



CiViTAS
Cleaner and better transport in cities
MODERN

CASE STUDY



STREETS DESIGNED FOR SUSTAINABLE MOBILITY

DEMAND MANAGEMENT STRATEGIES



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The superblock model is the centre piece of the Sustainable Mobility and Public Space Plan of Vitoria-Gasteiz, developed in 2009 to free up space occupied by private cars in neighbourhoods and return it to the people. All street refurbishments carried out in the last years have applied the superblock model. A superblock is a geographical space that covers several city blocks. Vitoria-Gasteiz has reorganised the whole city into 68 superblocks. Private cars and public transport are kept outside of the superblocks, and the inner streets are redesigned to be used mainly by pedestrians.

Municipal context

Vitoria-Gasteiz is the capital of the Basque country, an autonomous community in northern Spain. It is now known across Europe as the 2012 Green Capital and within the CIVITAS community as the host city of the CIVITAS Forum 2012. The city aims to become the reference city for sustainability in Europe.

King Sancho VI of Navarre founded "Nueva Victoria" in 1181 as a walled defensive outpost that acquired its name "Gasteiz" from a hamlet that previously stood on the hill around which the city was built. The great development of

the city began in the 1950s with the arrival of industry. Since the early 1990s to today, the city has almost doubled its surface area. However, this increase has not matched population growth.

Vitoria-Gasteiz is a medium size city, which is both compact and high-density. It is not part of a wider metropolitan area, and most journeys' origin and destination are within the city itself. Around half of all journeys are made by walking.

The city is committed to a Sustainable Mobility and Public Space Plan (SMPSP). Thanks to the

MUNICIPAL PROFILE

LOCATION

Vitoria-Gasteiz, Spain

POPULATION

243,298

LAND AREA

27,681 km²

CIVITAS BUDGET

EUR 3,700,000 for the city's CIVITAS activities (this figure includes the budget of all partners in Vitoria-Gasteiz).



VITORIA-GASTEIZ IN CIVITAS

Vitoria-Gasteiz (Spain) participated in CIVITAS MODERN. Under the motto “MObility, Development and Energy use ReductioN”, CIVITAS MODERN connects the cities of Craiova (Romania), Brescia (Italy), Coimbra (Portugal), and Vitoria-Gasteiz.

PROJECT INFORMATION

Representing cities across Europe, each with a desire to preserve their historic and cultural centres from damage caused by private vehicles, the CIVITAS MODERN project enacted 42 measures that led to cleaner and better urban transport. Besides promoting sustainable mobility measures and interaction among the participating cities, CIVITAS MODERN specifically focused on encouraging strong cooperation among scientists and technicians to learn from experience and best practice throughout Europe.

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Alhondiga Plan

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city’s ability to favour balanced growth, careful urban planning and pursue its traditional concern for environmental and social aspects, the plan proved to be a successful endeavour.

Introduction

The objective of this measure was to accomplish a new mobility and urban public space framework in the city of Vitoria-Gasteiz, based on a superblocks model, in which the use of public space is reclassified according to the needs of different mobility typologies.

The Sustainable Mobility Plan of Vitoria-Gasteiz proposed to divide the city into several superblocks. The measure provided a framework to assess and plan the final design and implementation of each of these superblocks, integrating the works with other measures proposed to improve mobility in the city: new public transport network assessment and implementation, city centre access restrictions, new pedestrian and bicycle lanes network assessment and implementation, and so on.

Such a framework provides advantages such as increased public space for pedestrians, improvement of the acoustic quality of the area, reduction in harmful emissions, greater diversity of activities, better area accessibility, reduction in the use of public space for

cars, greater use of public transport and improvements in road safety.

The main objective of the measure was to implement and test the scheme in at least one significant demonstrative superblock in the city.

CIVITAS provided a first class framework to put into practice those ideas, as it is directly related to urban mobility. One of its main objectives is to provide innovative solutions to mobility issues.

Taking a closer look

When the first analysis of public space was completed, prior to designing a Sustainable Mobility and Public Space Plan, figures showed that more than 70 percent was reserved for the exclusive use of private cars - despite nearly 70 percent of journeys in Vitoria-Gasteiz being carried out on foot. As a result, the plan, sought to drastically extend space for pedestrians.

More than one third of the population lived with higher noise levels than recommended by the World Health Organization (WHO), it was found, a statistic largely attributable to private cars. Cars also greatly contributed to emissions recorded in the city.

BACKGROUND INFORMATION

Alhóndiga Plan

The Alhóndiga Plan was one of the strategic projects programmed for the city between 2009-2011, designed to support small retail outlets. The project was a response to a commercial strategy that sought to extend the economic activity from the centre to other districts to prevent shops from being concentrated solely in one central point.

Vitoria-Gasteiz has a series of streets with a large number of shops and activities in the public space. However, most of the routes require work in order to strengthen their connectivity with the centre. The proposal consisted of three commercial corridors: West, North and South. These corridors would make up a shopping area of preferential interest, where the design of streets would allow the creation of attractive sitting areas.



