

urban environment | street

KALE LAGUN DESIGN GUIDE



Model for transforming outdoor public spaces
to mitigate loneliness and increase the
independence of older people

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01

FORWARD

According to the 2022 EU survey on loneliness by the European Commission's Joint Research Centre (Loneliness across Europe), 7% of the adult population of Europe, i.e. around 30 million people, report frequently feeling lonely. This percentage is over 11% in countries such as Italy and Hungary, while it drops to 3% in the Netherlands and Denmark. At the same time, 75 million adults in Europe experience social isolation, with rates surpassing 40% in Greece and Hungary, while Sweden, Denmark and the Netherlands report rates of around 8%.

The prevalence of loneliness in Europe is high and varies according to gender. The Survey of Health, Ageing and Retirement in Europe (SHARE, 2013), with a representative sample of non-institutionalised older adults from fourteen European countries (Austria, Belgium, Switzerland, Czech Republic, Germany, Denmark, Estonia, Spain, France, Italy, Luxembourg, the Netherlands, Sweden and Slovenia), highlighted that loneliness accounts for between 14.1% and 16.3% of symptoms experienced by older people, most notably among women (between 21.3% and 23.9%). Overall, the high prevalence of loneliness indicates a global public health problem, particularly since the COVID-19 pandemic.

The State Observatory of Unwanted Loneliness in Spain (2024) estimates that 20% of people experience unwanted loneliness, with two out of three cases (68%) having been in this situation for over two years, and 59% for over three years. Among those who do not currently feel lonely, two thirds (63%) have previously experienced loneliness. Seven in ten people have therefore experienced unwanted loneliness, either currently or at an earlier stage in their lives.

Unwanted loneliness is more prevalent among women than men (21.8% of women report feeling lonely, compared with 18% of men), and is particularly common among young people. Prevalence among young people

exceeds the average by 14 percentage points and progressively decreases with age, reaching its lowest value in the 55-to-74 age group. The literature frequently identifies a U-shaped relationship between age and unwanted loneliness: it is more frequent among younger people, decreases in middle adulthood, and becomes more common again among older people. The disparity between men and women becomes particularly apparent from the age of 55, with differences of more than seven percentage points observed. This is linked to women's higher life expectancy and the cultural tendency for women to marry older men, resulting in higher rates of widowhood among women (Dahlberg et al., 2015; Victor et al., 2006). In Spain, data show that 18% of all widowed individuals aged 70 and over are men, while 82% are women.

However, the higher proportion of widowed women does not necessarily mean that widowhood has a greater impact on loneliness for women than for men. Nicolaisen and Thorsen (2014) argue that partner loss has a greater initial impact on loneliness in men than in women; however, long-term widowhood (five years or more) appears to affect both sexes equally. Lennartsson and Lundberg (2007), meanwhile, show that the negative health effects of widowhood are more pronounced in men, which may contribute to unwanted loneliness (as cited in Dahlberg et al., 2015).

A study by Fundación ONCE and Fundación AXA, conducted as part of the State Observatory of Unwanted Loneliness (SoledadES), found that 14.5% of adults in the Basque Country currently feel lonely, while 12.1% experience chronic loneliness. The report notes that unwanted loneliness affects women more than men, although the gap is smaller than elsewhere in Spain; it is also more prevalent among those facing financial hardship, people with physical or mental health conditions, and young people compared with

older people, mirroring national trends. In the Basque Country, the proportion of people currently experiencing unwanted loneliness is 14.5%, which is 5.5 percentage points below the national average. However, those who feel lonely here tend to experience this isolation for longer than the national average. Specifically, 83.4% of the Basque population experiencing unwanted loneliness has been in this situation for more than two years, which is higher than the national average of 67.7%. Meanwhile, a study conducted by the consultancy Fresno, The Right Link, indicates that the gender gap in loneliness in this region stands at 2.7 percentage points (lower than the national figure), with involuntary isolation among women being 3.8 percentage points higher than that of men.

Specifically, 15.8% of women in the Basque Country report experiencing unwanted loneliness, compared to 13.1% of men, while in the rest of the country these figures rise to 21.8% for women and 18% for men.

In terms of age, the pattern of unwanted loneliness in the Basque Country closely mirrors that of the rest of Spain, affecting young people more than older individuals and declining as age increases. Specifically, those aged 18 to 34 represent the group with the highest level of loneliness in the Basque Country (23.8% experiencing involuntary isolation), followed by those aged 35–54 (13.5%), and those aged 55 and over (11.5%).

The study also highlights additional factors that can increase the likelihood of experiencing unwanted loneliness, such as financial difficulties, youth, having a foreign background, or living with a disability.

Regarding physical or mental health and unwanted loneliness, the report shows that Basque individuals with poor self-perceived health experience loneliness at a rate three times higher than those with good health

(27.8% compared with 8.5%). And specifically in the case of mental health, the proportion of citizens also affected by loneliness is lower in this region than elsewhere in Spain. In this context, 43.2% of Basques with mental health problems experience loneliness, compared with 49.8% across Spain as a whole.

In relation to the link between loneliness and disability, the study indicates that over half of people with disabilities in the Basque Country experience unwanted loneliness, mirroring the national average (50.6% in both cases).

The study also examines the influence of population origin on feelings of unwanted loneliness, noting that the link between origin and involuntary isolation is slightly stronger in the Basque Country than nationwide. Indeed, the gap in loneliness between those with and without a foreign background is 17.8 percentage points in the Basque Country and 14.7 percentage points in Spain as a whole.

Another aspect analysed in the report is the relationship between loneliness, habitat, and home. Here, the report concludes that involuntary isolation in the Basque Country is more common in large cities (over 100,000 inhabitants) and in single-person households.

According to the Bakardadeak (2019) study, almost 30% of the Gipuzkoa population aged over 55 feel lonely, but only 5.5% openly acknowledge it. The KALELAGUN study conducted in Donostia–San Sebastián (2024) found that nearly 47% of the population in Amara Berri aged over 55 feel lonely (34% women and 13% men), but only 25% openly acknowledge it. In Arrasate–Mondragón (2024), meanwhile, 58% feel lonely (41% women and 16% men), but only 40% openly acknowledge it.

Unwanted loneliness is a silent problem that affects an increasing number of people. It causes suffering for individuals and restricts their right to participate in society, negatively

impacting health and well-being, and in turn leading to significant social and economic costs. The data show a high prevalence of depression (39.3%) and chronic anxiety (37.8%) among those experiencing unwanted loneliness. For this reason, tackling loneliness has become a challenge for public authorities and society as a whole.

The Design Guide for public spaces to prevent and alleviate unwanted loneliness is the result of the KALELAGUN (“street friend” in Basque) research project, carried out by the Quality of Life in Architecture Research Group (CAVIAR) at the Department of Architecture at Universidad del País Vasco UPV/EHU.

The project was promoted and funded by ADINBERRI Foundation and Gipuzkoa Provincial Council, as part of the Gipuzkoa Provincial Council – HARIAK (threads in Basque) strategy to address loneliness. This work therefore addresses activities related to structuring or transforming the physical spaces people inhabit, traverse, and use (housing and urban planning), categorised as primary or universal prevention strategies for social inclusion.

The KALELAGUN project has been recognised as a best practice in the KORALE research project – Towards a Community of Practice and Knowledge on Preventing and Tackling Loneliness through Public Policies (Interreg Europe, co-funded by the European Union).

The approach is inter-institutional and multidisciplinary, involving participation from Beasain, Arrasate–Mondragón and Donostia–San Sebastián town councils, as well as researchers in architecture, urban planning, sociology, psychology, engineering and computer science. The Design Guide is also the outcome of a co-creation process with stakeholders from the quadruple helix: academia, public administration, user representatives, third-sector organisations and businesses.

The document is organised into four sections: objective and contextualisation, intervention methodology target public, design guidelines, and co-creation toolbox and pilot projects. The pilot projects are based on the application of the design guidelines to various real-life cases, developed through co-creation workshops held during the project’s two-year research period.

The first KALELAGUN plaza is set to be built in 2025, establishing a benchmark for transforming plazas and streets in our cities to help prevent and alleviate unwanted loneliness.

02

OBJECTIVE AND CONTEXTUALISATION OF THE GUIDE

This Guide aims to define a series of design guidelines for urban social spaces that help alleviate perceived loneliness and encourage social interaction among people over 55 who live alone. These have been defined and tested in Gipuzkoa Historic Territory and can be replicated in other contexts.

The aim is to transform existing social spaces and guarantee universal use and enjoyment at any time of day, providing services, street furniture, vegetation and other solutions to ensure comfort, foster belonging, facilitate relationships, and encourage active interaction with the environment. This Guide comes from a recognition that the design of spaces is governed by rules and standards that do not accommodate everyone, often producing sterile and unwelcoming spaces instead of ones that are familiar, approachable, and welcoming. In this context, many people stay at home because they cannot find places they feel comfortable visiting, or because they fear being judged for feeling lonely or for being seen alone. KALELAGUN aims to give them the opportunity to enjoy outdoor spaces and their associated benefits. To this end, guidelines are defined in order to create complex spaces that provide a variety of ways to use and spend time in them, ensuring comfort in all seasons and promoting interaction both among people and with the space itself.

Placing people, especially those over 55, in the centre is proposed as a key approach to achieving this goal, as it enables a departure from design approaches driven mainly by technical and regulatory requirements, which have resulted in spaces that limit the right to the city for those most disadvantaged by the system. These disadvantaged groups include adolescents, older people, people with disabilities, and immigrants, with women being the most affected within each group.

For all these reasons, this Guide adopts an urban design approach that addresses perceptual factors related to loneliness and autonomy, focusing on people and recognising the inherent limitations of a hegemonic urban design model which, through a distinctly androcentric perspective and *modus operandi*, overlooks those who inhabit these spaces and their diversity.

02.01. PERCEIVED LONELINESS AND AUTONOMY

Perceived loneliness is a subjective experience that arises when an individual feels the quantity or quality of their social relationships does not meet their needs. More generally, it can be defined as: “The negative personal experience in which an individual needs to communicate with others and perceives shortcomings in their social relationships, either because they have fewer relationships than desired or because existing relationships do not provide the emotional support they seek.” This feeling can negatively affect older people’s autonomy, as insufficient emotional and social support may limit their ability to carry out daily activities and make independent decisions. Perceived loneliness can lead to greater dependence on others, impacting well-being and quality of life.

Unwanted loneliness adversely affects physical and mental health across all age groups, with particularly pronounced effects in older adults. Numerous medical and psychological studies demonstrate the importance of social connections in preventing illness and reducing mortality. Furthermore, research has shown that lonely individuals are more likely to experience physical and mental illness, including a heightened risk of developing neurodegenerative diseases such as Alzheimer’s.

The main types of unwanted loneliness include emotional (or intimate) loneliness and social (or relational) loneliness. The former refers to a reduction or lack of significant interpersonal relationships characterised by intimacy, affection, and trust. The latter affects interpersonal relationships in a broad sense. We must also not overlook existential loneliness, which denotes a profound loss or rupture in the sense of having a role within the community and identifying with a collective project.

Older people are affected by these three types of unwanted loneliness at one or several moments in their lives.

Perceived unwanted loneliness has been closely linked to the quality of the immediate urban environment, assessed on factors such as proximity to services, absence of barriers, existing connections, the presence of nearby social and green spaces, and perceived safety.

However, it should be noted that few studies and/or projects link perceived loneliness to the design, use, and spatial or environmental quality of social spaces, to the opportunity to interact with nature, or to facilitating

care and self-care. In this sense, the Design Guide operates within an innovative context, specifically examining how the design of urban social spaces influences older people’s perception of loneliness.

Autonomy, on the other hand, refers to the opportunities and rights of older people to make decisions independently. It relates to their capabilities and opportunities to govern themselves. It should be noted that one of the aims set out in the 2030 Agenda for the Sustainable Development Goals (SDGs) is “to ensure healthy lives and promote well-being for all people at all ages”.

Scientific literature demonstrates that perceived autonomy correlates with quality of life and daily satisfaction. Perception of autonomy has also been associated with better health and well-being.

The proposals in this Guide therefore serve to alleviate and prevent perceived unwanted loneliness among older people, dealing with a range of urban social spaces.

First, it suggests redesigning spaces to be more complex, flexible, comfortable and usable, providing greater opportunities for interaction both among people and with nature, thereby encouraging socialisation and making it easier for informal, spontaneous activities to take place.

To this end, it proposes using warm materials that ensure safe use of spaces. It also gives careful consideration to the type and design of street furniture, ensuring that it caters to different uses and offers maximum comfort, with a preference for wood and benches with backrests and armrests, all strategically placed to encourage social interaction.

Secondly, it highlights the importance of incorporating greenery and water features to enhance comfort during the hottest months by mitigating the urban heat island effect, providing shade, cooling the environment, and encouraging the presence of birds and small animals. These elements also promote care and self-care and enable interaction with nature, e.g. playing with water and tending to plants and flowers. Furthermore, they stimulate other senses such as hearing and smell. In this regard, measures are defined to enhance visual connections with the immediate environment and the distant landscape.

It also considers that a social space cannot be understood in isolation, but rather through its interaction with the adjacent buildings and

its immediate environment. These elements create an opportunity to revitalise the space itself and provide services such as public toilets, small shops, covered areas and terraces.

In terms of use, differentiation is proposed in order to increase the usability of spaces, improve intergenerational relationships, and encourage physical activity. To achieve this, different design elements are proposed to supplement traditional playgrounds with games for all ages, exercise equipment, and/or features for interacting with nature.

