

"Agostinhas" - Urban Bicycle


Torres Vedras, Portugal



Agostinhas - Torres Vedras Urban Bicycle

In European urban areas cars are the major source of air pollutants and greenhouses gas emissions. They are also the main cause of noise and occupy a significant share of the public space. With the objective to reduce the number of cars in the city, Torres Vedras launched a new mobility solution - an integrated public bike-sharing system called "Agostinhas". This system includes 30 electric and 260 conventional bicycles made available through 14 bike stations which are connected through a network of bike lanes covering an area of 8 km² (which includes the entire city plus some of the suburban areas). The main objectives of the project are: (1) demonstrating the advantages of using a bicycle and; (2) offering an option for urban transportation with numerous environmental, social and economic benefits [1].

Country/ City Profile

		Country	City
	Population (2014)	10,401,100 [2]	Population (2014) 79,067 [3]
	Land area (km ²)	92,225 [4]	Land area (km ²) 407 [5]
	GDP per capita (2014, current international \$, at purchasing power parity)	28,393 [6]	GDP per capita / GDP per capita at purchasing power parity n/a
	Region	Southwest Europe	Region Inland
City's physical geography	Location	<ul style="list-style-type: none"> ✓ Torres Vedras is a Portuguese city located 53 km from Lisbon ✓ Fronting the Atlantic Ocean, Torres Vedras is located in the centre region and western sub-region of the country 	
	Climate	<ul style="list-style-type: none"> ✓ Mild climate with high number of hours of sunshine ✓ Average annual temperature: 15.7°C; average annual rainfall: 692 mm [7] ✓ Land of sun and sea for excellence, its coastal areas are sustainable tourist destinations of reference, awarded by the European project "Quality Coast" [8] 	

Initiating context [9]

In 2009, several urban problems in the city of Torres Vedras were identified:

1. Undisciplined use of public space by motor vehicles;
2. Conflicts between residents and commuter users in regard to the occupation of parking spaces;
3. Poor use of soft modes of transportation, such as bicycles.

In the same year, the Municipality of Torres Vedras developed a Mobility Strategy and a Mobility Plan for the city.

Implementing a public bike sharing system - "Agostinhas Urban Bicycles" - was one of the solutions proposed. The project aimed to improve the quality of life in the city and to promote sustainable mobility.

The bike was considered to be a fast and flexible urban transport option. Bikes are healthy, practical and financially accessible to the majority of the population. They contribute to reduce carbon emissions and noise levels and require less public space. Bike systems were also considered to contribute to increase intermodality among transport modes.

"Agostinhas" was funded under the National Strategic Reference Framework - European Regional Development Fund (ERDF) as a sub-action of the Parking Management System project.

Project description [1] [10]

The public bike-sharing system “Agostinhas” integrates 14 bike stations, bicycle parking spaces and internet kiosks, 260 conventional bicycles and 30 electric bicycles as well as the associated management software. The whole project is based on a web platform called “Bicicard” that allows users to access the system through RFID proximity cards. All communications are performed in real time and online via GPRS.

The project attracted more than 1,400 participants who used the bicycles around 20,000 times within the first 14 months of operation - in a city with only 20,000 inhabitants. This huge success and high demand were the reasons that the system has been expanded in September 2014, creating three new bike stations and doubling the capacity of the four existing ones.

The project has had a very positive impact on the population’s quality of life since the bicycles became a popular alternative transportation mode in the city, for both leisure and work purposes.

More information can be obtained at: www.agostinhas-tvedras.pt.

Implementation process [9] [11] [12]

The urban bicycle system “Agostinhas” was implemented under the Parking Management System project.

This project includes the bicycles sharing system “Agostinhas” and the inspection of the car parking. The system uses new media GPRS technology and photovoltaic energy. It covers bicycles stations; traditional and electric bicycles; bicycle and car parks; parking meters using photovoltaic solar energy; as well as a computerized system for parking monitoring.

The inauguration of the bike sharing system “Agostinhas” took place on 21 June 2013. The “Agostinhas” are available every day of the week and can be used by any person who is more than 14 years old. The time-limit for continuous use is four hours. Once expired, the bicycle must be returned to a bike station to reset the limit. The access to the bicycles requires the user to fill a form, available in six different locations (which were placed close to schools, shopping areas and public services).

