



EcoLogistics

Transporte de carga bajo en carbono
para ciudades sustentables

Cargo bikes for sustainable logistics

Rosario, Argentina



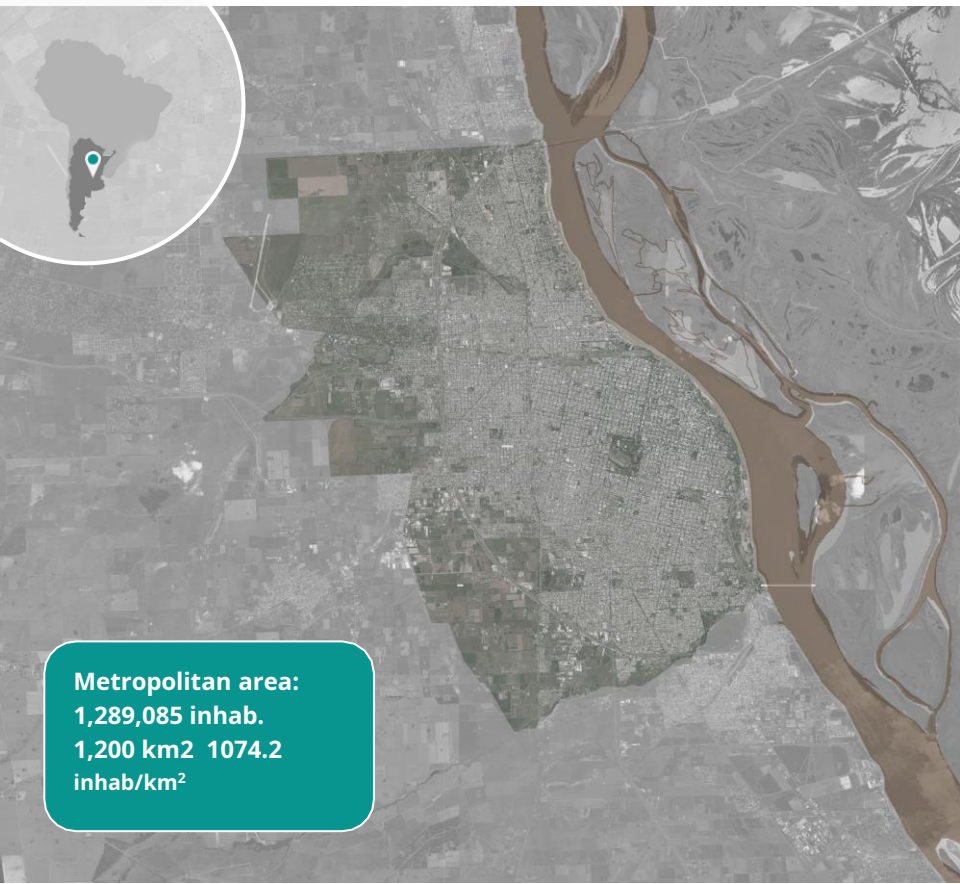
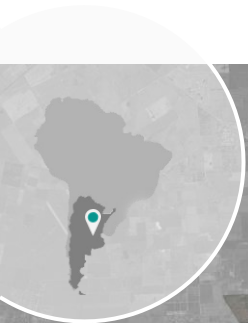
TERRITORY



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Metropolitan area:
1,289,085 inhab.
1,200 km² 1074.2
inhab/km²

- > Rosario is a central point in the national territory, 300 km from the national capital.
- > Strategic center and bioceanic communications node of MERCOSUR.
- > A capital of the metropolitan area of 26 localities
- > One of the largest agro-exporting Poles in the world

TERRITORY



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Rosario:
948.312 inhab.
178 km²
4.741 inhab/km²

- > It is consolidated as the service center of the whole metropolitan area.
- > With a predominantly commercial and service profile.
- > The central area densely populated and with intensity of activities: concentration of shops, services and cultural activities. It brings together most of the mobility infrastructure projects: exclusive lanes, stations of the public bicycle system and associated cycle paths, quiet areas in addition to pedestrian areas.