Although autonomy has been studied in more detail, all proposed designs focus on enhancing the perception of safety to ensure that everyone can equally use and enjoy the space at any time of day. Therefore, apart from designing for natural surveillance, attention is given to lighting and immediate access within the space itself, such as for emergency services or support in cases of sexual harassment.

Design criteria are set out to enhance environmental comfort, selecting elements, materials, and their layout to mitigate noise, create sunlit and shady zones, reduce the urban heat island effect, and/or improve air quality.

Electronic devices are proposed to encourage use of the space and foster interpersonal interaction, thereby enhancing the impact of each physical feature in the space.

All these elements are in line with findings from medical and psychological studies, as well as examples of national and international architectural projects, which deliver a sense of spatiality specifically designed to reduce unwanted loneliness among older people.

02.02. PEOPLE AND GENDER
MAINSTREAMING

This Guide seeks to put people at the heart of the discussion and emphasises the need to prioritise interventions that improve quality of life, particularly in relation to ageing.

Ageing, as a phase of adult life, is gradual and marked by significant variation. However, it inevitably brings increased vulnerability and a need for care in one form or another. Similarly, once retired, older people often take on much of the responsibility for caring for others. The design of urban spaces can play a major role in either supporting or hindering care and self-care.

Understanding which stakeholders will benefit from these interventions is therefore essential. Social reality is diverse and complex, and constructing a “typical” stakeholder profile risks oversimplifying and missing the full range of individual circumstances and personal experiences. Nevertheless, people over 55 share some common needs, beyond the specifics of each individual, which may also be exacerbated by factors related to different vulnerabilities. This includes widowhood, particularly for men; and for women, all situations of vulnerability resulting from gender inequalities.

There are significant, unjustified inequalities in pay, pensions, lifestyles, and assigned roles, severely undermining health and quality of life, perpetuating loneliness, damaging autonomy, and disproportionately affecting their ageing process.

This is the case in the Historic Territory of Gipuzkoa, where more than two-thirds of people over 55 who live alone are women. Data from Eustat, based on the Population and Housing Census Population structure, show that there are 60,149 people living alone in Gipuzkoa as of 1st January 2024, of whom 20,831 are men and 39,318 are women. This figure is close to 80% for women aged over 75. It is therefore vital to understand the specific needs of these women and to develop proposals that address this reality.

Furthermore, the socio-economic context is a key determinant of health and quality of life, interacting closely with other factors and individual characteristics. In this regard, the sociodemographic profile of those most at risk of experiencing unwanted loneliness includes being female, older age, low educational attainment and income, not having a partner and living alone, infrequent contact with friends and family, dissatisfaction with support received, and low social participation, often

limited by the characteristics of the urban environment.

Moreover, we are witnessing a process evolving towards new realities, characterised by generalised population ageing, markedly differing from previous generational patterns in terms of longer life expectancy, greater economic independence among women, and higher divorce rates, all of which contribute to an increase in the proportion of women aged over 55 compared to earlier generations.

The effects of these factors are usually intensified in cities, and even more so in social environments. It should be noted that, despite its presumed neutrality, urban planning adopts an androcentric approach, i.e. one that simply overlooks women and, by extension, everyone not fully integrated into the productive sphere. This androcentric design, which fails to recognise reproductive labour, ultimately undermines the right of women (who have been historically relegated to the private sphere) to the city.

Current design overlooks care work, women’s perception of safety, and their movement and use patterns. This results in men and women using and experiencing spaces in highly asymmetrical ways, both spatially and temporally.

For all these reasons, this work, with careful attention to gender equality, presents interventions and proposals to tackle these undesirable conditions for all vulnerable individuals, both women and men, while giving particular attention to the unique needs and vulnerabilities of women, and seeking to help reduce these inequalities.

02.03. URBAN SOCIAL SPACES

In today’s context, designing social spaces relies primarily on complying with urban regulations and associated standards, and is also marked by a persistent gender blindness.

As a result, social spaces are often hostile and unwelcoming, particularly at certain times of day and for individuals who do not fit the archetype on whom urbanism is based: white, working-age men with a job, family, and good health. All this effectively excludes over half the population, specifically women, children, adolescents and, of course, older people.

Current policy and regulations address accessibility issues and allocate areas for specific uses (e.g. green spaces, children’s play areas, benches and lampposts) in proportion to the number of residents in each area. It is not considered important, for example, whether these green spaces are walkable, whether there are play facilities for different age groups, or whether trees or other elements might obstruct street lighting. And, of course, no consideration is given to older people, care responsibilities and who undertakes them, sense of belonging, perception of safety, or hygrothermal comfort.

In this context, it is essential to recognise that urban spaces for social interaction are central to the everyday lives of older people, influencing their quality of life and well-being not only through functional connections, but also through emotional bonds, self-perception, personal development, and opportunities to lead a dignified life in a supportive, familiar environment.

As people age, their immediate and wider environment becomes crucial for counteracting unwanted loneliness and supporting autonomy and associated health. It is therefore vital that these spaces are attractive and foster care and personal and neighbourly relationships, engagement with the physical environment and nature, and opportunities for physical and mental activity and/or environmental comfort. For older people, subjective and emotional experiences related to social spaces, stemming from their attachment to their living environment, play a vital role in ensuring well-being and quality of life, offering them opportunities to break away from isolation at home and live a more active life.

For all these reasons, this Guide now defines and structures a series of design guidelines that put the proposed approach into practice, enabling the progressive modification of the network of urban social interaction spaces,

and, above all, a structural shift in urban design policies. The proposal is to move away from a universal, predefined model shaped by preconceived biases towards one that incorporates diverse ways of being and living, removing predefined hierarchies and promoting inclusion that transcends age, gender, social status, and functional diversity.

03

WHO IT IS FOR

This Guide is mainly intended for those responsible for town planning. These include local authorities and all related professionals and businesses. Stakeholders involved in matters linked to urban regeneration and population ageing. This is why it comes with an intervention methodology and a toolbox to support implementation.

Institutionally, the aim is for stakeholders to advocate integrating the Guide into town planning policies, thereby enabling a shift away from the current design model towards approaches that promote healthy ageing.

With this goal in mind, this Guide presents design guidelines and their practical application in a range of pilot projects to improve understanding and increase awareness of the urban, design and environmental factors that most affect older people's well-being, particularly those living alone.

It is also directed towards all individuals working professionally in architecture and town planning, including those currently in training, and particularly those engaged in urban-scale projects who may integrate the proposed design guidelines into their work.

It also serves as a reference for the construction sector, supporting the development of new products and services that drive the transformation of processes and design models for social spaces through competitive business strategies.

Given its structure and readability, it is a valuable tool for the general public, helping to raise awareness of different forms of loneliness, promote understanding of easily implementable mitigation measures, and empower people by providing the knowledge and tools needed to advocate for alternative urban design. It can also be used as high-quality teaching material, helping enable students to address the issues discussed.

04

KALELAGUN INTERVENTION METHODOLOGY

The project has enabled the development of a comprehensive mixed methodology, promoting holistic solutions by integrating technical and quantitative elements with perceptual and qualitative dimensions. It is based on open innovation, meaning the active involvement of all stakeholders is key.

The final methodology is structured in seven steps, which are often developed in parallel and inform one another.

STEP 1

IDENTIFY AGENTS AND AREA UNDER STUDY

The types of quadruple helix agents that should be involved in the co-creation process are identified as a way to ensure representative, plural participation. Furthermore, potential spaces are identified through collaboration with local authority stakeholders, based on either their viability or on them being part of the political agenda.

STEP 2

QUANTITATIVE AND QUALITATIVE ANALYSIS: TELEPHONE SURVEYS

Quantitative and qualitative analyses through telephone surveys are used to study the relationship between perceived loneliness, public outdoor spaces, and autonomy among people aged over 55 living alone.

STEP 3

CARRY OUT FIELDWORK

To ensure a comprehensive analysis of the intervention space that incorporates both objective data and perceptual aspects, relevant fieldwork consisting of non-participant observation and street surveys is conducted to assess the quality and comfort of public outdoor spaces at various times of day over at least two consecutive weeks in each of the four seasons.

STEP 4

MONITOR MICROCLIMATE, ENVIRONMENTAL AND USAGE CONDITIONS

As for environmental parameters related to comfort and well-being, appropriate tools (including the specific parameters to be measured, their frequency, the measuring instruments, as well as their quantity and nature) are identified by installing weather stations to monitor the microclimatic, environmental, and usage conditions of the space under study. This analysis is complemented by comfort simulations for the spaces studied.

STEP 5

HOLD CO-CREATION SESSIONS WITH EXPERTS AND RELEVANT MEMBERS OF THE PUBLIC

This information provides a comprehensive understanding of the context in order to empathise with users, identify and address the problem, and design and conduct the co-creation workshop using detailed data from quantitative and qualitative analysis.

The Toolbox developed in the project, as described in section 4.1, is applied during the co-creation process.

STEP 6

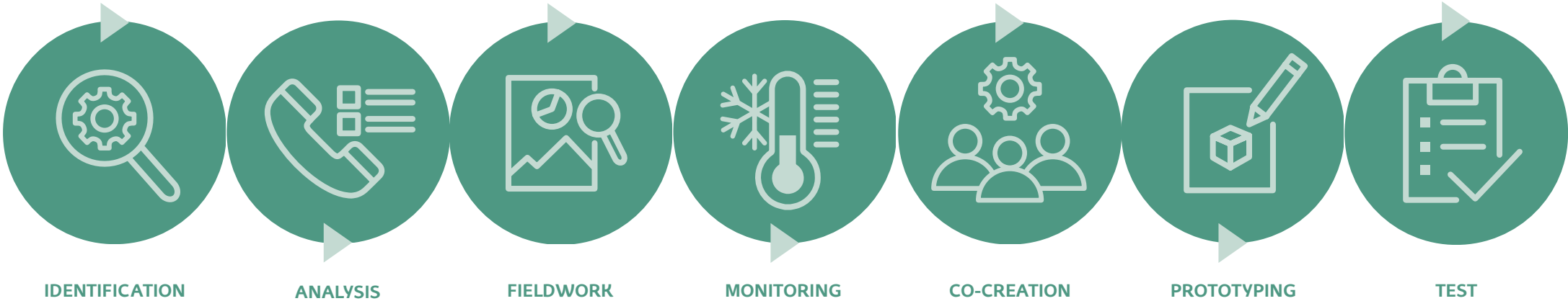
DESIGN PROPOSAL/PROTOTYPING

Del taller de co-creación se obtiene el diseño preliminar del proyecto que, tras la valoración de su viabilidad técnica, económica y política, será la base para desarrollar el proyecto de ejecución.

STEP 7

TEST

Executing the work is not an end in itself, but rather it is essential to subsequently repeat the fieldwork in order to assess the impact of the completed intervention and test the design guidelines implemented. This testing helps find weaknesses or areas that need improvement in the initial design while also uncovering previously undetected needs, allowing for reformulation and prototyping.



04.01

KALELAGUN TOOL BOX

GOALS

The KALELAGUN co-creation Toolbox is designed to help ensure the application of the Design Guidelines in projects aimed at designing or transforming a specific public space. This Toolbox serves as the essential resource for effectively developing co-creation sessions.

It also enhances understanding and enables everyone to participate in co-creation processes, thereby stimulating creativity while breaking down barriers arising from non-specialists' lack of familiarity with urban design.

TOOLS

Specifically, the Toolbox consists of:

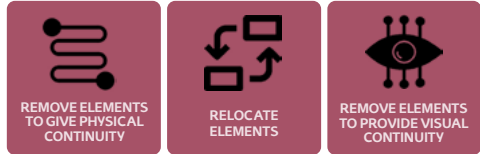
- 1) A model of the site for a three-dimensional view of the space.
- 2) Site plans with clear, comprehensible graphics and text annotations.
- 3) Option Cards to, based on the design guidelines, help inform decision-making and stimulate creativity.
- 4) A photographic dossier for better visualisation of the study site, enhancing understanding when configuring proposals.
- 5) Coloured markers for adding notes or drawings to the proposal, and for incorporating new cards.

It is worth noting that the site is always visited before the Workshop takes place, striving to hold the session at a nearby location. Moreover, group work is organised in small teams (4 to 6 people) with a mix of genders and backgrounds to ensure everyone can participate in a relaxed, non-hierarchical environment. Finally, the session ends with a group discussion aimed at reaching consensus.

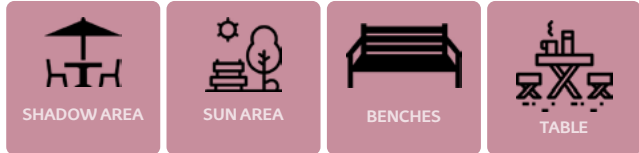
Among the tools in the Toolbox, the Option Cards stand out as they help non-experts propose solutions more easily.

The Option Cards are divided into 7 groups:

GR01 WALKABILITY-ACCESSIBILITY



GR02 STAY



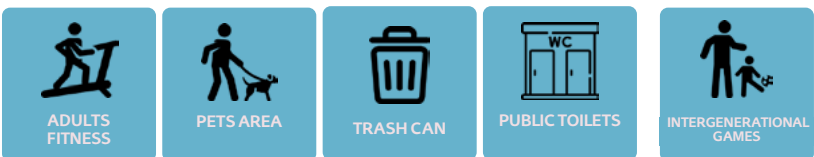
GR03 VEGETATION-WATER



GR04 MATERIALS-FINISHES-TEXTURES



GR05 CARE-SELF-CARE



GR06 USES-ACTIVITIES



GR07 TECNOLOGY



The aim is for this KALELAGUN co-creation Toolbox to be used in public space projects, enabling the incorporation and implementation of objectives that help prevent and alleviate unwanted loneliness.

