VITORIA-GASTEIZ GREEN CAPITAL:
a human-scale city

Sustainable Mobility and Urban Green Infrastructure

CEA

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FOREWORD

As this forward is being written, we are mired in a health crisis, which has caused an economic crisis with social and, of course, environmental ramifications that remain to be seen.

Faced with this global emergency, the discourse on sustainability in all of its dimensions is showing its true significance and has become more necessary than ever.

A pandemic came into our lives and the life of our planet and has revealed many of the weaknesses and contradictions inherent to our way of life, the prevailing economic system, the way access is provided to essential public services, the way in which we design and manage our cities, etc. Now more than ever, the failings and virtues of globalization are coming to the fore: excessive reliance, disparities between north and south, cooperation required between countries and organizations, etc.

We have also seen that many of the extraordinary measures that had to be adopted during this crisis have entailed a reduction in the growing pressure on the planet and an improvement in the state of conservation of ecosystems, natural resources, forests, air, water, and more. It seems that there is still time to halt or at least slow some aspects of environmental deterioration, including loss of biodiversity and even climate change.

Locally, we've seen our cities' air quality improve, which is certainly important for our health and well-being, but we've also identified a number of shortcomings that hinder adaptation to the needs arising from this situation and others that may come.

Now is the time to reflect and certainly demand health for everyone, social justice, a healthy environment, and the fulfilment of the remaining **Sustainable Development Goals (SDG)**, which now provide the framework with which to take on the uncertain and difficult future that lies ahead.

Vitoria-Gasteiz has been working along these lines for decades, first committed to Agenda 21 and then the SDG, especially directing its efforts to the fulfilment of **Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable**. To this end, it has implemented sophisticated social, urban planning, and environmental policies that have garnered the city a host of national and international distinctions and awards.

These commitments have become even more meaningful now and compel us bolster our urban policies and guide them toward a model that will make the city more resilient and put people, their health, safety, and well-being above all other considerations.

The book that follows this text describes the evolution of **Vitoria-Gasteiz** from the perspective of mobility and green spaces. It discusses the measures that were implemented in the past and the ones that will be implemented in the future to build a more rational mobility model, increase the amount of public space, and grow the amount of nature in the city. These measures are helping to improve the city's environmental quality and liveability as well as maintain the city's desirable human scale.

This book has arrived at a critical moment. Now more than ever, we are reaffirming our COMMITMENT to continue down the path toward becoming a MORE SUSTAINABLE AND HUMAN CITY with community services, safe and accessible public spaces, and enough high-quality green spaces to improve our environment, health, and well-being.

Ana Oregi Bastarrika

President of the CEA-Environmental Studies Centre

Vitoria-Gasteiz City Council

00

INTRODUCTION

For several decades, **Vitoria-Gasteiz** has been working to become a more "sustainable" city. Its balanced growth, quality urban planning and growing concern for the environment and the well-being of people are the bases on which it has designed its sustainable city model, centred on the following principles:

01 **Efficient land use**

02 **Social cohesion**

03 **Urban biodiversity**

04 **Maximum self-sufficiency in metabolic flows**

05 **Diversity of uses and functions**

06 **Sustainable mobility**

07 **Quality public spaces**

08 **Efficient urban systems**

Based on these principles, Vitoria-Gasteiz has been designing and implementing its urban policies, placing special emphasis on the most pressing problems and challenges at each point in time.

In 2012, Vitoria-Gasteiz received the **European Green Capital** award from the European Commission in recognition of its environmental and urban development policies, especially those related to climate change, mobility, air quality, noise pollution, water management and the protection of nature and biodiversity.

In 2019, the organisation Global Forum on Human Settlements —a UN initiative— named Vitoria-Gasteiz **Global Green City**, for its efforts and achievements in fulfilling the Sustainable Development Goals (SDGs) and Agenda 2030, especially those related to the following issues: sustainable mobility, energy efficiency, smart city, zero waste, public space policies, sustainable use of land, water, environment, basic services, sustainable territorial development, circular economy, food and agriculture strategy, governance, innovation and protection of heritage.

Continuing to face up to growing global problems, such as the loss of biodiversity and climate change, while simultaneously attending to various emerging local needs, is the guiding principle of the new policies that Vitoria-Gasteiz is implementing, with the aim of continuing to be a **benchmark for sustainability.**

The 21st century has brought important changes to the city, both in its morphological and functional structure, which have forced a rethinking of some of the urban policies implemented to date.

Over these years, Vitoria-Gasteiz has experienced significant urban expansion, which has spread the city out, causing important environmental and social dysfunctions.

These include a considerable increase in travel and mobility in general, the artificialization of new land and the creation of large urban gaps between the new districts and the established city.

The city has acquired new dimensions and the public spaces (streets, squares, parks, etc.) are at risk of losing their desirable human scale as spaces for civic coexistence and social relation.

In view of this scenario, Vitoria-Gasteiz is adopting new policies on urban planning, building, the environment, mobility, etc. Among other objectives, these consider **the improvement of public spaces —including green areas—** as a way to reduce urban sprawl and increase urban stability and citizens' health and welfare.

Among these policies, the **Sustainable Mobility and Public Space Plan** (SUMPSP) and the **Urban Green Infrastructure Strategy** (UGIS) are particularly important. The first seeks to properly manage mobility needs and modes in the city to reduce car-related impacts and increase public space for people; The second aims to naturalise the city and increase the ecosystem services of green spaces, bringing nature closer to citizens and improving urban living conditions.

Although they may appear to be two separate plans as they address different issues and problems, the SUMPSP is providing an opportunity for the strengthening of Green Infrastructure and for the introduction of Nature-based Solutions (NBS) in the city.

In this regard, many of the sustainable mobility actions being carried out free up space —previously occupied by the car— for the use and enjoyment of citizens, as well as introducing trees, creating new green areas, incorporating permeable pavements and other solutions that improve environmental quality and the city's living and walking spaces.

This book reviews the history of Vitoria-Gasteiz and the interventions carried out in the field of sustainable mobility and green infrastructure and advances the objectives, lines of action and new projects planned for the coming years, within the framework of the SUMPSP and the UGIS.

The first chapter, as a background, describes the **first measures and initiatives** that began to be adopted in these fields of action, as early as the 1980s and 1990s —many of them **pioneering in nature**—, especially since the approval of the Vitoria-Gasteiz's Agenda 21.

During those years and as a consequence of the great urban, demographic and industrial growth that the city had experienced between the 50s and 80s, Vitoria-Gasteiz presented various environmental and social problems, among which the **high level of traffic** (some streets registered more than 25,000 cars/day) and the **highly degraded urban periphery** stood out.

In terms of mobility, some of the most important milestones were the process of pedestrianization, which began at the end of the 70s and which in a few years had already extended to more than 20 streets and 40,000 m², and the creation of the first network of cycle paths in the State.

In terms of urban and peri-urban nature, the creation of the **Green Belt** at the beginning of the 90s has been one of the main achievements of Vitoria-Gasteiz's environmental actions and an inspiring practice for many cities, both nationally and internationally. After 25 years of development, the Green Belt is currently a biodiversity resource (with several areas included in the Natura 2000 Network), as well as the main leisure area of the city.

Chapters 2 and 3 review the actions already carried out during this 21st century within the framework of the SUMPSP and the UGIS, respectively.

In terms of mobility, the most notable aspect of the new model launched in 2006 is the introduction of the "**superblock**" as the "basic" spatial unit for the reorganisation of mobility networks. The progressive implementation of the superblocks scheme and traffic calming actions throughout the city will allow the pedestrian space to increase from 31% to 71%.

Other important measures, such as the **restructuring of urban public transport**, the **promotion of cycling** and the **development of urban footpaths**, are also helping to reduce the use of private cars in favour of more sustainable modes.

With regard to the Urban Green Infrastructure Strategy, work is being done to transfer the philosophy and management practices of the Green Belt to the interior of the city, through interventions that weave a green system that permeates the entire city and reaches all people.

In addition to modifying the management of green areas as to increase their ecosystem functions, plots, roundabouts and medians, car parks and other spaces susceptible of incorporating vegetation are being naturalised.

Among the actions carried out, two initiatives stand out. On the one hand, the campaign to plant **250,000 trees and bushes in the Green Belt: the roots of tomorrow**, in which thousands of people, companies and groups have collaborated, and which has meant an important reinforcement of the vegetation in the urban periphery.

On the other hand, the **Plan for the naturalization of green areas and vacant plots in the Lakua neighbourhood**, which has served as a pilot experience to test green infrastructure interventions and nature-based solutions (rain gardens, organic allotments, urban forests, etc.) that have subsequently been extended to other neighbourhoods in the city.

Finally, the book also sets out the main lines of action and projects planned for the coming years.

All this ...

... with the aim of recovering public space for people and making **Vitoria-Gasteiz** a human-scale city which is more habitable, greener, more biophilic, more resilient and more able to offer a better quality of life.

01

ANOTHER WAY TO GROW

The city whose population quadrupled in just 30 years

Since its origins in 1181, as a walled village on top of a hill, **Vitoria-Gasteiz** has grown in an orderly and contained way within its physical limits.

And so the different components that have shaped the city have been built —the Medieval Quarter, the nineteenth century Ensanche, the garden city, etc.— practically until the present day.

One of the defining moments in the recent history of Vitoria-Gasteiz occurred in the 50s and 60s of the 20th century, as a result of a **rapid population boom** experienced by the city —combined with unprecedented **industrial development**— which brought with it significant urban growth.

Between 1956 and 1974, an accelerated process of industrialization took place (linked mainly to the automotive, metallurgy and metalworking sector) that attracted thousands of people from the rural areas around Álava and the rest of the Basque Country and, for the most part, from other Autonomous Regions of Spain.

Around the city, a number of industrial estates were developed on land of natural and agricultural value.

Industrial land increased from 28.08% to 46.08% of the total urban area in Vitoria, revealing the city's **markedly industrial nature**.

View of the Medieval Quarter of Vitoria-Gasteiz.

Between 1956 and 1974, the industrial estates of Olarizu, Gamarra-Betoño, Oreitiasolo, Ansoleta, and Jundiz were developed.

Between 1960 and 1970 —in just a single decade— the population almost doubled, and in 30 years, from 1950 to 1980, it practically quadrupled.

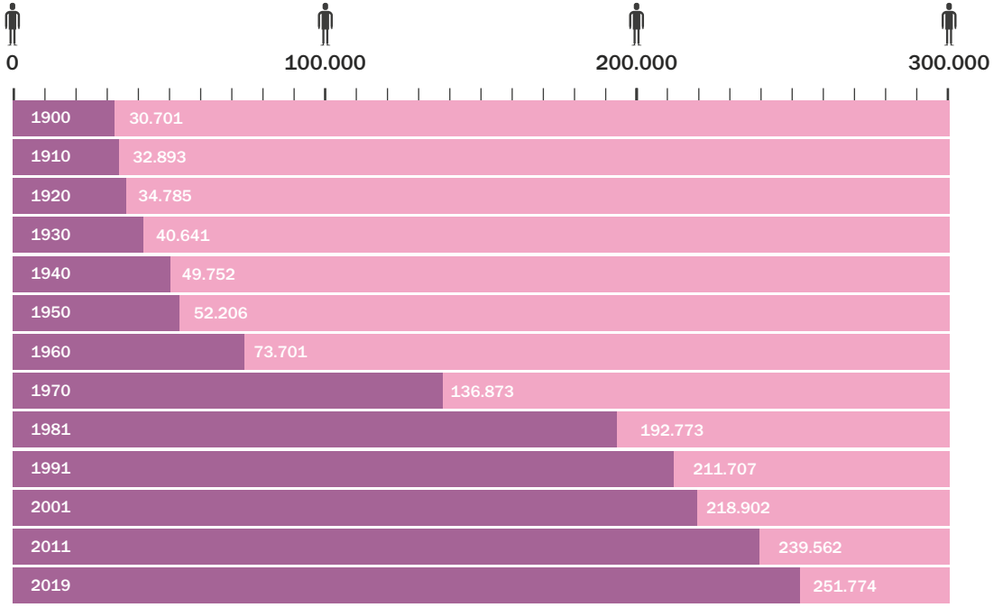
To accommodate such a large number of people, new neighbourhoods with a medium-high building density were built around the existing city, such as Adurtza, Zaramaga, Txagorritxu and San Cristóbal.

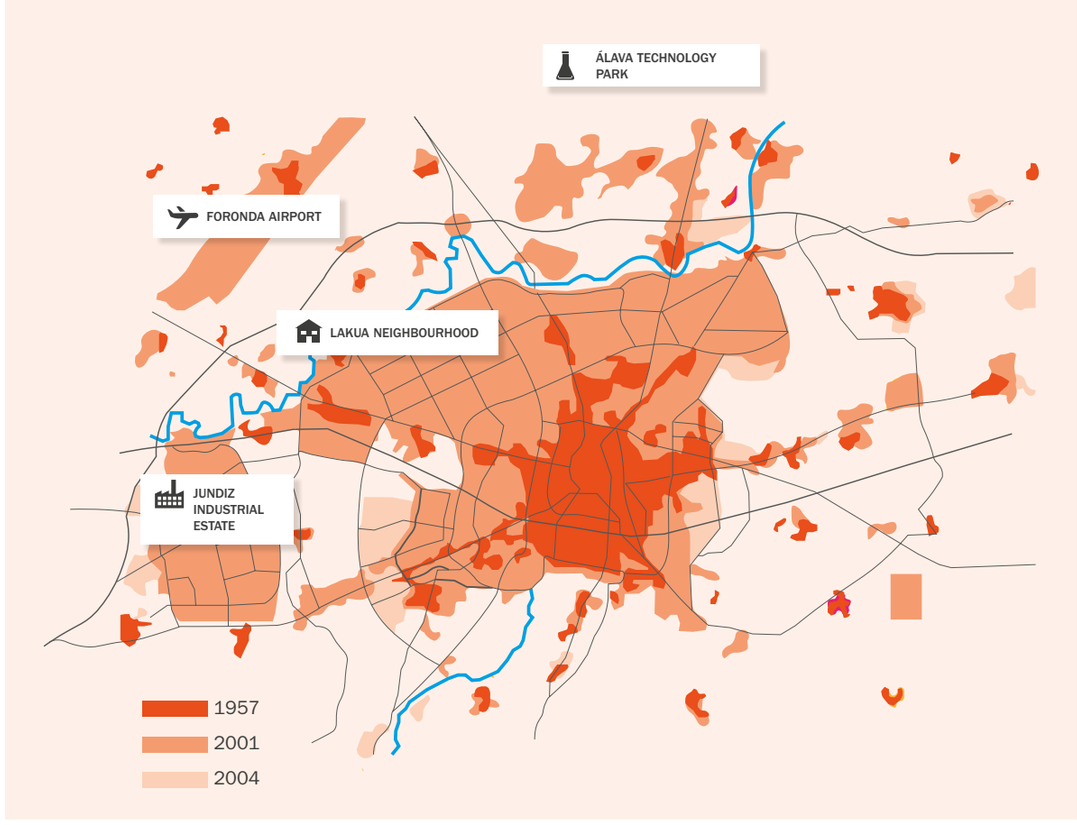
The most significant example of this leap in urban expansion was the **neighbourhood of Lakua**, which was designed in the 70s for a population estimated much higher than the actual figure, and it was in those years that an economic recession began that slowed the growth in population.

This neighbourhood was planned according to criteria that were fairly far-removed from the compact urban model that had been developed until that point, causing the city to spread to the north.

▼ **Changes in the population of Vitoria-Gasteiz 1900 - 2019**

Throughout the 60s, Vitoria-Gasteiz had the highest population growth of any city in the Spanish State, with annual growth of more than 8.57%. From the 90s to the present day, the population has grown at around 1% (data from the Spanish National Institute of Statistics).





▲ **Urban expansion of Vitoria-Gasteiz between 1957 and 2004**

The expansion of the city's residential grid was accompanied by the creation of large sports facilities, sited on the outskirts, and new infrastructure, such as the Foronda Airport, which began construction in 1976.

More recently, in 1992, the Álava Technology Park was built 10 km to the north of Vitoria, and several shopping centres within the catchment area of Vitoria-Gasteiz.

The emergence of this "new city" brought with it **new problems** and worsened others, at both urban and territorial, environmental and social levels, all of which made it imperative to adopt new approaches and take steps to respond to the new reality.

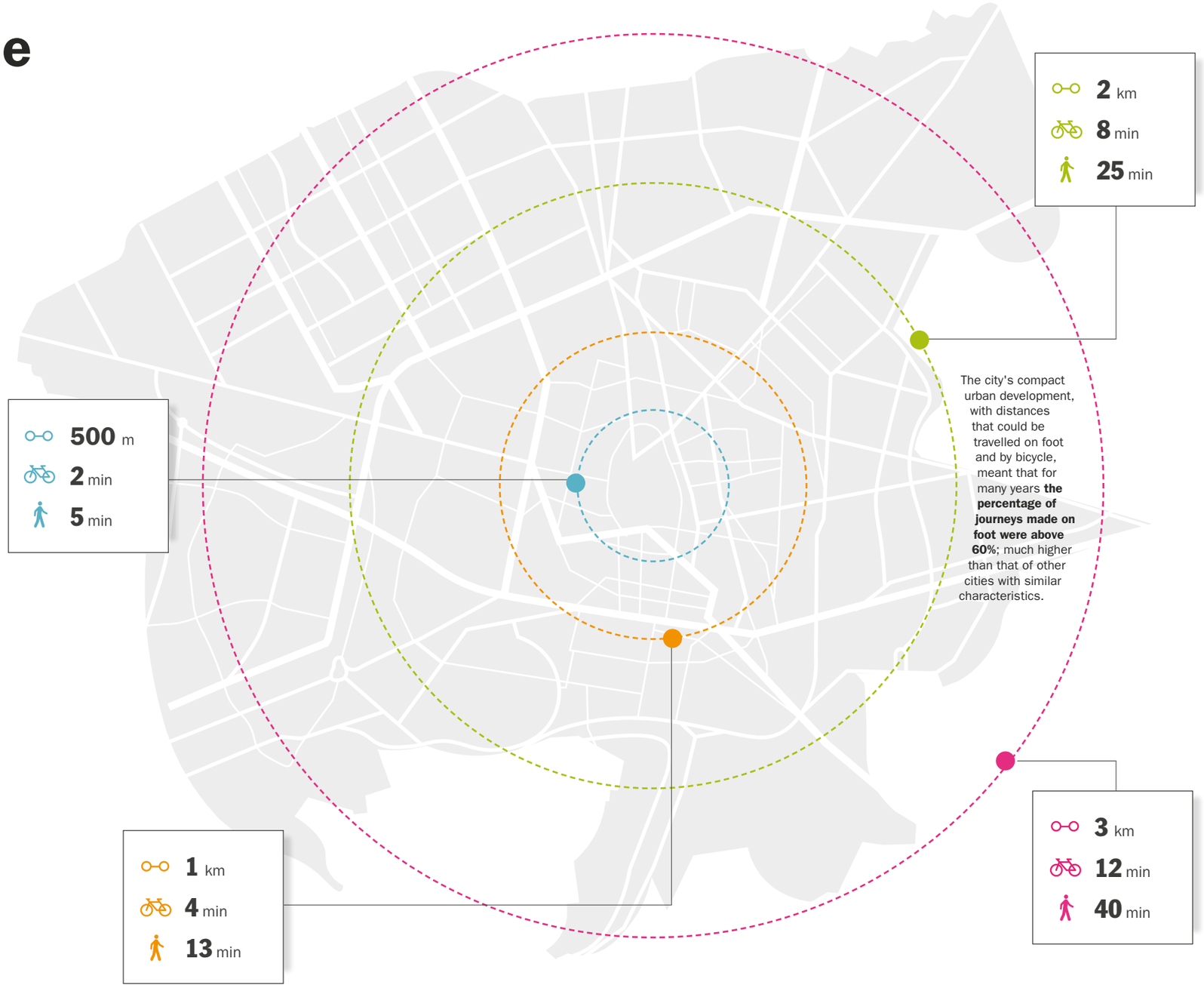
In 1998 the Vitoria-Gasteiz City Council approved its **Agenda 21** (the first to be adopted by a provincial capital in Spain), which represented a massive boost to the adoption of policies and measures in favour of the environment and sustainability.

The impacts of the city's growth on urban mobility

One of the main consequences of the city's urban growth was an increase in distances, and with it, an **increase in travel and use of private vehicles.**

Until the residential developments of the late twentieth century, Vitoria-Gasteiz had been a **pedestrian-scaled city.**

▼ Distances and travel times to the centre of Vitoria-Gasteiz



However, as the city grew, **the car began to play an increasingly important role.**

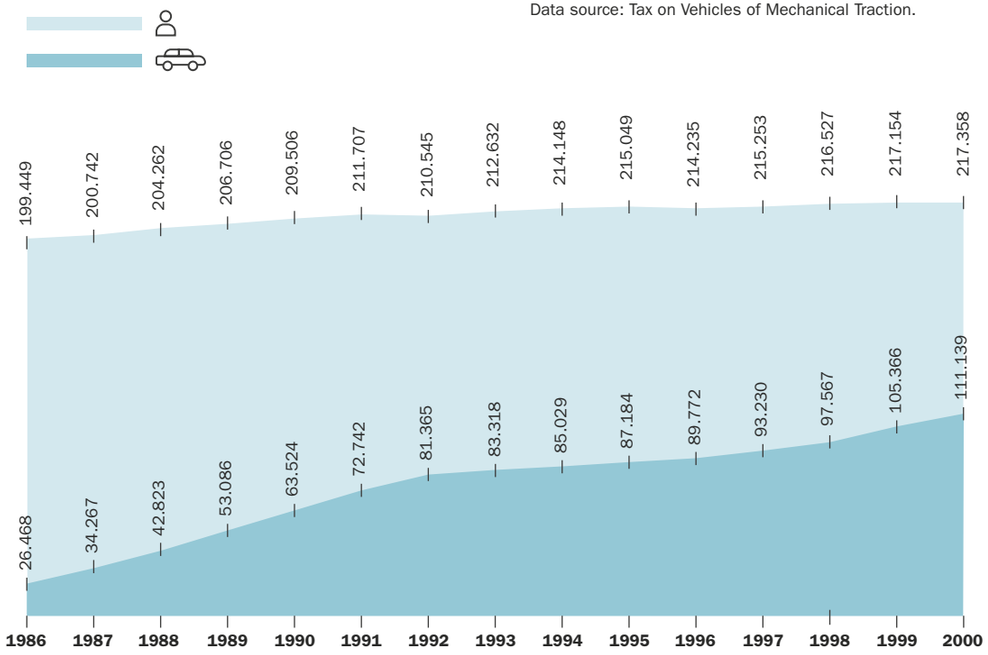
Between 1986 and 2000, the **use of motor vehicles grew exponentially**, from 132.70 vehicles to 511.31 for every 1,000 residents. By the end of 2018, there were 146,563 vehicles in the municipality, and a rate of 588 vehicles per 1,000 residents, indicating that the level of motorisation has barely changed over the course of this century.

