developed by various organizations become indispensable tools for translating legal mandates into high-quality, contextually sensitive, and functionally effective interventions.

Historical heritage legislation, such as Law 16/1985 on Spanish Historical Heritage, establishes a protection regime that requires authorization for any intervention in properties declared to be of cultural interest. At first glance, this might seem like an insurmountable obstacle to the application of accessibility regulations. However, a deeper analysis reveals that the legal framework is designed to manage this tension. The concept of "reasonable adjustments" in the General Law on Disability and the possibility of proposing "alternative solutions" in the CTE (Technical Building Code) and Order TMA/851/2021 are the legal mechanisms that allow for this balance. This is not an exemption from the obligation to be accessible, but rather an adaptation of how accessibility is achieved. This necessitates an interdisciplinary dialogue between heritage experts, accessibility specialists, and designers in order to develop tailored projects that respect the integrity of the heritage property while guaranteeing its inclusive use. For example, instead of a standard concrete ramp, one can be designed with materials and finishes that blend into the surroundings; Or instead of removing a historic pavement, you can opt for a treatment of the joints or the insertion of an accessible strip with a careful design.

Since the law provides the "what" (the obligation to be accessible) but not always the "how" (the specific solution for a complex case), the role of best practice guides is fundamental. These documents, developed by expert organizations, offer guidance, criteria, and examples of successful solutions. Their value lies in the fact that they compile and systematize accumulated practical knowledge. It is important to consider guides from different fields to obtain a comprehensive view. On the one hand, conservation organizations such as **ICOMOS Spain**, with its **Principles for the preservation of built heritage** (2011) provide the ethical and technical framework from the perspective of heritage protection, emphasizing principles such as minimal intervention, reversibility, and compatibility of materials. On the other hand, representative organizations of people with disabilities, such as the **Spanish Committee of Representatives of People with Disabilities (CERMI)**. They develop guides such as their **Guide to good practices for inclusion** (2023), which focus on the functional needs of users and the effectiveness of solutions based on their lived experience.

In addition, there are sector-specific guides that address the intersection of both fields. **World Tourism Organization (UNWTO).** For example, it has published specific recommendations on **accessibility in cultural tourism** (2013), recognizing that accessibility is not only a right, but also a factor of competitiveness and quality for heritage tourism destinations. These documents show how investment in accessibility can generate economic and social returns, changing the perception that it is simply a cost or an obligation. The synthesis of these different perspectives —that of the conservator, the user, and the manager— is the key to success. Therefore, the application of legislation in heritage contexts is not a mechanical exercise in applying codes, but rather an informed, collaborative, and creative design process, where best practice guides act as an indispensable bridge between the rigidity of the law and the complexity of historical reality.

2.3. CATALOGUE OF INTERVENTIONS

2.3.1. LIGHTING

Lighting is a fundamental component of urban design, especially in historic spaces where visibility, wayfinding, and the perception of the surroundings can be affected by the building's materials, morphology, and conservation constraints. Beyond its technical function, lighting plays a cultural, symbolic, and sensory role, influencing how different groups of people interact with public space.

From an inclusive perspective, adequate lighting improves the perception of safety, facilitates wayfinding for people with visual or cognitive disabilities, and allows for the equitable use of space during nighttime hours. Designing lighting systems that provide uniform light levels, minimize glare, and incorporate clear visual cues contributes to creating more accessible and welcoming environments for everyone, regardless of age, gender, or ability.

HOMOGENEOUS LIGHTING	
 *Master lighting plan for Albarracín, Teruel, Spain*	It improves accessibility for people with low vision or reduced mobility. It improves the perception of the environment for people with low vision and generates a greater sense of security. Technical characteristics: General Uniformity $U_0 \geq 0.6$ Average illuminance: 10–20 lux Color temperature: 2700–3000 K CRI ≥ 80

GLARE-FREE LIGHTING	
 *Remodeling of the Plaza Mayor in Almazán, Spain*	Technical characteristics: Control of the unified glare rating (UGR) below 19. Use of luminaires with directional optics or opaque diffusers that minimize direct light in the visual field. Warm color temperature (2700–3000 K) for greater visual comfort.

ORIENTATION LIGHTING	
 *City of Terrassa*	Technical characteristics: Luminaires installed near the ground or integrated into urban elements (curbs, pavements, furniture). Soft, continuous light that does not create glare or intense shadows. Integrated design within the historical architecture to respect the aesthetics of the space. It may include LED technology with automatic regulation to optimize consumption and adapt to different lighting conditions.

LIGHTED SIGNAGE AT PEDESTRIAN CROSSING	
 *City of Burriana, Spain*	Technical characteristics: LED lights integrated into the pavement or on posts located next to the pedestrian crossing. Flashing or steady high-intensity light, easily recognizable. Compatible with sound systems for people with visual impairments. Efficient consumption with low energy consumption technologies. Resistant to weather conditions and urban wear and tear.

LED SYSTEMS WITH MOTION SENSORS	
 *Santa Coloma de Gramenet, Spain*	Technical characteristics: Energy-efficient and long-lasting LED technology. Motion sensors with adjustable range to activate the light only when needed. Integration with remote control or automation systems for scheduling according to specific times. Weather and vandal resistance, suitable for historic public spaces. H omogeneous lighting that avoids shadow or dim areas. CRI ≥80

2.3.2. URBAN FURNITURE

Street furniture is an essential component with a significant impact on the daily experience of public space. These elements not only fulfill practical and safety functions, but also contribute to defining the visual identity and spatial organization of the environment. In the context of historic centers, street furniture takes on an even more critical dimension, as it must balance respect for heritage and traditional aesthetics with the current needs for accessibility and inclusivity for all users.

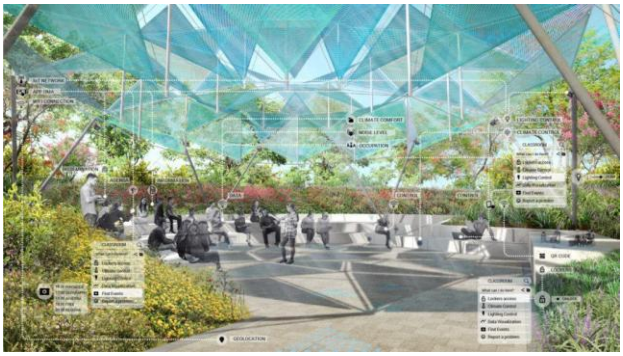
ACCESSIBLE BANK	
 B*Accessible bank, Fábregas Group, Spain*	Technical characteristics: Seat height between 45–50cm. Armrests on both sides at 65–75cm. Backrest with 100–110° tilt. Materials: treated wood, heat-resistant coated steel. Smooth but non-slip surfaces.

ACCESSIBLE WASTE BINS	
 *Cantabria, Spain*	Technical characteristics: Opening height: between 90 and 120cm. Operable with one hand and without the need for a manual clamp. Wide mouth with contrasting colors. Front or side emptying system.

ISCHIAL SUPPORTS	
 *Medellín Metro*	Technical characteristics: Height between 75–85cm. Inclination between 10–15°. Material: stainless steel, wood, non-slip rubber. Fixed anchoring to the ground.

FURNITURE WITH SHADOWS	
 *Oasis, Shade for everyone, Barcelona*	Technical characteristics: Fixed structures (pergolas, canopies) or mobile structures. Technical fabrics with UV protection. Minimum height: 2.10m; effective coverage: 3–5m². Possibility of plant integration or neutral design

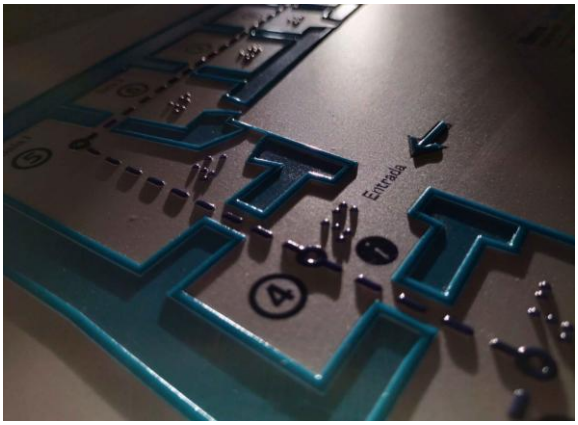
INCLUSIVE CHILDREN'S GAMES	
	Technical characteristics: Swings with harness or high backrest. Ramped access with a slope <5%. Sensory games (sound panels, textures, braille). Continuous cushioned surface.

TOUCH AND INTERACTIVE FURNITURE	
 Ecosistema Urbano Malaga.	Technical characteristics: Recommended height: between 70–100cm. Embossed elements, braille, textures. Outdoor-resistant material (stainless steel, polycarbonate). Contrasting colors and legible typography.

ELEMENTS FOR OVERCOMING LEVEL DIFFERENCES	
 *Improving accessibility to the Historic Centre of Vitoria-Gasteiz, Tabuenca & Leache*	Technical characteristics: Ramps with a slope <8% and non-slip surface. Lifting platforms with a minimum capacity of 300kg. Elevators with a cabin of 1.10×1.40m and a braille button. Escalators with safety sensors.

2.3.3. INFORMATION AND SIGNAGE

The implementation of accessible information and signage systems in historic centers is an essential dimension of universal design. Their proper integration can contribute not only to the independent mobility of all people, but also to the appreciation of heritage as a truly inclusive common good. Developing strategies that combine technical accessibility criteria with heritage sensitivity is a key step towards more equitable and livable historic environments.

ACCESSIBLE SIGNAGE	
 Polaris Sign. Accessible wayfinding solutions	Technical characteristics: Use of universal pictograms ISO 7001. Minimum chromatic contrast 70% between background and text. Inclusivity of texts in braille and relief. Legible sans serif fonts (minimum 16 pt for close reading) Panels at heights between 90 and 180 cm. Integration of haptic (vibration) technology into maps or totems.

AUDITORY SIGNALING SYSTEM	
	For blind or visually impaired people at intersections and on public transport. Technical characteristics: Sound emitters installed at intersections and stops, activated by a button or personal remote control Integrated audio guides via QR codes or technologies such as NaviLens are available through mobile applications Volume automatically adjusts according to ambient noise.

INTERACTIVE INFORMATION PANELS	
 Bétera information panels	Technical characteristics Touchscreens at accessible height (90–120cm). Interfaces with high contrast and voice reading. Relief maps or additional tactile content. Language and mode integration (visual, auditory, tactile).