In the Mobility Plan, Vitoria-Gasteiz outlined a new design of the city, reorganising it into 68 superblocks, in which private cars and public transport are prohibited. Within the scope of CIVITAS, the city proposed the development of the central superblock (S1). The superblocks surrounding this central construct were adapted following the criteria set out in the Mobility Plan.

The most striking example of superblocks created with this approach is the so-called S16 superblock, around Sancho el Sabio street, which was used as a demonstrative superblock. The main changes in this area included transforming Sancho el Sabio street into an inner secondary street; providing only one lane for residential vehicle traffic; allowing time-limited loading and unloading parking zones; connecting Sancho el Sabio street with the urban pathway coming from the Virgen Blanca square, continuing from Prado street and Magdalena street to reach Honduras street, and from there to the future Central Station; developing a synergy between the Alhóndiga Project, that aims to revitalise urban life with the promotion of commerce, and the CIVITAS Plan; equipping the whole street with Wi-Fi; creating an outdoor play zone with a rubber floor for children to enjoy; using similar streetlights to the ones used in other urbanisations of the Alhóndiga Plan; using benches and shelters equipped with LED lights to illuminate the floor and the surrounding area; and renewing the other existing infrastructures (water, drainage and so on).

In 2012, the Environment and Public Space Department of the municipality adapted the plans in light of the economic crisis. The new approach tried to balance the superblock philosophy whilst saving funds.

These changes saw the implementation of “slow-speed streets” in all inner superblock streets, in which motorised vehicles adapted their speed to pedestrians and cyclists.

Throughout the project, Vitoria-Gasteiz ensured that local and national partners were informed, engaging them through public exhibitions, street activities, conferences, papers and consultations. The municipality conducted a continuous evaluation of the impact of the measures and the process. The impact evaluation looked, for example, at freeing up public space, accessibility and safety, while the process evaluation assessed the level of public acceptance of the measure.

Results

Several indicators were calculated to measure the effectiveness of the changes in the demonstrative superblock.

Environment

Several manual traffic counts were conducted in the area of the superblock.

Motorised traffic flow in Sancho el Sabio street was not transferred to the peripheral streets of the superblock (Av. Gasteiz and Ramiro de Maeztu street); instead, there was supposedly a change by vehicle users to more sustainable modes.

Noise values were taken using a sonometer, which collected noise levels at several points in the superblock. Pollution levels were also measured.

Following the implementation of the measure, the following results were recorded:

After	2010
CO ₂ emissions (Tn)	438
NO _x emissions (Tn)	1,40
Small particle emissions (Tn)	0,08
Noise level (dBA)	61,00

Comparing those values with the previous data demonstrates that results are positive regarding the environmental indicators. There is a decrease of CO₂, NO_x and noise emissions, but the difference in small particle emissions is low.

Transport

Traffic flow was measured on a weekday in Sancho el Sabio street and multiplied by 1.3 person/vehicle to find out the number of people that went through the street by car. Pedestrians and cyclists were also counted.

The following table shows the results of the counting.

Transport	Person	%
Vehicles	1.607	23%
Pedestrian	4.576	66%
Bicycles	735	11%

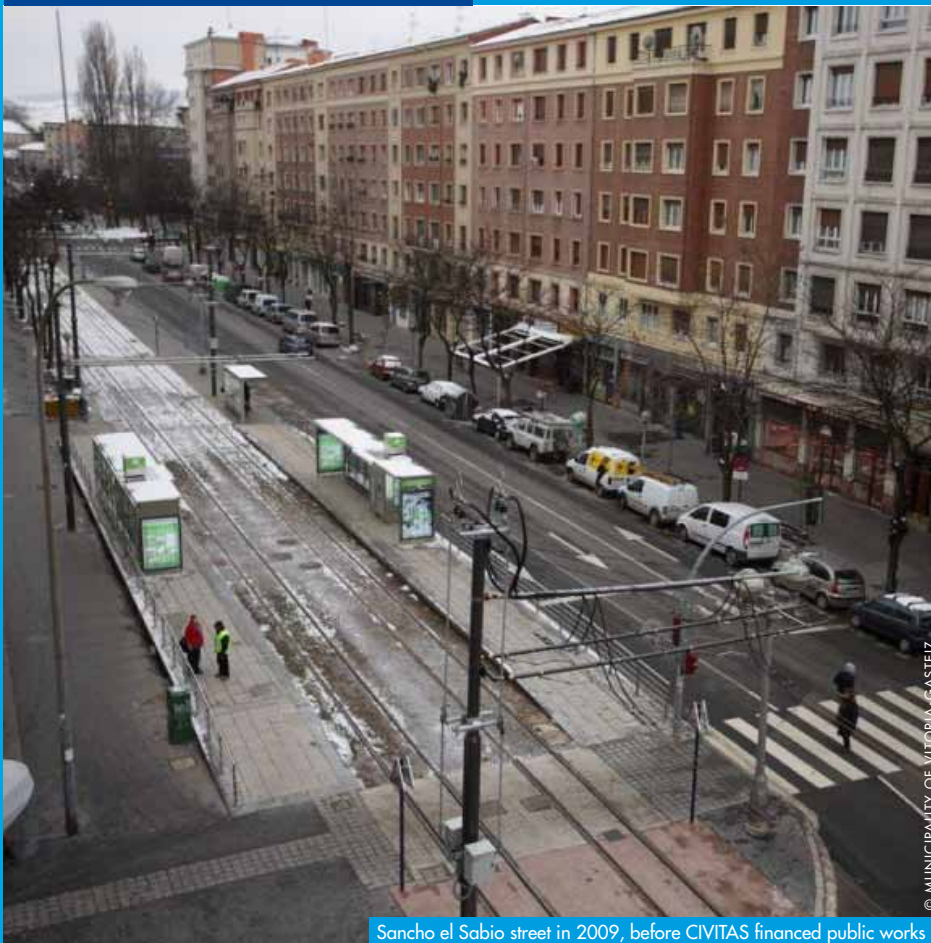
Results were positive because car usage in this superblock was replaced by pedestrians and bicycles. Car flows were reduced due to the reduction of lanes and the changing of street directions.

