MAINSTREAMING OF BIODIVERSITY IN THE URBAN SECTOR

The Case of Green Infrastructure in Vitoria-Gasteiz (Spain)

Green Belt around Vitoria-Gasteiz (*Picture*)

Case highlights

The Green Belt of Vitoria-Gasteiz is the result of an ambitious project to restore and recover the peripheral areas around the city with both biodiversity and recreational benefits. The belt now has one official Ramsar wetland site and two Natura 2000 sites, winning international recognition for their high environmental value. Green infrastructure within the city contributes to climate adaptation (reducing heat stress and improving flood management), mitigation (carbon sequestration), and a clean and healthy living environment.

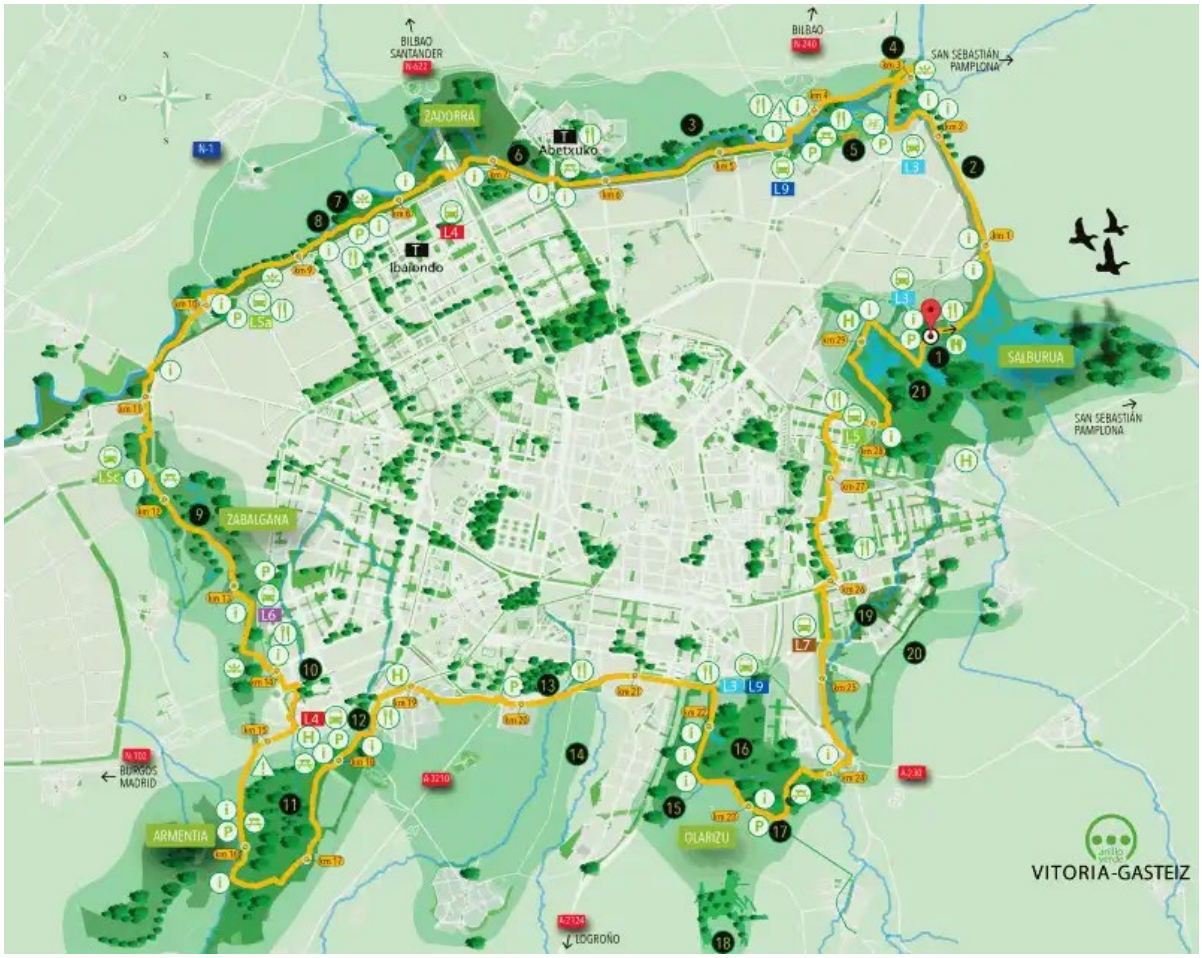
Issue addressed

Vitoria-Gasteiz is a city of more than 200,000 inhabitants facing climate change challenges, most prominently due to an increase in temperature and subsequent heatwaves, and an increase in extreme rainfall events resulting in higher flood risk. Furthermore, in the early nineties, biodiversity in the landscapes surrounding the city was degraded, with few isolated green spaces remaining. The quality of life for inhabitants could definitely be better.