ACCESSIBLE TRAFFIC LIGHTS	
	Traffic regulation systems with inclusive features. Technical characteristics: Acoustic signals synchronized with green light. Visible LED timer with countdown. Vibrating devices in the crossover button. Integrated pavement lighting for people with low attention.

MULTILINGUAL SIGNAGE	
	Informative elements in different languages to facilitate the orientation of tourists and immigrants, promoting linguistic accessibility in historical spaces of cultural and tourist value. Technical characteristics: Inclusivity of texts in at least 3 languages (local, English and another relevant language). Use of QR codes with access to audio or sign language versions. Adaptation to historical contexts through integrated materials (wood, ceramics, metal).

2.3.4. SURFACES AND PAVEMENTS

In heritage areas, urban pavements are key components of the visual and functional landscape. They must guarantee safe, understandable, and comfortable conditions for all types of users, without compromising the historical value of the environment.

NON-SLIP SURFACES	
 *Urbanization project in Malgrat de Mar, Barcelona*	Applicable regulations according to location Technical characteristics: Coefficient of friction ≥ 0.6 on dry and w et surfaces Recommended materials: treated natural stone, rough concrete, textured slabs Anti-slip treatments on preserved historical pavements. Regular maintenance to prevent moss or dirt buildup

Tactile Footpavements	
 *Mosque of Christ of the Light, Toledo*	Technical characteristics: Longitudinal grooves to guide trajectories. Truncated conical buttons to alert about changes in level or proximity to roads. High color contrast and non-slip material, with 5±1mm reliefs on the exterior These zones must be present at crossings, steps, ramps or stations, carefully integrated into the heritage environment to avoid visual confusion or aesthetic conflicts (Jiménez Martín et al., 2022)

ACCESSIBLE RAMPS	
 Ramp by the wall of Ávila	Technical characteristics: Earring: Maximum of 8% up to 3m in length. Maximum of 10% in short sections (less than 1.5m). Minimum clear width: 1.20m. Double handrails at two heights: 70–75cm (children/people in chairs) and 90–95cm (adults). Flat boarding/disembarkation areas of 1.5×1.5m. Non-slip surface, with tactile paving at the beginning and end.

RAISED PEDESTRIAN CROSSINGS	
	Technical characteristics: Height: same as the sidewalk (approx. 12–15cm). Gentle side slopes (≤ 10%) to facilitate passage for wheelchair users. Distinctive pavement (color/texture) to alert vehicles. Mandatory horizontal and vertical signage.

2.3.5. ACCESS TO DRINKING WATER AND PUBLIC EQUIPMENT

Access to drinking water and the availability of shared public amenities are fundamental elements of urban design. Although often overlooked in heritage discourse, these services play a crucial role in livability, climate comfort, equity, and the quality of citizens' experience of public space.

ACCESSIBLE DRINKING WATER SOURCES	
 Accessible fountain Cádiz	Technical characteristics: Height of use: between 85 and 95cm for adults, and 65–75cm for children or wheelchair users. Activation systems: large push buttons or automatic contactless sensors. Side access free of obstacles, with level approach area (minimum 80×120cm). Durable and easy-to-clean materials. Non-slip drainage grate well connected to the pavement.

PUBLIC WASHBASINS RESTORED FOR UNIVERSAL USE	
 Lavadero del Sol, Granada	Technical characteristics: Heritage conservation with functional adaptations: Height adjustable to a maximum of 85–90cm. Can be used from a seated position or in a wheelchair. Approach spaces of at least 1.20×1.20m without curbs or obstacles. Non-slip pavement and controlled slope in the perimeter area.

ACCESSIBLE PUBLIC RESTROOMS	
	Technical characteristics: Inner turning space: free circle of 1.50m in diameter. Grab bars: fixed and foldable next to the toilet, at heights of 70–75cm. Toilet: height of 45–50cm from the floor. Washbasin: without pedestal, between 80–85cm, with lever or sensor tap. Emergency alarm: cord or push button accessible from the ground. H omogeneous lighting: ≥ 200 lux. Entrance door: minimum 80cm wide, outward opening or sliding.

2.3.6. TRANSPORT AND MOBILITY

Historic city centers are often characterized by an inherited street layout, with narrow streets, uneven paving, and a high density of heritage sites. These features can hinder pedestrian traffic, especially for people with reduced mobility, wheelchair users, the elderly, or those with strollers.

Mobility within historic city centers presents a dual challenge: on the one hand, preserving the integrity and authenticity of the urban heritage; on the other, ensuring that all users, regardless of their abilities, can move around with autonomy, safety, and dignity. In this balance between conservation and accessibility, the design of transportation systems and mobility planning must consider criteria of inclusivity and spatial equity.

ACCESSIBLE BUS STOPS	
 *Plaza Reyes Católicos bus stop, Badajoz, Spain*	Technical characteristics: Elevated platforms: aligned with the bus floor (standard height of 18–25 cm), eliminating the access step. Access ramp: non-slip, maximum slope of 8%, minimum width 1.20 m. Wheelchair reserved space: obstacle-free area of at least 1.50×1.50m. Accessible signage: Information in braille and high relief. High chromatic contrast in posters. QR codes or NaviLens for access to accessible digital information. Canopy with weather protection: roof at a minimum height of 2.20 m, ergonomic seats with ischial supports. Adequate lighting: >100 lux for nighttime safety and sign readability.

RESERVED PARKING	
	Technical characteristics: Minimum dimensions: Vehicle: 3.70 m wide x 5.00 m long. Free lateral strip (min. 1.20 m) to allow transfer from wheelchair. Location: Proximity to entrances of heritage buildings, access to squares and shopping areas. Direct connection with accessible pedestrian routes (regular pavement and signage). Clear signage: Horizontal (international symbol of accessibility painted on the pavement) Vertical sign with reflective plates visible day and night. Surface: firm, non-slip and well leveled.

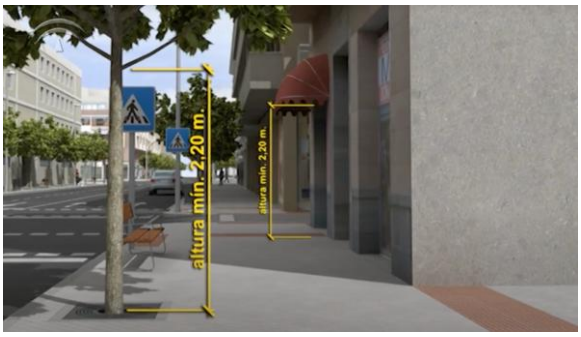
2.3.7. GENDER AND MIGRATION PERSPECTIVE

In historic city centers and towns, where heritage preservation may restrict interventions, incorporating a gender and migration perspective into accessibility means designing solutions that address diverse needs without compromising the integrity of the environment. This requires careful planning that combines respect for heritage with social inclusivity.

PURPLE DOTS	
	Installation of accessible, visible and discreet support spaces that provide immediate support to victims of gender violence or discrimination, strategically located in squares, transport stops or high-traffic areas. Technical characteristics: Clear and universal signage. Permanent lighting. Direct communication with emergency services. Access from accessible routes

INFORMATION AND ASSISTANCE POINTS	
	Accessible, multilingual signage with clear pictographic codes in tourist hubs to facilitate orientation for women, migrants, and people with disabilities. Technical characteristics: Physical accessibility (ramps, adapted counters, information in braille). Staff trained in inclusive and multilingual care Interactive digital panels with accessible maps.

NEUTRAL PUBLIC RESTROOMS	
	Description: Gender-neutral restrooms that guarantee the privacy and dignity of all people. Technical characteristics: Enclosed individual spaces. Accessible for people with reduced mobility. Inclusive signage (non-binary symbols). Internal alarm system.

SAFETY AND MOBILITY	
	Design of accessible and safe routes that connect the main heritage attractions, residential areas and essential services, considering the diversity of users Key actions: Uniform lighting on pedestrian routes. Transport stops in visible and well-signposted areas. Accessible and continuous routes, without obstacles. Reserved parking spaces well connected to public spaces.

URBAN EQUIPMENT	
	Selection of street furniture that combines accessibility, comfort, and aesthetic harmony with the historical surroundings. Installation of drinking fountains and adapted equipment (shade areas, rest areas) that meet the needs of women, migrants, the elderly, and people with disabilities. Key elements: Benches in visible and well-lit areas. Urban shelters or small rest structures with weather protection. Accessible and ergonomic furniture.

AWARENESS CAMPAIGNS

Visual and participatory initiatives that promote respect, equality and non-discrimination in public spaces

Formats:

Inclusive signage in public furniture and buildings.

Projections, murals, posters and urban art.

Multilingual materials for tourists and residents

CARE AND SERVICES INFRASTRUCTURE

Breastfeeding space. Mamífera.

Possible elements:

Accessible breastfeeding and childcare areas.

Accessible and dignified dining halls or food distribution points.

Psychological, legal or guidance support centers for migrants.

Integrate mobile or temporary services into cultural events to meet the needs of vulnerable groups

SPACES FOR INTEGRATION AND CULTURE

Multifunctional Cultural Center. Caravaca de la Cruz. Murcia

Design multifunctional areas that allow for diverse cultural activities (fairs, exhibitions, workshops) with universal access, taking into account historical urban characteristics.

Examples:

Squares with community programming.

Accessible cultural centers.

Collective murals, collaborative artistic interventions.

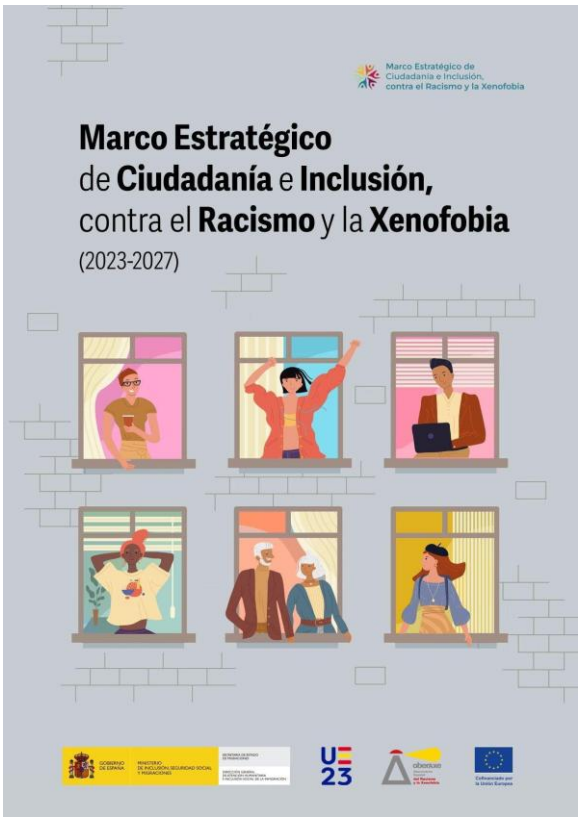
2.3.8. RACIAL INCLUSIVENESS

Racial inclusiveness is essential to ensuring that historic city centers are accessible and welcoming spaces for everyone, regardless of their ethnic or racial background. Historic cities, in addition to their heritage value, are places where diverse communities converge, and accessibility must guarantee that these individuals can fully participate in public and cultural life.