05

STRUCTURE AND CONTENT OF THE DESIGN GUIDE

This Guide, in line with the objectives pursued, sets out the factors that influence loneliness and autonomy in public outdoor social spaces. This information is structured in the form of sheets with guidelines on designing public outdoor spaces to alleviate loneliness and increase autonomy.

These sheets are grouped into five main sections, setting out the aspects identified as key in designing outdoor spaces: urban and spatial parameters; urban design and autonomy; environmental and comfort parameters; urban design and psychosocial health; technological aspects; respectively identified with the acronyms SP, AU, CM, PH and TA.

- Urban and spatial parameters [SP]
- Urban design and autonomy [AU]
- Environmental and comfort parameters [CM]
- Urban design and psychosocial health [PH]
- Technological aspects [TA]

Each area for action is organised within a system of indicators, which are in turn broken down into specific design guidelines to make sure they are carried out correctly. A system has been defined, consisting of 18 indicators with a total of 60 design guidelines.

Each indicator is defined by an alphanumeric code, indicating the area for action (SP, AU, CM, PH, TA) and the sequential number of the indicators within each area. As for the design guidelines, each indicator code is repeated and followed by consecutive numbers (e.g. SP 01.01).

A sheet has been designed describing each indicator and each of the design guidelines it is broken down into.

The sheets are colour-coded by the corresponding area for action.

The Guide concludes with four pilot projects, in which the aforementioned guidelines are applied. Each pilot project describes the background (current situation), the process implemented (KALELAGUN methodology), and the solution reached (proposal).

For all this, each pilot project presents a table linked to the KALELAGUN process and methodology, following a checklist of the scope developed in each of them:

Table 01. Pilot project methodology sheet

METHODOLOGY	Telephone surveys		☐	
	Fieldwork		☐	
	Non-participant observation		☐	
	On-street comfort surveys		☐	
	Monitoring		☐	
	Simulations		☐	
	Co-creation sessions		☐	
	Preliminary design		☐	
	Proposal		☐	
FUTURE WORK	Project		☐	
	Construction		☐	
	Monitoring		☐	
	Telephone surveys		☐	
	Non-participant observation		☐	
	On-street comfort surveys		☐	

☐ not executed ☒ executed

The following are also included at graphic level for each social space: drawings, axonometric projections and infographics, and a design proposal describing the design guidelines implemented in each case.

06

DESIGN GUIDELINES

The design guidelines are based on specialist scientific literature and have been tested in co-creation workshops and validated by experts prior to finalisation.

They are grouped into 5 categories, covering:

Urban and spatial parameters [SP]

Urban design and autonomy [AU]

Environmental and comfort parameters [CM]

Urban design and psychosocial health [PH]

Technological aspects [TA]

The categories are further divided into subcategories, each articulated in the design guidelines. There are a total of 18 subcategories and 60 design guidelines. Each subcategory describes the objective, which each design guideline then specifies; this structure clarifies and articulates the scope of the design guideline, enables the modification of the outdoor public space, and outlines the characteristics and benefits these transformations offer in reducing perceived unwanted loneliness.

The KALELAGUN Design Guidelines are detailed below.

[SP] URBAN AND SPATIAL PARAMETERS

SP 01. QUALITY AND REPRESENTATIVENESS

SP01.01 Enable the complexity of the space

SP01.02 Create lively urban spaces

SP01.03 Foster a sense of place

SP01.04 Make the most of existing assets and preserve heritage as a mark of identity

SP01.05 Imagine landscapes (natural and/or urban)

SP 02. SCALE

SP02.01 Urban design at domestic scale [scale/ dimension of spaces]

SP02.02 The city at 4 km/h [walking speed]

SP 03. FLEXIBILITY AND USABILITY OF SPACES

SP03.01 Guarantee non-temporary use of public space

SP02 Promote interaction by making recreational areas more diverse.

SP03.03 Generate a range of street furniture configurations

SP03.04 Conceive shared experiences

SP03.05 Introduce physical and hands-on activities

SP03.06 Engage in healthy habits

SP 04. LOCAL COMMERCE

SP04.01 Reactivation of street-level premises

SP04.02 Relationship between the neighbourhood and local commerce

[AU] URBAN DESIGN AND AUTONOMY

AU01. ADAPTABILITY and AMENITY

AU01.01 Public versus private appropriation of spaces

AU01.02 Prioritise public spaces as places to spend time, rather than just places to pass through

AU01.03 Mixed-use dwell areas

AU02. EQUIPMENT AND INFRASTRUCTURE

AU02.01 Define specific types and uses in public spaces

AU02.02 Distribution within the urban fabric, proximity

AU03. WALKABILITY AND SAFETY

AU03.01 Create healthy, functional routes and spaces

AU03.02 Ensure universal accessibility

AU03.03 Guarantee accessible routes in good condition

AU03.04 Perceive safety

AU03.05 Incorporate anticipation mechanisms [dissuade]

[CM] ENVIRONMENTAL AND COMFORT PARAMETERS

CM 01. LIGHTING

CM01.01 Adapt natural and/or artificial lighting to public spaces

CM01.02 Adapt night-time lighting

CM 02. ACOUSTIC COMFORT

CM02.01 Prevent noise pollution

CM02.02 Reduce vehicle speed on public roads

CM 03. HYGROTHERMAL COMFORT

CM03.01 Regulate temperature (shade/light control)

CM03.02 Guarantee shade through solar protection elements (natural or otherwise)

CM03.03 Reduce relative humidity

CM03.04 Alleviate radiant heat

CM 04. AIR QUALITY AND CLIMATE CHANGE

CM04.01 Study wind quantity and quality

CM04.02 Guarantee optimal air quality

CM4.03 Reduce gas emissions

[PH] URBAN DESIGN AND PSYCHOSOCIAL HEALTH

PH 01. PERCEPTIVE ASPECTS AND ENVIRONMENTAL STIMULI I: MATERIALS AND FINISHES (TEXTURES-COLOURS)

PH01.01 Promote the use of soft, warm materials for pavements, street furniture, and edge fronts

PH01.02 Implement pavements with different textures and/or colours

PH01.03 Prioritise the use of indigenous materials

PH01.04 Prioritise materials that reflect the place's identity

PH01.05 The importance of colourimetry in urban spaces

PH 02 PERCEPTIVE ASPECTS AND ENVIRONMENTAL STIMULI II: SIGHTS AND SOUNDS

PH02.01 Enable visual relationships

PH02.02 Incorporate natural sounds (birds, water, etc.)

PH02.03 Ensure a pleasant sound environment

PH 03 ECOLOGY AND NATURE [VEGETATION AND WATER]

PH03.01 Prioritise green spaces with native vegetation

PH03.02 Incorporate blue infrastructure (fountains, water features, etc.)

PH03.03 Enhance public spaces with the fragrance of plants and/or flowers

PH03.04 Ecological heritage

PH.04 PSYCHOSOCIAL HEALTH AND CARE

PH04.01 Allow pet care in public spaces

PH04.02 Install accessible fountains

PH04.03 Promote the care of people

PH04.04 Integrate accessible systems at transit stops

PH04.05 Install accessible fountains

PH04.06 Encourage care for flowers and plants [horticulture]

PH04.07 Install planters and pots at an accessible height for easier care

[TA] TECHNOLOGICAL ASPECTS OF URBAN SPACE

TA 01 CONNECTIVITY

TA01.01 Internet access in urban spaces

TA 02 APPLICATIONS

TA02.01 Incorporate technological elements that enhance the perception of safety in urban spaces

TA02.02 Use of digital lighting

TA 03 DEVICES

TA03.01 Integrate digital elements into urban spaces, promoting interactive services

TA03.02 Use of technological devices and social media

URBAN AND SPATIAL PARAMETERS

SP 01



QUALITY AND REPRESENTATIVENESS

Designing a high-quality creative (rather than purely decorative) public space enhances the value and attractiveness of the urban environment while also strengthening users' sense of local identity, thus encouraging new kinds of social interaction and helping to minimise loneliness.

SP01.01 Enable the complexity of the space

Ensure that the design of the space generates a varied environment in terms of uses and activities, allowing it to be enjoyed by a range of people, thus encouraging interaction. It is advisable to combine play areas with spaces for reading, socialising and connecting with nature, among others.

SP01.02 Create lively urban spaces

Create active street frontages that include a variety of activities such as local shops, leisure, hospitality, municipal premises, community premises, etc. This will increase the perception of safety and encourage public use.

SP01.03 Foster a sense of place

Design with an understanding and reinterpretation of the history and identity of each site/place, refraining from universal solutions. This will help people recognise the space as their own, strengthening their sense of belonging.

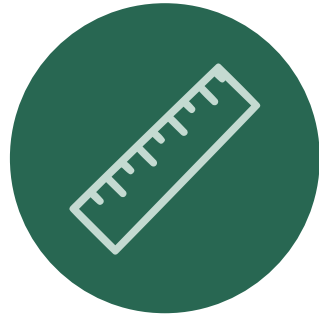
SP01.04 Make the most of existing assets and preserve heritage as a mark of identity

Integrate existing features by employing graphic motifs as a mark of identity, e.g. street art on end and parapet walls.

SP01.05 Imagine landscapes (natural and/or urban)

Integrate architectural, artistic and natural elements to create a welcoming landscape, revitalising street-level units and façades, incorporating greenery to foster interaction with nature, opening up views, and employing art and temporary solutions to enhance intervention viability, encourage interaction in design and use, and ensure design flexibility, etc.

SP 02



HUMAN SCALE

Guarantee spatial, functional and mobility quality, with particular attention to individuals' physical and psychological characteristics. This limits perceptions of insecurity and isolation, and consequently reduces loneliness.

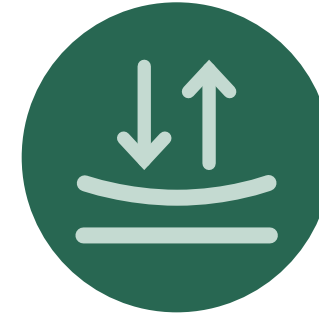
SP02.01 Urban design at domestic scale [scale/ dimension of spaces]

Designing urban space at human scale makes orientation easier and fosters calm and safety by using greenery and street furniture to improve the perception of a specific space: opening up views, clearing areas, and creating differentiated, inter-connected subspaces.

SP02.02 The city at 4 km/h [walking speed]

Slow down the experience of urban space to stimulate the senses and restore a human scale, rather than adapting the urban landscape to accommodate car speeds.

SP 03



FLEXIBILITY AND USABILITY OF SPACES

Enable full use of outdoor spaces by improving mobility, reducing the risk of accidents, and encouraging social relationships and outdoor sports, with the aim of increasing perceived safety and reducing feelings of loneliness.

SP03.01 Guarantee non-temporary use of public space

Provide and distribute elements that optimise the use of space throughout the year, minimising the impact of weather and other environmental or seasonal factors. Select and arrange the elements, taking into account their form, so that they do not obstruct traffic. Also provide opportunities for people to spend time in sun and shade.

SP02 Promote interaction by making recreational areas more diverse

Include covered areas, vary the arrangement of recreational benches and tables by considering their orientation, and provide for diverse uses in recreational areas.

SP03.03 Generate a range of versatile street furniture configurations

Vary the types and arrangements of benches and rest areas so that individuals can be alone, accompanied, or in groups.

SP03.04 Conceive shared experiences

Avoid isolated or linear benches, favouring more varied configurations that foster the formation of social interaction clusters. This approach encourages interaction between people (regardless of whether they know each other), without limiting the possibility to be alone.

SP03.05 Encourage physical and hands-on outdoor activities

Encourage diverse outdoor physical activities by integrating walking areas, cycle lanes and exercise equipment, ensuring that everyone (regardless of preference, age, ability or stamina) can take part in physical and sporting activities in a convivial environment that fosters social interaction.

SP03.06 Engage in healthy habits

Treat public space as part of the city/neighbourhood's public sports infrastructure. Sport in public space makes a city/neighbourhood more attractive, healthy and accessible.



LOCAL COMMERCE

Investing in economic and cultural development means investing in public spaces, strengthening social ties and enriching the urban environment, which is directly connected to civic, cultural, recreational and economic life.

SP04.01 Reactivation of street-level premises

Assess the occupancy and ownership of street-level premises and propose actions to revitalise them for commercial or community use, including management strategies and options for rehabilitation.

SP04.02 Relationship between the neighbourhood and local commerce

Consider actions that involve the community in revitalising and managing local commerce, in order to strengthen local relationships and foster a sense of belonging.

AU 01



ADAPTABILITY AND AMENITY

Tackle vehicle encroachment and establish friendlier, more sustainable solutions for older people, and ensure that public spaces are socially and culturally diverse, allowing people to take ownership and enjoy them.

AU01.01 Public versus private appropriation of spaces

Eliminate on-street parking in the public space, freeing up and reclaiming this space for public use. The ongoing occupation of the street by private vehicles consistently reduces the availability of public space for its rightful use and prevents the full development of activities suited to it, e.g. lingering, movement, and social interaction.