Approach followed

In 1993, the city started with the initiative to create a Green Belt around the city. Now, after 18 years, a surface area of 727 ha (with an ultimate plan for 993 ha) with 79 km of foot and bike paths (see map) exists. The Green Belt comprises 6 consolidated parks; work is ongoing on the strengthening of ecological corridors between the parks. Being aware of the necessity to also transform the inner city into a space that reconnects with nature and has to become more resilient, the City Council proposed a new line of action based on the

application of the green urban infrastructure. For this, the 2012 Green Urban Infrastructure Strategy has been developed, aimed at improving connectivity and functionality of the different urban and peri-urban green spaces. The strategy is anchored to other municipal plans such as the Biodiversity Conservation Strategy and the Plan to combat and adapt to climate change.



Green belt and green infrastructure

Interventions in different parts of the city included connecting urban parks by ecological corridors (e.g. by tree-lined streams and streets); the transformation of vacant plots into new green spaces; the increase of biomass and number of trees and shrubs in parks and gardens; the enhancement of existing green areas to improve the conservation of native species; improvement of water management; the promotion of ecological agriculture in free and peri-urban spaces; the promotion of green building facades. Fifty neighbourhood projects worked on greening of the immediate living environment with the aim of improving the ecological and environmental functionality of existing green spaces and vacant plots, as well as reducing the costs incurred in their management and maintenance.

An emblematic intervention is the renovation of the Gasteiz Avenue with eco-design techniques and the creation of a green facade in the Congress Palace Europa. The renovation included a restored river corridor, plantation of trees along the channel and creation of car-free streets.

Benefits obtained

The Green Belt offers a wealth of natural features such as woods, rivers, wetlands, meadows, fields, groves and hedgerows. It is easily accessible on foot or by bicycle through a series of recently completed urban

pathways, and offers a multitude of opportunities for walking, leisure and the pure enjoyment of being in contact with nature. It is also fast becoming the ideal location for educational activities and initiatives, designed to increase the public's awareness of environmental issues.

Interventions have resulted in improved water management and reduced flood risk, reduction of air pollution, improvement of temperature regulation and a reduction of the heat-island effect. The vertical garden on the Congress Palace Europa is done with native species and has contributed to thermal and acoustic insulation of the building and the enhancement of the aesthetic quality. Public use of green spaces increases with the increase in recreational opportunities.

The project costs between 2012 and 2020 amounted to about € 12.5 million. The strategy does not identify a specific final date; new projects and interventions will be designed and implemented as long as the Council will allocate budget.

Best practice lessons

Such success doesn't come overnight but is the result of a clear vision, adaptive capacity and stakeholder involvement. An overall strategy with clear goals provided an overarching framework, guiding the design and implementation of many different interventions over a longer period of time. Planned interventions have multiple objectives and produce co-benefits for biodiversity, climate change adaptation and mitigation and quality of life for city inhabitants.

The involvement of citizens and local private sector stakeholders is considered a success factor, as they have helped to create a consensus on the needs as well as the benefits of the implementation of the Green Urban Infrastructure Strategy. Interventions were tested in one neighbourhood and adapted where needed, before being implemented in other neighbourhoods.

Elsewhere: *Blue-green corridors in Belgrade, Serbia*

Belgrade, the capital of Serbia with 2,000,000 inhabitants faces serious erosion problems and torrential floods caused by loss of forest surface, urbanization and inadequate agricultural practices. Belgrade authorities have defined a new holistic strategy backed by research and models in ecological engineering and landscape planning. It recommends changes in land use (agricultural) practices, reforestation, and the restoration of 'blue-green' corridors, making use of residuals of open streams and fragments of forest vegetation. In an experimental watershed forest, the surface increased by 18%, river discharge decreased by about 50% and erosive material by about 40%. Ten km of sealed walking and cycling paths, 1.7 km of unsealed forest paths, six open gyms and seven rest areas will strengthen the potential for sports and recreation. The final goal is the creation of a network of 'blue-green' corridors in the city, providing both effective erosion and stream control and environmental and social services.

Additional information

- Cases information: *Victoria-Gasteiz: Green Capital* and *Climate-Adapt case information*
- Urban greening: *Green Cities Quick Tips* with further info sources; *European Green Capital Award*

Green facade of the Congress Palace Europa

Restored urban stream

Picture source: *https://climate-adapt.eea.europa.eu/metadata/case-studies/implementation-of-the-vitoria-gasteiz-green-urban-infrastructure-strategy*