DIVERSITY	
 Frigiliana 3 Cultures Festival, Malaga, Spain.	Promotion of cultural events and activities that highlight racial and ethnic diversity in public spaces. Examples: Multicultural festivals in historic squares. International commemorative days Intercultural markets and local-international gastronomy.

SIGNAGE AND INCLUSIVE COMMUNICATION	
	Features: Translation of information panels and maps into several languages. Diverse visual representation in illustrations, pictograms and graphic campaigns. Use of non-discriminatory language in all institutional communication.

RECOGNITION AND VALUATION OF INTANGIBLE HERITAGE	
	Incorporate elements of intangible heritage, traditions and historical memory of racialized communities into the configuration of accessible public spaces, enriching the sense of belonging and collective identity. Promote routes, events and signage that highlight the historical and cultural diversity of the city.

EQUITABLE ACCESS TO SERVICES AND FACILITIES	
	Key actions: Ensure that racialized people and migrants have equal access to adapted public facilities (toilets, water points, transport, etc.). Active presence of staff trained in anti-racism and cultural mediation at service points.

2.3.9. RELIGION

Religious diversity is a fundamental component of the social fabric in many historic cities. Accessibility must encompass not only physical access to places of worship and historical areas of religious significance, but also respect for and consideration of the specific practices and needs of different faiths.

RELIGIOUS PRACTICES AND SCHEDULES	
	Consider religious schedules and rituals in urban and accessibility planning, avoiding interference that hinders the participation of the faithful. To provide spaces and facilities (e.g., ablution areas, accessible prayer rooms) that meet the specific needs of different religious communities

MULTI-FAITH SPACES	
 Meditation space, QB architects.	Small spaces for contemplation (indoors or outdoors) not affiliated with any denomination, intended for meditation, prayer or spiritual rest. Technical characteristics: Wheelchair accessible (level access, wide doors) Neutral and multilingual signage. Location in quiet areas of squares, parks or municipal facilities.

2.3.10. TOURISM

Tourism is one of the most important social and economic activities in historic centers and cities. However, tourism promotion must be aligned with principles of accessibility and inclusivity to ensure that all people, regardless of their abilities, can fully enjoy cultural heritage and historic public spaces.

ACCESSIBLE TOURIST ROUTES	
	Description: Heritage routes designed for people with reduced mobility, sensory disabilities and cognitive diversity. Technical characteristics: Stable, non-slip surfaces without abrupt steps. Tactile and auditory signage at key points. Regular breaks with accessible furniture. Adapted maps (relief or accessible digital maps).

INCLUSIVE INTERPRETATION CENTERS	
	Museum or heritage information spaces that integrate universal accessibility tools. Elements: Accessible audio guides (sign language, audio description, easy reading). Tactile models of monuments. Multilingual, braille and high-contrast signage.

ACCESSIBLE TOURIST OFFICES	
	Features: Counters adapted (at different heights and with free front space). Staff trained in caring for people with disabilities Printed brochures in accessible and digitized formats. Additional feature: Possibility of loaning support equipment such as wheelchairs, hearing loops or NFC devices.

ACCESSIBLE DIGITAL INFORMATION	
	Implementation of digital technologies (augmented reality, virtual reality, mobile applications) that allow people with physical or sensory limitations to virtually access or complement the in-person visit Includes: Mobile apps compatible with screen readers QR codes and NaviLens on monuments. Augmented reality adapted for people with hearing or visual impairments.

PARTICIPATION AND CO-CREATION	
	Involving people with disabilities and diverse groups in the planning and evaluation of accessible tourism products, ensuring that their experiences and needs are considered in decision-making.

3. 3. DIMENSIONS OF INCLUSIVITY-ACCESSIBILITY OF PUBLIC SPACES IN HISTORIC CITIES

Public spaces in historic cities are not merely physical structures; they are dynamic expressions of cultural identity, social life, and collective memory. Despite their symbolic and civic importance, many of these environments remain inaccessible or exclusionary to significant segments of the population. This chapter examines the complex relationship between accessibility and inclusivity in historic urban environments, recognizing that accessibility is not just a technical requirement, but a fundamental condition for genuine inclusivity.

In recent years, the concept of inclusive design has gained visibility in fields such as architecture, urban planning, and heritage conservation. However, its implementation in historical contexts presents clear challenges. The need to protect the architectural and symbolic integrity of heritage sites often clashes with the need to ensure equitable access for all. Navigating this intersection requires careful negotiation between the ethics of conservation and the pursuit of social justice.

To illuminate these dynamics, the chapter analyzes a selection of case studies from diverse cultural and geographical contexts. These examples demonstrate how different dimensions of accessibility and inclusivity have been addressed in practice. Some interventions succeed in fostering inclusive environments, while others reveal persistent barriers or unintentional exclusions. Each case provides a critical perspective on the assumptions, limitations, and possibilities inherent in adapting historic spaces for broader use.

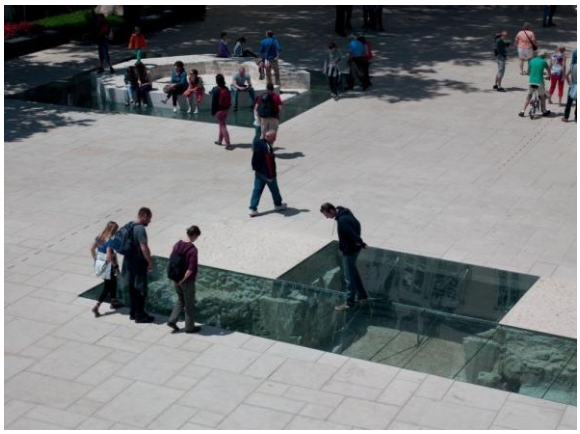
By focusing on the direct interaction between accessibility measures and inclusive outcomes, this chapter underscores the importance of contextual strategies that go beyond mere compliance. Ultimately, the goal is to support a more nuanced understanding of how historic public spaces can evolve into truly inclusive places—spaces that not only preserve cultural heritage but also reflect and embrace the diversity of those who inhabit and interact with them. This chapter will be divided into eleven definitions of how accessibility and inclusivity are understood:

1. Functional accessibility
2. Physical accessibility
3. Social and cultural inclusiveness
4. Linguistic inclusiveness
5. Age inclusiveness
6. Economic inclusiveness
7. Digital inclusiveness
8. Environmental inclusiveness
9. Gender inclusiveness
10. Education and participatory inclusiveness
11. Non-human inclusiveness

3.1. FUNCTIONAL ACCESSIBILITY

Functional accessibility refers to the design of environments, products, and services that can be used efficiently and effectively by all people, regardless of their abilities or limitations. It emphasizes usability, intuitive layout, and adaptation to diverse needs to ensure equitable experiences for everyone.

In historically significant public spaces, functional accessibility involves integrating modern usability features without compromising the site's historical integrity. This may include the discreet addition of navigational aids, ensuring clear pathways, and providing seating areas that respect the original design while meeting contemporary accessibility standards.

	
Renovation of Petar Zoranić Square, Aleksandra Krebel, Alan Kostrenčić	*Memorial Square, Vitoria, Spain*
Description: This is a contemporary intervention in a historic square that preserves its heritage character while improving spatial legibility. Traditional stone materials are used, combined with recessed lighting and understated furnishings. The paving is unified with a homogeneous texture and no abrupt changes in level, and benches and subtle signage have been added. Catalogue items present: **Continuous and non-slip flooring:** It facilitates the movement of people with reduced mobility without altering the historical character. **Orientation and homogeneous lighting:** Recessed lighting elements that mark accessible routes without causing glare. **Accessible banks**: Sober design, but with support, integrated into the morphology of the environment. **Minimum tactile or visual signage:** Although not always obvious, there may be elements that indicate routes or areas of interest.	Description: It promotes historical memory in a pedestrianized urban environment. It features large paved areas, contemporary street furniture, landscaped areas, an accessible platform for events, and drinking fountains. The design seeks urban integration and connection with the community from a rights-based perspective. Catalogue items present: **Accessible surfaces and continuous paving** Ideal for wheelchairs or strollers. **Accessible drinking water source.** **Furniture with shade and accessible benches:** Seats integrated into urban vegetation allow for rest with thermal comfort. **Information panels or interpretive signage:** With references to historical memory, possibly in several languages. **Defined routes and wide areas without obstacles:** They enhance the functionality of the space for multiple user profiles.

3.2. PHYSICAL ACCESSIBILITY

Physical accessibility involves removing architectural and urban barriers to enable people, especially those with mobility impairments, to navigate and use public spaces independently and safely. This includes features such as ramps, tactile paving, elevators, and ergonomic street furniture.

Implementing physical accessibility in historic areas requires a sensitive approach to preserving cultural heritage. Solutions may include installing removable ramps over existing steps, using materials that blend with the historic fabric, and ensuring that any additions are reversible and do not damage the original structures.