Projects implementation details [9] [10]

Process/ Leadership	The project was designed under the municipal mobility strategy, in which several actions to promote soft transport modes were proposed. The project leader is the Municipality of Torres Vedras.
Financing	<ul style="list-style-type: none">✓ The total cost of the entire project - “Integrated System for Parking Management” - was 1,494,600 euros.✓ The sub-project “Agostinhas” including bikes, management system and bike stations had a cost of 354,500 euros.✓ The project was funded 70% under the National Strategic Reference Framework - European Regional Development Fund (ERDF) and 30% by Municipality resources.
Involved stakeholders	The Municipality of Torres Vedras is the entity responsible for the design and implementation of the project. System management is in charge of the municipal company PROMOTORES.

Results [1] [10]

In the beginning of 2015, the system had about 1,700 registrations, with more than 23,500 uses.

By the end of 2014, the participants travelled a distance of 93,690 km with the bikes which avoided approximately 14 tonnes of CO₂ emissions.

“Agostinhas” and bike parks contributed to reducing cars’ use. The entire Parking Management System also resulted in a strong decrease of illegal parking by applying supervision, greater parking rotation and bigger security for drivers and pedestrians.



Project benefits [1] [10]

Main project benefits are:

- ✓ Significant reduction in GHG emissions (estimated in 14 tons of CO₂e, by the end of 2014) in the urban area by discouraging car use and inducing a significant improvement in air quality.
- ✓ Reduction of noise in the city.
- ✓ Liberation of public space since five bicycles can park in the same space as one car.

- ✓ Improvement of public health: sustainable mobility promotes active modes in which some physical effort is required from the user. This improves substantially the physical well-being and the health of people who adopt it. The leading cause of death in Portugal is cardiovascular disease, in which the exercise is a crucial factor in its prevention.
- ✓ Promotion of the intermodality between different urban transportation modes.

Lessons learned [9] [10]

Cars produce air pollutant and noise in urban areas while also occupying a great share of public space. A new option for urban transport is offered with numerous environmental, social and economic benefits: no fossil fuel consumption and decrease in carbon emissions and local air pollutants, lower noise and less use of public space - a win-win situation for both humans and environment.

At the end of the first year of system's operation a survey to assess user satisfaction was implemented. The following results were highlighted:

- 75% of users said that Agostinhas improved their quality of life;
- 99% of users would recommend the system to a friend.

Awards [9]

2013:

"National Bicycle Mobility Award" by the Portuguese Federation of bike tourism and bicycles users.

2014:

European Commission recognition for the work of Torres Vedras in the field of Sustainable Mobility regarding the technological and innovation efforts in the project where Agostinhas is integrated.

2015:

The project that includes the initiative "Agostinhas" was awarded with the "A Smart Project for Smart Cities" label under the category "Sustainability". The "A Smart Project for Smart Cities" award recognizes innovative projects under the field of urban development.

The ENERGY GLOBE Award Portugal 2015 by the Energy Globe Foundation.

References

- [1] Energy Globe Award, National Energy Globe Award Portugal 2015: <http://www.energyglobe.info/portugal2015?cl=en>
- [2] Pordata: <http://www.pordata.pt/Portugal/Popula%C3%A7%C3%A3o+residente+total+e+por+sexo-6>
- [3] Pordata: <http://www.pordata.pt/Municipios/Ambiente+de+Consulta/Tabela>
- [4] INE, Statistics Portugal: https://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_indicadores&indOcorrCod=0008350&contexto=bd&selTab=tab2
- [5] Pordata: <http://www.pordata.pt/Municipios/Ambiente+de+Consulta/Tabela>
- [6] World Bank: GDP per capita, PPP: <http://data.worldbank.org/indicator/NY.GDP.PCAP.PP.CD>
- [7] Climate-data.org: <http://pt.climate-data.org/location/7058/>
- [8] Câmara Municipal de Torres Vedras, Planos e Projectos, Quality Coast: <http://www.cm-tvedras.pt/ambiente/planos-e-projetos/quality-coast/>
- [9] GT3.Mobilidade, Município de Torres Vedras, Agostinhas-Bicicleta Urbana de Torres Vedras, Águeda, 8 de Abril 2015, Adélia Simões
- [10] Torres Vedras Municipality, Direct Information
- [11] RENER, SIGE-Sistema Integrado de Gestão do estacionamento: <http://rener.pt/sige-sistema-integrado-de-gestao-do-estacionamento/>
- [12] Agostinhas-Torres Vedras: [http://www.agostinhas-tvedras.pt./](http://www.agostinhas-tvedras.pt/)

Author/ Contact



© INTELI-INTELIGÊNCIA E INOVAÇÃO

Av. Cons.º Fernando de Sousa, nº 11 - 5º
1070-072 Lisboa, PORTUGAL
Tel. +351 217 112 210
info@inteli.pt
<http://www.inteli.pt/>