This resulted in public highways being steadily overtaken by the car, a spike in **accident rates**, more **congestion on roads** and an increase in **air and noise pollution.**

Ultimately, it led to a decline of living conditions in the city.

▼ Trends in the vehicle pool in connection with changes in population

In the 14 years between 1986 and 2000, the number of vehicles in the city has quadrupled, well above the increase in population. While the population in Vitoria-Gasteiz had increased by approximately 20,000 residents, there were 85,000 new vehicles on its roads. Data source: Tax on Vehicles of Mechanical Traction.



In the early 90s, some city-centre streets recorded traffic flows of more than 25,000 cars per day.

Image of the central Fueros street.

Initial measures for sustainable mobility

In order to slow the use of the car and improve the environmental and living conditions of public spaces, a number of initial measures were adopted, such as a ban on travel by car in some city-centre streets during the weekend.

In 1976, work began to **pedestrianize the city's urban centre;** in 1983 the Medieval Quarter was pedestrianised and in 1993 the pedestrianisation was expanded to include more than 20 streets and an area of 40,000 m².

Coinciding with the pedestrianisation of the Medieval Quarter, the OTA parking scheme was put in place to limit on-street parking and discourage car use in the city.

▼ **Pedestrianisation process 1976-2010**

▲ Dato street, before being pedestrianised.

▲ The pedestrianisation of a section of Dato street, in 1980, was a milestone in traffic calming policies in the city.

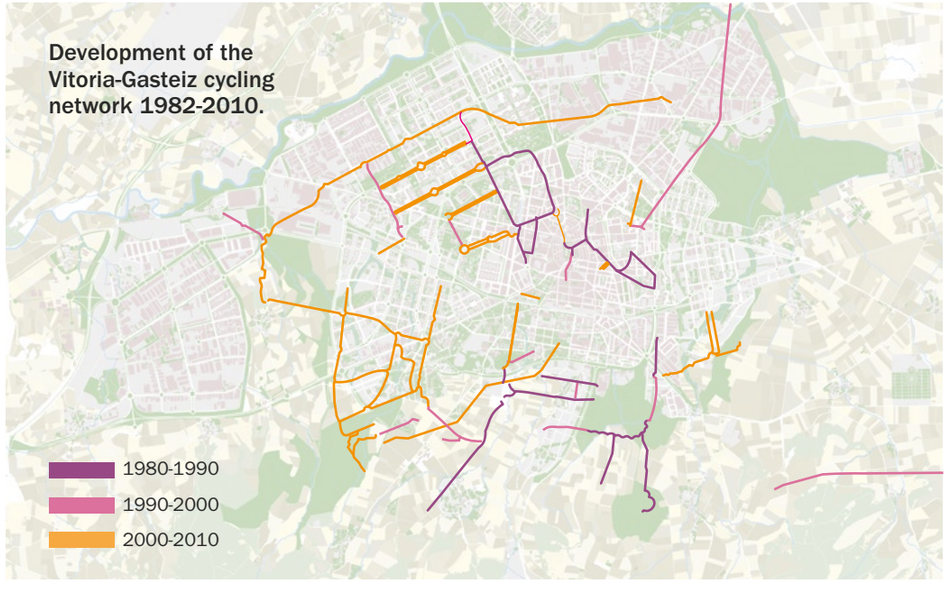
▼ General Loma square, in 1990 (before its redevelopment) and in 2017.

In 1982, the Vitoria-Gasteiz City Council approved the creation of an 80 km **network of cycle paths,** making it one of the first Spanish cities to plan in this regard. In the mid-1990s, the network had already grown to 25 km, and by 2005 it covered a total of 55 km.

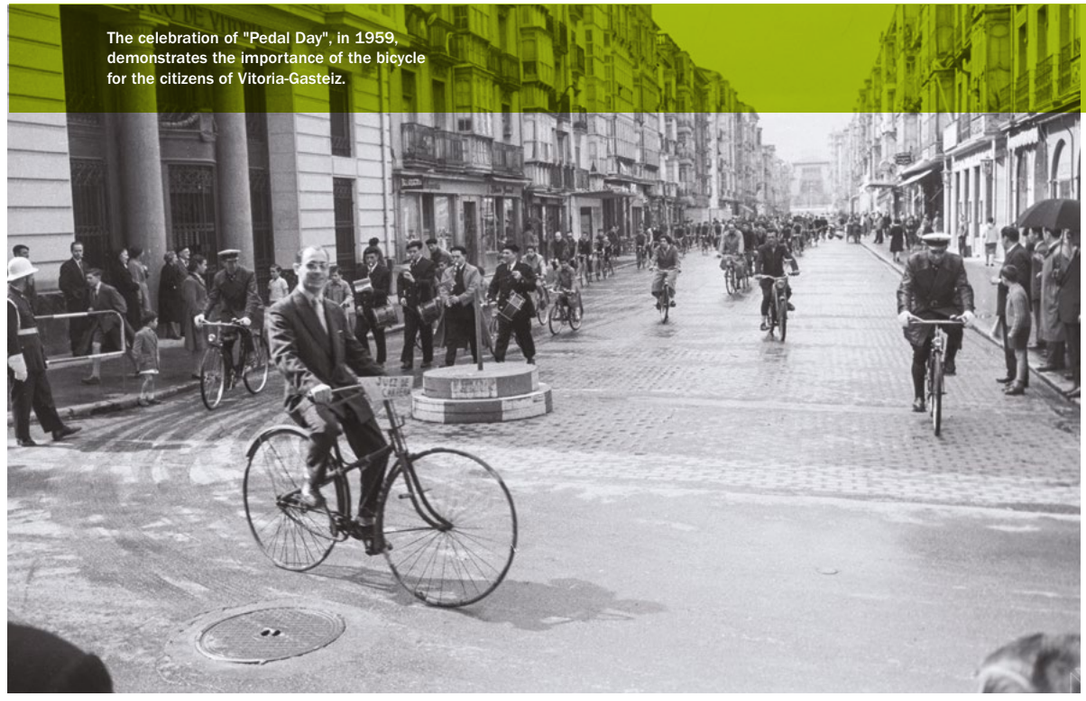
In the 90s, following the approval of Agenda 21, the decision was made to intervene more actively in the mobility model, with the aim of making it more streamlined and efficient, and to minimise its impacts on the environment and society.

In addition to the ongoing pedestrianisation of new areas and the preparation of cycling routes, new measures were introduced. More into detail, a free **bicycle hire** scheme was put in place (the first of its nature in Spain), the regulated parking area was expanded, and **vertical mobility** measures were implemented to ease accessibility to the top area of the city, etc.

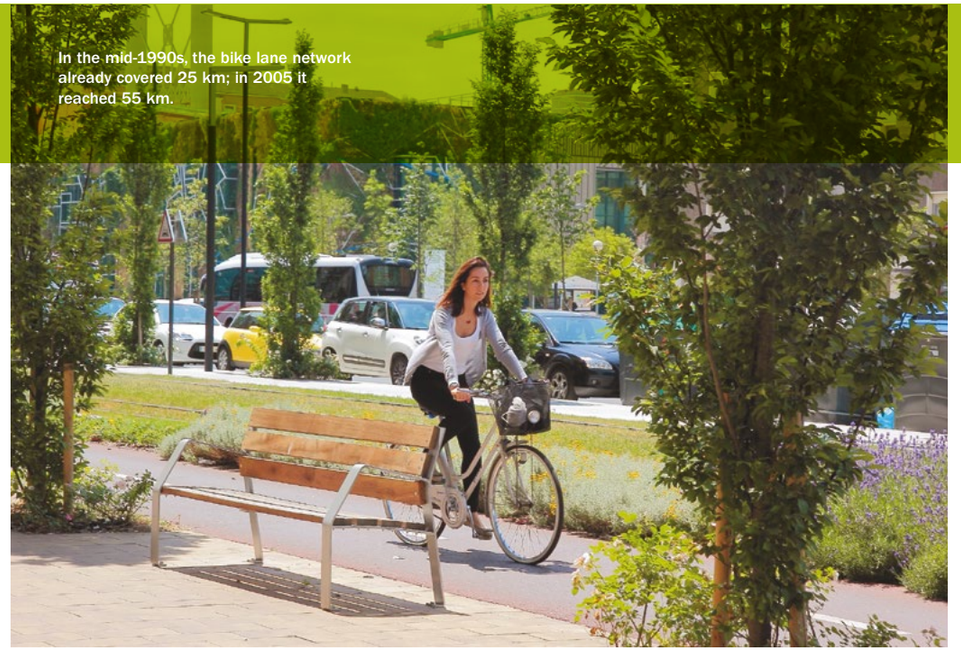
With these formulas, which we now know as sustainable mobility, by the end of the 20th century, Vitoria-Gasteiz had already set the benchmark for other cities in terms of mobility policy.



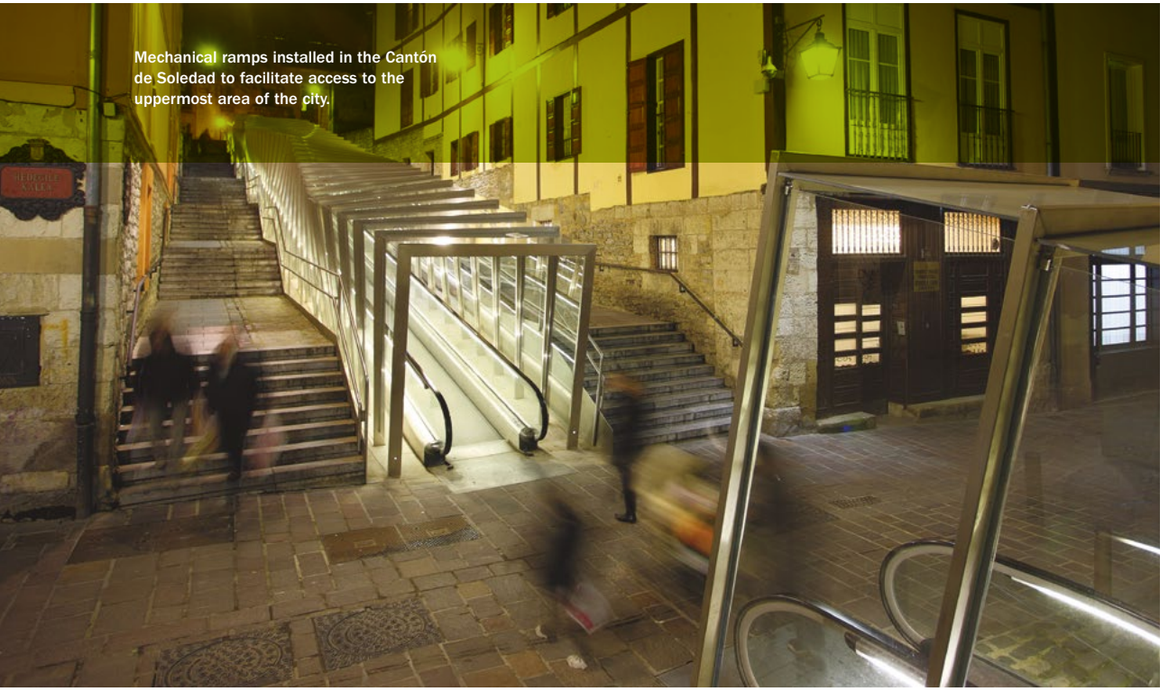
Development of the Vitoria-Gasteiz cycling network 1982-2010.



The celebration of "Pedal Day", in 1959, demonstrates the importance of the bicycle for the citizens of Vitoria-Gasteiz.



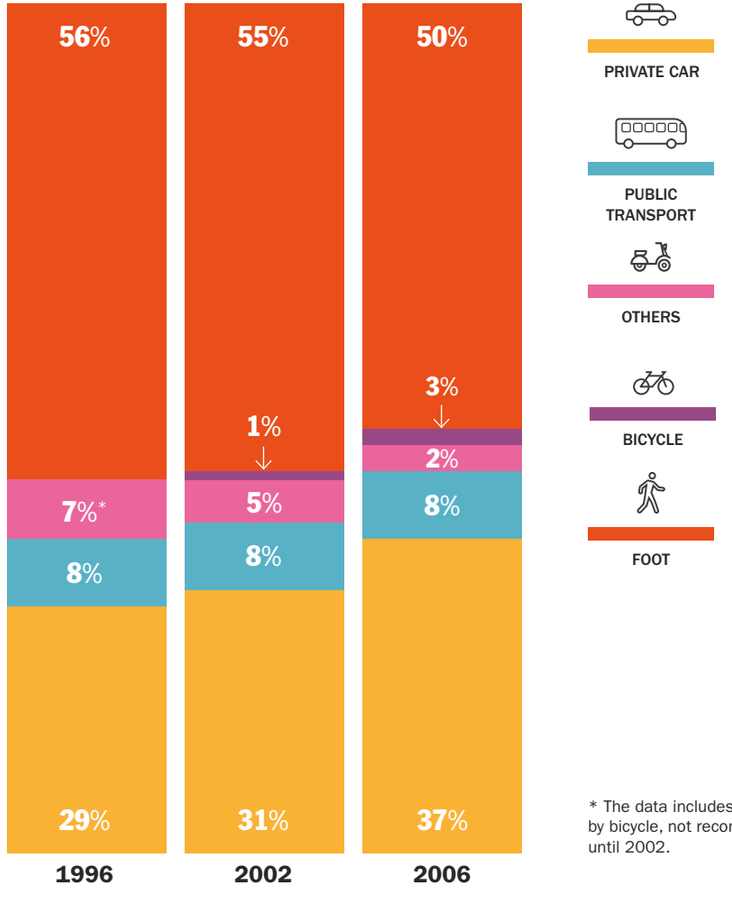
In the mid-1990s, the bike lane network already covered 25 km; in 2005 it reached 55 km.



Mechanical ramps installed in the Cantón de Soledad to facilitate access to the uppermost area of the city.

In spite of the sustainable mobility measures put in place, car use continued to increase until 2006. At that time, public transport still occupied a small share of the transport mix, and the use of the bicycle was negligible. This trend began to reverse with the implementation of the **Sustainable Mobility and Public Space Plan.**

▼ **Changes in the modal share between 1996 and 2006**



* The data includes travel by bicycle, not recorded until 2002.

Urban expansion and its effects on the natural environment of the city

The urban and industrial expansion of Vitoria-Gasteiz from the 1960s to the 1980s resulted in **the occupation of a large area of fertile land of agricultural and natural interest, and an impact on natural areas** surrounding the city, such as rivers and banks, hedges and small wooded areas.

In the urban periphery, alongside the new industrial estates, **graveyards, landfills and orchards** began to proliferate, as well as unlawful activities, such as slum housing and poaching. The outskirts had become a physical and social barrier between the city and the countryside.

From an environmental perspective, new problems appeared and others became chronic.

There was increased **flooding** in the north of the city due to the construction of industrial buildings on the flood plains of the Zadorra river, **erosion** due to the creation of roads and mining activity, **water and soil pollution** caused by spills of all kinds, hedges and riverbanks were cleared, etc.

In short, there was a significant decline in biodiversity and in the quality of the landscape, water and soil.

At the beginning of the 90s, the periphery was a highly degraded space, although it still had some natural vestiges that had managed to survive the city's expansion, such as the Zabalgana and Armentia forests.

Degraded condition of the urban periphery in the early 90s, affected by the phenomena of slum housing, illegal dumping, poaching, etc.

The Green Belt, a project to regenerate the periphery of Vitoria-Gasteiz

To regenerate the degraded periphery, in 1992 the city decided to implement a large-scale project that encompassed the entire peri-urban area and provided a solution to both the most developed and the most natural areas, from an environmental landscaping and social perspective.

The project proposed the creation of a **network of natural and "semi-natural" green spaces around the city's —peri-urban parks—**, which would be interconnected.

This idea had already been considered in the City Master Plan that was in force at the time, which proposed the extension of the urban green areas system to include the areas of the periphery, and so it was that the **VITORIA-GASTEIZ GREEN BELT** project was created.

Faced with tough engineering decisions, the city opted to conserve peripheral natural spaces, and to look to nature itself for a solution to the problems that arose.

So, for example, a project to channel the Zadorra river was halted, to be replaced by a process to regenerate the inland waterways, in connection with the environmental restoration of the river and its banks.

The aim was to conserve the natural spaces that had managed to survive and allow the rest of the degraded areas —most of them publicly owned— to recover, to connect them with each other and with the natural surroundings and urban green spaces.

Objectives of the *Vitoria-Gasteiz* Green Belt project

01 **To provide a comprehensive solution to the periphery spaces, which were affected by the typical problems of the urban-industrial areas.**

02 **To promote the conservation of existing areas of natural interest and biodiversity in the border areas.**

03 **To meet public demand for outdoor leisure spaces, thereby reducing pressure on other natural spaces.**

04 **To take advantage of the potential of nearby natural areas as an educational and visitor resource and involve the general population in its conservation.**

05 **To contain the urban growth of the city within limits given.**

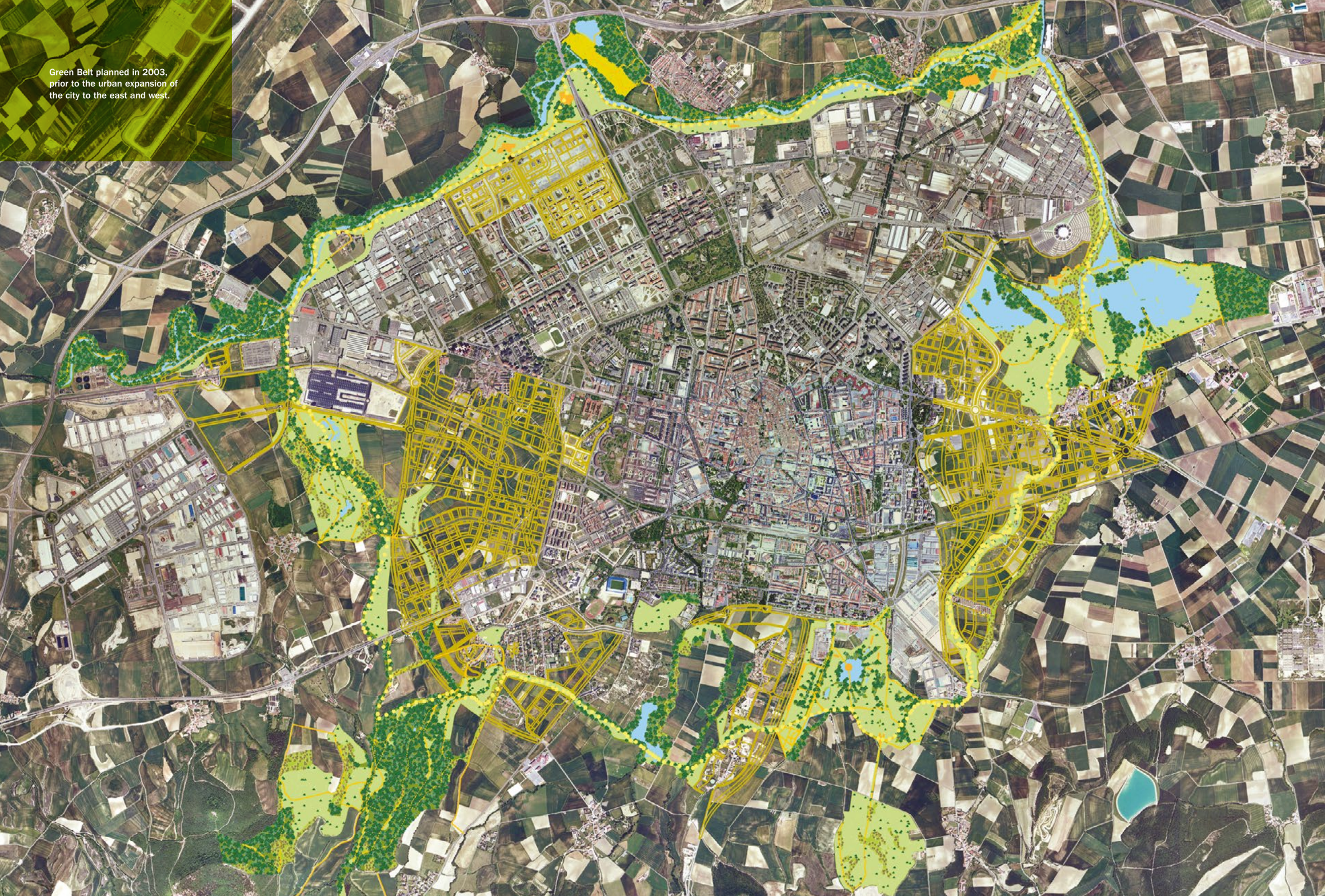
Design and planning

The initial stage of the project consisted of establishing the main spaces that would make up the green belt. The criteria established for planning was to **enhance the ecological connectivity of the peri-urban natural spaces in the first instance, followed by the remainder of the natural spaces of the local area and the city's green areas.**

When analysing the territory of action, it was seen as essential to connect, on the one hand, the old wetlands of Salburua and the fields of Olarizu, located to the east, and on the other, the Zabalgana mountain and the Armentia forest to the west, with the Zadorra river in the north and the Vitoria Mountains in the south, by means of small rivers and hedges that, if properly planned and restored, would act as corridors between spaces.

In this way, two of the main natural areas of the municipality were connected: the Zadorra River and the Vitoria Mountains, both declared Special Areas of Conservation (ZEC) as part of the Natura 2000 European Network.

Image showing how the Armentia Forest (Green Belt) connects the Vitoria-Gasteiz mountain range ("Montes de Vitoria"), in the background, with the city.


Green Belt planned in 2003,
prior to the urban expansion of
the city to the east and west.

Redevelopment

Over the course of these years, a raft of measures **to restore the ecosystem and landscape, improve connectivity and redevelop spaces for public use** have created the green belt we now know today.

A remarkable feature of many of the development projects carried out in the green belt is that they offer **common solutions**, as in addition to addressing specific needs and problems, they also offer other environmental, social and economic benefits.