	
Construction of a new system of lifts by the flight of steps in Teruel, Fermín Vázquez / b720 Arquitectos, David Chipperfield architects	*Fray Zacarías Street, Vitoria, Spain_ Tabuenca & Leache, Architects*
Description: The project addresses the need to connect two very different urban levels in the historic city of Teruel, overcoming a significant difference in elevation with a system of public elevators. It is a contemporary vertical structure, constructed with materials such as weathering steel and glass, located next to a historic monumental staircase. The solution not only provides physical accessibility but also becomes an urban landmark in its own right. Catalogue items present: **Accessible public elevators:** Installed in environments with steep slopes, designed to visually integrate into the heritage environment. **Elements for overcoming differences in level:** Lifting platforms and structures that allow overcoming significant topographical barriers without modifying the original structure. **Homogeneous lighting:** The elevator access and adjacent routes are properly illuminated, ensuring safe and glare-free visibility. **Accessible and visible signage:** To guide users towards the lifting system.	Description: This project redevelops a street in the historic center, which features steep slopes and complex sections. An exterior escalator runs parallel to the existing street, allowing pedestrians with reduced mobility and those using strollers to avoid stairs and steep inclines. The project combines new paving, landscaping, and accessible railings. Catalogue items present: **Escalators** Designed for steep, open sections with good drainage, without the need to close off the space. **Double handrails at different heights.** They make them easy to use for people of all ages. **Non-slip flooring**: Key in areas with slopes and humid climates. **Orientation and safety lighting**: Essential for nighttime use of the infrastructure. **Accessible signage**: Provides information on the operation and route of the ramp.

3.3. SOCIAL AND CULTURAL INCLUSIVENESS

Social and cultural accessibility promotes the inclusivity of all people in community life, regardless of their gender, cultural identity, or socioeconomic status. This involves creating welcoming public spaces, providing gender-neutral restrooms, private nursing areas, and information centers that offer assistance to vulnerable groups.

Improving social and cultural accessibility in historic areas can include organizing culturally diverse events that reflect the community's heritage, ensuring that facilities cater to all genders and family needs, and providing spaces where diverse cultural expressions are recognized and celebrated, all while respecting and preserving the historical context of the place.

	
The Water Mirror, Nantes, Bruno Fortier	*Cervantes Square and Alderdi Eder Park, SSE, Spain*
Description: This large urban space, located opposite the Castle of the Dukes of Brittany, has been transformed into an interactive reflecting pool. It is a shallow, shallow sheet of water that mirrors the surrounding heritage buildings while inviting playful interaction among users. This demonstrates that social and cultural inclusiveness does not require complex structures: it simply requires offering a symbolically open, sensorially rich, and physically accessible space. Its playful, free, and participatory nature eliminates invisible barriers such as economic status or cultural background. Furthermore, by reflecting heritage, it establishes a	Description: These public spaces along San Sebastián's waterfront are iconic landmarks, redesigned with an approach that respects their original grandeur while incorporating principles of coexistence, diverse uses, and universal accessibility. Social inclusion is embodied in a variety of areas: inclusive children's play areas, diverse seating and social furniture, and level paved access points connecting the plaza to the park and the beach. Catalogue items present: **Inclusive children's play areas.** Installation of swings and surfaces that allow use by children with and

dialogue between historical memory and the diverse and ever-changing realities of daily life. Catalogue items present: **Free and open street furniture**: No specific use is imposed, which allows for different forms of cultural and social appropriation. **Spaces for integration and culture.** Water acts as a catalyst for social expression, play, rest, and even performative activities. **Sensory inclusion.** Contact with water, light, and sound generates sensory stimuli that are also accessible to people with cognitive or sensory disabilities. **Safety and adequate lighting.** Visibility and safe transit conditions are guaranteed, even at night. **Intergenerational and multicultural meeting space.** Although it does not appear directly in the catalog, this project exemplifies how a simple design can promote social cohesion without segregating uses by age, class or gender.	without disabilities. **Furniture with shade and accessible benches.** Spaces that facilitate intergenerational rest, with designs conceived for older people and those with reduced mobility. **Neutral and family-friendly public restrooms.** Included in the beach and park areas to meet the needs of different users **Information and assistance points**: In a tourist environment, with multilingual and accessible information. **Multilingual signage**: Included in the entire urban and tourist area of San Sebastian.

3.4. LINGUISTIC INCLUSIVENESS

Linguistic inclusion refers to facilitating communication and understanding between different languages, including for non-native speakers, immigrants, and tourists. This includes multilingual signage, translation services, and the availability of information in multiple languages.

In historic public spaces, linguistic accessibility can be achieved by offering informative materials, such as signage in several languages, ensuring that language barriers do not hinder the appreciation and understanding of the historical significance of the place.

	
Brisbane Multilingual Pedestrian Signage – Brisbane, Australia	*Signage for Encarnación Square, Seville*
Description: This project involves the installation of multilingual pedestrian signage in Brisbane's historic and tourist center. The panels display directional information, maps, and points of interest in English, Mandarin Chinese, Korean, and Japanese, reflecting the city's most common tourist and migrant groups. Clear typography, high color contrast, and color-coding are used to facilitate area identification. Catalogue items present: **Multilingual signage**: Provides understandable guidance for non-English speakers. **Interactive information panels:** Some points include QR codes that link to audio guides in multiple languages. **Haptic technology and visual accessibility.** Although not predominant, some maps include relief and good visual contrast. **Information and assistance points.** In conjunction with this signage, it is complemented by trained staff and tourist apps with multilingual support.	Description: Plaza de la Encarnación is one of the key points in Seville's historic center. Its recently updated signage includes information about the history of the square, as well as services and access points. The panels feature text in Spanish and English, maps of the surrounding area, and easy-to-understand pictograms. Catalogue items present: **Multilingual signage:** Spanish and English as the main languages, designed for international tourism. **Universal pictograms:** They accompany the texts to facilitate understanding for people with lower literacy or language proficiency. **Information panels with chromatic contrast.** A contemporary aesthetic is used, but one that is respectful of the historical environment. **Accessible audio guides** (with QR codes): At some key points of the archaeological tour.

3.5. GENDER INCLUSIVENESS

Gender inclusion promotes the equitable participation of all people in social activities, regardless of their gender. This involves designing safe and welcoming public spaces for everyone, addressing diverse needs through thoughtful urban planning.

In historic urban environments, gender inclusion can be achieved by implementing design strategies that cater to diverse gender identities.

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<td>Femmedina – Tunis, Tunisia
Public Space 4 Her – Brussels (Rue du Vieux Marché aux Grains)</td>
<td>Virgen Blanca Square, Vitoria, Spain</td>
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<td>Description:

The Femmedina project, developed by UN-Habitat and the Tunis City Council, aims to rethink the public spaces of the historic medina from a gender perspective. Through participatory processes with local women, barriers to use and perceptions of insecurity were identified, and interventions such as strategic public lighting, safe seating areas, spaces for women's</td>
<td>Description:

This micro-project in Brussels aims to reimagine a central street based on the everyday needs of women. The intervention includes improving street furniture, redesigning routes to eliminate blind spots, increasing lighting, and installing gender-neutral public restrooms and temporary weather shelters.</td>
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economic activities, and information points were proposed. Catalogue items present: **Smart lighting and safe zones**: Specific improvements in lighting to increase the perception of safety. **Purple dots**: Support spaces for victims of violence or harassment. **Safe rest areas.** Accessible benches, shaded furniture and ischial support designed for older women or women with children. **Awareness campaigns**: As a complement to the physical transformation. **Information and assistance points in different languages**: To also include migrant women.	Catalogue items present: **Gender-neutral public restrooms:** Accessible to all gender identities. **Adequate lighting and safe routes:** To improve nighttime mobility without fear. **Urban shelters and temporary equipment**: Covered spaces for rest and meeting. **Inclusive and shaded furniture:** Accessible seating, supports, and fountains. **Care spaces:** Proposal to install breastfeeding and rest areas for families.

3.6. AGE INCLUSIVENESS

Age inclusivity ensures that people of all ages can fully participate in society, with public spaces designed to be accessible and attractive to children, young people, adults, and older people.

In historic urban contexts, age inclusiveness involves adapting spaces to accommodate all age groups. This includes installing ramps at the entrances of historic buildings to facilitate mobility for older people and people with disabilities, creating playgrounds in restored squares for children, and organizing intergenerational events that celebrate local heritage, fostering community ties between different age groups.

A Square and a Playground below the Castle, Ravnikar Potokar d.o.o. (Ljubljana, Slovenia)

Description:

This project transforms the area at the foot of Ljubljana Castle into an intergenerational space. It combines a pedestrian plaza, seating areas, and a children's play area. The intervention respects the historic landscape through the use of neutral materials and a design that integrates the furniture without visually competing with the castle.

Catalogue items present:

Inclusive children's play areas: Incorporation of games adapted to different ages, including sensory and easily accessible elements.

Accessible and shaded furniture: Benches with backrests, ischial supports, shaded areas for the elderly.

Non-slip and smooth pavement: Ideal for child safety and the elderly.

Accessible water sources: Included in different heights, suitable for children and the elderly.

Accessible ramp: Connect levels without interrupting the journey.

Trinity Square, San Sebastián, Spain

Description:

Located in the heart of the historic center, this square has undergone renovations aimed at improving its livability and accessibility without altering its heritage value. The arrangement of the street furniture, the redesign of the edges, and the program of activities make this a space for intergenerational interaction.

Catalogue items present:

Accessible benches and ischial supports: Furniture adapted to facilitate rest for elderly people.

Level and non-slip surfaces: Improved mobility and safety.

Mobile games and temporary activities for children: During cultural events or programs.

Homogeneous and safe lighting: Suitable for safe nighttime use for all age groups.

Spaces for cultural integration: Community events that promote intergenerational participation.

3.7. ENVIRONMENTAL INCLUSIVENESS

Environmental inclusiveness focuses on designing and maintaining natural and urban spaces in a sustainable and inclusive manner. It ensures that parks, gardens, and green spaces are accessible, with walkways, adapted furniture, and climate-responsive features such as adequate shade and water features.

In historical contexts, environmental accessibility involves preserving the natural landscape and integrating accessible elements that harmonize with the historical elements of the place, such as the use of traditional materials for authentic and accessible paths, and the maintenance of green spaces to provide comfortable and inclusive environments.