Society

400 surveys to persons over 16 years old were carried out by telephone. Acceptance levels ex post for the measure were quite high at 7.43 out of 10. It is not possible to track a change in this as no ex ante data was collected for this indicator.



Details of the changes made in Sancho el Sabio street



Sancho el Sabio street in 2009, before CIVITAS financed public works

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goals (i.e. the Sustainable Mobility and Public Space Plan); and

- availability of public funds to contribute financially, specifically public funds for local investment.

However, this driver is likely to not be available in the next years.

Upscaling and transferability

The approach taken in Vitoria-Gasteiz for this measure, based mainly on infrastructural modifications, has big funding needs. Therefore, results in the demonstrative superblock are transferable as long as plans with similar objectives in other cities are based on the same foundations of heavy infrastructural changes and powerful participation, communication and promotion campaigns.

The measure was extended to 17 more superblocks in the city centre (47 streets), but due to the shortage of funds available in the municipality as a consequence of the global economic crisis, further works were made with lighter (and cheaper) actions.

The new approach applied the philosophy of the superblock scheme without implementing public works and big changes in the structure of streets.

The main objective was to implement traffic calming elements that sought to reduce car speed and give more confidence to cyclists and pedestrians in the inner streets of the superblocks, so that they could use the road in its full extent.

The main changes made in those streets included new vertical and horizontal signals informing motorists that cyclists and pedestrians had preference over cars. General 30 km/h speed limit signposting inside the superblocks, traffic light synchronisation (to force cars to drive as slow as 30 km/h). Elimination of some car parking spaces along the streets and direction changes in some streets, preventing cars from passing through superblocks. Cyclists were also given permission to go in the opposite direction of cars in some streets, and some roads were narrowed to reduce car speed. New car park regulations were also put into place in some streets.

Infrastructure

Pedestrian surface gains were measured after the changes.

	Before	After
Pedestrian surface	45%	74%

The result of this measure is positive because space for cars was converted to space for pedestrians.

Lessons learned

The measure was first implemented in only one of the 68 planned superblocks in the city. The characteristics of this superblock included a mixture of urban uses (commercial, residential, etc.); a central location; and a high population density.

In general, the model has worked properly, reaching the targets and objectives set in the plan. However, there are some aspects that need further rethinking to make the measure more effective. The main problem is the type of solution used in the demonstrative superblock to improve the public space – the complete refurbishment of the pavement in the inner

streets – that has proven to be very expensive and not applicable in the other superblocks.

This model was extended to other superblocks in the city centre by adopting lighter actions: street direction changes, narrowing and reduction of the number of car lanes, installation of elements to reduce vehicle speed and the use of bicycle lanes to further reduce speed.

The main barriers that slowed down the extension of the measure were the cultural circumstances, people's established life-style patterns and the difficulties in changing people's behaviors. The drivers that led the measure were :

- commitment of key actors based on political and strategic reasons;
- existence of a sustainable mobility agenda and an effective coalition between key stakeholders,
- awareness among the people that the measure is part of an overall plan with global



With CIVITAS now finished, this light scheme will be applied to the rest of the city, so that up to 68 superblocks are created, as foreseen in the Mobility Plan.

This second approach, being cheaper and easier to apply, is more transferable to other cities in Europe.

Budget and finances

Two main financial factors affected this project, specifically the existence of the Alhondiga plan

(funds set for that project served to develop some parts of the demonstrative superblock) and measures to face the global economic crisis. To boost the economy, the Spanish government allocated a big budget for public works for the period 2009-2010.

Within the current context, it is not possible to implement these kinds of measures in the same way as carried out in the demonstrative superblock. Further works in superblocks must be achieved with lighter (and cheaper) actions.

Key contacts

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References or sources

www.vitoria-gasteiz.org/movilidad (in Spanish)
www.civitas.eu > cities > Vitoria-Gasteiz



Sancho el Sabio street in after its refurbishment

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