Actions implemented in the Green Belt

01 Restoration of gravel-pits

02 Recovery of wetlands

03 Restoration of rivers

04 Redevelopment of green corridors

05 Creation of organic orchards

06 Creation of a Botanical Garden

07 Redevelopment of roads and living areas

08 Installation of environmental facilities

01 Restoration of *gravel-pits*

In 1993, work began to restore an abandoned gravel-pit to the west of the city. The gravel-pit and its surroundings, which included a natural luritanian oak wood, were in a **severe state of degradation** with a build-up of waste, waterlogging, etc. The ground was re-landscaped and turned into soft hills covered with meadows, two small lagoons were prepared, scattered copses were planted and the condition of the woodland area was improved. This land now makes up the **Zabalgana peri-urban park.**

02 Recovery of *wetlands*

In 1994, regeneration work began on the old wetlands of Salburua, which were drained for cultivation purposes during the 19th and 20th centuries. Its restoration has contributed to flood prevention in the eastern part of the city, by functioning as flood abatement ponds, and has also helped to improve the quality of groundwater. Salburua has also been designated a Ramsar Wetland of International Importance and a Natura 2000 Site for its **valuable flora and wildlife.**

03 Restoration of *rivers*

In 2003 the environmental-hydraulic redevelopment of the Zadorra river began. The creation of alternative channels for the water to use in periods of heavy rainfall has reduced **flooding** from the industrial estates of the north-east; in the dry season these channels are used by walkers and cyclists. The river acts as a **green corridor** between the wetlands of Salburua and the Zabalgana Park and has been declared a Natura 2000 Site for its **rich biodiversity.**

04 Redevelopment of *green corridors*

During the years 2001 and 2002, a project was completed to restore the Alegría River, which at the time was a narrow channel with hardly any vegetation on its banks, surrounded by factories. The river now acts as **a green corridor** between the Zadorra river and the wetlands of Salburua, facilitating the movement of endangered species, such as the European mink and the otter. The transformation of the river has improved the **environmental and landscape quality** of the industrial area of Betoño-Eskalmendi.

05 Creation of *organic orchards*

In 1998, the **Olarizu allotments**, to the south of the city, were set up, followed in 2007 by the **Urarte allotments**, to the north, in the surroundings of the Zadorra River. These are two municipal facilities that offer a well-organised alternative to the allotments that had proliferated in a disorderly fashion in the city's peri-urban environments. They are spaces intended for citizens to practice organic horticulture and are an example of how the Green Belt is serving to promote a type of agriculture and food that is local and healthy.

06 Creation of a *Botanical Garden*

In 2011, the **Olarizu Botanical Garden** was created to conserve and promote local, regional, European and global plant biodiversity. In an area of more than 120 ha, it hosts a variety of plant collections, including a representation of the main **forests of Europe**. It also houses a germplasm bank for the conservation of seeds and plant genetic material for repopulation, research, etc. The Garden is an ideal place for learning in relation to the world of plants.

07 Redevelopment of *roads and living areas*

In the Green Belt, more than 90 km of pedestrian and cycling routes have been redeveloped. A particular highlight is the **Route around the Green Belt**, a circular itinerary of more than 33 km that runs through all of the peri-urban parks. It forms part of the Network of Green Itineraries of Álava, which provides access to the main natural areas of Álava, along paths that have been adapted for walking and cycling. With more than 1,000 km, this network is a valuable resource for promoting active and healthy lifestyles and for discovering the natural rural environment of Álava.

08 Installation of *environmental facilities*

The Salburua **Ataria** Wetlands Visitor Centre is one of the key facilities of the Green Belt. It welcomes around 100,000 people every year, who come to discover the Salburua park and take part in the many educational activities held there.

Management in the Green Belt

The criteria used in the design, redevelopment and maintenance of spaces and facilities of the Green Belt further **the conservation and improvement of biodiversity, environmental-efficiency and economy of resources, adaptation to the landscape, functionality for public use,** etc.

The parks of the Green Belt are managed in a way that is aimed specifically at conserving and increasing biodiversity.

Practices worthy of particular mention include the differentiated maintenance of lawns and meadows and the installation of nests and artificial shelters.

Other frequent measures include the stacking of dead wood to favour xylophagous insects, respecting critical periods in the reproductive cycle of particular species such as the European mink, etc.

A multifunctional space

Thanks to the redevelopment work carried out over more than 25 years and the management model that is being developed, today the Green Belt is a **multifunctional space**, which provides numerous ecosystem services and benefits.

It is a key space of the municipal ecological framework, as it allows nature to permeate the inner city.

It provides a habitat for highly valuable animal species - some endangered; plays a primary role in the flood abatement of the rivers that enter the city; acts as a green lung, etc.

From a social point of view, it is an ideal space for public recreation and hosts activities of all kinds: leisure, sports, educational and training.

Over time, the Green Belt has consolidated its place as one of the iconic identifying features of Vitoria-Gasteiz and an **environmental, scenic, cultural, social and tourist resource** of the highest order, generating a new relationship between nature and society.

The Green Belt has served as an experimental and demonstrative space for a number of measures and **nature-based solutions (NBSs)** to solve a whole host of problems related to water management, biodiversity, saving natural resources, public use, etc.

The challenge is now to transfer the philosophy of action applied in the Green Belt to the city.

The Green Belt: a shelter for *biodiversity*

Flora occupies an important place in the Green Belt, which features species of great conservation value.

The European mink is one of the most valuable species that inhabit the Green Belt, specifically in the wetlands of Salburua and the Zadorra river. It is the most endangered small carnivore in Europe.

In Salburua, a herd of deer can be seen, artificially introduced to control the overgrowth of prairie vegetation and prevent the eutrophication of the ponds.

The Green Belt: a space for *learning and environmental education*

In the municipal orchards of Urarte, redeveloped in the area surrounding the Zadorra river, a large people and citizen's collectives grow their vegetables in an environmentally-friendly way.

The education programs in the Green Belt cover a wide range of environmental issues and are aimed at all types of group and people.

The Green Belt offers an ideal place for nature watching, learning and research.

The Green Belt: a space for *leisure, sports, health and social interaction*

The parks of the Green Belt encourage meeting and interaction between people.

Playground in the park of Gamarra, in the surroundings of the Zadorra river.

The pathways of the Green Belt are part of the local and provincial network of green routes, developed for walking and cycling.

The Green Belt: a *scenic, cultural and identity-forming* resource

Olarizu (above) and Armentia (on the left) are two places of deeply-rooted tradition for the people of Vitoria. Since ancient times, they have provided a route for pilgrimages, which bring a multitude of people together.

Snowy landscape on the access route to the Olarizu Botanical Garden.

02

A CITY ON THE MOVE

The need to change urban mobility for face new challenges

At the beginning of the 21st century, private car use continued to grow; in 2006, 37% of journeys were made by car.

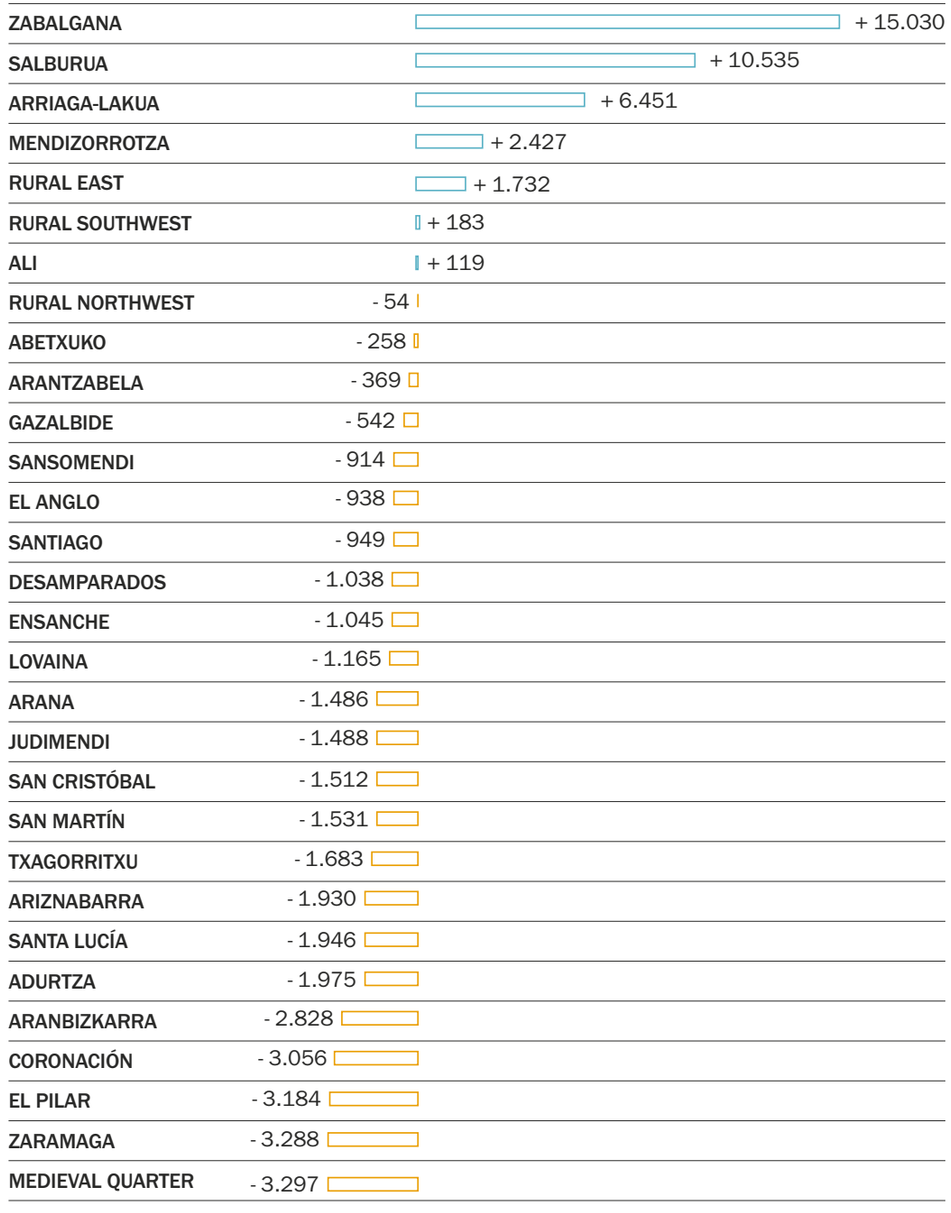
This baseline position was already worrying, but further issues were emerging highlighting the urgent need to establish a new mobility model to address the environmental and social problems caused by the car.

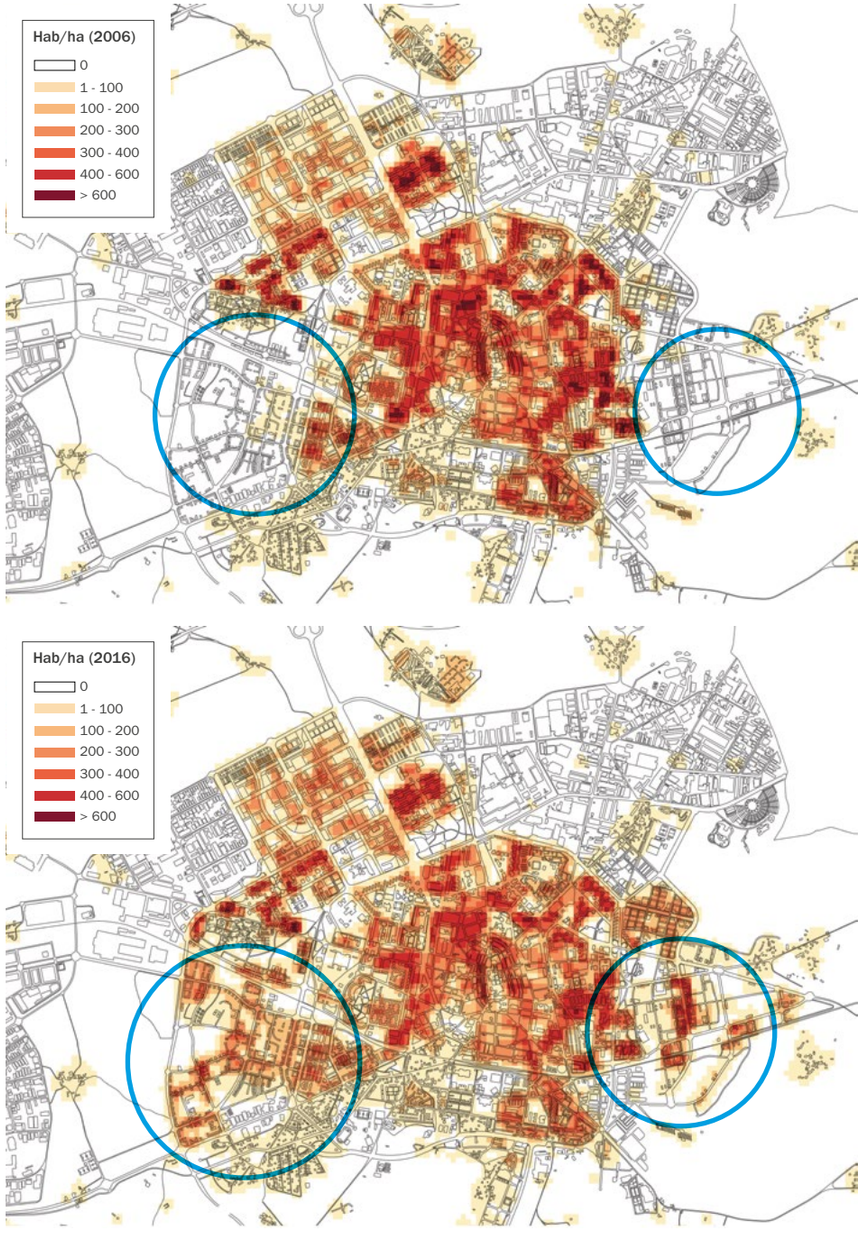
Firstly, the city was beginning a **new cycle of expansion** to the east and west, with the construction of 16,000 new homes and the enlargement of urbanised land by 9 million square metres (1/3 of the existing urban area).

Rather than a population increase, this meant a redistribution of the population and a swelling of the city, with the resulting increase in travel needs.

▼ **Changes in the population by neighbourhood (2001-2013)**

45,000 people moved to the city's new neighbourhoods.





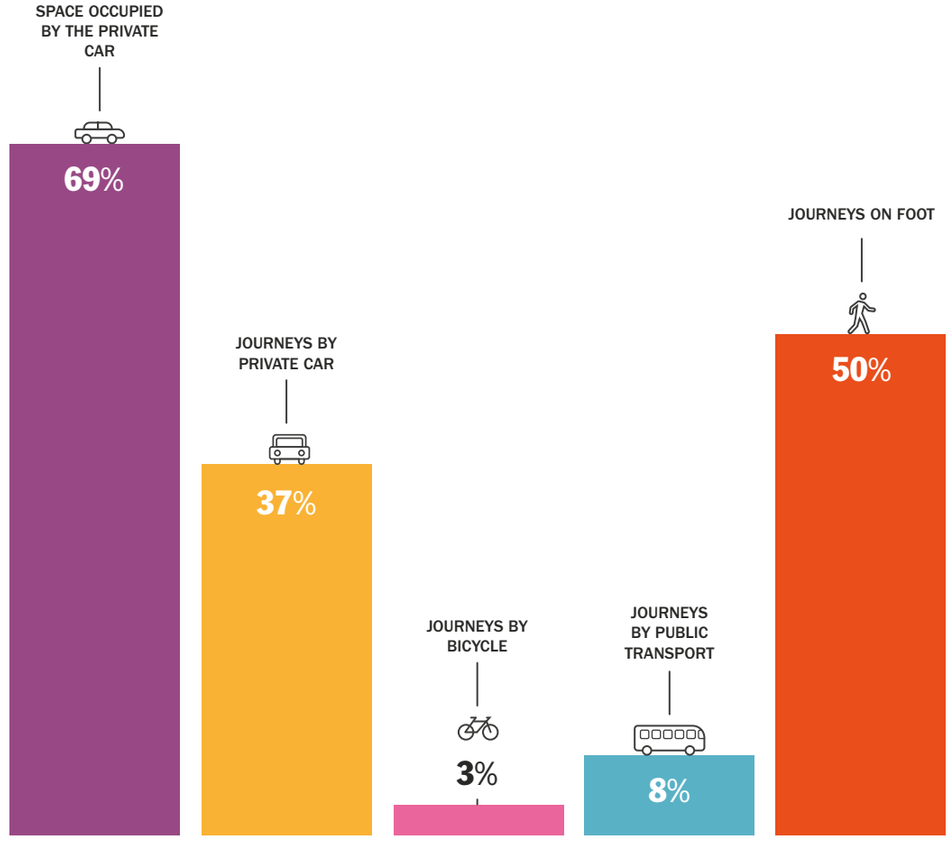
▲ **Urban expansion and population density between 2006 and 2016**

The new neighbourhoods of Salburua and Zabalgana, to the east and west, respectively, spread the city out, moving people and activities further away and causing a significant increase in the number and length of urban journeys.

Secondly, the imminent entry into operation of the **first tram line** forced the existing public transport network to be reorganised and this new infrastructure to be integrated into an increasingly congested road network.

Meanwhile, the commitments signed by Vitoria-Gasteiz regarding **reduction of greenhouse gas emissions** urged measures to be taken in the field of mobility which, in 2006, was responsible for 29% of the municipality's CO_2 emissions.

▼ **Mobility in 2006**



A Sustainable Mobility Plan for and by the people

Against this background, in 2007 after a process of public consultation – which resulted in the signing of a Citizens' Pact for Sustainable Mobility – the **Sustainable Mobility and Public Space Plan (SUMPSP) of Vitoria-Gasteiz** was drawn up.

This plan defined a set of strategies and actions for the development of a new comprehensive model of mobility and public space in the city in accordance with the scenario that had been determined through the public consultation.

The main objectives of the plan were:

01 **To reverse the trend of modal share, reducing the use of private cars in favour of sustainable modes of mobility.**

02 **To reduce space allocated to the car to increase the space for people.**

▲ Events of the European Mobility Week in 2009.

Superblocks, a key concept for a new mobility and public space policy

As a general criterion, the aim was to address **mobility and public space together.** The result of this approach was to establish the superblock as the basic urban unit in the city's future plan for mobility and public space.

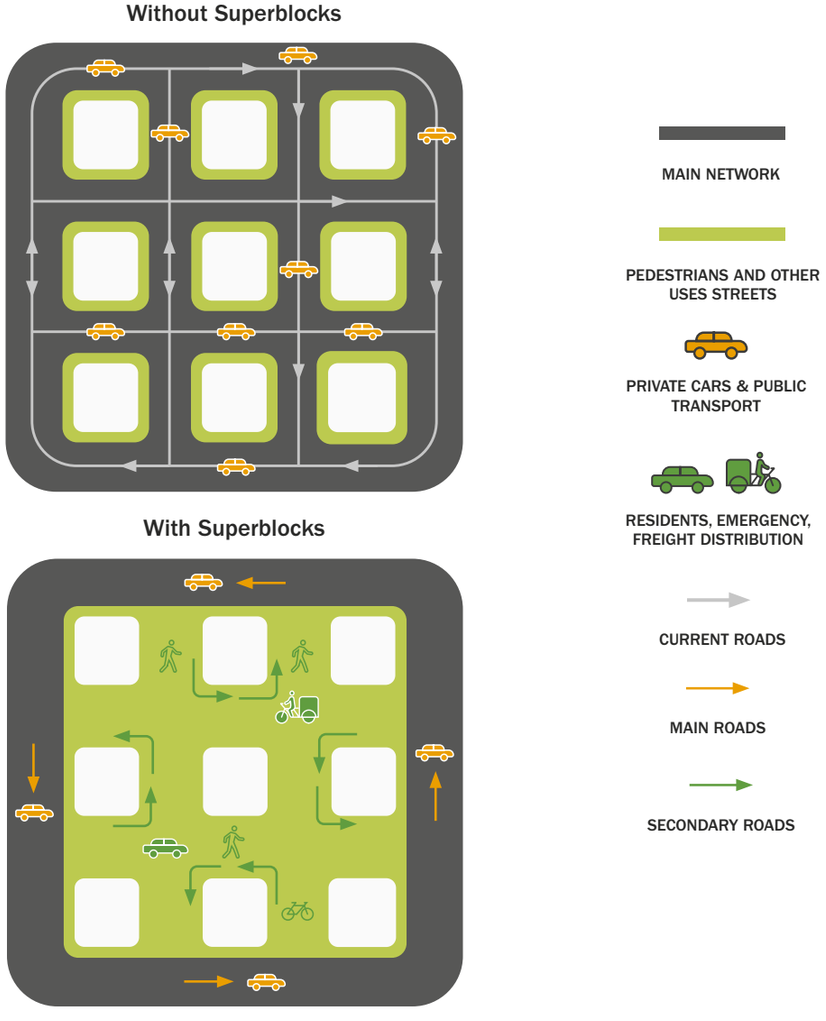
The superblock is an urban cell defined by some **peripheral main roads**, where the surface transport networks (bicycle, bus and car) circulate, and some **internal streets or pacified roads**, where preference is given to pedestrian and cycling modes, and motorised traffic is restricted to residents' cars, service vehicles and emergency vehicles. On both main and internal roads, speed is limited.

The superblock integrates the set of transport networks more efficiently, guaranteeing the city's functionality and organisation and **releasing up to 70% of the space for public use**. Therefore, this implies that pedestrian, cyclist and public transport networks need to be reorganised around the superblock approach.

The removal of through-traffic from the internal streets of superblocks reduces motorised traffic, and hence reduces air pollution, noise levels and accident rates.

The internal streets are reformed to reduce traffic and limit the speed of authorised vehicles, and they become traffic-calmed roads, where pedestrians have priority and can carry out new leisure, cultural activities, etc.

The reform of these streets also allows the introduction of street furniture, playgrounds, trees and other elements that improve the environmental quality, comfort and liveability of these spaces.