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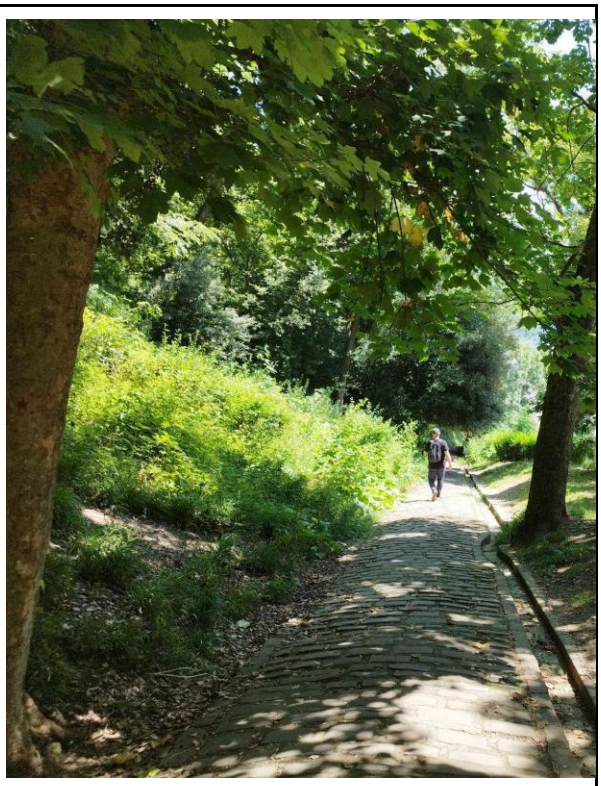
<td>  </td>
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<td>Niel Garden, Toulouse
Surroundings of Abadia de Saint-Ouen, Rouen, France</td>
<td>Trinity Square, San Sebastián, Spain</td>
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<td>Description:

Both projects exemplify how environmental inclusiveness can be harmoniously integrated into historical and urban spaces with a strong heritage component, while ensuring accessibility and sustainability.</td>
<td>Description:

(Previously discussed in 2.6, but here with an environmental focus)

Contributions from an inclusive environmental perspective:</td>
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Identifiable catalog elements: **Accessible pathways and suitable paving:** Compact, non-slip and tactile pathways that facilitate the transit of people with reduced mobility or visual impairment, without disrupting the historical aesthetic. **Integrated ramps with responsive design:** Solutions to overcome differences in level that respect the environment, using materials that blend in with the architecture and allow universal access. **Ergonomic and shaded street furniture:** Accessible benches, ischial supports and shaded areas designed to offer comfort to users of all ages and physical conditions. **Adapted vegetation and sustainable maintenance:** Local plants and efficient irrigation systems that generate pleasant microclimates, improving thermal comfort and the sensory experience, without altering the heritage integrity. **Respectful ambient lighting:** Use of LED technologies and lighting systems that guarantee safety and nighttime enjoyment with low visual impact. **Inclusive signage:** Accessible information signs that support the orientation of people with different abilities and linguistic profiles.	**Perimeter vegetation that provides natural shade:** Key to staying cool on hot days. **Porous and safe pavements:** Suitable for the city's climate. **Open multifunctional spaces:** That allow for a harmonious coexistence between built heritage and urban nature.

3.8. ECONOMIC INCLUSIVENESS

Economic inclusiveness strives to ensure that people from all socioeconomic backgrounds have access to opportunities and resources, making public spaces affordable and accessible to all.

In historic urban contexts, economic inclusiveness can be promoted by organizing free or low-cost events in historic squares and streets, ensuring that activities are accessible to people from diverse economic backgrounds. Furthermore, revitalizing historic areas can create employment opportunities and stimulate local economies, benefiting the wider community.

	
New Square, Barcelona	*Picking bitter oranges in a street in the Historic Quarter of Cordoba*
Description: Plaça Nova exemplifies how a historic space can be revitalized to promote economic inclusiveness through accessible and free activities, facilitating social integration and the use of heritage. Catalogue items identified: **Accessible street furniture**, such as ergonomic benches and accessible waste bins. **Non-slip pavement and continuous surfaces** to facilitate transit. **Multilingual and accessible signage** for tourists and local users. **Schedule of free activities** to promote community participation.	Description: Managing the citrus landscape as an inclusive economic and cultural asset. Harvesting generates local employment and preserves the city's tourist image. By taking place in pedestrian areas, it democratizes free access to the sensory and traditional values of the heritage for all citizens. Catalogue items identified: **Floors:** Continuous and safe surfaces for work and pedestrian traffic. **Furniture:** Benches and supports that facilitate the contemplation of traditional work. **Mobility:** collection logistics that guarantee the continuity of accessible routes. **Signage:** Information on the value of intangible heritage, accessible to all. **Culture:** integration spaces that promote social cohesion without economic cost.

3.9. DIGITAL INCLUSIVENESS

Digital inclusiveness ensures that all people have access to and can effectively use digital technologies, closing the digital divide and enabling full participation in the digital age.

In historic urban areas, digital inclusiveness can be achieved by providing free Wi-Fi in historic parks and squares, developing mobile apps that offer guided tours and historical information, and organizing digital literacy workshops in community centers located in historic buildings. These initiatives increase public engagement with cultural heritage through digital media.

	
Imageen App – Tarragona, Spain	*Pier 1, Malaga. / Ruins of the Alcazaba, Malaga.*
Description: Imageen is an augmented reality application that allows users to view historical reconstructions superimposed in real time on the archaeological remains of Tarragona. Using a mobile phone or tablet, visitors can experience the city's Roman past through an accessible and interactive narrative. Identifiable catalog elements: **Signage with QR codes and multilingual references**: Facilitates access to the app from the physical environment. **Digital inclusiveness through multimedia accessibility:** audio, subtitles, and adapted visual content. **Interactive design**which encourages active participation, especially useful for people with traditional reading difficulties or cognitive disabilities. **On-site accessible technology:** It is offered at visitor centers or through device loans.	Description: Muelle Uno, the renovated waterfront promenade in the port of Málaga, provides a visual and physical connection to the historic center and the Alcazaba. It features public Wi-Fi, interactive tourist information points, and a digital strategy that includes everything from app-based guided tours to events promoted on social media. Identifiable catalog elements: **Free Wi-Fi in public spaces**: Enables universal digital access. **Signage with touch interface and multilingual** Information accessible to tourists and residents. **Mobile applications with accessible routes**: routes optimized for people with reduced mobility. **Furniture equipped with solar USB charging.** It facilitates connectivity and supports sustainability.

3.10. EDUCATION AND PARTICIPATORY INCLUSIVENESS

Educational and participatory inclusiveness focuses on eliminating barriers to learning and participation, ensuring that all people can access education and participate in decision-making processes that affect their communities.

In historic settings, this inclusivity is reflected in the use of public spaces as educational platforms. For example, organizing workshops and exhibitions in historic buildings to educate the public about local history, and involving community members in the preservation and management of heritage sites, fostering a sense of belonging and active participation.

	
Revolution Square (Bucharest, Romania)	*Roman remains by the Alcazabilla Street, Málaga.*
Description: The plaza is transformed into an open-air civic classroom, where historical learning is democratized and citizen ownership of the space is fostered. Integrating the historical narrative into the physical design of the site makes this heritage environment an inclusive platform for education, participation, and collective memory. Identifiable catalog elements: **Multilingual and accessible educational signage**: It allows for an inclusive understanding of the historical context. **Community meeting spaces:** Suitable for participatory activities such as workshops, debates or public ceremonies. **Barrier-free design:** Paved access, without steps or visual or physical obstacles. **Flexible urban equipment:** Mobile benches, ambient lighting, and ephemeral structures for educational uses.	Description: Along this historic street in Málaga, which connects the Roman Theatre with the Alcazaba, glass structures have been installed that allow the viewing of archaeological ruins below ground level. The project is accompanied by interpretive signage and has become a venue for participatory activities such as historical tours, talks, and performances related to the city's Roman and Islamic past. Identifiable catalog elements: **Accessible educational panels:** They include text in several languages and understandable graphic representations. **Accessibility** Physical: Level pavements, wide and level paths. Use of **heritage as an educational resource**: Direct interaction with archaeological remains in public space. **Activation of the space through cultural programming open:** Promotes free access to local history.

3.11. NON-HUMAN INCLUSIVENESS

Spatial inclusivity involves designing accessible and welcoming physical environments for everyone, including people with disabilities, older people, and other marginalized groups.

In historical contexts, spatial inclusivity requires thoughtful adaptations to ensure accessibility without compromising historical integrity. This includes installing ramps and elevators in historic buildings, ensuring that pathways in historic districts are wheelchair accessible, and providing seating areas in public squares, allowing all members of the community to comfortably enjoy these spaces.

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<td>"Insect Hotel", Borély Park, Marseille, France

“Insect Highway” Pollinator Corridor, Tallinn, Estonia</td>
<td>Maria Luisa Gardens, Seville</td>
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Description: Both projects integrate ecological infrastructure into heritage urban contexts, promoting biodiversity within historic public spaces. In Marseille's Parc Borély, the insect hotel provides shelter for pollinators using structures built with traditional, low-impact materials. In Tallinn, the "Insect Highway" acts as an urban green corridor connecting landscaped areas through the historic fabric, introducing melliferous vegetation, nest boxes, and educational signage. Identifiable catalog elements: **Accessible and integrated green infrastructure**: Inclusivity of habitats for insects and pollinators within the urban space, using sustainable materials compatible with the heritage. **Multilingual educational signage.** They provide information about the ecological value of the facilities and their function in the ecosystem. **Connection with accessible routes.** Paths and trails adapted to facilitate access for users of all ages and abilities. **Participatory environmental education.** In Tallinn, workshops and citizen walks are organized to publicize the project. **Multispecies urban design.** Explicit recognition of non-humans as legitimate users of public space.	Description: The Maria Luisa Gardens combine heritage elements with green spaces rich in biodiversity. Although not originally conceived with an explicit ecological perspective, the design and evolution of these gardens have transformed them into an inclusive urban space for both humans and other species. Their adaptive maintenance and historical value reinforce the link between culture, urban health, and nature. Identifiable catalog elements **Shade trees and ergonomic benches.** They encourage extended stays in harmony with the natural environment. **Continuous and accessible pavements.** Routes accessible to people with reduced mobility. **Preservation of natural habitats.** Ponds and dense vegetation provide habitat for urban wildlife. **Water features and wildlife-friendly furniture.** Indirect drinking fountains for birds and small animals.

4. 4. METHODOLOGIES, DESIGN PROCESSES, STRATEGIES, BARRIERS AND INNOVATIVE PROPOSALS FOR INCLUSIVITY AND ACCESSIBILITY IN HISTORIC CENTERS

The transition from theoretical and legislative foundations to the practical application of inclusivity and accessibility in historic centers constitutes the core of the contemporary urban challenge. Previous chapters have established the "what" and the "why": the stratified nature of historic public space and the ethical and legal imperative to guarantee universal access. This chapter delves into the "how," exploring the conceptual and practical tools that allow these principles to be materialized in highly complex heritage environments. Far from presenting an irreconcilable dichotomy between preservation and access, it argues that their convergence represents a problem of creative design that demands innovative methodologies, collaborative processes, and forward-looking strategies.