MOBILITY



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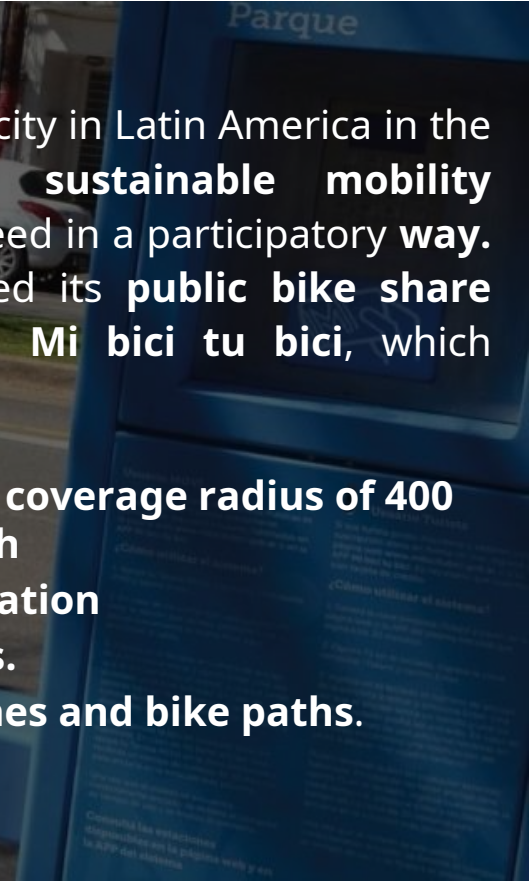
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Rosario is a pioneer city in Latin America in the implementation of **sustainable mobility policies**, always agreed in a participatory way. In 2015 implemented its **public bike share system** in the city: **Mi bici tu bici**, which currently has:

- > **67 stations with a coverage radius of 400 to 600 meters each**
- > **480 bikes in circulation**
- > **83000 active users.**
- > **196 km of bike lanes and bike paths.**



PROJECT



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The proposed project consists of the implementation in a short term of a scalable pilot for a **Bike Share Cargo system integrated into the city's actual Bike Share.**

It is intended to incorporate into the system **20 cargo bikes with geo fences technology** and the associated infrastructure for docking..

The pilot project will be **implemented in the central area of the city and carried out in a period of 6 months** (2 months of design and preparation and 4 months of implementation and evaluation)

PROJECT



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General objective

- Launch a scalable pilot test for the development of a public zero-GHG vehicle system for last-mile logistics, for shops and neighbourhoods services and users of the Bike Share System.
- Promote the use and local development of more efficient and sustainable modes of urban freight.

Specific objectives

- Make visible the impact of urban logistics taking into account the economic, environmental and social aspects influential in the sector
- Provide the commercial and service sector with an alternative for their own logistics with sustainable vehicles to reduce travels in conventional motorized modes.
- Encourage the subsequent acquisition of zero and low emission vehicles by the private sector.
- Offer users of Mi Bici Tu Bici sustainable alternatives for moving volume objects.
- Systematize data about the use of the service to assess its scalability
- Obtain information to assess industry logistics demand
- Continue to promote sustainable mobility policies in the city.

PROPOSED ACTIVITIES



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Gobiernos Locales
por la Sustentabilidad

1. Design / Evaluation

- > System planning, analysis and design (vehicles, docks and software)
- > Infrastructure planning and design (new bike lanes and adaptation of the existing network)
 - > Adequacy of existing regulations.
- > Assembly of vehicle's technical specifications, docks and software.
- > Mapping and contact with potential actors for volunteering.
- > Design of the training and awareness campaign for volunteers

2. Preparation

- > Assembly of technical specifications for the infrastructure.
- > Acquisition of cargo bikes, software and training the operator company
- > Build specifications for awareness and training campaigns
 - > Convocation and formation of the volunteer group
 - > Volunteer awareness campaign.
- > Training for volunteers (road safety, system and vehicles use)
 - > Training for the system operator company.
- > Construction of new infrastructure and adaptation of the existing one
 - > Installation of Cargo Bike's docks
 - > Establishment of monitoring indicators

PROPOSED ACTIVITIES



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3. Implementation

- > Data collection for monitoring and analyzing possible improvements to the project.
- > Maintenance and system.
- > Logistics and distribution of vehicles (Operating Company)
- > Response of requirements and doubts by volunteers
- > Project visibility campaign.