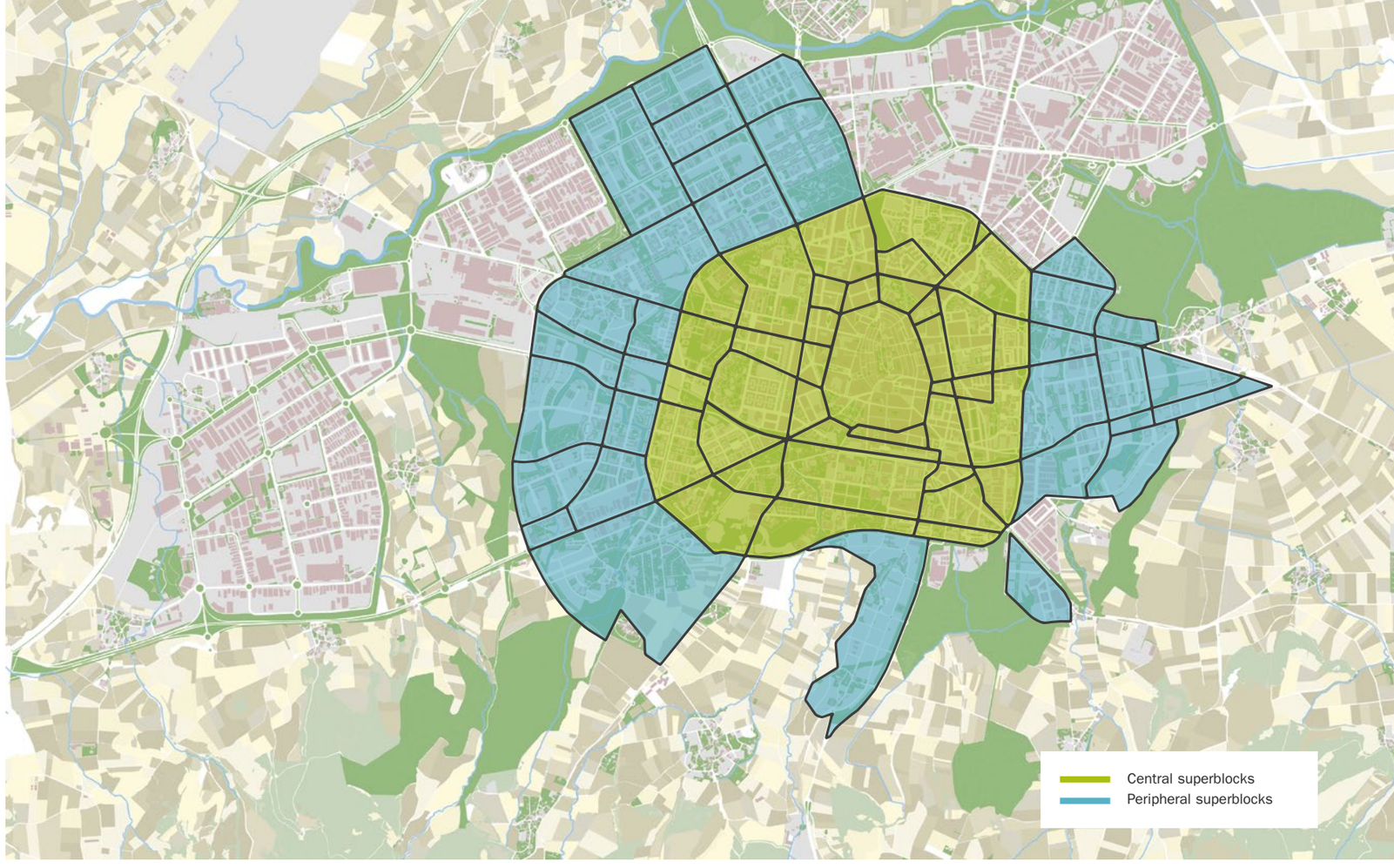


The Vitoria-Gasteiz superblock scheme is made up of two categories, according to the urban structure. For those in the urban centre – with greater building density, population and activities – the vehicles will circulate at a slower speed than in the outskirts, where the neighbourhoods are more spread out.

In the first, as a general rule, the speed will be **30 / 10-20 km/h**, and in the second **50 / 30 km/h**, on the main and internal roads, respectively.

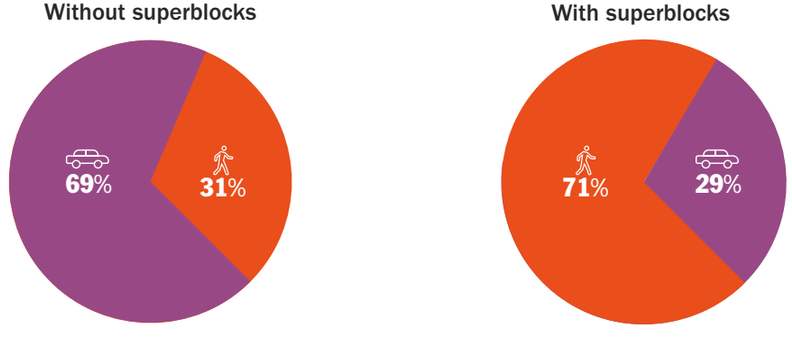
The implementation of the superblock scheme is being developed in phases. It is expected that at its completion the distribution of urban space between private car and pedestrian will have been improved. In 2006, 69% of the space was dedicated to the private car. With the implementation of the full superblocks scheme, this will be reduced to 29% and the space destined for other modes of transport, especially pedestrians, will be 71%.

Notable among the actions carried out are the implementation of the **Sancho el Sabio superblock pilot** and the **traffic calming pilot** interventions in 47 of the city's central streets.



▲ Superblocks proposal map

▼ Allocation of Public Space



Implementation of the pilot superblock: Sancho el Sabio street

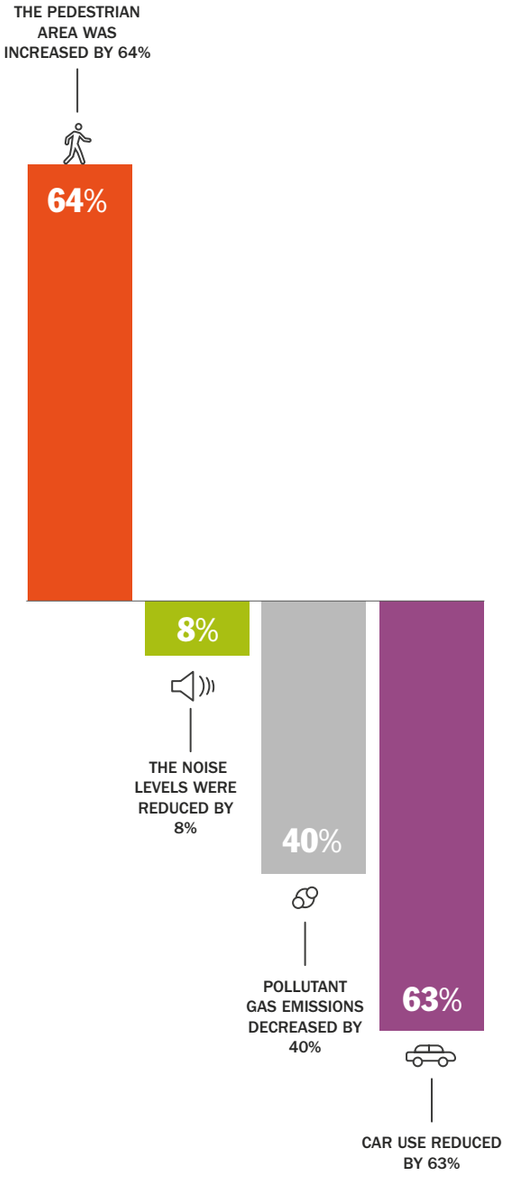
Between 2009 and 2010, the city's first superblock was implemented as a "pilot", in a central area with high population density and with a variety of uses and activities (commercial, services, etc.).

Sancho el Sabio street was changed from four lanes of bi-directional traffic (two in each traffic direction) to a single lane, and the adjacent streets were pedestrianised, including four parking lanes (two in each traffic direction).

▼ Transformation of Sancho el Sabio street, after the implementation of the first superblock in Vitoria-Gasteiz.

The positive impact of the Sancho el Sabio superblock pilot

▶



Pedestrians, bicycles and public transport became the priority modes of mobility in this axis and in the whole superblock.

This first superblock greatly reduced motor traffic in the area, with the consequent decrease in noise levels and air pollution and increase in road safety.

At the same time, the pedestrian space was increased and there was a boost in commercial and leisure activity.

Traffic calming to change mobility and public space

In 2013, a pilot **traffic calming initiative** was implemented to reduce the speed of the vehicles in the city centre to 30/20/10 km/h and thus improve the coexistence between the different modes of mobility.

Calming interventions were carried out in 47 streets – **30 km/h ZONES**- as a first step in the gradual progress towards implementation of the 17 city centre superblocks.

In the traffic-calmed streets, bicycles leave the pavements and share the road with cars, using either exclusive or shared lanes, so that the pavements become exclusively pedestrian spaces.

Some traffic-calmed streets, of sufficient length, became two-way, with dedicated cycle lanes in the opposite direction.

The actions implemented readjusted the road section of the internal streets to reduce the through traffic speed and give cyclists and pedestrians priority.

Changes included narrowing the entrances to these roads and narrowing the traffic lanes, widening pavements, eliminating parking bays, preparing contra-flow cycle lanes (where appropriate), creating intermediate obstacles, bollards, painted markings, etc.

It's about **tactical urbanism**, simple, low cost and potentially temporary in nature. Despite this, they produce immediate benefits, since they reduce the risk of accidents, avoid friction between pedestrians and cyclists on pavements and pedestrian areas and significantly reduce noise levels in the city centre.

▼ Diagram showing traffic circulation in 30 km/h zones

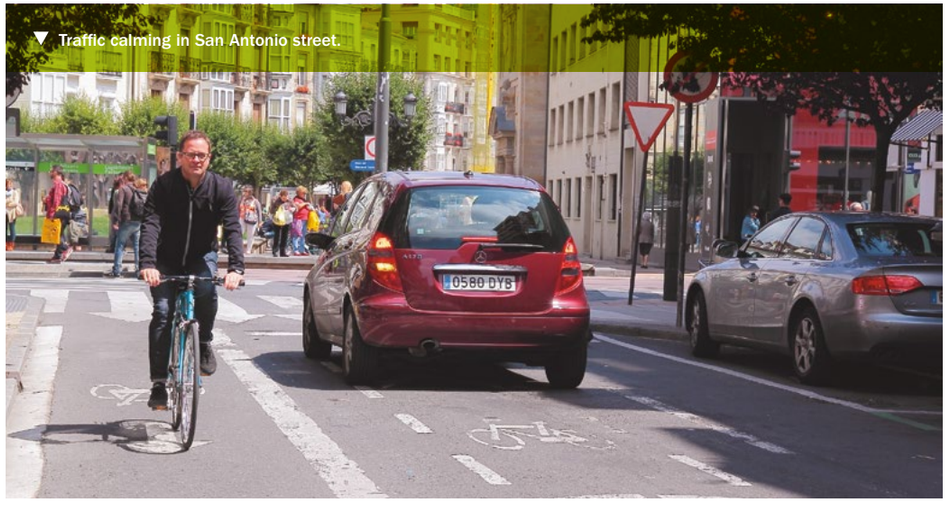
In some of these streets urban furniture was incorporated (planters, trees, permeable pavements and other elements) that is helping to improve the environmental quality and user experience, increase the permeability of the soil and green the city.

▼ Reform of Mateo Benigno de Moraza street.

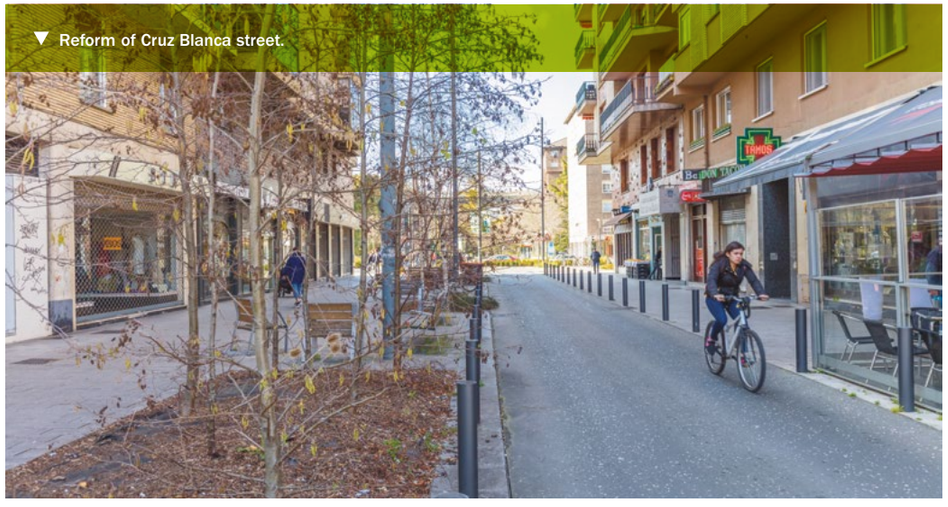
▼ Reform of Badaia street.

▼ Traffic calming in Olaguibel street.

▼ Traffic calming in San Antonio street.



▼ Reform of Cruz Blanca street.

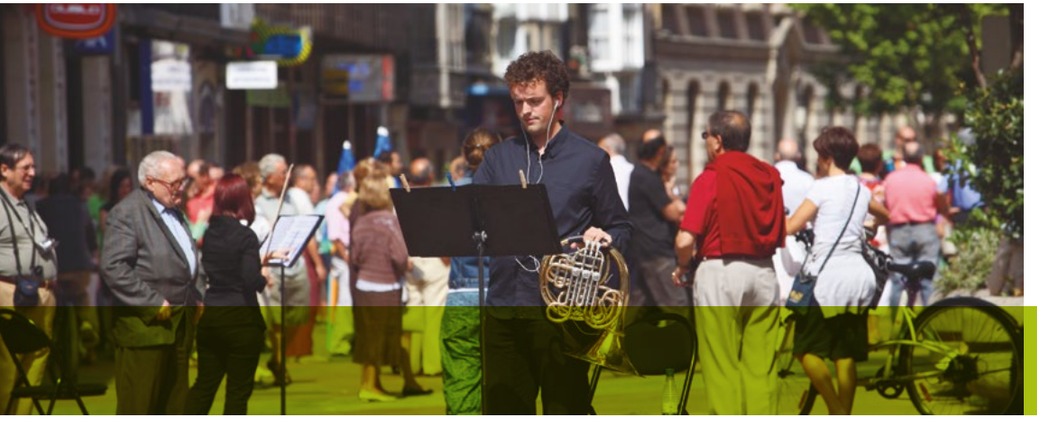


Pedestrian mobility

Vitoria-Gasteiz is a city where people walk a lot. In fact, in 2006, despite the strong presence of the car, more than 50% of urban journeys were still on foot. In 2020, despite the urban expansion over these years, the percentage has been maintained.

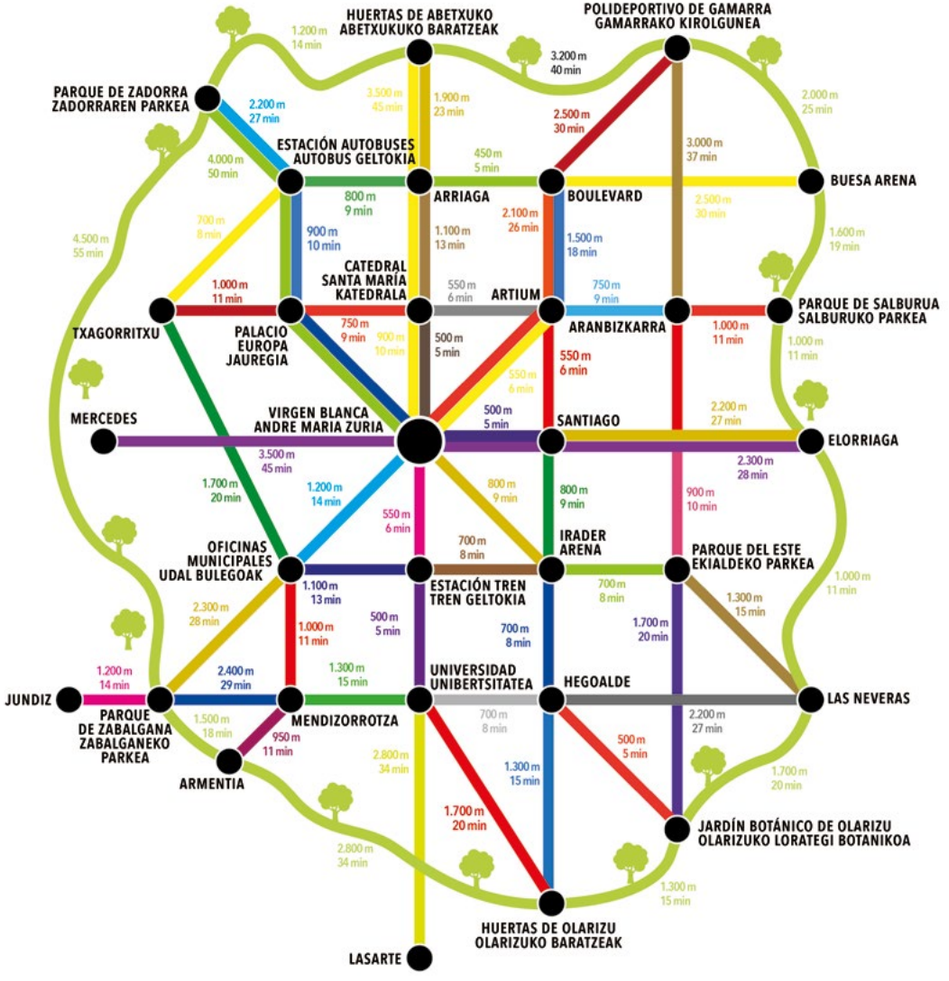
This good performance is due to several factors: distances are not too great, **there are a high number of pedestrian zones** – as a result of the pedestrianisation process initiated in the 1970s – and **a long track record of accessibility** and removal of architectural barriers.

Since the launch of the SUMPSP in 2006, and within the designed superblock model, numerous interventions have been carried out on public roads which have contributed to maintaining good levels of pedestrian movement in the city.



▼ **Vitoria-Gasteiz "metrominuto"**

A map showing walking times and distances between points of interest in the city.

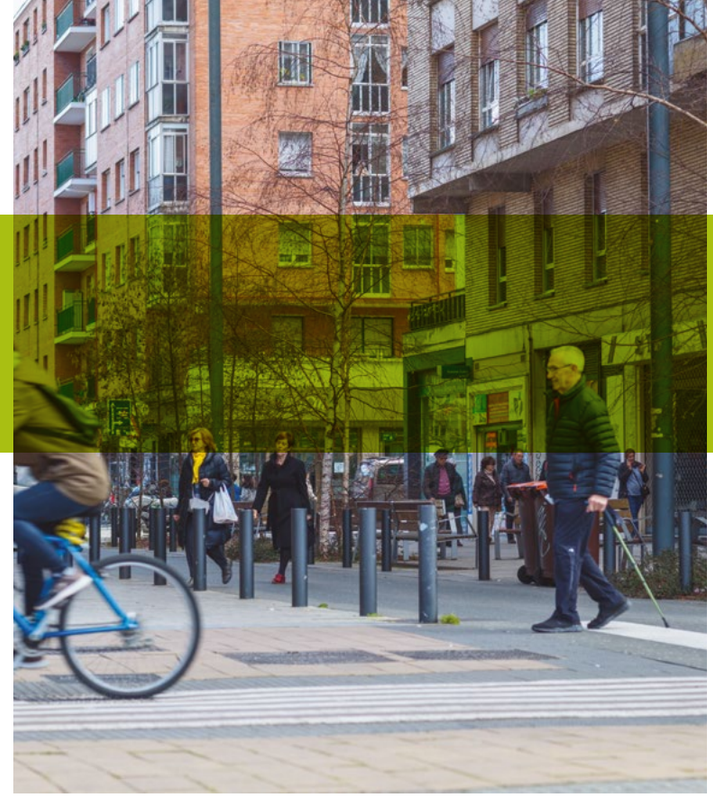


Accessibility improvement interventions

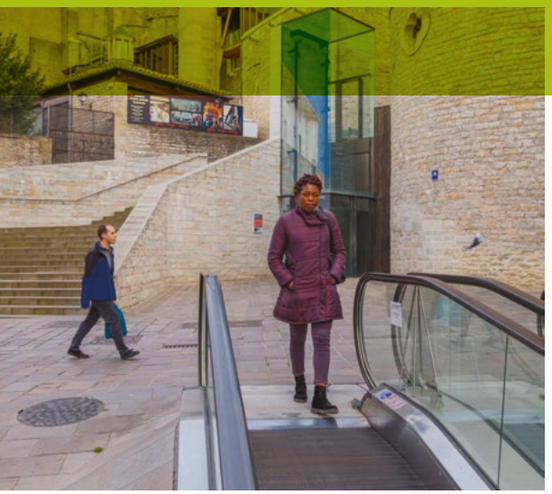
During these years, and in line with the 2005 **Vitoria-Gasteiz accessibility Plan**, the characteristics of the roads and squares of Vitoria-Gasteiz have substantially improved.

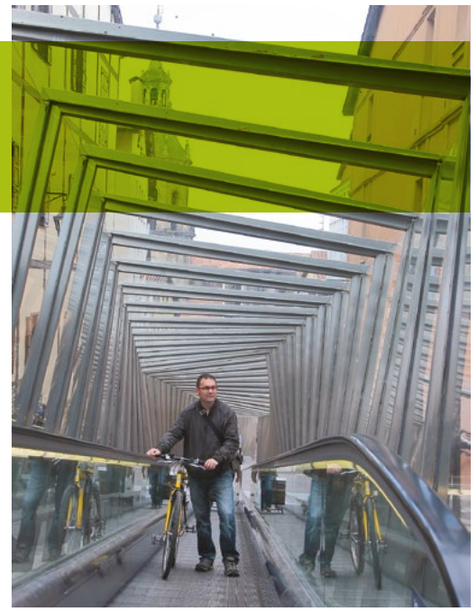
Wide pavements, single platforms, slopes down from pavements at intersections, "ear" extensions, etc., have improved accessibility and pedestrian safety in most parts of the city.

▼ Pedestrian level crossings on Chile and Cruz Blanca streets.

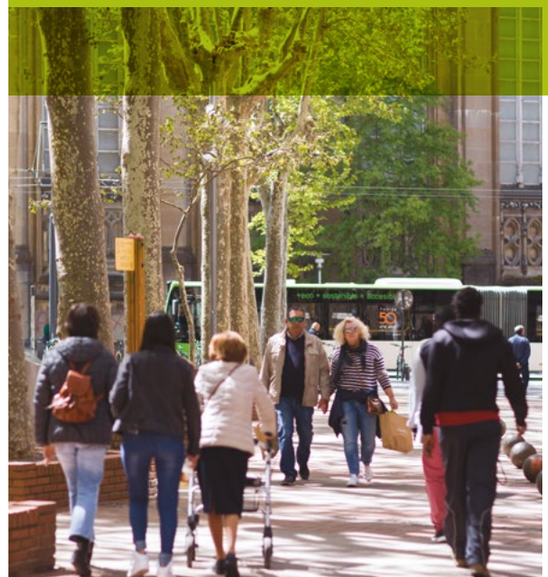


▼ Mechanical ramps and elevator access to the upper part of the city.