To address this complexity, the chapter is structured in a logical progression. It begins with an analysis of methodologies (section 4.1), examining the frameworks of thought that guide diagnosis and planning, from technical audits to co-creation paradigms. The following details the **design processes** (section 4.2), breaking down the operational phases that translate the methodology into physical and spatial interventions. Subsequently, the **strategies** (section 4.3) at different scales, from governance policies to urban intervention tactics, that actively promote inclusivity. The analysis is completed with a rigorous identification of the **barriers and limitations** (section 4.4) that hinder these efforts, revealing that the deepest impediments are often institutional and attitudinal, rather than purely physical or economic. Finally, the chapter culminates with an exploration of **innovative proposals** (section 4.5), outlining a future in which technology, advanced materials and new management models converge to create historic centers that are simultaneously authentic, accessible and vibrant.

4.1. METHODOLOGIES FOR INTRODUCING INCLUSIVITY AND ACCESSIBILITY IN THE PUBLIC SPACES OF HISTORIC CITIES

The effective integration of accessibility and inclusivity in historic centers requires a fundamental shift away from traditional approaches. It demands a paradigm shift from a reactive model, focused on regulatory compliance and the implementation of ad hoc solutions—the so-called "ramp policy"—to a proactive, holistic, and co-creative methodological framework. In this new paradigm, the success of an intervention is not measured solely by its correct technical execution, but by the democratic and inclusive nature of the process that gives rise to it. The methodology, therefore, is not simply a set of tools, but a declaration of principles about how urban space is produced and for whom it is produced.

4.1.1. FROM TECHNICAL DIAGNOSIS TO HOLISTIC UNDERSTANDING

The foundation of any informed intervention is a rigorous diagnosis. However, contemporary methodologies transcend mere technical auditing to embrace a multidimensional understanding of space

and its use. This hybrid approach combines the objectivity of quantitative data with the richness of subjective experience.

The **quantitative methodologies.** They have evolved significantly thanks to technology. The use of Geographic Information Systems (GIS) has become an indispensable tool for the objective analysis of the built environment. As recent research demonstrates, GIS allows for the precise mapping of architectural barriers, the analysis of street slopes, the modeling of pedestrian route continuity, and the evaluation of equity in access to essential services from different points within the urban fabric (Jiménez-Espada et al., 2022). This empirical evidence base is crucial for informing decision-making, identifying priority intervention areas, and allocating resources efficiently.

However, a technically accessible space is not necessarily an inclusive space. Therefore, quantitative methodologies are complemented by **qualitative and experiential approaches.** These studies seek to capture the subjective perception and use of space. One of the most notable methodological innovations in this field is the analysis of geolocated social media data. Pioneering research uses data from platforms like Instagram and Twitter to map "heritage engagement"—that is, where citizens and visitors spend their time, what elements they value, and what routes they prefer (Bernabeu-Bautista et al., 2023; Serrano-Estrada et al., 2024). By cross-referencing this information with maps of physical barriers, it is possible to identify not only architectural obstacles but also "experiential barriers": places that, although accessible, are perceived as unsafe, unwelcoming, or socially exclusionary. This method offers an unprecedented view of how different groups experience and feel about the city.

The synthesis of these quantitative and qualitative approaches has led to **comprehensive assessment frameworks** that go beyond mere regulatory compliance. Proposals such as "The Friendly City" (Gallardo Ramirez et al., 2016) evaluate the quality of public space from a cross-cutting perspective, considering not only functional accessibility, but also comfort, safety, vitality, and the identity of the place. This methodology measures the "friendlyness" of the environment from the pedestrian's perspective, recognizing that a truly inclusive space is one that invites lingering, strolling, and social interaction, making accessibility an inseparable component of urban quality.

4.1.2. THE PARADIGM OF CO-CREATION AND PARTICIPATORY DESIGN

The most transformative methodology is the one that redefines power relations in urban planning, shifting from a design model "for" citizens to a design model "with" them. Co-creation is not a consultative process, but rather the core of the methodological process, where the expert knowledge of technicians engages in dialogue on equal footing with the experiential knowledge of the citizenry.

The theoretical foundation of this methodology lies in the need to "politicize participation" (Calderon, 2013). This approach critiques superficial models and advocates for a process that challenges existing power structures and empowers historically marginalized communities. In the context of accessibility, this means that people with disabilities and their representative organizations are not mere consultants, but active agents involved from the earliest stages of project diagnosis and conceptualization. Their lived knowledge of everyday barriers and solutions that actually work is an invaluable resource that technical design alone

cannot replicate.

This paradigm is articulated through **principles and phases** well-defined, which structure a process of mutual learning and shared responsibility (Pelta Resano, R. 2022). The process usually begins with a phase of **awareness and shared diagnosis** where technicians and citizens explore the environment together to identify problems and opportunities. This is followed by a phase of **perception and conceptualization**, in which co-design workshops are held to generate ideas and solutions collaboratively. The phase of **decision making.** This involves the joint evaluation of the alternatives, culminating in a phase of **implementation and evaluation** where the community actively participates in the execution and monitoring of the project.

A paradigmatic case study of this methodology is **San Cristóbal de La Laguna** (Spain), a city whose historic center is a UNESCO World Heritage Site (UNESCO World Heritage Centre, 1999) and which was awarded the Accessible City Award 2024 (Comisión Europea, 2024).The success of La Laguna lies not in isolated solutions, but in the institutionalization of a participatory methodology. The creation of a **Municipal Council for Disability** and the figure of **Ombudsman for People with Disabilities.** They are governance structures that formally and permanently integrate the voice of citizens with disabilities into the public policy cycle (Directorate-General for Employment, Social Affairs and Inclusion, 2023). This model demonstrates that when participation shifts from one-off consultations to co-governance, the results are comprehensive, sustainable, and internationally recognized. La Laguna highlights a fundamental conclusion: the most effective methodology for inclusivity is the democratization of the urban planning process itself.

4.2. PUBLIC SPACE DESIGN PROCESSES IN HISTORIC CITIES TO IMPROVE INCLUSIVITY AND ACCESSIBILITY

While the methodology establishes the conceptual framework, the design process defines the sequence of actions that allow us to navigate the inherent complexity of interventions in historic centers. This process cannot be linear or standardized; it must be iterative, flexible, and deeply sensitive to context. Its main challenge is managing what Spanish legislation defines as a "productive tension" between the mandates for heritage protection and the obligations of universal accessibility.[1]A successful design process doesn't seek the triumph of one principle over another, but rather creative synthesis through structured and collaborative dialogue. To this end, incorporating prototyping phases, such as those offered by tactical urbanism, emerges as a key procedural innovation for reversibly testing solutions and building consensus.

4.2.1. A STRUCTURED PROCESS IN PHASE

A robust design process for historic centers can be structured in four interconnected phases, each with specific objectives, tools, and actors.

Phase 1: Integrated Diagnosis and Interdisciplinary Dialogue

The starting point is the formation of a multidisciplinary team that includes heritage experts, accessibility specialists, urban planners, landscape architects and, fundamentally, representatives of the local

community and organizations of people with disabilities (Sanz, N., Delmont, F., Panero, A., 2017). This team carries out a **dual diagnosis.** On the one hand, **asset auditwhich**, following the principles of international charters such as those of ICOMOS, identifies the elements, materials, and spatial relationships that define the historical character of the place and that must be preserved. On the other hand, a **accessibility audit.** This analysis assesses the built environment based on current technical regulations, such as Order TMA/851/2021 in Spain, identifying physical, sensory, and cognitive barriers. The overlap of both analyses reveals critical points of conflict and opportunity.

Phase 2: Conceptualization and Collaborative Design

With the diagnostic results in hand, a co-design phase begins through participatory workshops. In these workshops, the technical findings are translated into language accessible to all stakeholders. The objective is to collectively generate a range of "alternative solutions," a concept supported by Spanish legislation that allows for non-standard designs to be proposed as long as it is justified that they achieve an equivalent functional result in terms of accessibility. It is in this phase that creativity and local knowledge flourish, giving rise to proposals that can range from the design of a ramp with materials and finishes integrated into the environment to the treatment of the joints of a historic pavement to make it walkable without needing to replace it.

Phase 3: Prototyping and Validation through Tactical Urbanism

This is the most innovative phase of the process. Instead of moving directly from design to final construction —a costly and irreversible action—tactical urbanism is used. This approach, defined by its "lighter, faster, and cheaper" interventions (Azpeitia Santander, A., 2017), allows for the construction of 1:1 scale prototypes within the public space itself. Its advantages in the context of heritage sites are immense: low cost, high speed of execution, and, above all, **reversibility** (Madera-Arends, R., 2022). Solutions can be tested temporarily to assess their functional, aesthetic, and social impact before committing to a larger investment. Practical examples include installing a temporary accessible walkway over cobblestones to evaluate its use and acceptance and delineating a new pedestrian zone with paint and movable street furniture to measure its impact on mobility (inspired by cases like Times Square).[10]or the placement of signage prototypes to test their legibility and location. This process not only provides valuable empirical data but also serves as a powerful communication and engagement tool, allowing the community to experience the change and offer informed feedback, thus facilitating the project's final acceptance.

Phase 4: Final Implementation and Long-Term Management

Once the solutions have been tested and validated in the prototyping phase, they are put into final implementation. This implementation benefits from all the previous learning, ensuring that the materials, designs, and construction details are of high quality, contextually appropriate, and functionally effective. The process does not end with the completion of the construction. It must include a management and ongoing evaluation plan, establishing a feedback loop to monitor the use of the space, gather new needs, and guide future interventions, in line with participatory management models (Pérez-del Hoyo et al., R, 2021).

The following table summarizes this process, providing a clear roadmap for planners and designers.

Phase	**Main Objective**	**Key Tools and Actions**	**Actors Involved**
1. Diagnosis	Understanding the physical, social and heritage context.	Accessibility audits (GIS, Order TMA/851/2021), Heritage audits (ICOMOS), User experience mapping (social networks).	Experts (heritage, accessibility), Public Administration, Citizens.
2. Conceptualization	Co-create contextually sensitive solutions.	Participatory design workshops, brainstorming of "alternative solutions", 3D modeling and visualizations.	Citizens (especially people with disabilities), Experts, Public Administration.
3. Prototyping	Test and validate solutions in a reversible manner.	Tactical urbanism interventions (temporary installations, painting, mobile furniture), surveys and on-site observation.	Citizens, Public Administration, Experts.
4. Implementation	To build the ultimate high-quality solutions.	Construction work using compatible and durable materials, application of technical regulations.	Public Administration, Construction Companies, Experts.
5. Evaluation	Learn and adapt for the future.	Post-occupancy monitoring, satisfaction surveys, creation of a continuous citizen feedback channel.	Public Administration, Citizenship.