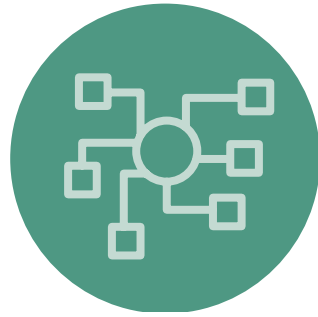
AU01.02 Prioritise public spaces as places to spend time, rather than just places to pass through

Optimise public spaces to encourage lingering and activity, rather than just places to pass through. It is important to regard the public space as a place for enjoyment and action, enabling people to engage openly in daily activities.

AU01.03 Mixed-use dwell areas

Encourage diversity in dwell areas so that public space is inclusive, open, and accessible to all, integrating, as far as possible, rest zones, areas where people can gather, spaces for play and exercise, and landscaped areas.

AU 02



EQUIPMENT AND INFRASTRUCTURE

Promote economic, cultural, and recreational activities that enliven the urban environment.

AU02.01 Define specific types and uses in public spaces

Do not restrict the consideration and design of urban spaces to regeneration alone; rather, include the immediate surroundings in order to improve accessibility and usefulness, proposing alternative and complementary services such as public toilets, pharmacies, medical services, shared taxis, etc. Define management models as appropriate.

AU02.02 Distribution within the urban fabric, proximity

Assess nearby resources and services for each social space in order to determine whether there are care and self-care services, along with access to local shops and public transport. Measures should be introduced to address any deficiencies that limit use of the spaces.

AU 03



WALKABILITY AND SAFETY

Mobility and safety in public space are guarantees of an active and therefore healthy lifestyle, and allow smooth, continuous movement throughout the urban area, especially for older people. In other words, facilitating walkability and ensuring absolute safety creates a high-quality environment.

AU03.01 Create healthy, functional routes and spaces

Remove all architectural barriers and use appropriate materials and lighting; each area should be integrated into a network of interconnected spaces to create healthy routes and improve the functionality of different spaces.

AU03.02 Ensure universal accessibility

Prioritise accessible pedestrian routes in public spaces, clearly distinguishing them from routes that may not always be accessible.

AU03.03 Guarantee accessible routes in good condition

Ensure that each space, particularly at access points, is appropriately designed to guarantee barrier-free routes, adequate maintenance, and non-slip surfaces.

AU03.04 Perceive safety. Improve perception of the space

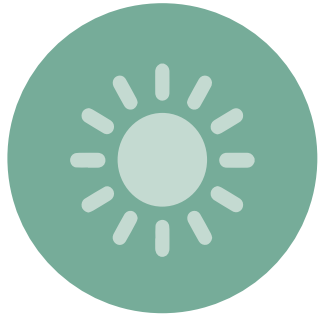
Develop a design that considers the arrangement of elements and vegetation so as not to interfere with visibility of the area from its surroundings, thereby facilitating natural surveillance. This design should be accompanied by suitable lighting to avoid creating dark, residual spaces.

AU03.05 Incorporate anticipation mechanisms [dissuade]

Equip the space with call buttons for assistance in cases of sexual violence or harassment.

ENVIRONMENTAL
AND COMFORT
PARAMETERS

CM 01



LIGHTING

Effective urban lighting adds character to the environment, supports commercial, social, and cultural activity, and ensures safe conditions for pedestrian movement, creating comfortable urban spaces both day and night. It also helps to reduce accidents during hours without natural light.

CM01.01 Adapt natural and/or artificial lighting to public spaces
Select and arrange design elements and vegetation so they do not obstruct natural and/or artificial lighting, guaranteeing diffuse lighting backed up by presence detectors and/or automated lighting, as appropriate.

CM01.02 Adapt night-time lighting
Avoid light pollution and protect the night-time environment from unnecessary artificial brightness. Public spaces at night cannot be equated with those same spaces during the day, in order to prevent the negative effects of light pollution on the view of the night sky.

CM 02

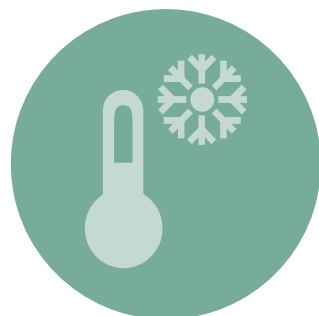


ACOUSTIC COMFORT

As people age, sensory functions diminish, making acoustic comfort an important factor in older people's well-being.

CM02.01 Prevent noise pollution
Incorporate natural and artificial features that serve both as noise barriers and as sources of pleasant, familiar sounds (e.g. water features or wind-activated sculptures).

CM02.02 Reduce vehicle speed on public roads
Restrict and reduce vehicle flow and speed on public streets, prioritising pedestrians and using sound-absorbing paving to minimise noise impact.



HYGROTHERMAL COMFORT

Improve thermal comfort to make it easier for older people to use and enjoy public spaces for a variety of activities.

CM03.01 Regulate temperature (shade/light control)

Provide elements that regulate the microclimate year-round, such as planting vegetation to reduce heat and using materials with thermal inertia.

CM03.02 Guarantee shade through solar protection elements (natural or otherwise)

Use shaded areas and flexible sun protection elements (movable fabrics, deciduous vegetation, etc.)

CM03.03 Reduce relative humidity

Use water features to reduce humidity by carefully planning their layout and operation, which, in addition to providing opportunities for care and recreation, also help moderate temperatures year-round.

CM03.04 Alleviate radiant heat

Select paving materials and street furniture that help regulate radiant heat, preventing uncomfortable sensations of heat or cold throughout the year. Similarly, solar radiation should be managed by choosing and arranging vegetation strategically, thus preventing excessive heating or cooling of surfaces.



AIR QUALITY AND CLIMATE CHANGE

Air quality and the effects of climate change directly impact older people's health. Mitigating these effects improves the quality of life for older people in public spaces.

CM04.01 Study wind quantity and quality

Assess wind behaviour throughout the seasons and install artificial elements or vegetation to reduce wind impact in community spaces.

CM04.02 Guarantee optimal air quality

Improve urban air quality and implement new urban mobility plans that encourage walking, cycling or public transport, shifting private vehicles towards cleaner alternatives.

CM4.03 Reduce gas emissions

Incorporate strategic actions to reduce atmospheric greenhouse gas (GHG) emissions and mitigate climate change, one of the greatest challenges facing humanity in the twenty-first century.

URBAN
DESIGN AND
PSYCHOSOCIAL HEALTH



PERCEPTIVE ASPECTS AND ENVIRONMENTAL STIMULI I: MATERIALS AND FINISHES (TEXTURES-COLOURS)

The combination of materials, textures, and colours affects both the public environment and its users, especially older people, shaping perceptions of the space and the emotions it evokes. The textures and colours of materials stimulate the sense of touch, making the careful selection of each material and finish vital.

PH01.01 Promote the use of soft, warm materials for pavements, street furniture, and edge fronts

Use warm materials that create a welcoming atmosphere, reduce the risk of accidents and enhance comfort, thereby limiting the likelihood of conditions such as cystitis. Prioritise wooden benches with backrests and armrests to encourage older people to linger.

PH01.02 Implement pavements with different textures and/or colours

Use paving materials of different textures or colours to differentiate areas, create distinct user experiences, enrich public spaces, and establish a sense of place.

PH01.03 Prioritise the use of indigenous materials

Use indigenous materials familiar to users so that social spaces feel personal and inviting. This approach ensures a comfortable stay that avoids discomfort and prevents people from feeling like outsiders in the space, fostering instead a sense of belonging.

PH01.04 Prioritise materials that reflect the place's identity

Use furniture, decoration etc. that evoke the history of each place/space, in order to foster recognition and strengthen a sense of belonging.

PH01.05 The importance of colourimetry in urban spaces

Use warm colours, alternated with brighter ones, to help ensure orientation in the space, create different atmospheres, and offer multiple opportunities for lingering that adapt to people's different moods and to changes in an individual's mood over the course of their life.



PERCEPTIVE ASPECTS AND ENVIRONMENTAL STIMULI II: SIGHTS AND SOUNDS

Visual stimuli are predominant in urban spaces. As people move through these areas, their attention is drawn to street-level activities, indicating that such stimuli should be concentrated there to ensure dynamic and engaging experiences.

Another sense not to overlook is hearing, as we currently suffer from high levels of acoustic pollution in urban centres, so it is important to pay attention to mitigating noise and helping create comfortable acoustic spaces and soundscapes.

PH02.01 Enable visual relationships

Design open spaces that allow visual connections with the landscape and nature, fostering feelings of calm and a sense of safety, encouraging positive emotions.

PH02.02 Incorporate natural sounds (birds, water, etc.)

Plant vegetation to attract birds and animals, and install water features that produce pleasant sounds. The presence of vegetation and water attracts and shelters fauna, adds value to the public space, transforms it into a more habitable environment, and helps regulate thermal comfort.

PH02.03 Ensure a pleasant sound environment

Implement solutions based on sustainable mobility models and nature-based approaches to reduce environmental noise, especially from traffic.



ECOLOGY AND NATURE
[VEGETATION AND WATER]

(Re)naturalising public spaces has social benefits for older people, as well as environmental and perceptual benefits for urban spaces, improving both the landscape and the quality of life for older people by providing a healthier and more pleasant environment.

PH03.01 Prioritise green spaces with native vegetation

Incorporate native vegetation to foster urban biodiversity, along with flowers and aromatic plants that users can tend to and enjoy.

PH03.02 Incorporate blue infrastructure (fountains, water features, etc.)

Install fountains, water features, and water jets for hydration and to provide comfort during hot weather.

PH03.03 Enhance public spaces with the fragrance of plants and/or flowers

When selecting vegetation, it is important to use plants and flowers that give off familiar scents as a way to enhance well-being. Avoid mixing scents, so as to differentiate areas within the same space or between distinct but connected spaces.

PH03.04 Preserve the landscape and ecological heritage

Natural systems and landscape features: views, scale and dimension are all part of the heritage to be preserved in public space, as they constitute the memory of older people.



PSYCHOSOCIAL HEALTH AND CARE

Care improves quality of life and adds socio-spatial value to public spaces, encouraging civic participation and reducing isolation and loneliness.

PH04.01 Allow pet care in public spaces

Make it easier to care for pets in public spaces, so that pets are well looked after and people can also care for themselves and socialise with others.

PH04.02 Install accessible fountains

Install accessible fountains for pets, along with designated areas.

PH04.03 Promote the care of people

Guarantee universal accessibility and ease of movement by widening pavements and placing benches and/or ischial supports at the entrances to day centres.

PH04.04 Integrate accessible systems at transit stops

Incorporate pictograms into urban signage, and provide an accessible information button for deaf sign language users at transport stops.

PH04.05 Install public toilets

Install public toilets with adult changing facilities, as well as tables and chairs in public spaces and parks.

PH04.06 Encourage care for flowers and plants [horticulture]

Equip interaction spaces with areas and elements that encourage care for plants, flowers and (where appropriate) allotments, allowing anyone to tend to them, thereby promoting interpersonal relationships.

PH04.07 Install planters and pots at an accessible height for easier care

Planters and/or allotments should use local wood and be arranged to enable people to tend to them without bending down (e.g. from a wheelchair or at children's height). It is also important to complement these spaces by organising activities that foster intergenerational relationships.

TECHNOLOGICAL
ASPECTS
OF URBAN SPACE

TA 01



CONNECTIVITY

Good connectivity in urban areas enables older people to connect with other individuals or groups, increasing and improving their independent living and social relationships.

TA01.01 Internet access in urban spaces

Provide the interaction area with open wifi, and enhance connectivity by including street furniture such as tables, benches, and charging columns, thus enabling people to communicate with the outside world beyond their own home.

TA 03



DEVICES

Incorporate the use of technological devices in outdoor social spaces to encourage and help social participation.

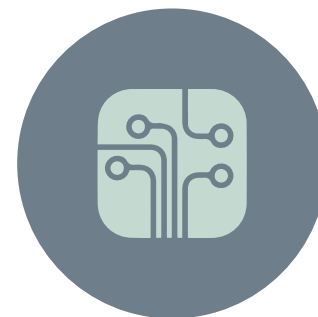
TA03.01 Integrate digital elements into urban spaces, promoting interactive services

Include digital elements such as interactive kiosks and screens that provide various interactive services, e.g. information on cultural events, existing and personalised healthy routes, card games and similar, outdoor sports classes, etc.

TA03.02 Use of electronic devices and social media

Introduce devices and new technologies in dwell areas to make them easier for everyone to use and interact with, thereby improving accessibility to facilities and services.

TA 02



APPLICATIONS

Provide and guarantee the safety and autonomy of older people by implementing safety-related technologies in outdoor public spaces, to compensate for difficulties arising from the natural ageing process.

TA02.01 Incorporate technological elements that enhance the perception of safety in urban spaces

Incorporate technological elements that provide support in matters of health, harassment, sexual violence, and any situation involving risk or perceived threat.

TA02.02 Use of digital lighting

Use digital lighting to minimise energy use and enhance perceived safety.

07

PILOT PROJECTS

These cases are examples of the intervention methodology and design guidelines presented in this guide, aiming to encourage their adoption and replication.

The four selected pilot projects represent types of common public outdoor spaces in the reference area, covering its various environments.

- Streets
- Urban plazas
- Neighbourhood plazas
- Parks

The design proposals presented are the result of the KALELAGUN intervention methodology, as mentioned in (section 4), implemented to varying degrees.