▼ Extension of sidewalks and single platform on Vicente Goicoechea and El Prado streets.



Interventions for structural reform of public space

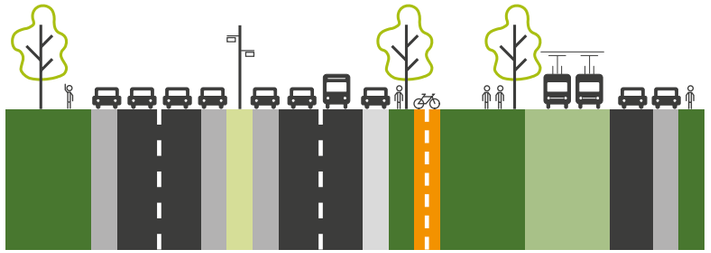
▼ Comprehensive urban reform of Gasteiz Avenue

In 2015, the comprehensive renovation works were completed on Gasteiz Avenue. These works included interventions to reorganise mobility in favour of sustainable modes, increasing the number of trees, installing sustainable drainage systems to improve water management, daylighting part of Abendaño creek, etc.

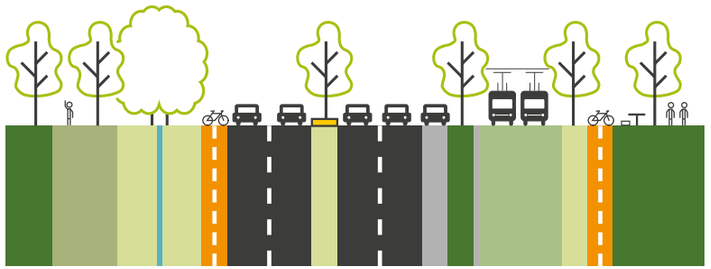
The mobility improvements implemented consisted of pedestrianising the side service lane between Beato Tomás de Zumárraga and Basoa streets, eliminating the lanes reserved for parking, and implementing a 5 metre wide urban path and a bicycle lane.

Image of the Gasteiz Avenue, in the mid-80s.

▼ The re-sectioning of Gasteiz Avenue facilitated sustainable mobility and increased the public space available for people.



Before

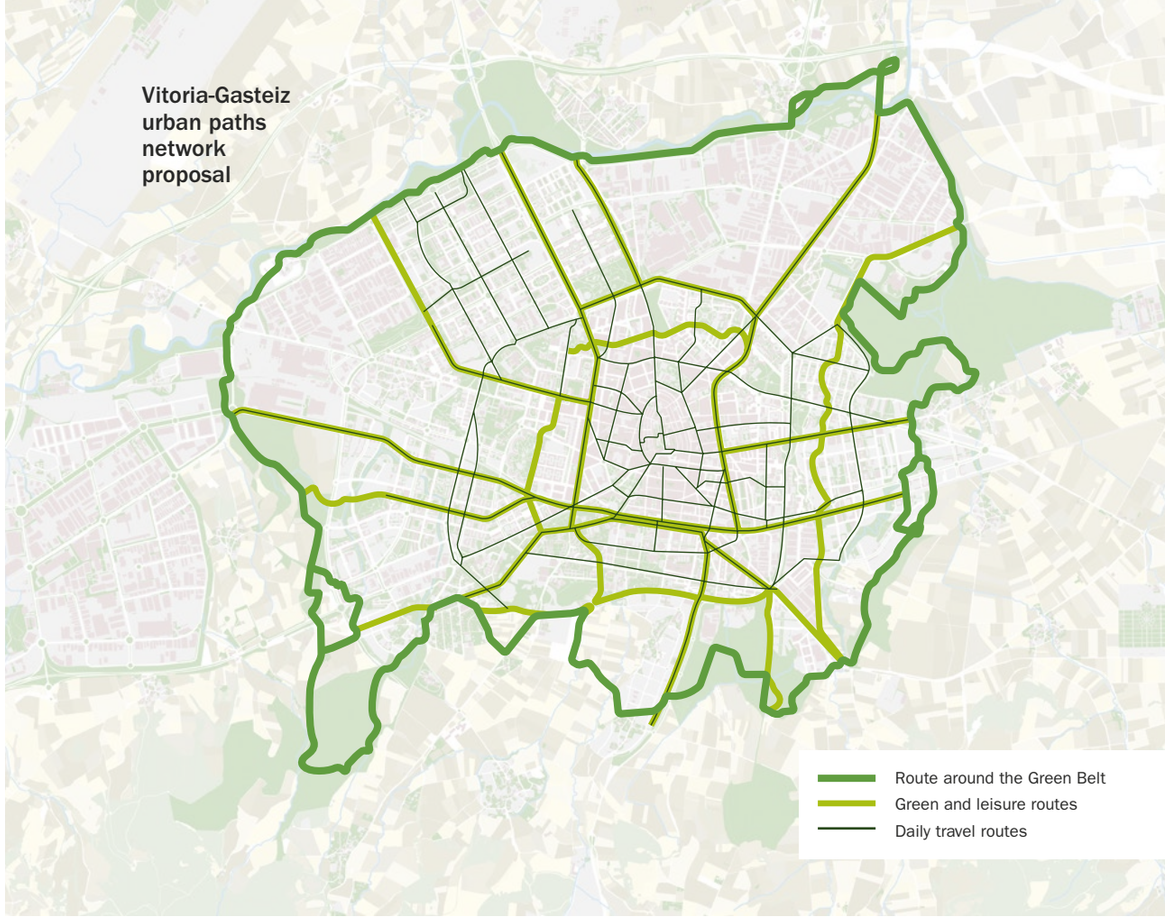


After

▼ Representation of the scenario where different methods of transport coexist in Gasteiz Avenue.

▼ Reform of the surroundings of the Santa Bárbara square

The reform included reorganising the accesses to the square, with the pedestrianisation of the adjacent street sections, the elimination of architectural barriers, and many other actions aimed at promoting greater activity and public use in this central urban space.



Creation of a network of urban paths

To incentivise **walking**, as well as pedestrianising streets and implementing traffic-calming, we are working on a **network of urban paths** for everyday use and leisure walking; here the pedestrian has priority.

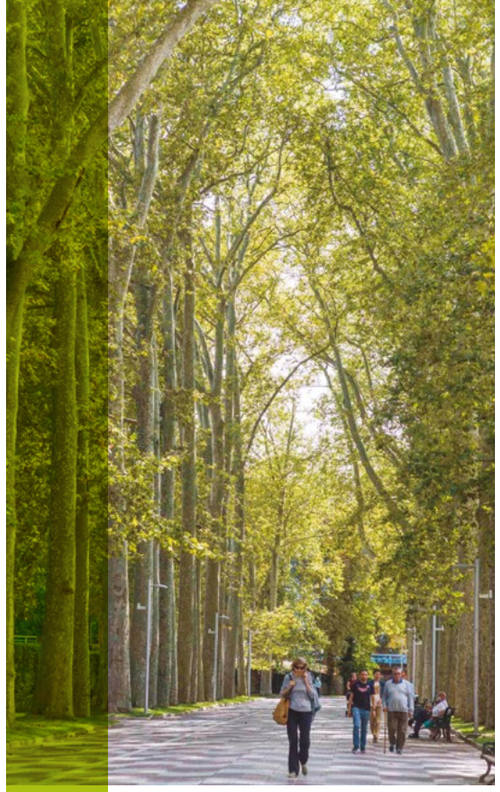
The objective is to guarantee a satisfactory level of accessibility to daily services and activities, reducing dependence on motorised transport.

It is also intended to promote travel on foot to urban and peri-urban green spaces as a way to promote physical exercise and health.

The network designed is organised as a series of safe, accessible pedestrian paths with high environmental quality, forming routes that connect places of interest such as squares, parks, community facilities, educational centres and other centres of activity.

Ideally, the paths correspond to the internal streets of superblocks, although in some cases they also run along main roads.

At present, several road axes function as urban footpaths, linking spaces and weaving this pedestrian network.



La Senda Path, an example of a green leisure route, between the central Florida park and the peri-urban park of Armentia in the Green Belt.

Badaia street, an example of a daily travel route.

Urban path in the Molinuevo park.

Street of the medieval town.

Cyclist mobility

Vitoria-Gasteiz has very favourable characteristics for cycling, especially as the terrain is predominantly flat and the distances are not too great due to its urban compactness and the lack of a metropolitan area.

In the 1950s, the bicycle was a relatively common means of transport in the city, to the point of having one of the few exclusive routes for cyclists that existed in Spain at that time.

The bicycle was also a prominent element in the growing industry of Vitoria, with important firms in the sector having established themselves in Vitoria-Gasteiz. These included Iriondo (CIL), in 1948, and Beistegui Hermanos (BH), 10 years later.

In 1982 the City Council approved a main network of cycling routes for the city, about 80 km length, making Vitoria-Gasteiz one of the first Spanish cities to widely implement this type of infrastructure.

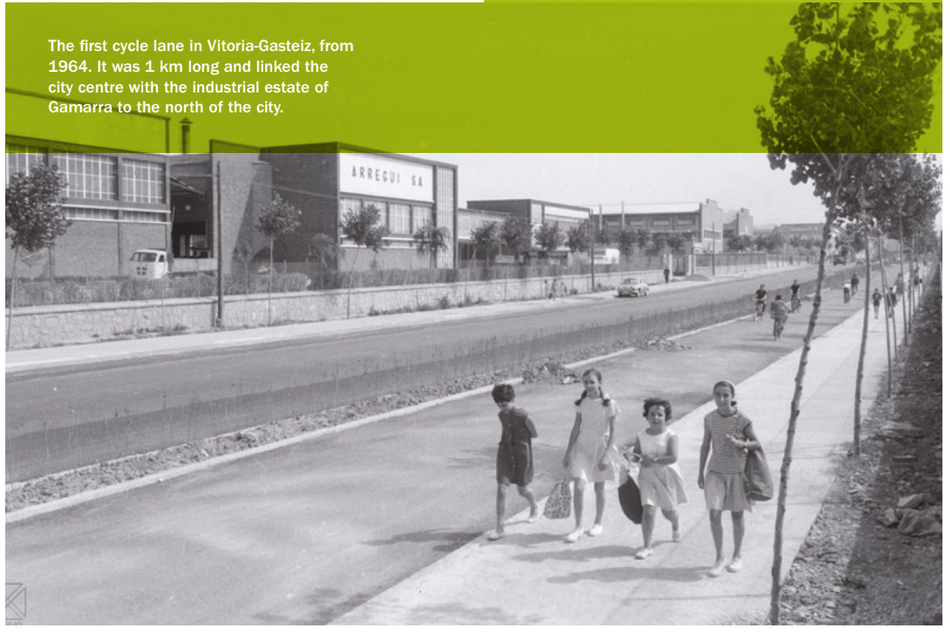
At the end of the 20th century, the bicycle was overshadowed by the increasing use of the car, so that **in 2002 it represented only 1.42 % of urban journeys.**

From then on, cycling became more popular as a mode of transport, thanks to the creation of new cycle lanes and other **incentive measures, growing to 3.3 % of urban journeys in 2006.**

As the bicycle is **a sustainable mode of transport and a real mobility alternative** (a high percentage of daily journeys are less than 5 km, the distance up to which the bicycle is the fastest door-to-door vehicle), first the SUMPSP and subsequently the cyclist mobility Master Plan 2010-2015 set the following objectives:

01 **To integrate the bicycle as a safe and functional option in everyday mobility.**

02 **To increase its participation in the modal share, from 3.3 % in 2006 to 15 % in 2020.**



The first cycle lane in Vitoria-Gasteiz, from 1964. It was 1 km long and linked the city centre with the industrial estate of Gamarra to the north of the city.

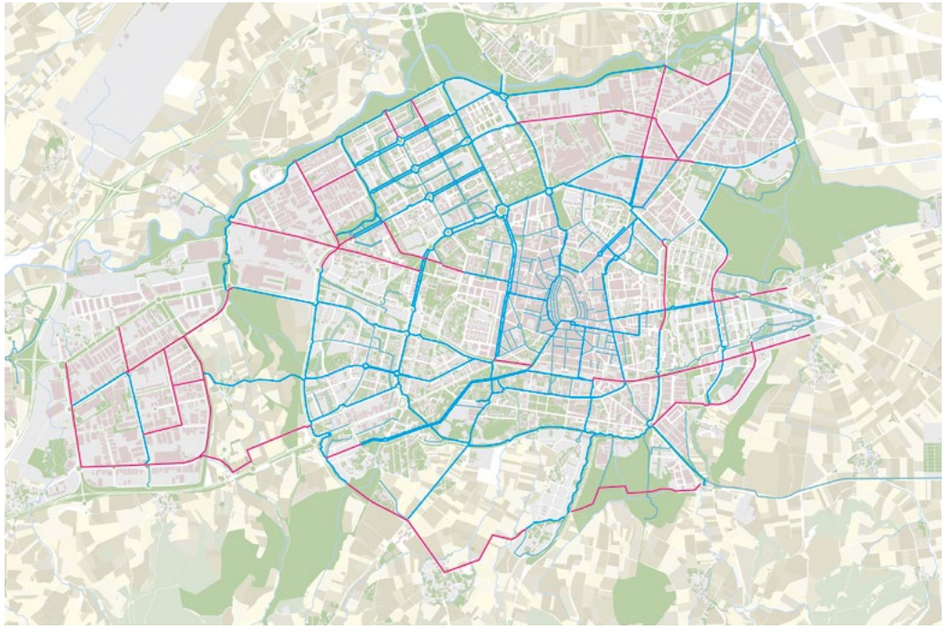
Expansion and improvement of the cycle network

Over these years, the cycle network has been extended, going from 55 km in 2006 to more than 150 km in 2020 and new types of cycle paths have been implemented, which have improved the connectivity of roads and sections and the whole of the cycle network.

Although they were previously considered as segregated lanes on the pavement or the road, following the superblocks scheme, they are now adapted to the structure of each street, whether or not they are segregated.

▼ Vitoria-Gasteiz cycling network

The **main network** of cycle lanes, which runs along the main roads of the superblocks, connects the city's neighbourhoods with the centre and with the industrial estates, the green belt and local villages; the **secondary network**, largely in a cohabitation regime, which runs through the inner streets, allows access to educational, social and cultural facilities, as well as work centres, shops, recreation areas, etc.



Currently the Vitoria-Gasteiz cycle network **has 102.7 km of main network and 55 km of secondary network**, formed by exclusive routes, shared spaces and pedestrian streets with a schedule of times when cycling is allowed.

29 % of the population lives at less than 100 m from the network and 77 % at less than 200 m.

Measures to promote cycling

The promotion of cyclist mobility has been accompanied by an increased number of bike racks, the incorporation of mechanisms to limit bike theft, training and awareness campaigns and an adaptation of local regulations to improve pedestrian-cyclist co-existence.

As a consequence of these actions, **between 2006 and 2019, cyclist mobility went from 3% to 8.5%**, which represents an increase of 183% in modal share and 211% in journeys by bicycle.

▲ **VGbiziz** is the service and network of **secure bicycle parking** that the Vitoria-Gasteiz City Council offers in various places in the city such as the Bus Station, main Post Office, sport facilities area of Mendizorrotza, University campus, Santiago hospital and Adurtza, Zaramaga, Arana and Santa Bárbara neighbourhoods.

Public transport

In 2006, before the implementation of the SUMPSP, public transport accounted for a low proportion of the modal share, around 8%, and this had remained fairly constant since 1996.

The bus system was organised as 17 lines that connected different areas of the city with the centre, without forming a network. It was not easy to combine different lines, since the lines and waiting times were not coordinated, and it was expensive to reach destinations other than those on these routes.

The SUMPSP identified as one of its objectives to **increase the use of public transport, replacing and therefore reducing journeys by private car**. It therefore developed measures to promote public transport, which were accompanied by measures to restrict the use of private vehicles.

To improve public transport, two key measures were implemented:

01 **The introduction of the tram, at the end of 2008.**

02 **The restructuring of the bus network, in autumn 2009.**

These measures have been accompanied by the improvement of the quality of the service (greater commercial speed, updating of the bus fleet, etc.).

Introduction of trams

In 2008, the first tram line was launched, between the neighbourhood of Lakua and the city centre. In 2009, the Abetxuko branch was inaugurated, linking this neighbourhood with the city centre, and in 2020 the extension to the university area was completed was completed.

The tram system registered 8.33 million users in 2019, maintaining the upward trend since its launch in 2008.

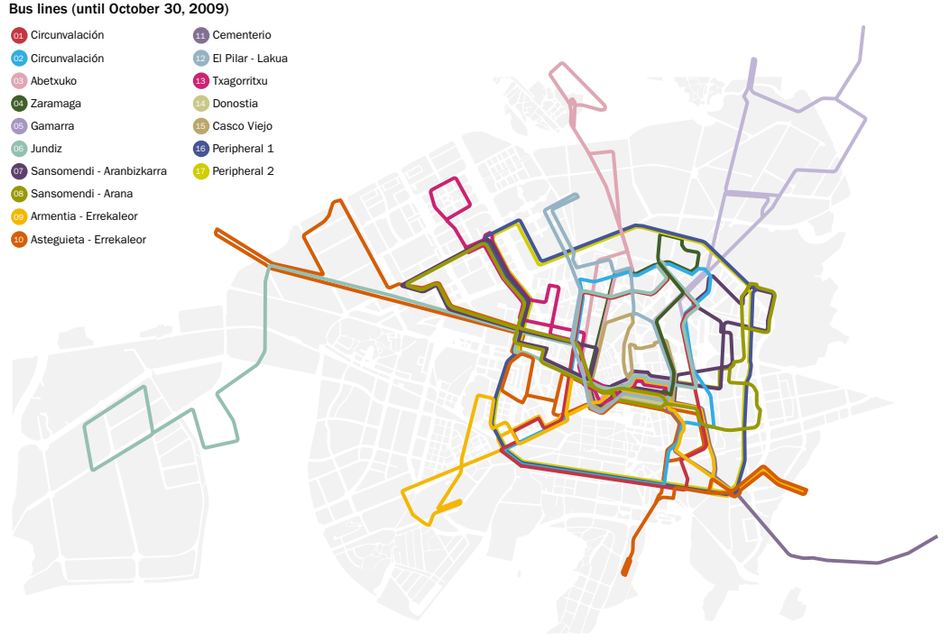
Restructuring of the bus network

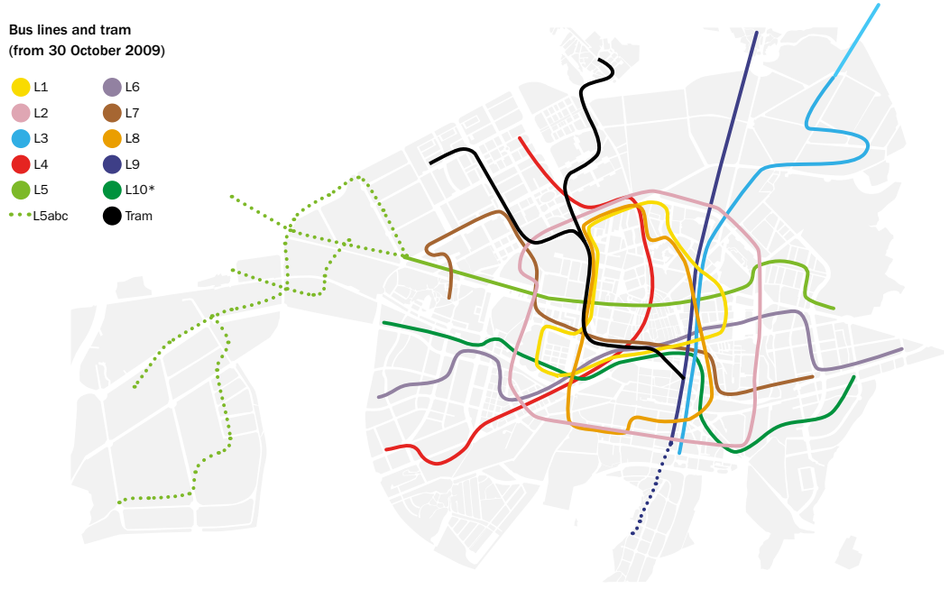
The restructuring of the bus network was based on two conditions: on the one hand, it had to respect the new road hierarchy established by the superblock approach – with buses circulating on the superblock main roads – and, on the other, it had to integrate with the new tram network.

It therefore went **from a rigid system, consisting of 17 independent lines, to a functional network of 9 lines connected** to each other and to the tram system.

The new network allows access to almost any point of the city with a single transfer, increases the frequency of passage to 10 minutes and reduces the average waiting time at a stop to five minutes.

All this, maintaining the levels of accessibility (96% of the population lives between 200 and 300 metres from a bus or tram stop).





▲ The change of bus lines took place overnight at the end of October 2009. It was preceded by an intense explanatory campaign that prevented the change from being excessively traumatic.

Measures to improve the quality of urban bus services

The redesign of the bus network has been accompanied by numerous measures aimed at improving its commercial speed and promoting its use.

The circulation of buses along the main roads increases the efficiency of public transport, as it simplifies the prioritisation of travel through traffic light regulation and favours rapid journeys.