This structured process demonstrates that tactical urbanism is more than just a passing fad; it is a fundamental procedural link connecting the rigidity of traditional planning with the need for community acceptance in sensitive heritage environments. It transforms abstract debate into a tangible experience, defuses potential conflicts, and ensures that final interventions are not only technically sound but also socially validated and appropriate.

4.3. STRATEGIES FOR PROMOTING INCLUSIVITY AND ACCESSIBILITY IN THE PUBLIC SPACES OF HISTORIC CITIES

Promoting inclusivity in historic city centers cannot rely on isolated actions. It requires the implementation of a coordinated set of strategies that operate at multiple scales—from supranational policy frameworks to street-level interventions—and that address the issue from various dimensions: governance, physical planning, and socio-economic and cultural development. The most successful approaches are those that integrate these different lines of action into a coherent vision for the city, understanding that accessibility is not an end in itself, but rather a catalyst for broader, more sustainable, and equitable urban regeneration.

4.3.1. GOVERNANCE STRATEGIES AND REGULATIONS

The foundation of any sustained progress lies in a robust governance framework that establishes clear obligations and promotes a culture of inclusivity. At the supranational level, the **European Strategy on the Rights of Persons with Disabilities 2021-2030** It acts as the main political driver, urging Member States to integrate accessibility into all relevant policies, including those related to the European Green Deal and building renovation (Comisión Europea, 2021). This strategy translates into binding legislative instruments such as the **European Accessibility Act** (Directive (EU) 2019/882), which, although focused on products and services, has a direct impact on public space by requiring that elements such as ATMs or ticket vending terminals be accessible (European Parliament and Council of the European Union, 2019).

At the national level, Spain has developed a robust framework through the **Second National Plan for Universal Accessibility**, which establishes a roadmap to meet the mandates of the UN Convention and is partly funded by the Recovery, Transformation and Resilience Plan (Real Patronato sobre Discapacidad, 2023). This strategic plan is based on a normative hierarchy that descends from the General Disability Law (Royal Legislative Decree 1/2013) to the detailed technical regulation of Order TMA/851/2021 (Government of Spain, 2013, 2021).

Beyond legislation, an effective governance strategy is the use of **incentives and recognition**. He **Accessible City Award.** The European Commission's initiative is a prime example. By recognizing and awarding cities like San Cristóbal de La Laguna (2024) or Ávila (2011), it highlights best practices, fosters healthy competition among municipalities, and demonstrates that investment in accessibility generates prestige and international recognition (Comisión Europea, 2024).

4.3.2. PHYSICAL AND URBAN PLANNING STRATEGIES

On the physical level, the fundamental strategy is the transition from an approach of one-off interventions to a **network approach.** Instead of creating "islands of accessibility"—an isolated plaza or building—planning should focus on creating **continuous accessible pedestrian routes** that connect the main nodes of urban life: residential areas, public services, cultural facilities, public transport stops and commercial areas. This network strategy guarantees a fluid and autonomous city experience, allowing full participation in civic life.

This accessibility planning must be intrinsically **integrated with sustainable mobility strategies,** The

pedestrianization of historic centers, a growing trend throughout Europe, is a unique opportunity to rethink space from scratch under the principles of universal design. The case of **Ljubljana (Slovenia)**, awarded the European Prize for Urban Public Space in 2012 for the renovation of the banks of the Ljubljanica River, is exemplary (City of Ljubljana, 2012). The intervention not only recovered a degraded space, but did so by creating an extensive, high-quality pedestrian zone, with continuous paving, new accessible walkways and a fluid connection between both banks, which radically transformed the way of moving and living in the historic center (Oppla, 2021). This case demonstrates a direct causal relationship: investment in an accessible, high-quality public space promotes active mobility (walking, cycling), reduces dependence on private vehicles, and revitalizes the social and commercial fabric.

4.3.3. SOCIO-ECONOMIC AND CULTURAL STRATEGIES

Inclusivity transcends the physical dimension. A space can be accessible but still be exclusionary if it is not socially, culturally, and economically accessible. Therefore, strategies must also address these aspects.

A key strategy is the promotion of **accessible tourism.** Far from being a niche market, accessibility has been identified as an emerging, high-value tourism product (Jurado-Almonte, 2014). A historic city that invests in accessible routes, multi-format information, and adapted services not only fulfills a social responsibility but also positions itself as a more competitive destination, attracting a segment of the population—people with disabilities, senior citizens, and families with young children—with considerable purchasing power who often travel during the off-season. Accessibility, therefore, becomes a strategy for sustainable economic development.

Finally, it is crucial to **inclusive programming of public space.** This involves designing and managing spaces not only for transit, but also for lingering and interaction. Strategies such as providing appropriate street furniture (benches with backrests, ischial supports, shaded areas), installing accessible and gender-neutral public restrooms, and implementing lighting that enhances the perception of nighttime safety are essential.[1]Furthermore, organizing cultural and civic events that reflect the diversity of the community and are free or low cost ensures that public space is a true meeting place for all citizens, regardless of their origin, age, gender or economic capacity.

The following table systematizes these strategies to provide an overview of the tools available to urban managers.

Type of Strategy	Scale	Concrete Example	Source/Reference
1. Governance	Macro (EU/National)	Implementation of the European Strategy on the Rights of Persons with Disabilities 2021-2030.	European Commission (2021)
	Meso (City)	Creation of a Municipal Disability Council for co-governance.	Case of San Cristóbal de La Laguna[5]
2. Physical Planning	Meso (City)	Development of a network of accessible pedestrian routes integrated with the pedestrianization of the	Ljubljana case (Oppla, 2021)

		center.	
	Micro (Street)	Unique platform design with tactile-visual paving and protective furniture.	Orden TMA/851/2021
3. Socio-Economic	Meso (City)	Creation of an Accessible Tourism Plan to position the city as an inclusive destination.	Jurado-Almonte (2014)
	Micro (Plaza)	Programming of free cultural events open to the entire community.	Parés and Franzi (2006)
4.Digital	Micro (Monument)	Implementation of guidance and information systems with augmented reality such as NaviLens.	The case of Córdoba (NaviLens, 2021)

The combination of these strategies demonstrates that accessibility is a cross-cutting issue that, when addressed comprehensively, can catalyze a virtuous cycle. Improved physical accessibility fosters more sustainable mobility, which in turn creates a more attractive environment for social life and economic activity, generating the resources and political will to continue investing in a more inclusive public space for all.

4.4. BARRIERS AND LIMITATIONS TO THE PROMOTION OF INCLUSIVITY AND ACCESSIBILITY IN THE PUBLIC SPACES OF HISTORIC CITIES

Despite a robust regulatory framework and growing social consensus on the importance of accessibility, its effective implementation in historic centers faces a formidable set of barriers and limitations. These obstacles are not merely technical or financial; often, the most difficult to overcome are institutional, cultural, and attitudinal in nature. The root of many of these impediments lies in a persistent and ultimately false dichotomy that pits heritage preservation against the exercise of human rights—a conflict that must be deconstructed in order to move forward.

4.4.1. THE CENTRAL DIALECTIC: PRESERVATION OF HERITAGE VS. RIGHT TO THE CITY

The core of the debate lies in a fundamental tension. On the one hand, heritage protection policies, such as those analyzed in the World Heritage Cities of Spain, focus on safeguarding the "urban scene," maintaining the visual and material authenticity of the historic landscape (García-Esparza, 2022). From this perspective, interventions necessary for accessibility, such as the installation of a ramp, the replacement of cobblestone paving, or the placement of an elevator, can be perceived as unacceptable alterations that degrade the value of the property.

On the other hand, research on pedestrian routes in these same environments reveals massive accessibility deficiencies that generate the systematic exclusion of a significant portion of the population (Martín et al., 2022). This exclusion is not merely a technical inconvenience. From the perspective of social geography, physical barriers are active producers of segregation, creating "exclusionary spaces" that deny participation in civic, cultural, and economic life (Olivera Poll, 2013). In this sense, the struggle for accessibility is framed within a broader demand for the "right to the city," which defends the ability of all citizens to use, enjoy, and appropriate central spaces as an indispensable condition for the exercise of full citizenship (Jaramillo Cruz,

2022).

The real problem arises when this dialectic is interpreted as a zero-sum game. However, the most advanced legal frameworks, both in Spain and in the European Union, do not establish a rigid hierarchy, but rather offer flexible mechanisms such as "reasonable adjustments" and "alternative solutions." These legal concepts compel dialogue and a search for creative solutions. Therefore, the persistence of the conflict is usually not due to a deficiency in the law, but to institutional and cultural inertia in its interpretation and application. The lack of interdisciplinary training and dialogue between heritage departments and those of urban planning or social services perpetuates a siloed approach where each defends its own competencies without seeking a synthesis.

4.4.2. TYPES OF BARRIERS

To address the problem systematically, it is helpful to classify the barriers into several interrelated categories, as detailed in the following matrix.

Type of Barrier	Specific Manifestation	Impact on User Groups	Reference
1. Physical and Morphological	Uneven pavements (cobblestones, paving stones), steep slopes, narrow streets, steps at building entrances.	People in wheelchairs, with reduced mobility, elderly people, families with strollers.	Martín et al. (2022)
2. Sensory and Informative	Noise and visual pollution, poor or dazzling lighting, lack of tactile paving, absence of information in alternative formats (Braille, audio description, easy reading).	People with visual or hearing disabilities, people with cognitive disabilities, tourists, elderly people.	They (2022)
3. Institutional and Legal	Rigid interpretation of heritage regulations, lack of interdepartmental coordination, slow and complex bureaucratic processes for the approval of interventions.	Architects, urban planners, municipal administrations, project promoters.	García-Esparza (2022)
4. Economic	Limited public budgets, high cost of specialized heritage interventions, perception of accessibility as an expense rather than an investment, access fees to heritage sites.	Public administrations (especially in small municipalities), private owners, people with low incomes.	Open Doors Organization (2020)
5. Attitudinal and Social	Resistance to change from heritage "purists" ("heritage is not to be touched"), lack of awareness and training in universal design, "stigmatizing accessibility" solutions (secondary entrances, improvised ramps).	People with disabilities (affecting dignity and autonomy), local community, design and conservation professionals.	Qualitative study (Sanz, N., Delmont, F., Panero, A., 2017)

Analysis of this matrix reveals the systemic nature of the problem of the **physical barrier.** A cobblestone pavement, for example, is not just an obstacle for a wheelchair; its lack of resolution is often due to a combination of **institutional barriers** (a heritage commission that prohibits its alteration), **economic** (the high cost of a joint-friendly treatment) and **attitudinal** (the belief that material authenticity is more important

than the right of access). Similarly, the lack of an audio guide in a museum (an **information barrier**) may be due to an **economic barrier** (lack of budget) or to a **attitudinal barrier** (lack of awareness of the needs of people with visual disabilities).