07.01. STREETS

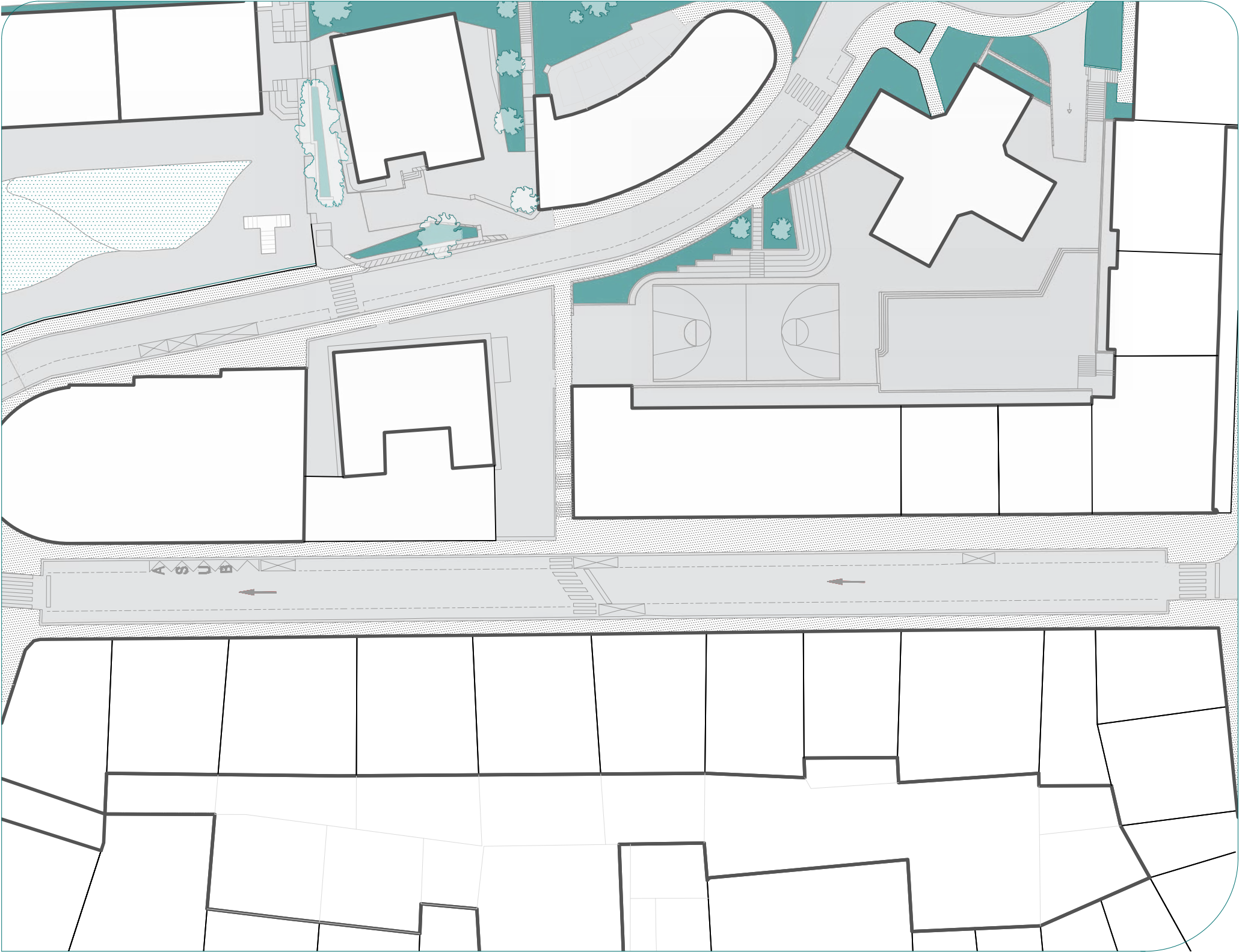
BACKGROUND

At present, the street in question is open to vehicle traffic and runs through the municipality from end to end. The street design is conventional, with private vehicles as the main reference point, to the detriment of people using other forms of transport. In addition, the safety and quality of life of residents has been neglected.

As in most areas outside the town centre, there has been a gradual closure of local shops which, together with the previously mentioned mobility model, reduces the street's capacity to serve as a space for social interaction and neighbourliness.

In this case, there was a previous street redesign project based on traditional patterns of streets for vehicular traffic, neglecting the needs of users.

ACTUALSTATE



PROCESS

METHODOLOGY	Telephone surveys		○
	Fieldwork		○
	Non-participant observation		○
	On-street comfort surveys		○
	Monitoring		○
	Simulations		○
	Co-creation sessions		○
	Preliminary design		●
	Proposal		●
FUTURE WORK	Project		●
	Construction		●
	Monitoring		○
	Telephone surveys		○
	Non-participant observation		○
	On-street comfort surveys		○
			○ not executed ● executed

SOLUTION

The proposed project seeks to return the street to public use and broaden its urban function beyond simple transit, creating a space where people can linger, meet, interact, and enjoy outdoor activities.

The overall aim is to avoid standard solutions and to reconfigure the street, particularly the relationship between the road surface and the pavement, with careful attention to the surroundings, especially street-level fronts and building entrances.

It is proposed to widen pavements at strategic points, such as near shops and/or residential building doorways. This not only reduces road traffic but also creates varied uses and small recreational areas where people can sit or meet other local residents, thereby enhancing the street's quality and vitality. These dwell areas, adjacent to the road surface, are bordered by planters of varying heights and furnished with benches and ischial supports, allowing local residents to tend to the plants.

The proposal is complemented by the use of vegetation and materials that ensure a variety of colours, textures, and finishes, avoiding stereotyped and monotonous designs, while giving each small space its own character as a place for social connection and gathering according to its individual potential. In other words, the project uses a variety of plants and trees with different blossoming periods and colours to create a living, ever-changing space in harmony with natural cycles.

The relationship between lampposts, benches and trees is (re)considered in order to, firstly, ensure that vegetation does not diminish the lighting (thus maintaining perceived safety), and, secondly, guarantee shade during warmer months.

PROPOSAL APPLICATION
DESIGN GUIDELINES

STREETS



- SP01.01 Enable the complexity of the space
SP01.02 Create lively urban spaces
SP01.05 Imagine landscapes (natural and/or urban)



- SP02.01 Urban design at domestic scale [scale/dimension of spaces]
SP02.02 The city at 4 km/h [walking speed]



- PH03.01 Prioritise green spaces with native vegetation
PH03.03 Enhance public spaces with the fragrance of plants and/or flowers



- SP03.01 Guarantee non-temporary use of public space
SP03.03 Generate a range of versatile street furniture configurations
SP03.04 Conceive shared experiences



- AU01.01 Public versus private appropriation of spaces
AU01.02 Prioritise public spaces as places to spend time, rather than just places to pass through
AU01.03 Mixed-use dwell areas



- CM01.01 Adapt natural and/or artificial lighting to public spaces
CM01.02 Adapt night-time lighting



- CM02.02 Reduce vehicle speed on public roads



- AU03.01 Create healthy, functional routes and spaces
AU03.02 Ensure universal accessibility
AU03.03 Guarantee accessible routes in good condition
AU03.04 Perceive safety. Improve perception of the space
AU03.05 Incorporate anticipation mechanisms [dissuade]



- PH01.01 Promote the use of soft, warm materials for pavements, street furniture, and edge fronts
PH01.02 Implement pavements with different textures and/or colours
PH01.03 Prioritise the use of indigenous materials
PH01.04 Prioritise materials that reflect the place's identity
PH01.05 The importance of colourimetry in urban spaces



- SP04.01 Reactivation of street-level premises
SP04.02 Relationship between the neighbourhood and local commerce



- PH04.03 Promote the care of people
PH04.04 Integrate accessible systems at transit stops
PH04.06 Encourage care for flowers and plants [horticulture]
PH04.07 Install planters and pots at an accessible height for easier care

PROPOSAL APPLICATION
DESIGN GUIDELINES

STREETS

PH 04

PH04.06

PH04.07

Encourage care for flowers and plants [horticulture]

Install planters and pots at an accessible height for easier care

This proposal emphasises not only caring for people in the urban space, but also promoting relationships through care.



STREETS



BACKGROUND

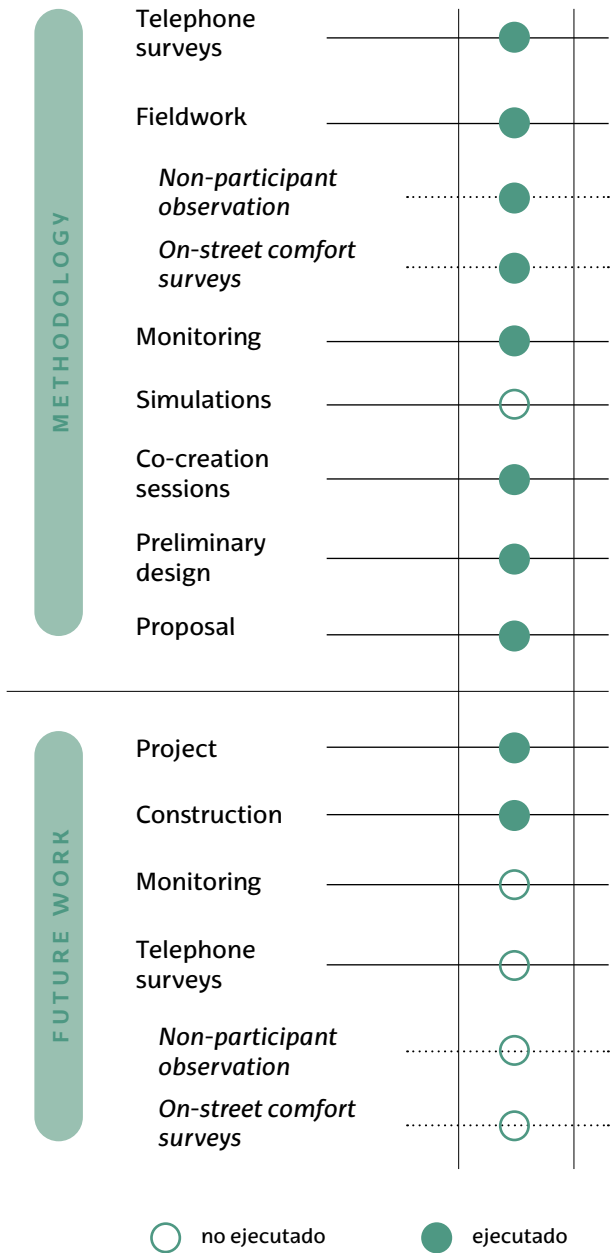
It is a plaza near the town's historic centre, right in front of the railway station. The space is connected to a shared-space street and a wide, longitudinal public area, similar to an avenue, which provides a pedestrian route from the station to the town centre.

The area in question currently has a children's play area surrounded by pedestrian streets and a roundabout, which is partially closed in order to regulate traffic.

This roundabout creates a break, isolating the current plaza. Given the situation, the town council commissioned a regeneration project for the space, setting out a series of requirements: expand the children's play area, remove the roundabout, encircle the whole space with landscaped areas, and provide new street furniture according to regulatory standards.



PROCESS



SOLUTION

This project is the starting point of the co-creation process carried out with quadruple helix stakeholders. These findings have informed a series of proposals to revise the initial project, which, following technical assessment, have culminated in the formulation of the final design for the plaza, scheduled for implementation at the end of 2025.

The main criterion is to create fluid spaces and avoid segregated, single-use areas, while also improving urban integration with the immediate surroundings, thereby increasing access and opportunities to pass through the area. As a result, some perimeter landscaped areas and several elements dividing the different zones have been removed, transforming the space into an extension of the avenue for everyone to use and enjoy at the same time. To encourage inclusivity and improve care, the children's area has been enhanced with additional play equipment for different age groups.

Additionally, play and dwell areas have been balanced to encourage interaction between groups, and opportunities for use have been increased by adding a covered area.

By retaining the existing palm trees (an important part of the landscape and local identity), a shaded "green carpet" has been created, providing space for activities such as playing or to linger. This shaded area provides an option for people to linger, as opposed to other sunlit areas, enhancing usability and well-being according to the seasons, the weather, and/or each person's perceptions and/or preferences.

As for the trees, it is proposed to alternate deciduous and evergreen species to ensure pleasant conditions, depending on the amount of sunlight each area receives.

For the landscaped areas, which form a discontinuous border around the new space, it is proposed to plant flowers with different blossoming periods, making the visual landscape change and harmonise with each season. These "green islands" are designed to

make it easy for people to interact with the vegetation, enabling local residents to care for the plants themselves.

With regard to street furniture, the intervention involves both the choice of materials and their design and placement. Wooden benches are prioritised for their warmth and comfort, equipped with backrests and armrests to make them easier for older people to use. Single-size benches placed in a row at fixed intervals are avoided. This proposal alternates long, continuous benches with others of different sizes, facing each other to encourage interaction. Relationships are also encouraged by incorporating wooden and/or digital tables, enabling a choice of different games. Furthermore, a digital information kiosk is installed in the transversal circulation area to improve and give access to information about services and/or activities in the neighbourhood or city.