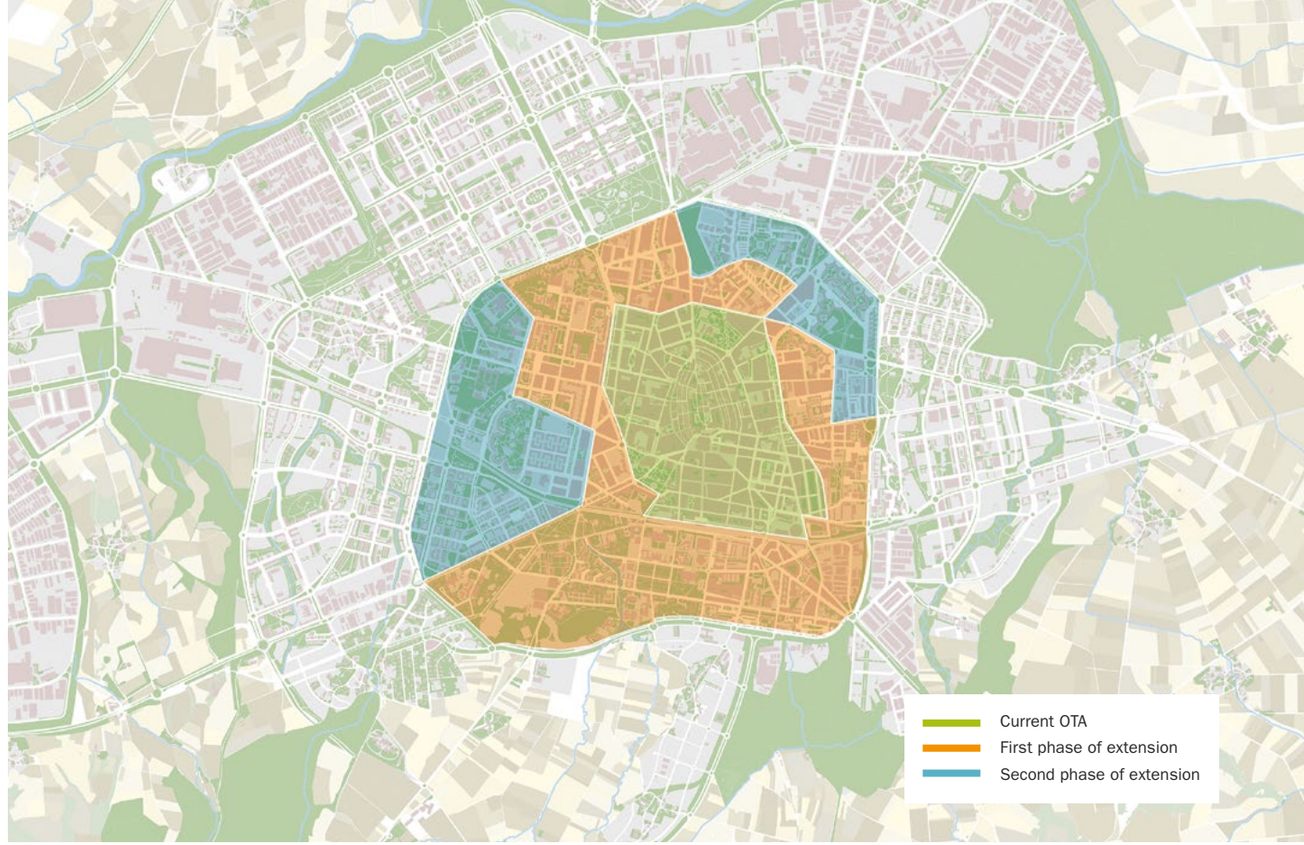
In addition, new bus lanes, bus shelters and waiting platforms have been built, new buses with special adaptations have been acquired, there has been an integration of fares between the bus and the tram, etc.

Measures to discourage the use of private cars: Traffic and Parking Ordinance (OTA) Zones

The entry into operation of the new public transport network occurred at the same time of the new parking policy approval, since the objective was to move users from the car to the bus. A new parking policy was therefore launched, which expanded the regulated parking area (OTA) and tripled its price to match that of surrounding cities and the price of underground parking.

In addition to the cost of surface parking, measures such as the 30 km/h speed limit in the city centre and the reduction in the number of parking spaces favoured the switch from private car to other, more sustainable, transport modes.

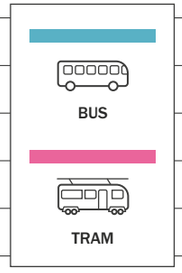
As a result of this whole set of measures, since 2006 there has been a very significant increase in journeys on public transport, as can be seen in the attached graph.



▲ Foreseen extension of the regulated parking area (OTA)

▼ **Evolution of public transport in Vitoria-Gasteiz**

YEAR	POPULATION	TOTAL TRAVELLERS
1998	217.628	11.440.653
1999	218.774	11.523.504
2000	218.950	11.383.474
2001	220.254	11.474.560
2002	222.329	11.560.716
2003	224.586	11.717.606
2004	224.965	11.482.471
2005 [1]	227.194	11.218.597
2006	229.080	10.582.940
2007	230.585	12.043.305
2008 [2]	233.399	12.642.648 / 111.180 → 12.753.828
2009 [3]	236.525	10.544.413 / 4.689.282 → 15.233.695
2010	239.361	11.090.678 / 6.977.841 → 18.068.519
2011	240.580	11.881.073 / 7.425.646 → 19.256.709
2012 [4]	243.298	12.164.910 / 7.275.965 → 19.440.875
2013	242.147	12.761.549 / 7.279.296 → 20.040.845
2014	242.924	13.084.298 / 7.296.723 → 20.381.021
2015	245.036	13.766.138 / 7.699.814 → 21.465.952
2016	246.042	14.522.984 / 7.723.445 → 22.246.429
2017	247.820	15.162.164 / 8.137.654 → 23.299.818
2018	250.051	15.759.827 / 8.304.395 → 24.064.222
2019	252.574	16.208.128 / 8.338.025 → **24.546.153**

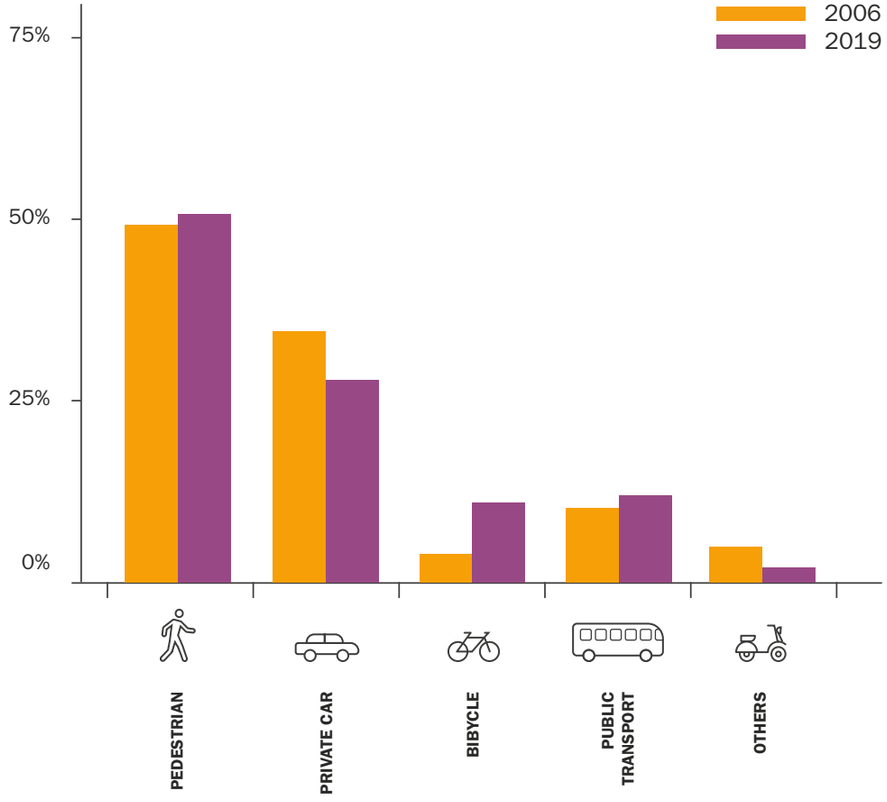


[1] **In early 2005:** The first neighbours of Zabalgana and Salburua are completed
[2] **December 2008:** The tram service enters operation
[3] **July 2009:** The extension of the Abetxuko tram branch enters operation
[3] **October 2009:** Reorganisation of bus network
[3] **November 2009:** The OTA expands and triples its prices
[4] **September 2012:** The tram arrives in the centre of Abetxuko neighbourhood

▲ In the last 12 years, the number of journeys by bus and tram has doubled.

Through all the actions and measures implemented to promote the most sustainable modes of mobility in the city, in the last decade, the percentages of use of the different modes of travel have been reversed, in favour of the most sustainable and to the detriment of the private vehicle.

▼ **Modal share evolution in Vitoria-Gasteiz between 2006 and 2019**



The new mobility challenges in Vitoria-Gasteiz

In 2020, the SUMPSP was revised, with the aim of updating it and adapting the strategies and actions to meet the new social, urban, economic and mobility situation of Vitoria-Gasteiz.

New challenges, such as mobility to work and school, the electrification of mobility, urban distribution of goods ..., and projects such as the **Intelligent Electric Bus** (BEI) and the **tram extension** to new neighbourhoods will influence the new mobility scheme for the future.

These actions will favour the **decarbonisation of urban mobility.** The Smart Electric Bus, for example, will avoid the emission of 1,520 tons of CO_2 each year.

Objectives of the Sustainable Urban Mobility and Public Space Plan 2020-2030

01 **Consolidate an urban and public space model for sustainable mobility** that offers more space for people and guarantees universal accessibility.

02 **Promote mobility which is more comfortable, safe and inclusive**, accessible to everyone.

03 **Towards efficient and universal public transport.**

04 **A safe and comfortable city for travel by bicycle.**

05 **Works and infrastructure for more efficient mobility.**

06 **Rationalise the use of private cars.**

07 **Mobility as a service**: more sustainable mobility services for travel to work, to school and for the distribution of goods.

08 **Commitment to action on climate change and to improving the environment**, promoting mobility alternatives which don't consume fossil fuels.

09 **Increased citizen awareness and a governance committed to** sustainable mobility and the improvement of public space.

The main actions planned for the future are:

Superblock scheme

- Implementation of superblocks throughout the residential area of the city.
- Street reform and traffic-calming measures to reduce the speed on urban roads to 30, 20 and 10 km/h, leaving only some main roads at 50 km/h.

Pedestrian mobility

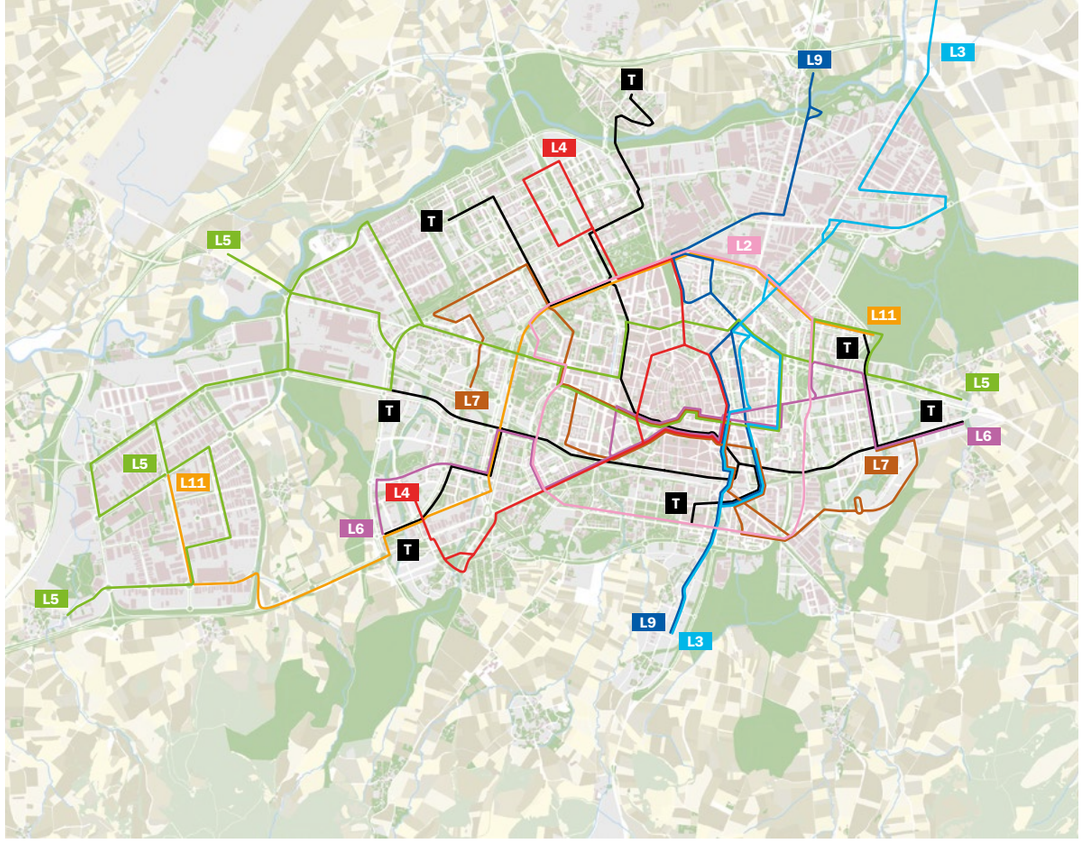
- Consolidate and improve the main network of urban paths.
- Improve road safety and the accessibility of public spaces.
- Promote and implement Safe School Roads.

Cycling mobility

- Redefinition and development of the main cyclist mobility network to ensure connectivity with new bike lanes.
- Improvement of the maintenance and signposting of the cycle paths network.
- Expansion of the availability of bike racks.
- Construction of high-performance segregated cycle paths to the industrial estates.

Public **transport**

- Implementation of the Intelligent Electric Bus (BEI) line, on the current L2 Peripheral line.
- Extension of the tram network to Zabalgana (West) and Salburua (East).
- Reorganisation of urban bus lines and improvement of inter-modality, with the objective that 99% of the population has access to public transport with a frequency of service of less than every 10 minutes and at a distance of less than 300 m from the bus or 500 m from the tram.
- Improvement of the BUX (bus on demand that serves the villages of the municipality).
- Improvement of connections to industrial estates.



▲ **Future urban public transport network**

L2 PERIPHERAL
L3 BETOÑO - ZUMAQUERA
L4 LAKUA - MARITURRI
L5 SALBURUA - ELEJALDE
L6 ZABALGANA - ARKAIATE
L7 BORINBIZKARRA - SALBURUA
L9 GAMARRA - ZUMAQUERA
L11 JUNDIZ - SALBURUA
T TRAM

Private **car**

- Actions to solve bottlenecks at various intersections in the city.
- Reorganisation and expansion of the regulated parking area (OTA).
- Comprehensive management of the parking offer aimed at rationalising car use.

Mobility to *work* and *school*

Urban distribution of *goods*

- Improvement of the public transport service to the main industrial centres of the city (new lines, better frequencies and coverage).
- Collaboration with businesses to create sustainable mobility plans for work centres.
- Promote new mobility services: car sharing, etc.
- Feasibility study of a freight hub from which the last mile transportation and distribution is carried out by light electric vehicles.
- Safe school paths.

03

FROM THE GREEN BELT TO THE GREEN CITY

Throughout the 21st century, numerous measures have been implemented to naturalize the city and increase the ecosystem services of green areas.

At the beginning of the 21st century, the **Green Belt** was practically consolidated. Thanks to this network of peri-urban parks, it has been possible to contain the city's new urban expansion within reasonable limits.

During these years, many of the actions carried out in the Belt have been aimed at connecting the parks with each other and with the surrounding natural spaces, through the restoration of hedges, rivers and banks. At the same time, work has been done to improve the ecological connectivity of the Belt with the urban green spaces through tree-lined streets, urban streams, etc.

Thanks to its **connective function**, the Green Belt is a key space in the **municipal ecological network**, as it facilitates the connection of the main natural areas, on the one hand, and the penetration of nature into the city, on the other.

The Belt inwards and outwards: the location of the Green Belt, between the city and some of the most valuable natural areas of the municipality, makes it a fundamental element -**a core space**- of the Green Infrastructure of Vitoria-Gasteiz.

Green Infrastructure is a strategically planned network of natural and semi-natural areas and other environmental elements designed and managed to provide a wide range of ecosystem services. It includes green spaces (or blue spaces in the case of aquatic ecosystems) and other physical elements in terrestrial (natural, rural and urban) and marine areas.

Source:
Green Infrastructure-Enhancing Europe's Natural Capital, 2013.

In the current scenario, with climate change and other more local problems, seriously affecting urban habitability - in the form of heat islands, flooding, pollution, etc., **naturalizing cities and creating green infrastructure** has become a priority on urban agendas.

Until a few years ago, urban green areas were conceived with a fundamentally aesthetic and leisure function and were managed as such (in the form of large lawn areas with high mowing rates, frequent irrigation and low biodiversity).

However, such places - properly managed - can provide many other **ecosystem services**, which are essential to life in cities.

For all this set of services, green areas are fundamental in the MITIGATION AND ADAPTATION TO CLIMATE CHANGE, and have a very positive influence on people's physical and psychological HEALTH AND WELL-BEING.

Cities need greenery and citizens need green spaces.

Ecosystem functions and services of urban green spaces

01 Improve air quality

02 Reduce the urban heat island effect

03 Increase the carbon sink effect

04 Prevent flooding and recharge groundwater reserves

05 Increase biodiversity

06 Improve the quality of the landscape

07 Spaces for leisure, sport

08 Encourage contact with nature

09 Encourage social gathering

This is how Vitoria-Gasteiz has understood that, by taking advantage of having a Green Belt - with high levels of biodiversity -, it has proposed to naturalize urban green spaces as much as possible, in order to improve the quality of life in the city.

The results of the interventions and forms of management applied in the Green Belt - related to flood prevention, increased biodiversity, etc. - offer the opportunity to replicate them within the city.

In this way, **the Green Belt becomes the seed of the Urban Green Infrastructure of Vitoria-Gasteiz.**

The Urban Green Infrastructure of Vitoria-Gasteiz

The urban green network of Vitoria-Gasteiz is made up of 445 hectares of urban green areas – with more than 115,000 trees – and 827 hectares of peri-urban green areas (Green Belt).

With almost **50 m²/inhabitant**, it is one of the European cities with the largest area of urban and peri-urban green spaces, without considering private green spaces.

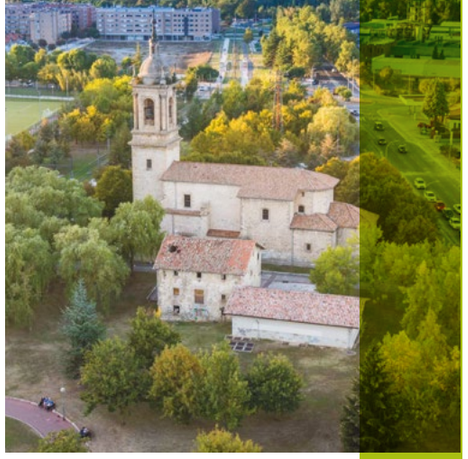
In the urban fabric, green areas represent just over 15% of the artificial surface, which translates into **14 – 20 m²** of green area per inhabitant.

This surface area is unevenly distributed, since while some neighbourhoods, such as the Ensanche and the Medieval quarter, have less than 5 m², the new neighbourhoods on the outskirts are close to 20 m² per inhabitant.

In general, the accessibility to green spaces in the city is good, so that from any point of the residential network there is access to a green area within a maximum radius of 250 meters, equivalent to 2.5 minutes on foot.

However, in the central districts, which are more compact, there is a shortage of small garden areas, less than 1,000 m² in size, which are essential as living spaces and daily contact with nature.

▲ Obispo Ramón Fernández de Piérola gardens.



▲ San Juan de Arriaga park.

▲ Green façade of the Europa Congress Palace.

The Urban Green Infrastructure consists of the Green Belt, parks and gardens of different sizes distributed throughout the city, streets and tree-lined squares, green sports areas, urban gardens, streams that run through the city, road infrastructure medians and roundabouts, interstitial green areas and other less conventional elements, such as vacant lots and green facades and roofs.

◀ Echanove garden, in the medieval quarter.

La Florida Park,
in the city center.

San Martín Park, in the consolidated city.

Olarizu Park, in the
Green Belt.

Eastern park, in the Salburua
neighbourhood.

In 2014, Vitoria-Gasteiz approved the **Urban Green Infrastructure Strategy** with the aim of naturalizing green spaces and other areas of opportunity, thus increasing biodiversity in the city and, consequently, ecosystem functions and services.

To develop the Strategy, a network system was first designed - **Vitoria-Gasteiz Urban Green Infrastructure System** - to connect the main urban green spaces (**nodes**) with each other and with the Green Belt (**core elements**), through axes and tree-lined streets (**connectors**).

The final objective is to articulate an extensive green "multifunctional" mesh that impregnates the entire city.

Since then, work has been done to increase both biodiversity in these main areas and their connectivity.

Besides, the introduction of Nature-Based Solutions (NBS) as well as the naturalization of other urban areas (**auxiliary elements or spaces of opportunity**), help to reinforce the System. Among the latter are a good number of municipally owned plots for equipment, currently in disuse, squares, car parking lots and buildings.

Objectives of the Urban Green Infrastructure (UGI) Strategy of Vitoria-Gasteiz

01 Enhance urban **biodiversity**, creating habitats for flora and fauna, and **connecting spatially and functionally** green spaces with each other and with peri-urban spaces.

02 Improve the **environmental quality** (noise, air...) in the city, favouring urban metabolism processes closer to natural processes and reducing the consumption of natural resources.

03 Integrate ecological and hydrological **processes and flows into the urban network** and **increase soil permeability rates**.

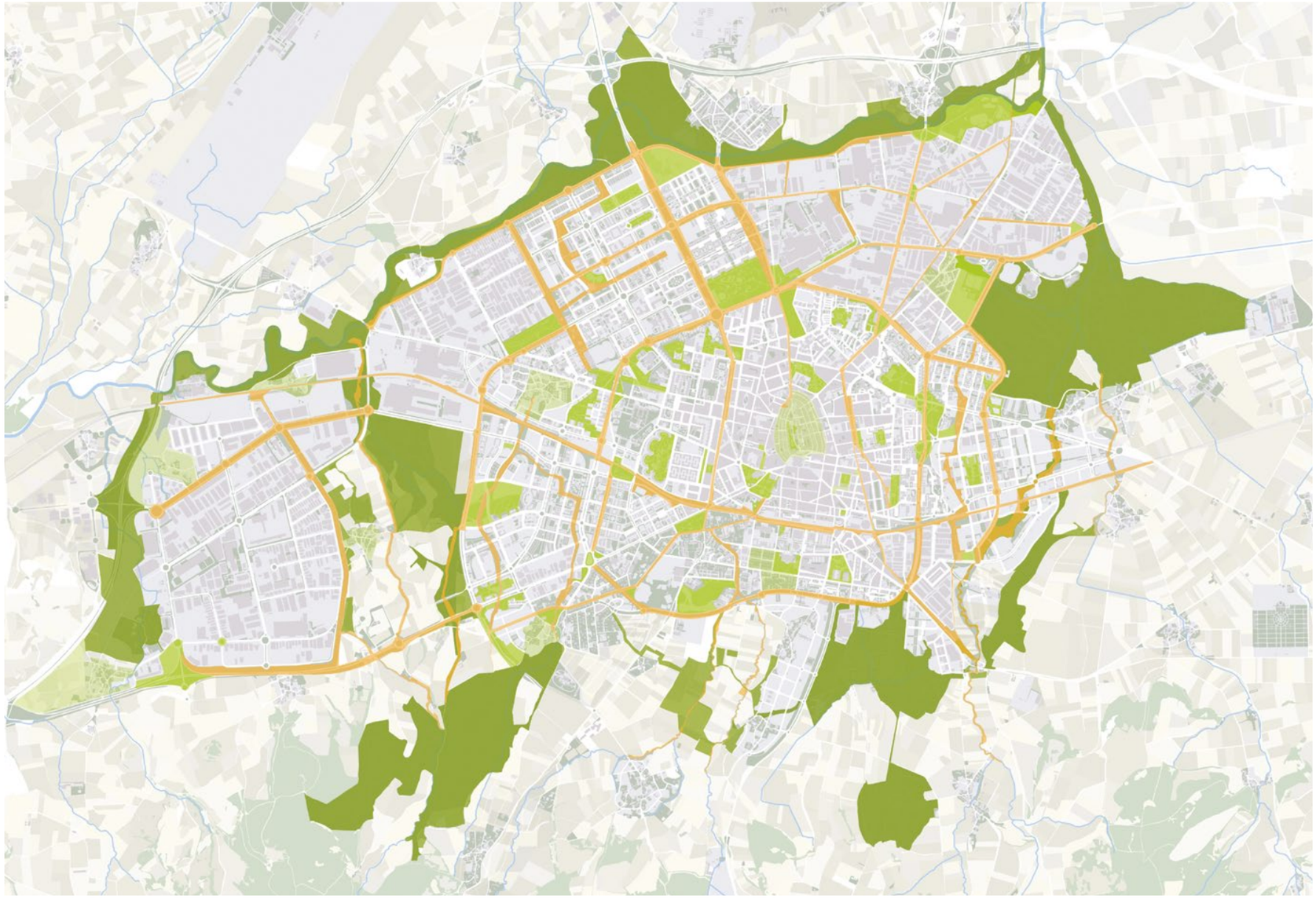
04 Mitigate **urban heat islands**, curb **climate change** and improve conditions and processes of adaptation to it. Increase the resilience of the territory and reduce its vulnerability.