In conclusion, overcoming accessibility barriers in historic centers requires much more than technical solutions. It demands a cultural transformation within planning and management institutions, a sustained political commitment to adequately fund interventions, and a continuous awareness-raising effort so that society as a whole understands that inaccessible heritage is, in essence, incomplete heritage.

4.5. INNOVATIVE PROPOSALS FOR THE FUTURE OF PROMOTING INCLUSIVITY AND ACCESSIBILITY IN THE PUBLIC SPACES OF HISTORIC CITIES

The future of accessibility in historic centers lies not in a single magic bullet, but in the intelligent integration of an ecosystem of innovations encompassing technology, materials, and management processes. This hybrid approach allows us to overcome the false dichotomy between preservation and access, proposing a model in which heritage is not only conserved but also enriched by opening it up to all audiences. The most promising proposals are those that use technology to plan in a less intrusive way, improve the user experience in a personalized manner, and manage spaces in a more adaptive and participatory way.

4.5.1. TECHNOLOGICAL INNOVATIONS FOR PLANNING AND USER EXPERIENCE

Digital technology is revolutionizing both the way interventions are planned and the way citizens and visitors experience heritage.

In the field of **planning and conservation** tools such as **3D laser scanning and the creation of "digital twins".** They allow the generation of highly accurate virtual models of buildings and public spaces. Using these models, technicians can simulate different intervention options—such as the installation of a ramp or an elevator—evaluate their visual and structural impact and optimize their design without needing to perform any physical work on the heritage property. **Artificial Intelligence (AI)**It complements these tools by being able to analyze large volumes of data to predict deterioration patterns or even to help in the digital reconstruction of lost elements, providing an unprecedented knowledge base for preventive conservation and informed intervention (Universidad Internacional de Andalucía, 2025).

For the **improving user experience.** Innovation is even more disruptive, creating what could be called a "hybrid accessibility" that combines physical and digital access.

- The **Augmented Reality (AR).** Through mobile applications, digital information can be overlaid onto the real environment. A visitor can point their phone at a ruin and see a reconstruction of what the building looked like in its heyday, or receive historical information in multiple languages and formats (text, audio, sign language), making the experience richer and more understandable for people with different sensory or cognitive abilities (ThinkUp, 2022).
- The **Virtual Reality (VR).** It offers a solution for places that, due to their fragility or configuration, are physically inaccessible. A person with very limited mobility could, for example, explore the interior of a medieval tower or a hypogeum through a high-fidelity immersive experience,

guaranteeing a form of access to knowledge and enjoyment of heritage that would otherwise be impossible (Bardon, A., 2020).

- The **intelligent guided systems.** They represent one of the most practical and impactful applications. The technology **NaviLens,** successfully implemented in the historic center of Córdoba and on public transport in cities like Barcelona and New York, this system is a prime example. It uses high-density color codes, similar to QR codes, that can be detected by a smartphone camera from long distances, without needing to focus and in any lighting conditions. The application provides the user with contextual information and precise guidance through voice instructions, 3D sounds, or augmented reality. For a visually impaired person, this represents unprecedented autonomy in navigating the complexities of a historic center. For a tourist, it's an interactive, multilingual audio guide. The discreet nature of the codes and their low implementation cost make them ideal for heritage environments (NaviLens, 2021).

4.5.2. INNOVATIONS IN MATERIALS AND CONSTRUCTION

The debate on accessibility in historic centers often focuses on paving. Innovation in materials offers promising solutions to address this critical issue.

- **Reversible and compatible pavements:** Faced with the dilemma of whether or not to replace a historic pavement, systems have emerged to **lightweight and reversible paving.** One example is the modular structures on which high-resistance porcelain stoneware tiles are installed. These systems can be placed over the original pavement without damaging it, creating a continuous, non-slip, and accessible surface. Being a modular system, it is completely reversible, fulfilling one of the fundamental principles of restoration. Furthermore, digital printing technology on ceramics allows for customization of the finish to be aesthetically compatible with the surroundings or to integrate tactile paving or informational signage directly into the floor (Valero Martínez, M et al., 2010).
- **Advanced and sustainable materials:** Research into new materials is opening up interesting avenues **geopolymers.** For example, these are binders produced from industrial byproducts (such as fly ash or blast furnace slag) through an alkaline activation process. These materials have a much smaller carbon footprint than Portland cement and offer excellent mechanical and durability properties. Their potential in the heritage sector lies in the possibility of formulating them to be chemically and mechanically compatible with historical substrates, allowing them to be used for consolidation, repair, or even the creation of new, accessible, and sustainable paving elements (Abdila, S. R. et al., 2023).

4.5.3. INNOVATIONS IN PROCESSES AND MANAGEMENT

Finally, the most profound innovation is that which affects the planning and management processes themselves.

- **Formalization of "Tactical Heritage Urbanism":** The proposal aims to consolidate tactical

urbanism not as a series of isolated actions, but as a formal and recognized phase within the design process in heritage environments. This would involve developing protocols that combine the agility and reversibility of these interventions with a rigorous assessment of their heritage impact, ensuring that the prototypes are respectful of the environment they test.

- **Models of co-management of public space:** The future of inclusivity lies in moving beyond the consultative participation model. Governance models must be explored in which residents' associations, businesses, and, crucially, organizations of people with disabilities have an active and formal role in the ongoing management and programming of activities in public spaces. This ensures that spaces are not only accessible in their initial design but also remain vibrant, relevant, and truly inclusive over time.

These innovations, taken together, paint an optimistic picture of the future. They demonstrate that accessibility and conservation are not opposing forces, but rather allies. The need to make our historic centers accessible is driving research into more respectful and sustainable technologies and materials, benefiting the field of conservation. In turn, respect for heritage demands that accessibility solutions be more creative, discreet, and of higher design quality. This synergy is key to ensuring that the legacy of the past can be enjoyed by everyone in the present and passed on, enriched, to future generations.

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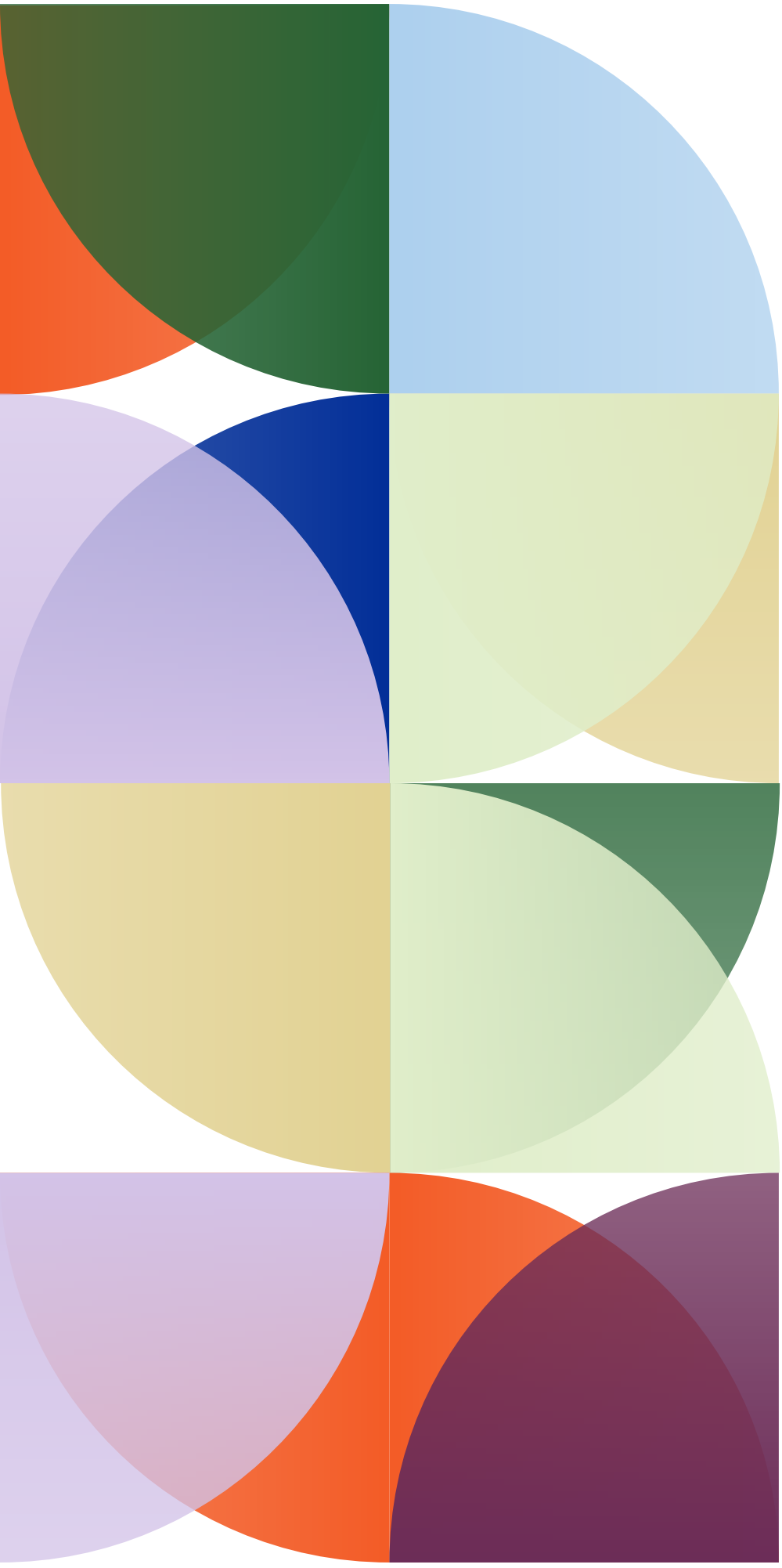

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