4. Post-work

- > Review of existing regulations.
- > Results provided by the Zaragoza Centre tool.
- > Surveys of perception, evaluation and satisfaction of the system to volunteers
- > Feedback regarding the service from the operation company
- > Systematize the use of cargo bikes service (routes, weight of cargo, number of users)
- > Proposal to improve and expand the system

KEY INDICATORS



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GHG emissions

- CO₂-eq emissions per kilogram transported
- CO₂-eq emissions per delivery

Logistics performance

- Average kilograms of goods delivered per day
- Average kilograms of goods delivered per kilometer by vehicle
- Average distance travelled per day (Kilometers per day)
- Average number of deliveries that a vehicle can accomplish in a day
- Average number of deliveries a vehicle can accomplish per kilometer

Economic impact

- Operation cost per month of zero or low-emission vehicles
- Operation cost of transporting one kg of product per kilometer traveled in zero or low-emissions vehicles

Social impact

- % of actual participants in EcoLogistics-related stakeholder meetings based on the actual potential participants
- Perception of the project direct beneficiaries
- Perception of satisfaction of drivers & employees of the freight companies / bussiness involved in the project in the operation of zero-emission or low-emission vehicles

IMPACT



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- > Reduction of the GHG Emission through the modal shift in the last mile urban freight.
- > Reduction of traffic congestion
- > Improvement of local air quality
- > improvement of commercial competitiveness
- > Increase the urban freight efficiency (time, fuel reduction and others)
- > Increase of the Bike Share System trips, not only by the companies but also for the users.
- > Travels' data collection and analysis (frequent updates).
- > Greater modal coexistence in the downtown/ central area.
- > Improvement of the road safety in the project area of influence (from expansion and improvement of the existing infrastructure).
- > Strengthening of the zero-emission vehicles for the last-mile urban freight.
- > Inclusion of the citizens in the urban freight operations.
- > Improvement of the urban quality
- > Improvement in the population health



CO-BENEFITS



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- > Increase of zero or low emission vehicles in the private sector
- > Flexile expansion of the Bike Share system (through the technology implemented in the pilot project for cargo bikes)
- > Strengthening public mobility services
- > Capacity building of the municipality and the operating company in the face of new modes and challenges.
- > Improvement of the neighbourhood commerce, in commitment with the open street malls and shops.
- > reinforcement of the concept of shared mobility, which may result in new projects such as a fleet of shared electric vehicles.
- > Replicability in other EcoLogistics project cities (from the experiences and lessons learned in Rosario).

SCALING POTENTIAL



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- **From the users**
- **For the territorial coverage:** can be extended to cover more commercial areas of the city.
- **From technology:** incorporating assisted cargo bikes.
- **From the replicability of the private sector**
- **Towards a more inclusive and accessible system**
- **From the replicability in other localities:** replicate the initiative towards the localities that integrate the Rosario's metropolitan area.

1- The local working group (LWG).

- > Formed by different Municipal Secretariats of Rosario: Secretariat of Economic Development and Employment, Secretariat of Planning, Secretariat of Mobility and Secretariat of Environment and Public Spaces and also by the National University of Rosario through the Institute of Transportation Studies. The “public and private Commission for environmental sustainability” - CIMPA is also a member of the LWG.
- > Strategic partners who collaborated in the elaboration of the Low-Carbon Action Plan for Urban Freight: the Business Association of Rosario, Rosario Region's Development Agency, Rosario Technological Pole, Rosario Stock Exchange, Rosario Producers Market, Fisherton Concentration Market and representatives of the Open-Air Shopping Centers and markets of the city.

> The LWG main role is the **coordination of design, implementation and monitoring activities of the pilot project** in order to attend the deadlines and to obtain the expected results together with ICLEI. Also, will be in charge of proposing the long-term improvement and expansion of the system.