The new plaza will be home to the book exchange library (currently in a peripheral, low-visibility location near the station), so people can find entertainment through reading and also take part in book exchanges and/or discussions. Similarly, compared to the original proposal, the space is made less cluttered, not only creating a better flow between different areas but also making it easier to host a range of activities, whether spontaneous or organised. With regards to these activities, a future collaboration with the Public Health Service is also proposed in order to organise activities aimed at counteracting situations of unwanted loneliness identified by the organisation.

PROPOSAL APPLICATION
DESIGN GUIDELINES

URBAN PLAZAS

SP 01

- SP01.01 Enable the complexity of the space
- SP01.02 Create lively urban spaces
- SP01.05 Imagine landscapes (natural and/or urban)

SP 03

- SP03.01 Guarantee non-temporary use of public space
- SP03.02 Promote interaction by making recreational areas more diverse
- SP03.03 Generate a range of versatile street furniture configurations
- SP03.04 Conceive shared experiences

SP 01

- PH01.01 Promote the use of soft, warm materials for pavements, street furniture, and edge fronts
- PH01.02 Implement pavements with different textures and/or colours
- PH01.03 Prioritise the use of indigenous materials
- PH01.04 Prioritise materials that reflect the place's identity
- PH01.05 The importance of colourimetry in urban spaces

CM 03

- CM03.01 Regulate temperature (shade/light control)
- CM03.02 Guarantee shade through solar protection elements (natural or otherwise)
- CM03.04 Alleviate radiant heat

TA 03

- TA03.01 Integrate digital elements into urban spaces, promoting interactive services
- TA03.02 Use of electronic devices and social media

PH 04

- PH04.02 Install accessible fountains
- PH04.03 Promote the care of people

CM 01

- CM01.01 Adapt natural and/or artificial lighting to public spaces
- CM01.02 Adapt night-time lighting

SP 02

- SP02.01 Urban design at domestic scale [scale/dimension of spaces]
- SP02.02 The city at 4 km/h [walking speed]

PH 02

- PH02.01 Enable visual relationships
- PH02.03 Ensure a pleasant sound environment

AU 03

- AU03.01 Create healthy, functional routes and spaces
- AU03.02 Ensure universal accessibility
- AU03.03 Guarantee accessible routes in good condition
- AU03.04 Perceive safety. Improve perception of the space
- AU03.05 Incorporate anticipation mechanisms [dissuade]

PH 03

- PH03.01 Prioritise green spaces with native vegetation
- PH03.03 Enhance public spaces with the fragrance of plants and/or flowers
- PH03.04 Preserve the landscape and ecological heritage

PROPOSAL APPLICATION
DESIGN GUIDELINES

URBAN PLAZAS

- TA 03
- TA03.01

Integrate digital elements into urban spaces, promoting interactive services
- TA03.02

Use of electronic devices and social media

Incorporating digital technologies into public spaces provides safer, more connected environments and gives people real-time access to information.





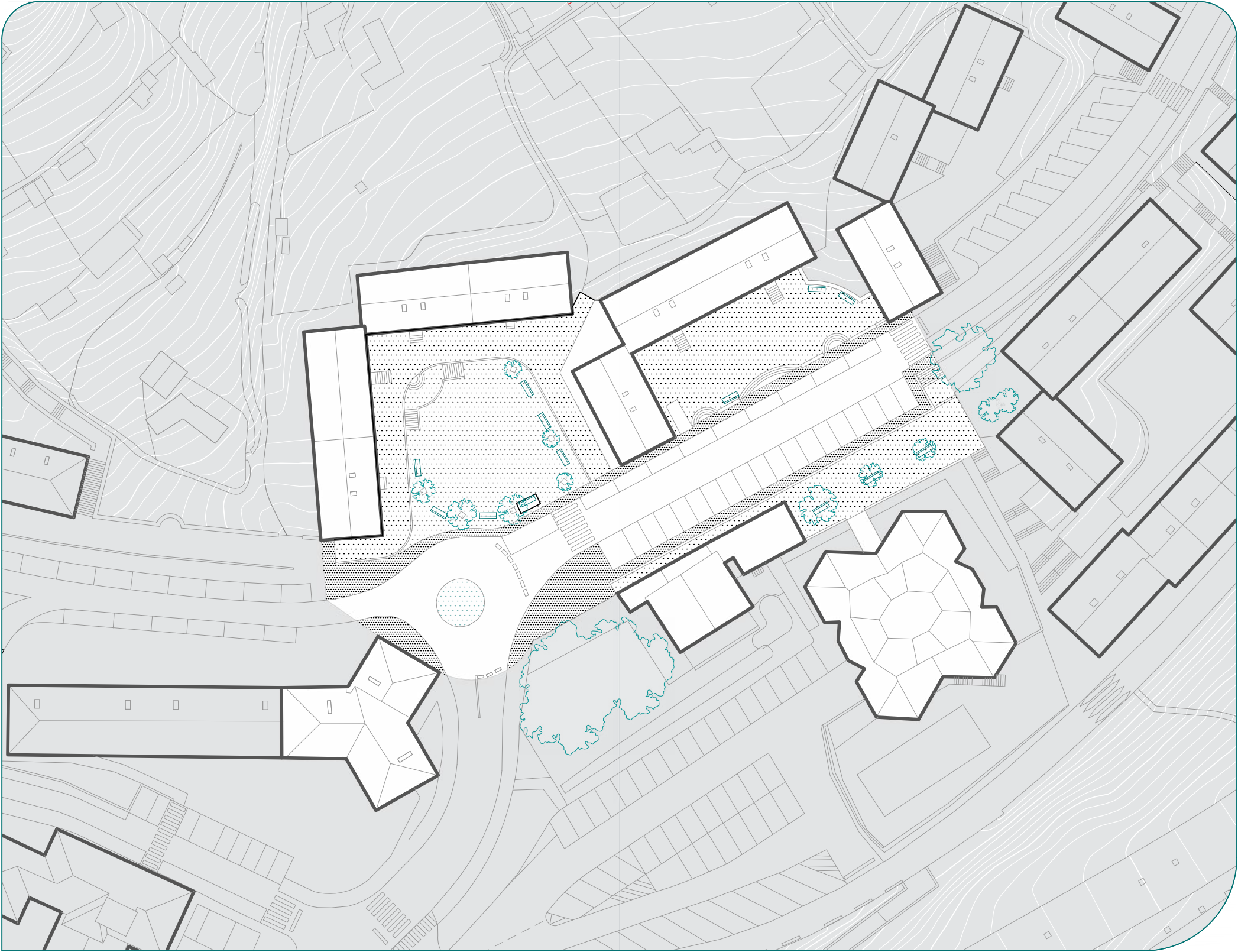
07.03. NEIGHBOURHOOD PLAZAS

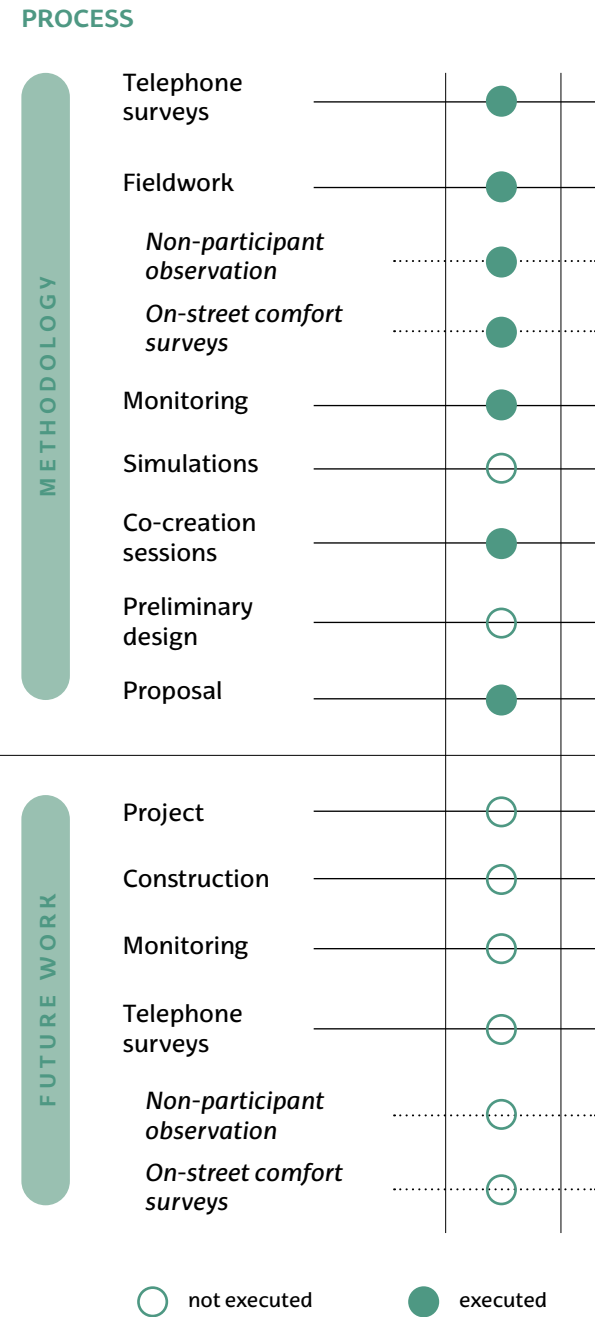
BACKGROUND

In this case, there are two adjoining spaces bordered by U-shaped, south-facing residential buildings that open onto the street. Located in an outlying, elevated part of town, these spaces offer clear views of the surrounding hills. It is a working-class neighbourhood with a significant degree of population ageing.

These are harsh spaces, almost devoid of vegetation and defined by inactive frontages occupied by blank retaining walls, ground-floor properties or vacant commercial premises. Today, both plazas are rarely used for recreation because they lack suitable amenities, functioning solely as access points to the surrounding properties. It should be added that one of the plazas has a bus stop with a seat and a shelter, which is in fact the most frequently used space in the area.

ACTUAL STATE





SOLUTION

During the co-creation process with quadruple helix stakeholders, a regeneration solution is designed to make these two spaces more pleasant and usable by applying various design guidelines and prioritising people, most notably the needs of older residents and their relationships with other age groups.

Firstly, the street linking the two spaces is redesigned to calm the traffic, reduce vehicle-dedicated spaces, and improve pedestrian connectivity with the surrounding urban environment. To achieve this, continuous paving that creates seamless transitions and reduces spatial segregation is proposed, while also levelling out existing gradients by replacing the current steps with ramps wherever possible, thereby enhancing not only accessibility, but also physical and visual connectivity.

The roundabout to the west is also removed, as it serves no useful purpose for vehicles. At the same time, the spaces previously used for vehicle parking are incorporated into the pavement as mixed green paving, allowing for both vehicular and pedestrian use. All of this encourages the widening of pavements and the reclaiming of public spaces for communal use, while also ensuring continuity and connecting the two previously separated areas.

As for the design of the two plazas and their relationship with the residential properties, the intention is to give each plaza a distinct character in order to increase recreation and social interaction options. To the west, a walkable green area is designed with tables, benches and trees to create shaded zones and dwell areas, with benches facing each other and, where appropriate, movable furniture. Additionally, landscaped areas with continuous benches are planned in the ground-floor parts of the residential buildings at the top of the plaza, creating a public-private space to encourage neighbourly relations. At the same time, these flower and aromatic herb beds are designed as spaces that residents can maintain themselves, fostering opportunities for self-care and mutual care.

In the eastern space, the main idea is to remove architectural barriers between the plaza and the shared-space street, making it easier to host neighbourhood events. Raised planter benches are introduced as transitional elements to address existing level differences, strategically positioning small ramps to ensure continuity and extend the recreational space. These raised, double-sided planters connect both the street and the residential plaza, encouraging

different uses and enjoyment, especially for older people, while also promoting the renaturalisation of the area with a diverse selection of trees and flowers.

To restore and enhance the space's overall character and recover its lost working-class identity, collaborative murals are intended for the blank end walls of residential buildings facing the street. These murals will be designed to commemorate the history of the neighbourhood and the spaces themselves. Revitalising vacant premises for community uses and installing public toilets is also planned, as both are key to encouraging people to linger and to facilitating care activities. Play fountains will also be installed to provide hydration and regulate the microclimate during hot weather. In this case, warm materials, permeable surfaces, and benches with backrests and armrests are chosen.

Finally, it is proposed to relocate the existing bus stop, which currently disrupts the continuity between the street and the western area, to one of the central end walls, incorporating it into the design of the future collaborative mural.

PROPOSAL APPLICATION
DESIGN GUIDELINES

NEIGHBOURHOOD PLAZAS



- SP01.03 Foster a sense of place
- SP01.04 Make the most of existing assets and preserve heritage as a mark of identity



- CM03.03 Reduce relative humidity



- PH03.02 Incorporate blue infrastructure (fountains, water features, etc.)