05 Promote compatible **public use** of green spaces, increasing opportunities for leisure and recreation, increasing accessibility and country-to-city connections, preserving cultural heritage, traditional landscapes and the sense of ownership and identity.

06 Create green micro-spaces that promote **collective health** and **well-being**.

07 Promote the **relationship between nature-biodiversity and society** and, in particular, on ecosystem goods and services.

▼ Vitoria-Gasteiz Urban Green Infrastructure System



Core elements: correspond to the peri-urban parks of the Green Belt - spaces with a high degree of naturalness, high levels of biodiversity and good state of conservation - and agricultural areas of interest, adjacent to the city. They play a fundamental role in the connection between the surrounding natural systems and urban green areas.

Nodes: Green spaces located in the interior of the city which, due to their size and/or location, constitute basic structural pieces of the urban green system. They correspond to the large urban parks, gardens, interstitial areas and other strategically located spaces.

Diffuse Nodes: areas where there are no continuous green spaces of sufficient size, but where there are (or can exist) green elements distributed in a dispersed manner, capable of fulfilling the functions of the Green Infrastructure.

Connectors: linear green areas whose main function is to facilitate the ecological connection between the core elements and the nodes. They are connected by streets and tree-lined walkways, linear parks and, above all, corridors associated with watercourses, located between the nodes and the core elements.

Green Infrastructure interventions and Nature-based Solutions: new designs for new functions

During these years **multiple interventions** have been carried out in parks, streets, squares, plots, streams and other places that act as nodes, connectors, core spaces and auxiliary elements of the System. Over a hundred performances are planned.
The map on page 128 shows the projects that have been carried out and those that will be carried out in the future.

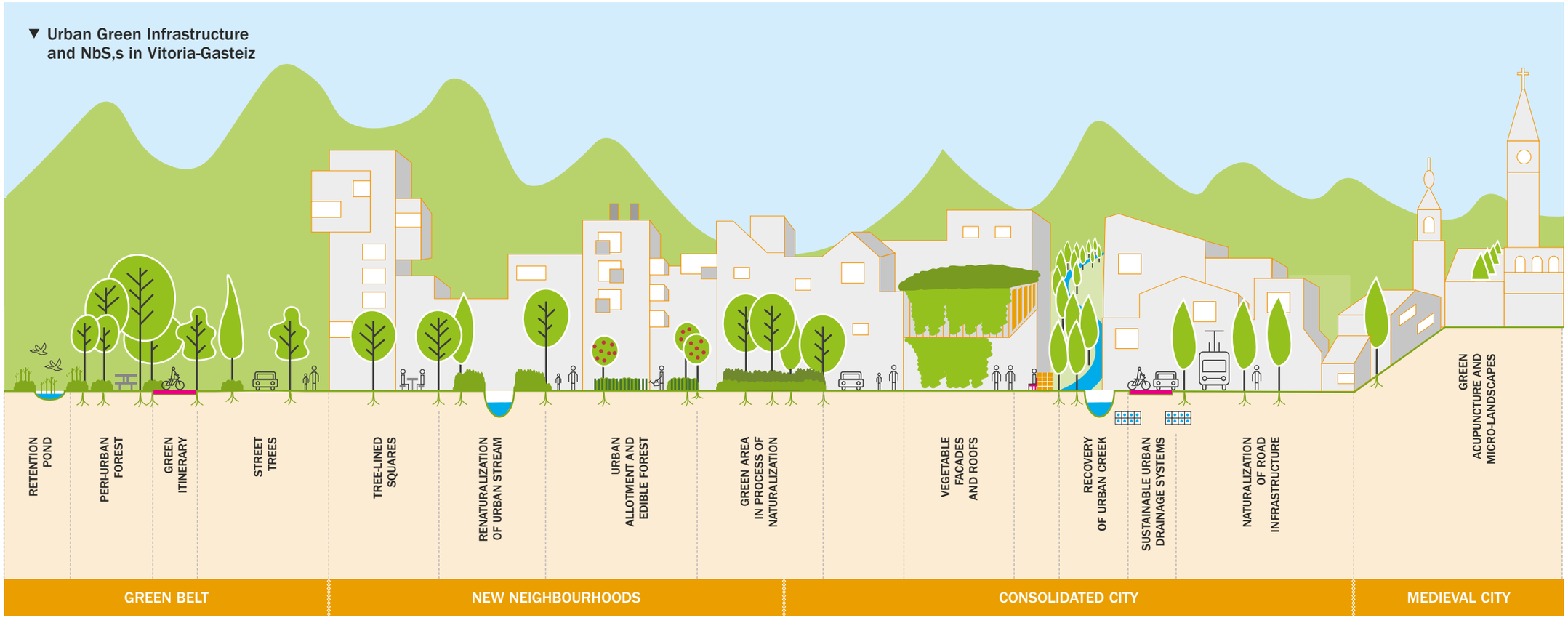
These actions are fundamentally aimed at increasing the biodiversity and ecological connectivity of green areas, improving water management, greening buildings, squares and unique spaces, creating micro-landscapes and bringing nature closer to citizens... in short, **increasing ecosystem services.**

They include tree-planting of streets and squares to improve climate comfort and increase CO_2 capture; installation of urban allotments and forests on unused plots of land, creation of lagoons in peri-urban parks to prevent flooding, application of sustainable gardening techniques to increase biodiversity and reduce consumptions, etc.

In 2015 the **PLAN FOR NATURALIZATION OF GREEN AREAS AND VACANT PLOTS in the Lakua neighbourhood** was launched to respond to the particular problems of this neighbourhood through actions of Green Infrastructure and NBS.

The district of Lakua, and specifically the green spaces and vacant plots, were selected as **pilot areas** on which to test some of the interventions that have subsequently been extended to other similar spaces.

▼ **Urban Green Infrastructure and NbS,s in Vitoria-Gasteiz**



INCREASE IN BIODIVERSITY

- Creation of habitats and wildlife refuges
- Naturalized management of green areas
- Urban forests
- Flower meadows
- Urban pedestrian walkways with trees

INCREASE IN ECOLOGICAL CONNECTIVITY

- Renaturalization of altered urban streams
- Naturalization of road infrastructure (medium sized streets, railways...)
- Ecological and landscape improvement of industrial edges

IMPROVE WATER MANAGEMENT

- Retention ponds, flood plains and river diversion channels
- Recovery of urban creeks
- Installation of Sustainable Urban Drainage systems (permeable pavements/ rain gardens/purification systems)

URBAN AGROECOLOGY AND SOIL IMPROVEMENT

- Urban allotments
- Edible forests
- Agro-ecological parks
- Soil Restoration

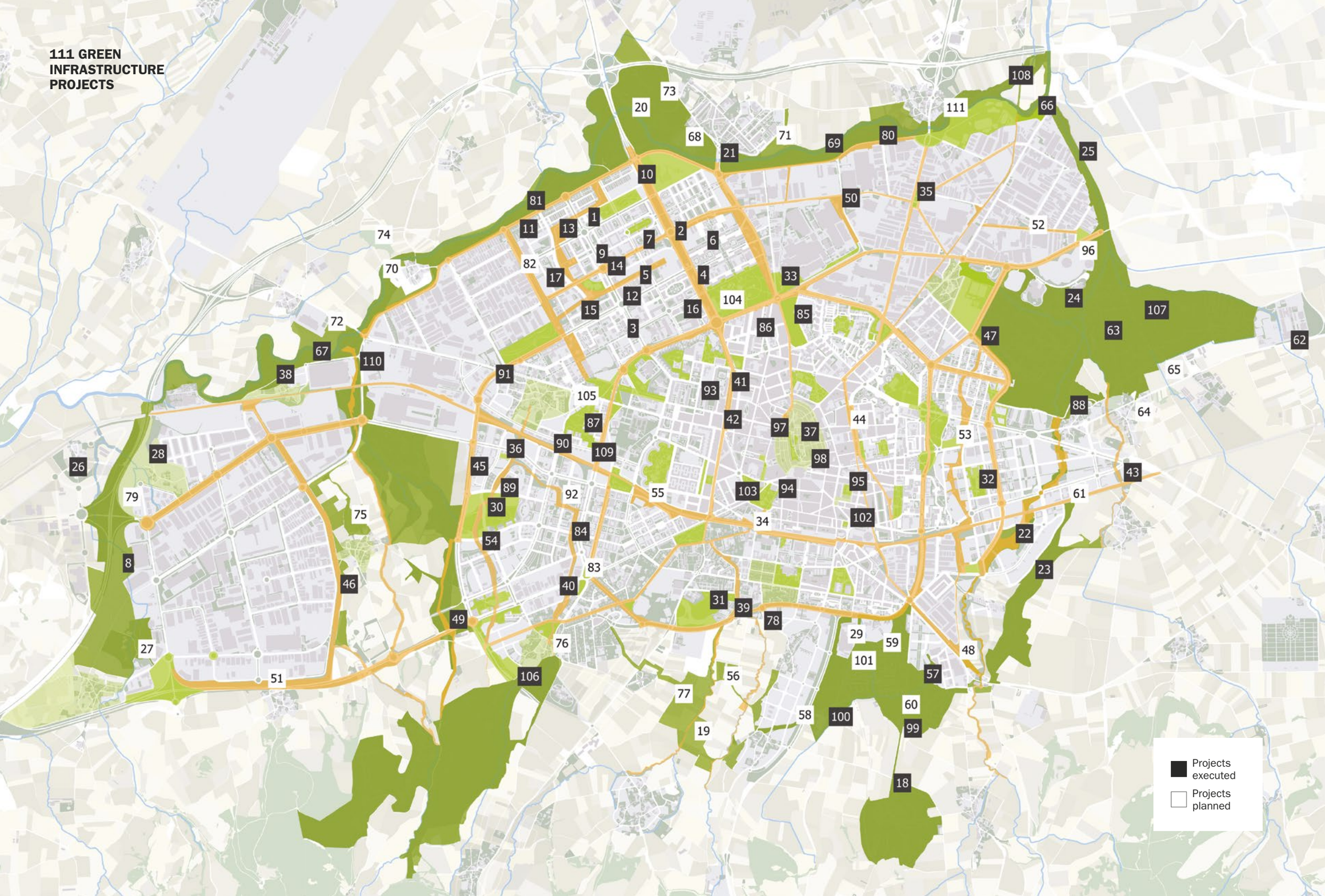
IMPROVE PUBLIC USE AND ACCESSIBILITY

- Green walks and itineraries
- Naturalized playgrounds
- Tree-lined squares

URBAN REHABILITATION AND CREATION OF MICRO-LANDSCAPES

- Vegetable facades and roofs
- Interventions following a "green acupuncture" approach

111 GREEN INFRASTRUCTURE PROJECTS



The **Urban Green Infrastructure Strategy of Vitoria-Gasteiz is being deployed through a catalogue of 111 projects** of different types and in different degrees of execution.

The following pages explain, by way of example, some of the main interventions that have been carried out during these years, classified in the 6 large groups, in accordance with their priority objective.

INCREASE IN BIODIVERSITY

1. Planting trees in the square (C/Landaberde)
2. Planting trees in the car park (C/Portal de Foronda)
3. Planting trees along the road (C/Duque de Wellington)
9. Oak woodland on vacant plot (C/Sierra de Aralar)
11. Mixed woodland on vacant plot (C/Río Barrundia)
12. Oak trees on roundabout (C/Duque de Wellington)
16. Flower meadow on vacant plot (C/Rafael Alberti)
17. Naturalised vacant plot (C/Sierra de Urbasa)
24. Naturalised area (surroundings of the Ataria Interpretation Centre, Green Belt)
26. Ecological and landscape improvement (Margarita area)
27. Ecological and landscape improvement (Aríñez area)
28. Ecological and landscape improvement (Lermanda area)
30. Conservation of native vegetation (Salinillas de Buradón Park)
31. Conservation of native vegetation (Mendizabala Hill)
32. Naturalised park (Parque del Este)
33. Space for Biodiversity (Biodiversity Park)
34. Space for biodiversity (Zulueta Palace Gardens)
35. Naturalised roundabout (Santo Tomás roundabout)
38. Naturalised park (Crispijana)
39. Riverside forest (meeting of Batán and Zapardiel rivers)
58. Municipal plant nursery (Olarizu Botanical Garden)
63. Improving the habitat of the European mink (Salburua wetlands and Zadorra river)
74. Ecological improvement of the Gobeo Island forest (Natura 2000 Network)
75. Ecological improvement of the Zuazo Island forest (Natura 2000 Network)
83. Naturalised roundabout (La Antonia roundabout)
86. Enhancement of woodlands (neighbourhoods of Zaramaga and El Pilar)
87. Wetland creation (Borinbizkarra Park)
89. Creation of ponds for amphibians (green areas in Zabalgana)
96. Planting of trees in the car park (Fernando Buesa Arena sports hall)

INCREASE IN ECOLOGICAL CONNECTIVITY

4. Urban green corridor (C/Portal de Foronda)
7. Naturalised central reservation (C/ Baiona)
13. Urban green corridor (José Miguel Fernández de Pinedo Park)
15. Naturalised central reservation (C/Antonio Machado)
22. Naturalised stream (Errekaleor stream)
25. Enhancement of woodland (Alegría river)
40. Naturalised stream (Ali stream)
41. Naturalised street (Avenida de Gasteiz)
43. Naturalised stream (Santo Tomás stream)
44. Naturalised urban axis (C/ Los Herrán-Portal de Villarreal)
45. Naturalised urban axis (C/Bremen-Bulevar de Mariturri)
46. Naturalised industrial boundaries (C/Zuazobidea)
47. Naturalised urban axis (C/Portal de Zurbano-Paseo de los Humedales-Bulevar de Salburua)
48. Naturalised urban axis (C/Heracilio Fournier-Vía Verde del Vasco Navarro)
50. Naturalised industrial boundaries (C/La Peña)
51. Naturalised road axis (N-102 road)
52. Naturalised industrial boundaries (C/Larragana)
53. Urban green corridor (inside the Salburua neighbourhood)
54. Urban green corridor (Zarauna River-Salinillas de Buradón Park)
55. Railway green corridor
62. Improving the river habitat for the European mink (Cerio and Errekabarri rivers)
66. Enhancing the connectivity of the Green Belt (Eskalmendi, Green Belt)
78. Restoration of river channel (Zapardiel river, in Gardelegui)
80. Industrial green corridor (Gamarra-Zadorra)
81. Urban green corridor (Ibaiondo-Zadorra)
82. Naturalised industrial boundaries (C/Zorrostea)
84. Naturalised stream (Perretxín stream)
92. Naturalised street (Avenida de la Ilustración)
106. Ecoduct (Armentia Park, Green Belt)

IMPROVE WATER MANAGEMENT

6. Rain gardens (C/Voluntaria Entrega)
19. Batán and Zapardiel river retention basins (Lasarte)
41. Restoration of the stream and incorporation of urban systems of sustainable drainage (Avenida de Gasteiz)
57. Retention basin and stream diversion (Olarizu)
64. Retention basin (Elorriaga/Arcaute)
108. Flood diversion course (Phase 1 Zadorra river)
69. Environmental hydraulic conditioning (Phase 2 Zadorra river)
20. Environmental hydraulic conditioning (Phase 3 Zadorra river)
70. Environmental hydraulic conditioning (Phase 4 Zadorra river)
76. Retention basin (Ali river, in Armentia)
107. Salburua retention basins (Salburua Wetlands, Green Belt)

SOIL IMPROVEMENT AND URBAN AGROECOLOGY

5. Orchard on vacant plot (C/Sierra de Andía)
8. Improvement of degraded soils (Mendebaldea, Jundiz)
10. Cultivation of lavender in a vacant plot (C/Río Santa Engracia)
14. Lakuakolore urban allotments (Lakua)
36. Zabalortu urban allotments (Zabalgana)
60. Experimental agriculture/livestock activity (Olarizu)
65. Experimental agricultural plots (Arcaute)
68. Urarte allotments and Ancora building (Abetxuko, Green Belt)
72. Edible forest in Minguibaia (Zadorra river)
73. Aramangelu agro-ecological park (Abetxuko-Yurre)
88. Edible forest and oak wood (Basalburu, Elorriaga)
105. Ortubi urban allotments (Zabalgana)

IMPROVE PUBLIC USE AND ACCESSIBILITY

18. Improvement of the accessibility to Olarizu Hill
23. Las Neveras peri-urban park (Green Belt)
49. Armentia-Zabalgana footbridge (Green Belt)
56. Paseo del Sur Green route
59. Equipment for public use (Olarizu Botanical Garden)
61. Las Neveras-Errekaleor Footbridge (Green Belt)
67. Zadorra Green Route (Crispijana)
71. Ekoherri, Green Belt project (Abetxuko)
77. Larragorri peri-urban park (Green Belt)
79. Jundiz Green Route (Crispijana-Lermanda-Aríñez)
90. Naturalised games (Borinbizkarra)
91. Naturalised games (Elejalde)
101. Olarizu Viewpoint (Olarizu Botanical Garden)
110. Zabalgana-Zadorra Footbridge (Green Belt)
111. Gamarra Footbridge (Green Belt)

URBAN REHABILITATION AND CREATION OF MICRO-LANDSCAPES

21. Restoration of the Old Bridge, Abetxuko (Zadorra river)
37. Restoration of medieval "caños" water channels (medieval quarter)
42. Green wall (Palacio Europa, Avenida de Gasteiz)
85. Naturalisation of the Santa Isabel cemetery
93. Green roof (Palacio Europa, Avenida de Gasteiz)
94. Jardín Secreto del Agua (La Florida Park)
95. Renovation of the square (Plaza Santa Bárbara)
97. Jardín de la Muralla (medieval quarter)
98. Jardín de los Arquillos (medieval quarter)
29. Collection of useful and endangered plants (Olarizu Botanical Garden)
99. Patio of the Casa de la Dehesa (Olarizu Botanical Garden)
100. Greenhouse (Olarizu Botanical Garden)
102. Renovation of the square (Plaza Green Capital)
103. Floral micro-landscapes (La Florida park)
104. Rose gardens (Arriaga Park)

Increase in *biodiversity*

Seasonal pond on a vacant plot in the Lakua neighbourhood, created to collect rainwater and provide a habitat for amphibians such as the palmate newt, marbled newt and natterjack toad - a threatened specie in the Basque Autonomous Community.

Stone wall in the linear park of Ibaiondo, installed to favour the settlement of small fauna, such as lizards and a large number of invertebrates.

Green area converted to meadow in the process of naturalization, in the neighbourhood of Lakua: shrub and tree strata have been enhanced, management has been modified (reducing the frequency of mowing) and stone gabions and other elements have been installed to encourage the settlement of wildlife species.

Biodiversity Park, in Arriaga, as a demonstration space for biodiversity-friendly management in the urban environment. It houses different ecological niches, such as gabion walls, deadwood accumulations, bushes, flower masses, etc.

Differentiated mowing of meadows, in the Antonio Machado park: unmowed, more naturalized areas are combined with mowed meadows, according to the different level of public use, to increase biodiversity and reduce the costs of management and maintenance of the park.

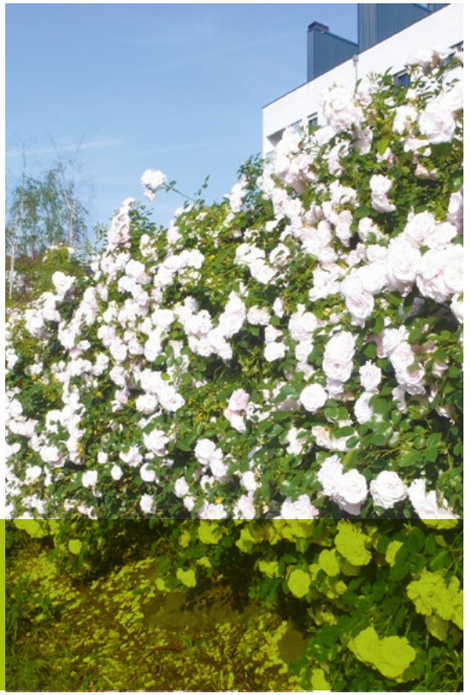
Urban forest in a roundabout, in the Ibaiondo district, made up of native trees and bushes, with low water requirements and lower management and maintenance costs. It reduces air pollution and improves the aesthetics of the place.

Flower meadow in the Portal de Foronda avenue, formed by mixtures of seeds of different species of flowers, which provide showiness and attractiveness to this great avenue of entrance to the city, besides favouring the processes of pollination.

Increase in *ecological connectivity*

Naturalization of the Zarauna creek, as it passes through the Zabalgana neighbourhood.
With the construction of the new neighbourhood of Zabalgana, the Zarauna stream, which runs between the parks of Armentia and the Zadorra river of the Green Belt, was absorbed, its ecological functionality being very limited by the strong urbanization of its banks.