> The different areas of the Municipality of Rosario will manage:

- the planification, analysis and design of the whole system (vehicles, docks and software)
- planning and design of the infrastructure (new bike lanes and adaptation of the existing ones)
- road signaling works
- formation of the projects' volunteer group
- guidelines design for the volunteers' training and for the awareness campaign
- preparation of the technical specifications of cargo bikes, docks and stations, software, campaigns and cycling infrastructure.
- regulatory review (when it is necessary)

STAKEHOLDERS



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2-ICLEI - Local Governments for Sustainability

>This project is part of the International Climate Initiative (IKI). The German Federal Ministry of Environment, Nature Protection and Nuclear Safety (BMU) supports this initiative based in a decision of the German parliament. The project is implemented by ICLEI - Local Governments for Sustainability.

>Representatives of ICLEI - Local Governments for sustainability will lead, accompany, coordinate and execute activities in partnership with the local working group. ICLEI will also manage the project's budget.

>ICLEI will choose of the vehicles and software supplier, the consultant or advertising company for the awareness campaigns, the trainings, the project dissemination and any other relevant actions.



3- Volunteers

The group of volunteers are composed by:

- > *Companies surrounding the area of influence*
- > *Commercial or open-air shopping centers within the central area*
- > *Bike Share System User*

The **role of the volunteers** is to use, test, evaluate and report about the operation of the system and the vehicles, in order to be able to make adjustments and improvements based on the user experience and feedback. They are also committed to attend road safety and cargo bikes' users training to achieve the correct and effective operation of the pilot project.



4- Municipal company operating the system Mi bici Tu bici (Movi)

- > MOVI is in charge of the operation, maintenance and rebalancing of the current system and is essential for the follow-up and maintenance of the proposed Cargo Bike System.
- > The staff of the company will receive training regarding the activities and functions that must be developed for the implementation of the software and for the integration of the new vehicles in the existing system.

EXTERNAL PARTNERS



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1 - NGO (STS-Rosario by bike)

This organization has been accompanying for a long time the actions and campaigns to promote the bicycle in our city. It is considered a strategic ally of the Local Working Group, to be involved in the different activities of the pilot, such as the project call and the evaluation of the operation of the system in general.

2 - Vehicle and software supplier companies

Its role is not limited to the provision of the Cargo Bike vehicles and the software but also to accompany the project by giving training for the correct operation, both to the operating company of the system (MOVI) and to the members of the LWG.

EXTERNAL PARTNERS



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3 Consultant or advertising company for awareness and training campaigns

They will execute the campaigns and determine (together with the local working group and ICLEI) the contents, concepts and resources to be used in each of the training. The LWG has human resources to support this initiative.

4 Company providing materials for road signs

It will be responsible for supplying the necessary materials for the tasks of horizontal signaling of bicycle lanes. The Municipality of Rosario has experts, machinery and the necessary tools to carry out the execution.

5 Consultancy for the dissemination of the project

Its role will be to design a communication strategy that discloses the pilot and the results in order to attract users from the private sector.

As part of the **EcoLogistics** project, the developed **Low-Carbon Action Plan for Urban Freight (LCAP-UF)** is structured in three axes. The project is **linked transversely with the 3** of them and certain actions proposed:

Institutional Strengthening

- Generation, systematization and analysis of information on urban logistics
- Identification of indicators for monitoring the Plan
- Policy review and development

Technological Innovation

- Develop information and management systems
- Promote local development and dissemination of knowledge and innovation
- Promote the use of sustainable vehicles in the last mile
- Integrate information related to the freights movement into the smartcity policies

Infrastructure

- Definition of loading and unloading areas for the last mile and management of pick-up points
- The acquisition of vehicles and the expansion and adaptation of cycling infrastructure are part of this axis's objective.



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With the implementation of this project Rosario will deepen its sustainable mobility policies and become the first city in Latin America to have a Cargo Bike Share System for sustainable logistics and encouraging other cities to replicate the initiative by providing experience and knowledge.