- AU03.01 Create healthy, functional routes and spaces
- AU03.02 Ensure universal accessibility
- AU03.03 Guarantee accessible routes in good condition
- AU03.04 Perceive safety. Improve perception of the space
- AU03.05 Incorporate anticipation mechanisms [dissuade]



- PH01.01 Promote the use of soft, warm materials for pavements, street furniture, and edge fronts
- PH01.02 Implement pavements with different textures and/or colours
- PH01.03 Prioritise the use of indigenous materials
- PH01.04 Prioritise materials that reflect the place's identity
- PH01.05 The importance of colourimetry in urban spaces



- PH03.01 Prioritise green spaces with native vegetation
- PH03.03 Enhance public spaces with the fragrance of plants and/or flowers



- AU02.01 Define specific types and uses in public spaces



- PH04.05 Install public toilets



- CM01.01 Adapt natural and/or artificial lighting to public spaces
- CM01.02 Adapt night-time lighting



- CM02.01 Prevent noise pollution
- CM02.02 Reduce vehicle speed on public roads



- SP01.02 Create lively urban spaces
- SP01.05 Imagine landscapes (natural and/or urban)



- SP04.01 Reactivation of street-level premises
- SP04.02 Relationship between the neighbourhood and local commerce



- PH04.02 Install accessible fountains
- PH04.03 Promote the care of people
- PH04.06 Encourage care for flowers and plants [horticulture]
- PH04.07 Install planters and pots at an accessible height for easier care



- CM03.01 Regulate temperature (shade/light control)
- CM03.02 Guarantee shade through solar protection elements (natural or otherwise)



- AU01.01 Public versus private appropriation of spaces
- AU01.02 Prioritise public spaces as places to spend time, rather than just places to pass through
- AU01.03 Mixed-use dwell areas



- CM03.01 Regulate temperature (shade/light control)
- CM03.02 Guarantee shade through solar protection elements (natural or otherwise)



- SP02.01 Urban design at domestic scale [scale/dimension of spaces]
- SP02.02 The city at 4 km/h [walking speed]

PROPOSAL APPLICATION
DESIGN GUIDELINES

NEIGHBOURHOOD PLAZAS

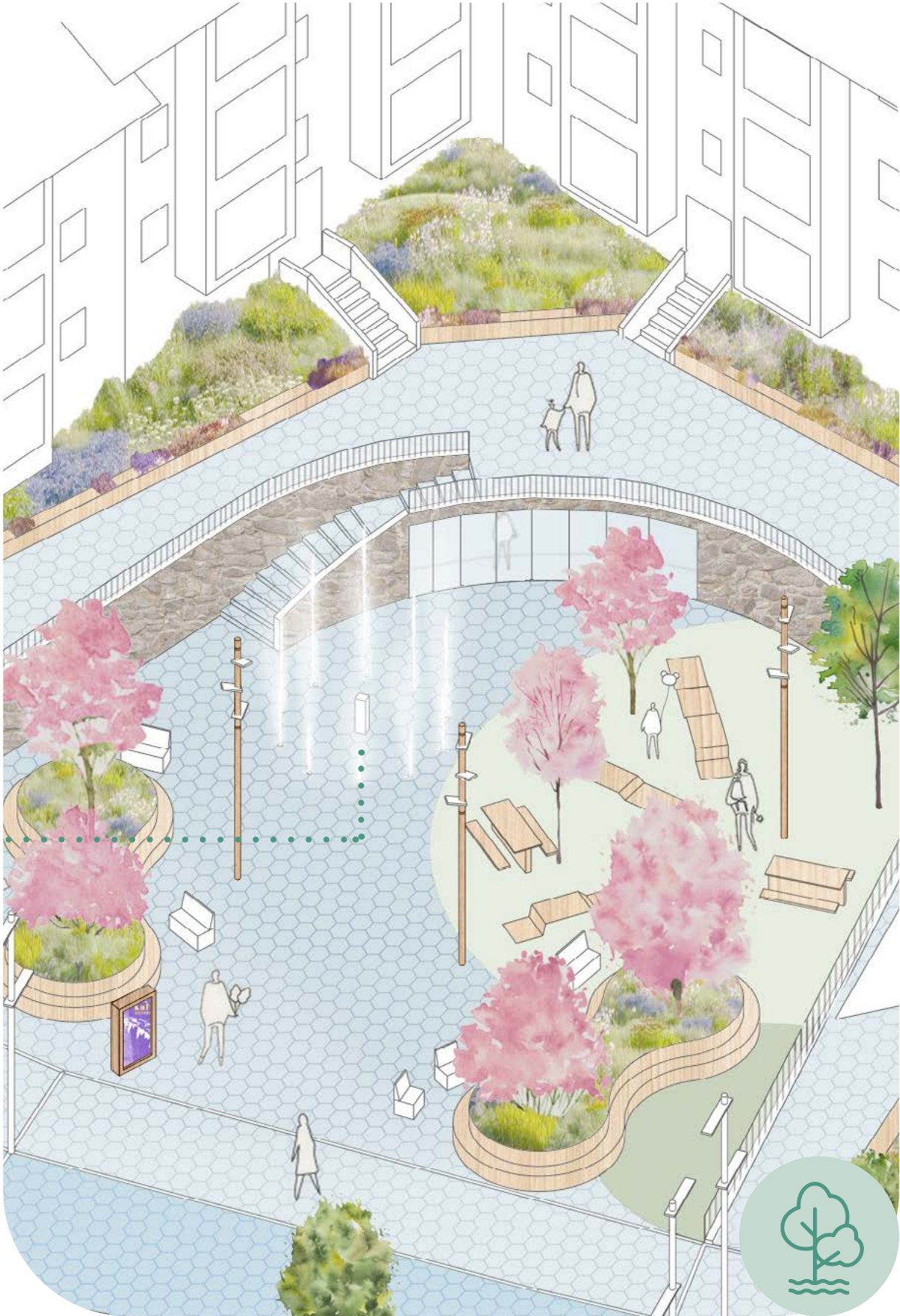
- PH 03
- PH03.01

Prioritise green spaces with native vegetation
- PH03.02

Incorporate blue infrastructure (fountains, water features, etc.)
- PH03.03

Enhance public spaces with the fragrance of plants and/or flowers

Renaturalising urban space by adding green and blue infrastructure mitigates heatwaves and creates communal areas for socialising and activity, using vegetation to its fullest potential for the benefit of the urban ecosystem.



PROPOSAL APPLICATION
DESIGN GUIDELINES

NEIGHBOURHOOD PLAZAS

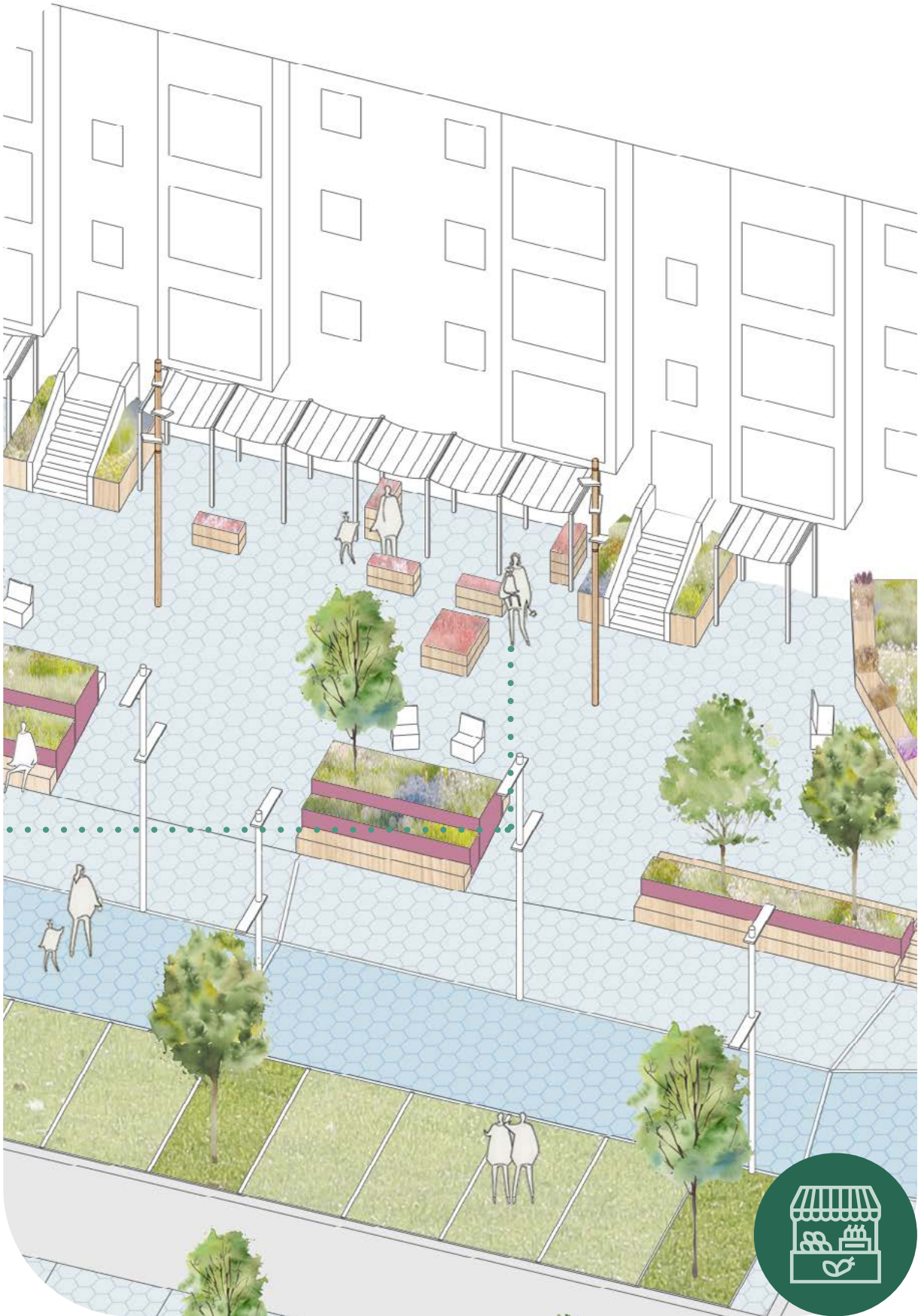
SP 04

SP04.01

SP04.02

Reactivation of street-level premises
Relationship between the neighbourhood and local commerce

Revitalising vacant ground-floor premises for community use illustrates the collaboration of a network of community spaces supporting care in the local area.