In order to recover its ecological connectivity, shrub, trees and flower meadows were planted along the entire length of the river and the slopes were terraced. Small seasonal wetlands were created as breeding habitats for the natterjack toad, and installation of bat shelters under bridges over the stream, bird nesting boxes, deadwood accumulations, etc.



▼ Baiona street naturalized median.

Landaberde street naturalized median

In the Lakua neighbourhood, several wide medians have been worked on to transform them into **urban green corridors**. To this end, small mounds of earth have been created, forming a wavy topography, and on them large trees and shrubs with colourful flowers have been planted.

The new naturalized medians improve the quality of the landscape, reduce noise and glare caused by cars, while increasing the carbon sink effect, reducing environmental pollution, and increasing ecological connectivity between green areas.

▼ **Increase of the bush stratum in the linear green park of Portal de Foronda to stimulate ecological connectivity and biodiversity in the city.**

Improve *water management*

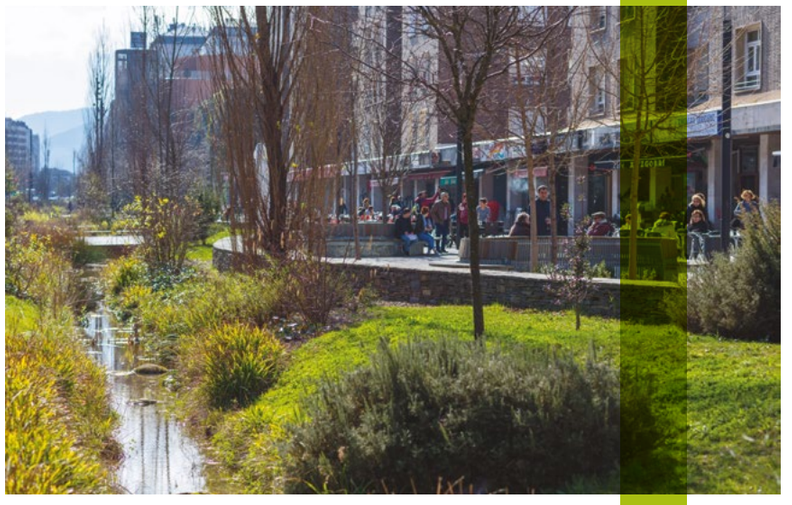
One of the main problems of the hydrological system of Vitoria-Gasteiz derives from the fact that with the growth of the city, many of the streams that come down from the mountains in the south to flow into the Zadorra river – the northern boundary of the city – were channelled and converted into collectors for the sewage network.

This fact has since caused many problems in times of heavy rainfall: flooding at the entrance to the city, overloading of the network causing untreated direct discharges into the Zadorra River and malfunctioning of the treatment plant.

A common practice to solve this problem is the construction of ponds to laminate the water of these streams and new channels to divert it to other streams and prevent it from entering the city.

A lamination pond from the Olarizu creek, in Olarizu Park, in the Green Belt, created to prevent clean river water from entering the city's sanitation system, preventing flooding in times of heavy rains.

The wetlands recovered from Salburua act as flood abatement basins in times of heavy rain, preventing the frequent overflows in the industrial area in the northeast of the city. Their recovery is associated with the projects to divert the waters of the Santo Tomás and Errekaleor rivers.



Rain gardens on Voluntaria Entrega Street, in the Lakua district

The action consisted of the removal of waterproof tiles, the supply of topsoil and the planting of wetland species. Instead of a paved surface there is now a strip of vegetation, which increases the permeability of the soil and the infiltration of rainwater into the subsoil, preventing run-off and reducing the entry of rainwater into the sewage system.

Drainage and recovery of the Abendaño River, within the integral reform project of the Gasteiz Avenue.

Before the action, a sewerage system ran under Avenida Gasteiz, carrying part of the water from the Abendaño and Zapardiel rivers, channelled at their entrance to the city. The action consisted of taking clean water at the point where it was flowing, and introducing it into a conduit until it reached the open-air channel that runs along the avenue by gravity. The work carried out has allowed clean water to emerge in a section of this corridor.

This action has made it possible to incorporate the river into the city as a cultural and identity element, providing freshness and recovering a lost ecosystem.

Urban *agroeco-logy* **and** *soil improvement*

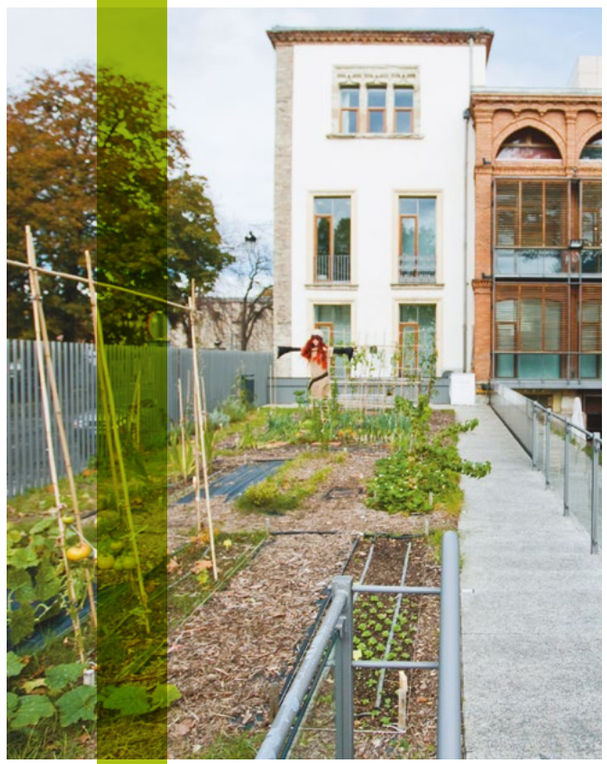
The development of urban allotments, edible forests and other agro-ecological initiatives is a good option for unused plots of land and other degraded or uncultivated spaces.

Using these plots avoids the problems of dirt and soil degradation that they sometimes present, and developing agro-ecological activities promotes the production of local and healthy food, as well as learning, active leisure and social interaction.

▲ **Community organic allotments in Zabalortu,** on a vacant plot in the Zabalgana neighbourhood.

Community organic allotments in Lakuakolore, on a vacant plot in the Lakua district.

In 2015 and 2018, respectively, two community organic allotment facilities - **Zabalortu** in Zabalgana and **Lakuakolore** in the Lakua district - were launched. These allotments are located on two plots of municipal property that became vacant as a result of the real estate slowdown of recent years. The allotments are managed by people from the neighbourhood, under the supervision of the city council, and are in great demand.



Urban allotment at the Falerina garden

Aramangelu Agro-ecological Park

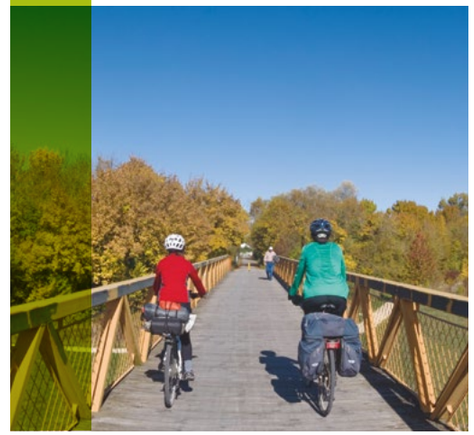
In the agricultural environment of the Zadorra river, the Aramangelu agro-ecological park is planned to be implemented, which already has two spaces in operation: the Urarte Allotments and the Basaldea land bank - which houses entrepreneurs who work in organic farming. This park will promote the production, sale and consumption of local and organically grown products.

This is a public-private initiative included in the Vitoria-Gasteiz Agri-food Strategy.

Edible fruit tree forest on a vacant plot in the Lakua district: it gives provisional use to a vacant plot, provides food, facilitates the settlement of birds and improves the quality of the surrounding landscape.

Improve *public use* and *accessibility*

Green Way of the old "Vasco-Navarro" train, at the accesses to Vitoria-Gasteiz



The conditioning of walks and green itineraries, areas of stay and play, squares and other spaces of leisure and recrea-tion facilitates the contact with nature and the meeting between people.

Route around the Vitoria-Gasteiz Green Belt

Naturalized ecological playground

In the city's new neighbourhoods, taking advantage of the existence of vacant municipal plots and at the demand of the neighbourhood itself, several "naturalized" play areas have been created.

The structures, constructions and elements used for the games are logs, gabions, stone, earth, sand, ropes..., materials that allow to recreate or to emulate to the maximum the natural environment, and to promote the knowledge of the means of a playful form.

In these spaces play becomes a sensory experience and contact with the environment, which allows children to develop creativity, imagination and freedom that nature provides.

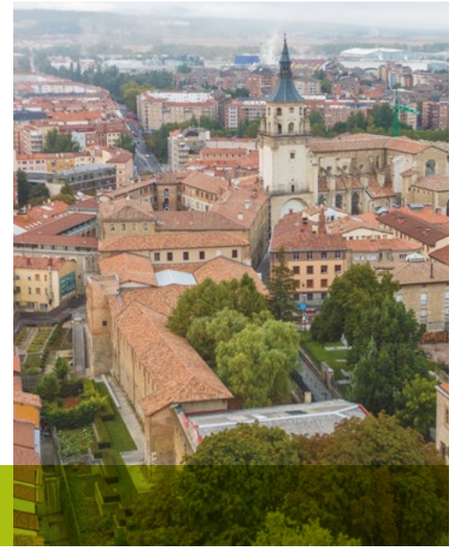
Tree-lined squares to refresh the atmosphere, beautify the public space and favour the rest and the daily contact of people with the environment.

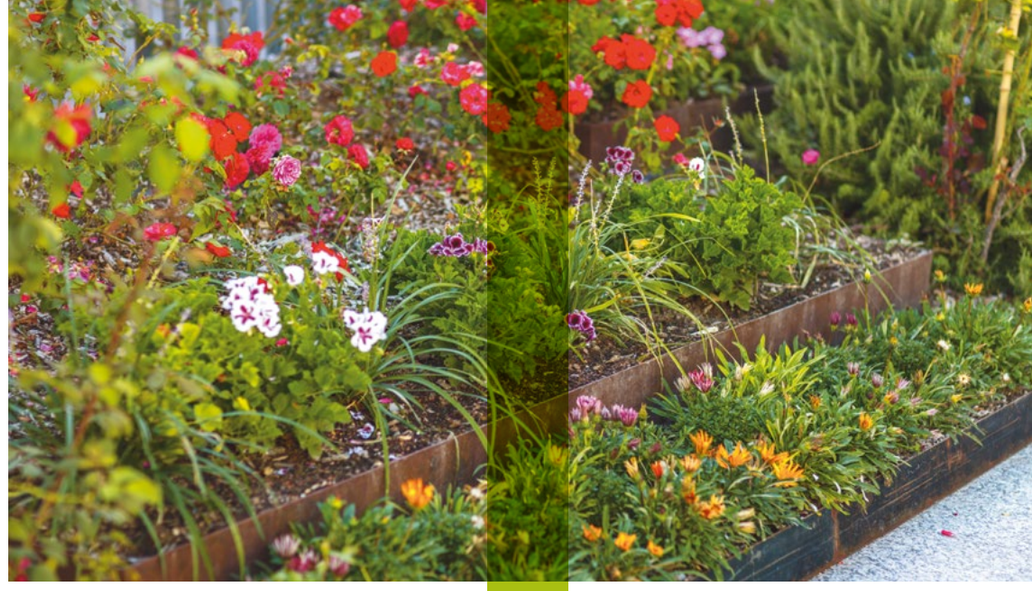
Urban *rehabilitation* and creation of *micro-landscapes*

Green facade and roof at the Europa Congress and Exhibition Centre: they increase the ecosystem services by housing a great variety of plants, favouring the thermal and acoustic insulation of the building, improving its energy efficiency, filtering and retaining rainwater, reducing atmospheric pollution and generating visual attraction.

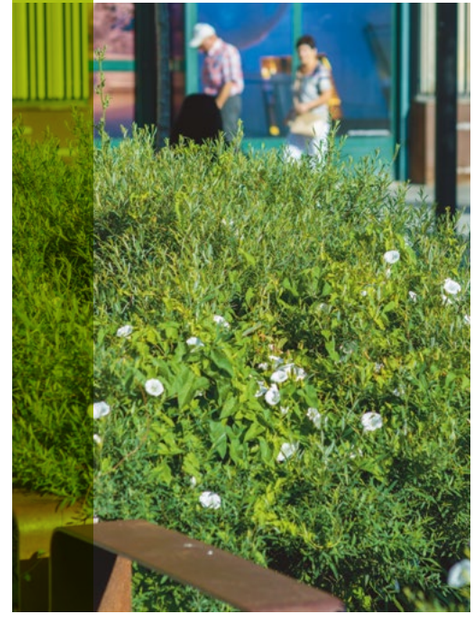
Greening of the medieval pipes - residual and closed spaces located at the back of the buildings - to transform them into well-kept spaces, full of plants, which embellish the medieval quarter. The waterways are opened to the public, through guided tours, constituting a new tourist attraction for the city.

Reform of the back garden of the Escoriaza-Esquível Palace, with the planting of new plant species, the improvement of the paving and the lighting system, increasing the attractiveness of this element of the historical-cultural heritage, as well as its visibility and enjoyment by the citizens.

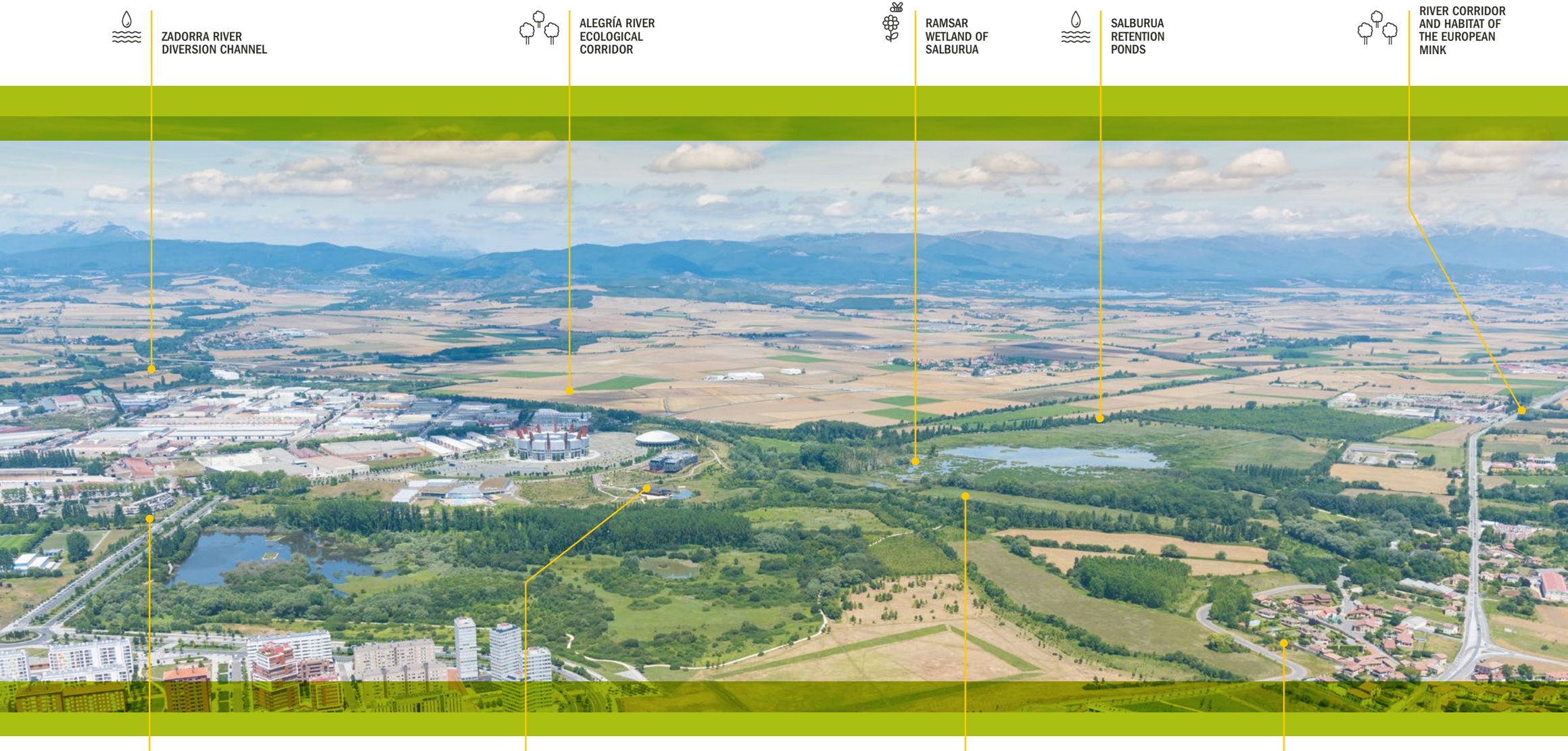




Interventions of "green acupuncture" and creation of "microlandscapes", in which the aesthetic function acquires a relevant role as a factor in bringing citizens closer to nature. The beauty of the green elements favours a satisfactory aesthetic experience, which leads to the recognition, respect and care of the environment.



Gravel garden in the courtyard of the Casa de la Dehesa in the Olarizu Botanical Garden, based on floral compositions of a seasonal nature, reconnecting with natural cycles.


ZADORRA RIVER DIVERSION CHANNEL
ALEGRÍA RIVER ECOLOGICAL CORRIDOR
RAMSAR WETLAND OF SALBURUA
SALBURUA RETENTION PONDS
RIVER CORRIDOR AND HABITAT OF THE EUROPEAN MINK
NATURALIZED BOULEVARD
ATARIA WETLANDS INTERPRETATION CENTER
ROUTE AROUND THE GREEN BELT
BASALBURU EDIBLE FOREST


NATURALIZED MEDIAN
ARAMANGELU AGROECOLOGICAL PARK
TREES IN CAR PARKING LOT
URARTE ALLOTMENTS
ENVIRONMENTAL CONDITIONING OF THE ZADORRA RIVER
FLOWER MEADOW
URBAN GREEN CORRIDOR (PORTAL DE FORONDA STREET)
URBAN PARK


TREE-LINED SQUARE
URBAN ALLOTMENTS
MICRO-LANDSCAPES
RAILWAY GREEN CORRIDOR
NATURALIZED STREET (GASTEIZ AVENUE)
TREE LINED STREET
HISTORICAL GARDEN
TREE LINED WALK

Shared construction of Green Infrastructure

The construction of the Urban Green Infrastructure System of Vitoria-Gasteiz is understood as a gradual process of transformation of green areas, both public and private. This shared construction requires a broad citizen consensus on its need and associated benefits.

To move forward collectively in this process of renaturalization of the city, it is necessary to inform, raise awareness and facilitate the participation of the entire spectrum of social agents and citizens in general. Participation must be carried out both on the design of the system and on the transformations to be carried out.

A broad and participative approach, with the involvement of the multiple social agents (neighbourhood, citizen groups, educational centres, university), as well as the collaboration and support of the private initiative, will guarantee that the system responds to the different existing objectives and sensitivities.

During these years numerous initiatives of different types and themes have been launched, aimed at informing, raising awareness and promoting the participation of citizens and groups in the promotion of Green Infrastructure.

One of the most successful community initiatives is the planting campaign "**250,000 trees and shrubs in the Green Belt: the roots of tomorrow**". This is a three-year campaign in which thousands of people have participated (individually or through different groups), in addition to a large number of companies, through sponsorship programs.

Workshops, courses and conferences to promote knowledge and public awareness of natural heritage and the need for its conservation.

▲ Gardening workshop held at the Olarizu Botanical Garden.

Participatory biodiversity inventories through the "**Citizen Science Participation Network**" program, to increase knowledge about the biology, distribution and evolution of different plant and animal species in the city and municipality.

Initiatives of citizen participation aimed at conditioning of new habitats for the conservation of some species, such as the network programme for the **construction of a "butterfly oasis"** in the area of Ataria, in the Salburua wetlands.

Popular tree and shrub planting campaigns, such as the campaign "Adopt a tree and grow with it" – which has already had 20 editions – and the initiative "250,000 trees and shrubs in the Green Belt: the roots of tomorrow".

◀ Tree planting in the Olarizu Botanical Garden.

Support programmes for different **citizen initiatives in urban horticulture** in public spaces: municipal allotments in the Green Belt, ecological allotments in civic centres, ecological allotments managed by the community, school allotments, allotments in socio-cultural centres for the elderly, etc.

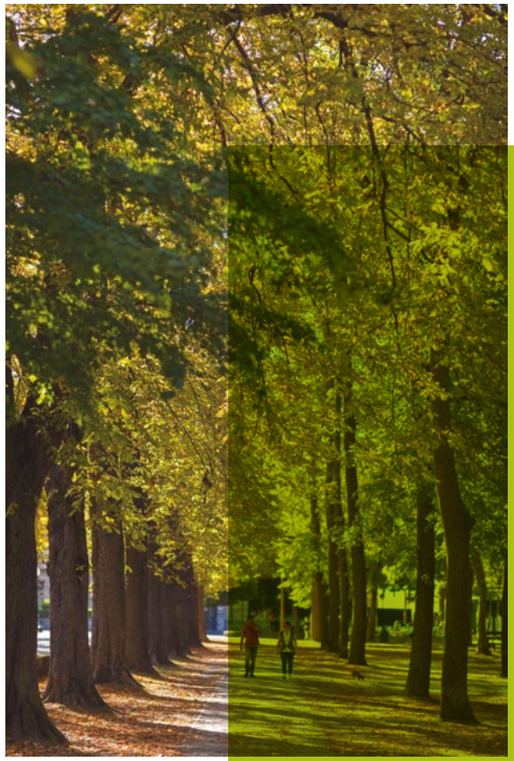
▼ The school organic gardens are a resource of great interest to the integration of nature and agroecology in schools.

Celebration of the Route around the Vitoria-Gasteiz Green Belt on foot, a popular march that gathers thousands of people in a festive day. ▶

Initiatives to promote the knowledge and enjoyment of Green Infrastructure, such as **popular marches, guided tours**, etc.

Celebration of events on special dates, with recreational and festive activities that promote awareness of biodiversity and nature in the city.

As part of the celebration of the **25th anniversary of the Green Belt**, an exhibition was held in which different people highlighted their favorite corners and landscapes, thus reflecting the special relationship that has been generated between the Green Belt and the citizens of Vitoria.



- www.vitoria-gasteiz.org/movilidad
- www.vitoria-gasteiz.org/greeninfrastructure

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