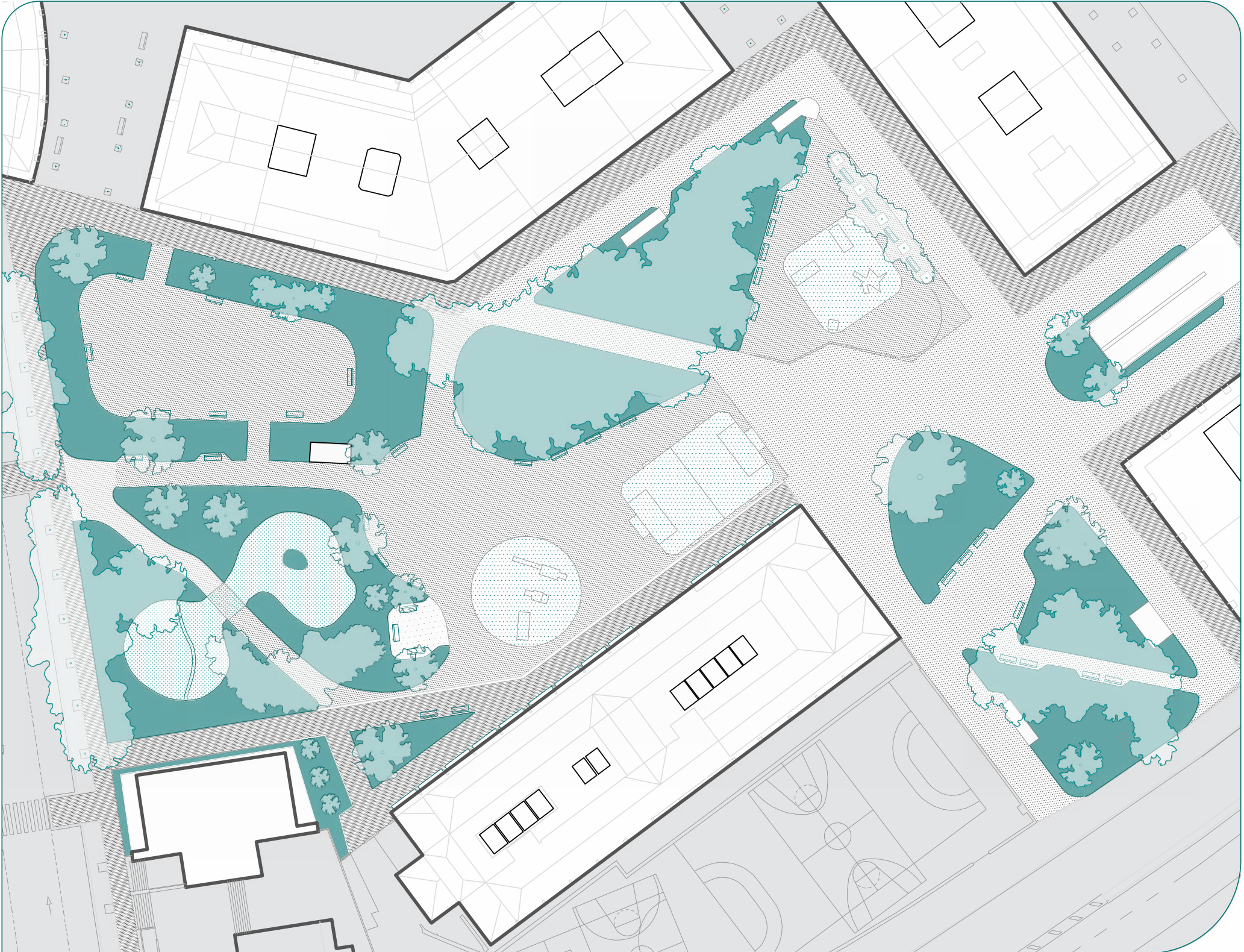


BACKGROUND

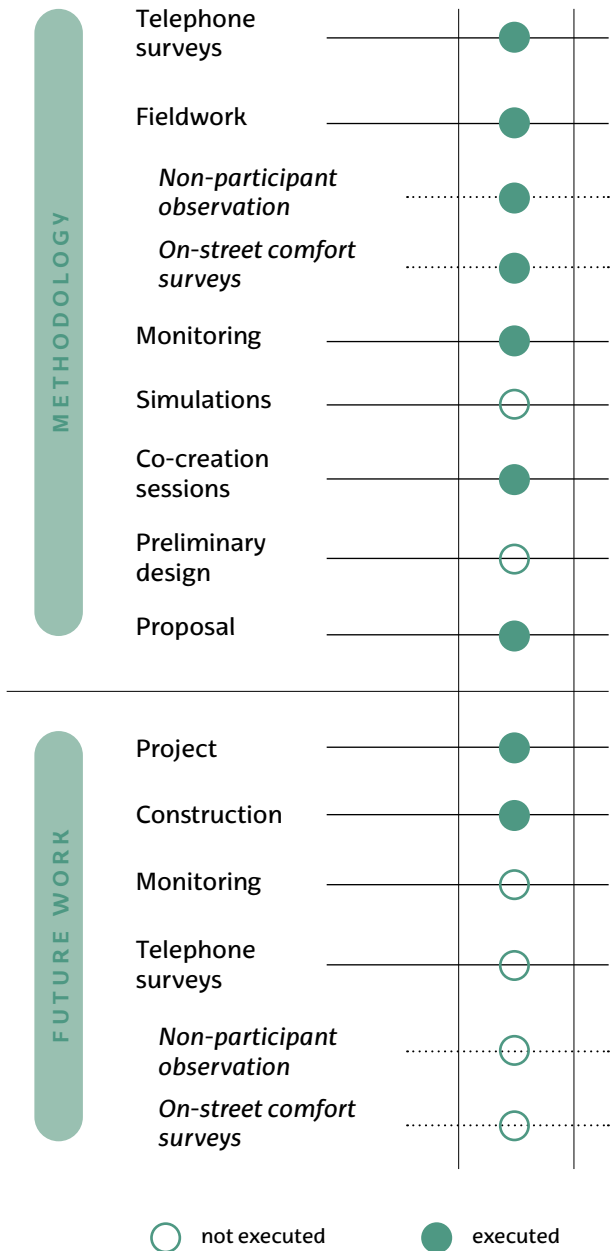
The final case concerns a large L-shaped plaza with a range of diverse spaces, located in a relatively central neighbourhood and bordered by high-rise residential blocks and a state school. The space is rounded off with a children's play area, a fenced sports pitch, several non-walkable landscaped areas and a pond, which currently goes almost unnoticed by those who frequent the area. These elements fail to create a space with its own character, and actually block a variety of routes through the space.

It should be noted that the landscaped areas currently make the area quite damp, while the trees are not coordinated with the benches, which themselves are isolated and set at regular intervals. As a consequence, the open space functions mainly as a thoroughfare rather than a place for socialising or leisure, despite the large number of residents who pass through or live nearby.

It should be noted that the plaza links the city's adjacent neighbourhoods with the sports area, increasing footfall through the plaza but without people making use of the space. The main users are those caring for schoolchildren, with use of the play areas peaking at specific times. Caregivers for older people are also found there, with their numbers peaking at midday and during weekends.



PROCESS



SOLUTION

This co-creation process has been carried out within the framework of the KORALE project, led by Adinberri, with the participation of various stakeholders from across Europe and members of the public not connected to the location. This has contributed to the design and planning of a complex proposal incorporating numerous design guidelines.

The proposal departs from the current configuration, with a view to reclaiming and re-naturalising the space by introducing continuous green infrastructure through vegetation and walkways, interconnecting different areas and activities in order to address dysfunctions and promote interaction with both nature and other people in an integrated way.

This infrastructure serves as an articulating device that connects by way of large natural islands designed with different elevations and reliefs, encouraging flow through the plaza while at the same time allowing a range of recreational activities and encouraging alternative outdoor sports, thereby promoting interaction between different users. These green areas are interspersed with diverse spaces: outdoor gym equipment and intergenerational games, picnic and recreation areas, and a zone for cultural activities (where tiered seating in the form of a stage that encourages extended stays is proposed), along with spontaneous and creative tactical games, all in continuity with the school entrance. This greenery is characterised by native vegetation and permeable paving, as well as by preserving and enhancing the existing tree canopy. In particular, one of the large trees situated next to the school on the eastern side is intended to act as a focal point within the recreation and waiting area, with a continuous wooden bench with a variety of interconnected seating arranged around the tree, acting as a transitional element to support the flow of various users of the plaza.

Branching off from this green axis are other areas that are more specialised in their use and which, in turn, foster interaction among people as well as various forms of use and enjoyment.

Moreover, the current fenced sports court will be relocated to the school playground, where the boundary and the surface will be replaced with artificial grass and a green wall. The playground opening hours will be extended and made accessible to the wider neighbourhood, so its use is no longer restricted. In addition, it enables a direct connection with the space dedicated to sports activities, which serves as

a waiting area for schoolchildren entering and leaving the school.

At the school's main entrance, a covered area will provide protection from bad weather, along with a waiting area featuring benches and intergenerational play equipment.

To make better use of the disused pond, a comfortable area has been added that connects seamlessly with the rest of the plaza, extending it with a space for recreation and pet care. The restoration of this space is completed by cleaning up the water feature and vegetation, incorporating small water jets, aromatic flower beds, and seating at varying heights, to encourage use by pets and to stimulate the senses of users in this urban area.

It should also be noted that street-level frontage serves a range of uses: residential entrances, commercial premises, and bars. The bars currently have outdoor terraces bordering this space. The project pays particular attention to the bar terrace and boundary areas, incorporating new vegetation, trees, and benches. The aim is for pavement table areas not to become exclusively private spaces within the public realm, but instead to coexist with and adapt to the public space, rather than the public space being forced to adapt to them.

As in previous proposals, warm materials and textures are chosen for paving, with furniture and benches featuring backrests and armrests at suitable heights for older people. Tables and public toilets are also provided, further improving opportunities to linger and making their stay and care easier.

PROPOSAL APPLICATION
DESIGN GUIDELINES

PARKS



- SP01.01 Enable the complexity of the space
- SP01.02 Create lively urban spaces
- SP01.05 Imagine landscapes (natural and/or urban)



- AU01.01 Public versus private appropriation of spaces
- AU01.02 Prioritise public spaces as places to spend time, rather than just places to pass through
- AU01.03 Mixed-use dwell areas



- SP02.01 Urban design at domestic scale [scale/dimension of spaces]
- SP02.02 The city at 4 km/h [walking speed]



- SP03.01 Guarantee non-temporary use of public space
- SP03.03 Generate a range of versatile street furniture configurations
- SP03.04 Conceive shared experiences



- SP04.01 Reactivation of street-level premises
- SP04.02 Relationship between the neighbourhood and local commerce



- AU03.01 Create healthy, functional routes and spaces
- AU03.02 Ensure universal accessibility
- AU03.03 Guarantee accessible routes in good condition
- AU03.04 Perceive safety. Improve perception of the space
- AU03.05 Incorporate anticipation mechanisms [dissuade]



- SP03.05 Encourage physical and hands-on outdoor activities
- SP03.06 Engage in healthy habits



- AU02.01 Define specific types and uses in public spaces
- AU02.02 Distribution within the urban fabric, proximity



- PH04.05 Install public toilets



- PH03.01 Prioritise green spaces with native vegetation
- PH03.03 Enhance public spaces with the fragrance of plants and/or flowers



- PH01.01 Promote the use of soft, warm materials for pavements, street furniture, and edge fronts
- PH01.02 Implement pavements with different textures and/or colours
- PH01.03 Prioritise the use of indigenous materials
- PH01.04 Prioritise materials that reflect the place's identity
- PH01.05 The importance of colourimetry in urban spaces



- CM01.01 Adapt natural and/or artificial lighting to public spaces
- CM01.02 Adapt night-time lighting



- CM02.01 Prevent noise pollution
- CM02.02 Reduce vehicle speed on public roads



- TA01.01 Internet access in urban spaces



- TA02.01 Incorporate technological elements that enhance the perception of safety in urban spaces
- TA02.02 Use of digital lighting



- CM03.03 Reduce relative humidity



- PH02.01 Enable visual relationships
- PH02.02 Incorporate natural sounds (birds, water, etc.)
- PH02.03 Ensure a pleasant sound environment



- PH03.02 Incorporate blue infrastructure (fountains, water features, etc.)
- PH03.03 Enhance public spaces with the fragrance of plants and/or flowers



- PH04.01 Allow pet care in public spaces
- PH04.03 Promote the care of people

PROPOSAL APPLICATION
DESIGN GUIDELINES

PARKS

- PH 02
- PH02.01

PH02.02

PH02.03
- Enable visual relationships

Incorporate natural sounds (birds, water, etc.)

Ensure a pleasant sound environment

People are at the centre of this new plaza model. Its design promotes spontaneous social use, together with access for city services.

All in all, a flexible and inclusive plaza.



PROPOSAL APPLICATION
DESIGN GUIDELINES

PARKS

SP 03

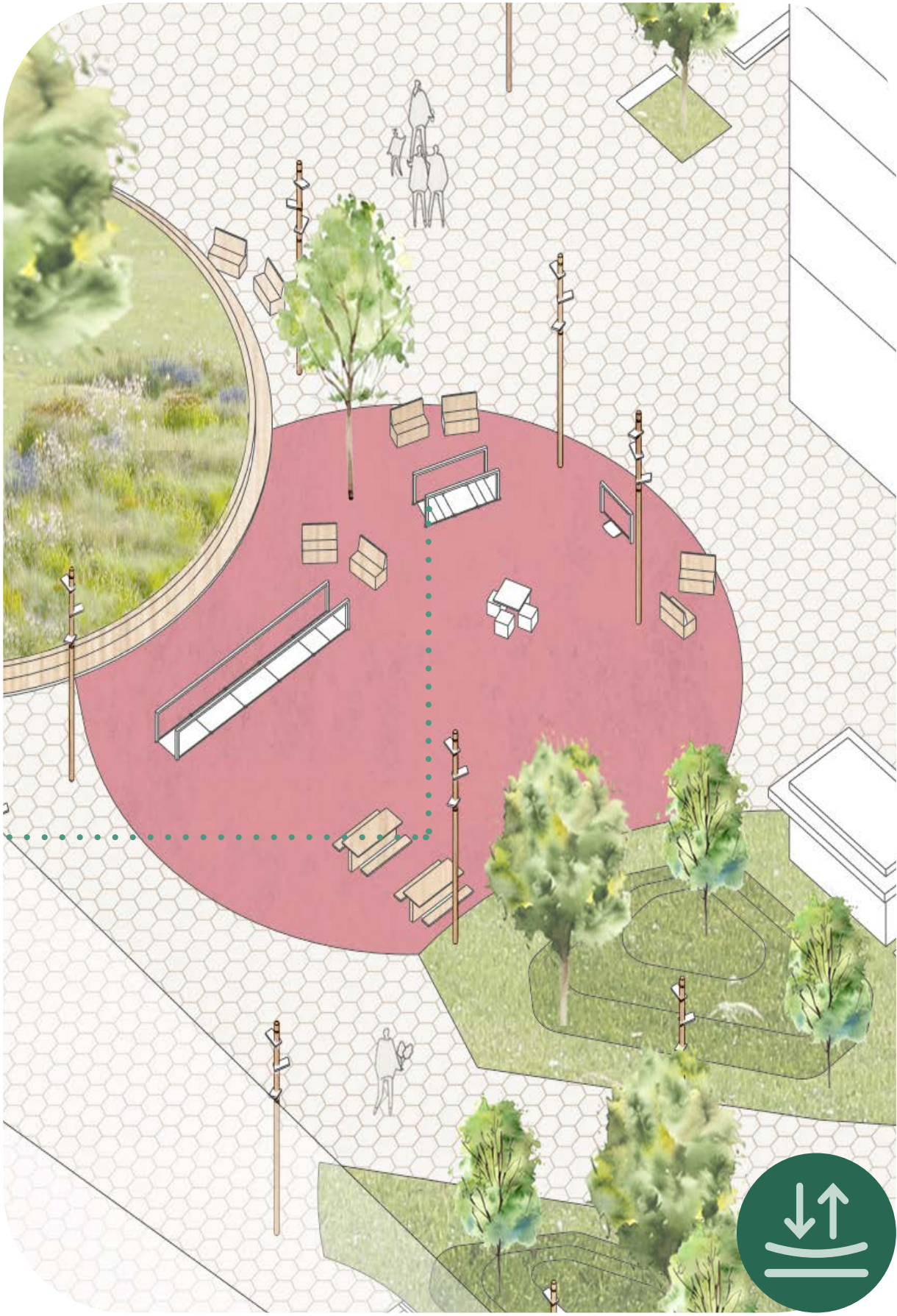
SP03.05

SP03.06

Encourage physical and hands-on outdoor activities
Engage in healthy habits

The inequalities and sensitivities experienced by older people in public spaces are clear, such as perceived safety, remaining at home, and general well-being.

Encouraging participation in physical activities by designing more inclusive, accessible urban spaces promotes well-being and quality of life for older people.



PARKS





08

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