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CASE STUDY

ROSARIO, ARGENTINA

2022



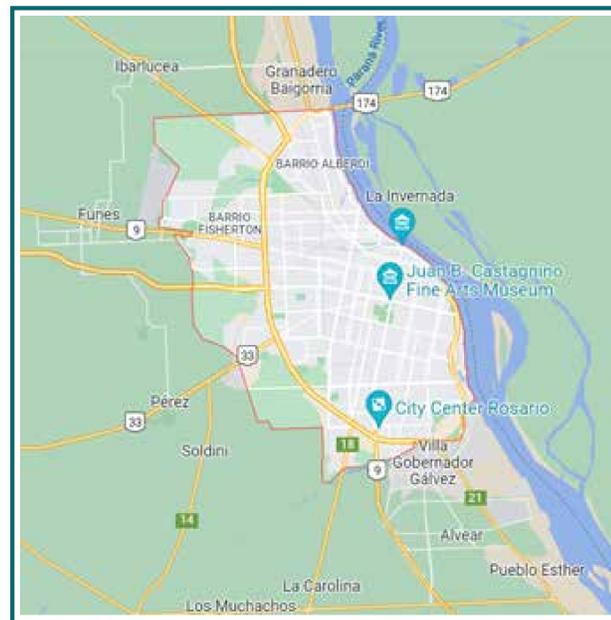
City Profile

Key Information



Local Government Name	Rosario
Official Name	Rosario
Country	Argentina
State/Province (only appears for USA, Canada, Brazil, Australia, and Mexico)	Santa Fe
Population (two adjacent fields: numerical field + year field) + if available: Population growth (annual %)	995.497 million (2018); 0.7% annual growth rate (2001-2010)
Total Area	179 km ² (2017)
Municipal Budget	71,224.2 million ARS (2022) 627.43 million EUR (2022)
Web address	www.rosario.gob.ar/inicio/

Map, identifying city's location in the country



Source: educ.ar, recuperado de <https://ar.pinterest.com/pin/771945192348470257/>; Google maps

Project Profile



Project Title	EcoLogistics: Low carbon freight for sustainable cities
Project start/end date	2018 - 2022
Project objective	The project aims to increase the efficiency of urban freight transport and reduce Greenhouse Gas (GHG) emissions, promoting sustainability throughout the production chain. It focuses on capacity building within governmental and non-governmental actors to build strategies and policies to promote low-carbon and more sustainable urban freight through local action and national support.
Scale (facility, district, city, regional, inter-regional, global)	<p>Project cities:</p> <p>Argentina: Rosario, Santa Fe de la Vera Cruz (Santa Fe), Córdoba</p> <p>Colombia: Capital District of Bogotá, Metropolitan Area of the Aburrá Valley (AMVA), Manizales</p> <p>India: Kochi, Shimla, Panaji</p>
Key Partners	<p>The project is supported by the German Federal Ministry for Economic Affairs and Climate Action (BMWK) through the International Climate Initiative (IKI)</p> <p>It is implemented by ICLEI – Local Governments for Sustainability. The ICLEI World Secretariat is responsible for project management and coordination. ICLEI South America Secretariat and ICLEI South Asia Secretariat are the implementing partners. Despacio, the Smart Freight Center and the Zaragoza Logistics Center are technical partners for this project.</p>

EcoLogistics: Low carbon management for sustainable freight logistics



Rosario, Argentina

Summary

Freight transport is a critical sector in terms of urban logistics and GHG emissions. There are many challenges of the sector that gradually need to be prioritized towards a sustainable, low-carbon city development. It is also conceived as a key sector to the economy of a city.

Joining the EcoLogistics project in 2018 allows the city of Rosario to know its starting point in urban logistics to establish objectives and actions aligned with the current sustainable mobility plan. By developing the "**Low Carbon Action Plan of Urban Freight (LCAP-UF)**" and the demonstration project, the city proves its commitment to decarbonize one of its main GHG emissions sources, the transport sector, which accounted 33,7% of Rosario's GHG inventory in 2020 (Secretaría de Ambiente y Espacio Público de Rosario, 2022).

The LCAP-UF process carried out with the city is presented below, the challenges, lessons learned and the main results of the entire EcoLogistics project are mentioned. It will inspire other cities in terms of the inclusion of the logistics sector in its urban planning, with a perspective of three main areas: a) Logistics as a basis for the city economy, b) multi-stakeholder group participation c) Political will.

Introduction: the importance of decarbonizing the freight transport sector

Freight transport in Latin America and the Caribbean is a sector highly oriented to road transport, with quite diverse actors, generally old fleets, and limited capacities to access financing. Likewise, local governments have focused their efforts on public passenger transport by developing scarce skills and capacities for urban logistics management.

Rosario, the third largest city in Argentina, has many urban logistics challenges caused by the high flow of vehicles, especially in the central area, which is accentuated with the passage of time.

The EcoLogistics project allows the city to understand its initial freight logistics situation. The status report provides guidelines for developing an action plan - the "Low Carbon Action Plan for Urban Freight" - which offers triple-impact solutions with concrete actions and quantifiable objectives in the short, medium and long term.

Rosario, an innovative and sustainable city

The city of Rosario, with a growing and important metropolitan area, is located on the west bank of the Paraná River. Rosario is part of the productive heart of Argentina and constitutes a territory with extensive industrial, commercial, and service productive development. It is the main agro-industrial and port pole in the region.

The city has a complex transportation system, consisting of an international airport, railways, inland ports, and an extensive road network. Due to its geo-strategic location, it is the node of national and international transportation, for trading within the Mercosur States Parties.

Rosario is known for its political commitments in sustainable development and climate change. In 2021, the city received the A score from the CDP-ICLEI platform in recognition to address the climate crisis. At this time, 205 km of exclusive bike trails were developed, with innovative ideas such as the "Bici Base", an initiative to repair and condition bikes free of charge in the public space.

Expanding its action, the city decided to include freight transport into its urban planning agenda. In 2018 the city joined EcoLogistics, and since then has worked on the development of a long-term action plan in the sector and the implementation of a pilot project on last-mile logistics.

In this context, sustainable logistics plays an essential role for Rosario, responding to the city's strategic position of trade at the regional level and recognizing the importance of this sector in contributing to the climate commitments that the city has been leading.

Low Carbon Action Plan for Urban Freight

The EcoLogistics project involves, as one of the main outputs, the formulation of the **Low Carbon Action Plan for Urban Freight** (LCAP-UF), a roadmap on urban freight transport logistics by 2050.

Starting the process: stakeholder engagement

It is highly recommended to consolidate a **Local Working Group** (LWG) composed with main actors of the city in the field, such as public institutions, transporters, commercial chambers, academia, shippers, customers, etc. LWG in Rosario was established by Decree 2147 in 2019.

Baseline consolidation

A diagnosis of the urban freight transport sector was done, including a SWOT analysis. It also contains a baseline related to freight vehicle regulations and restrictions, road freight transport activity, road network and main freight corridors, road safety and GHG emissions from the transport sector.

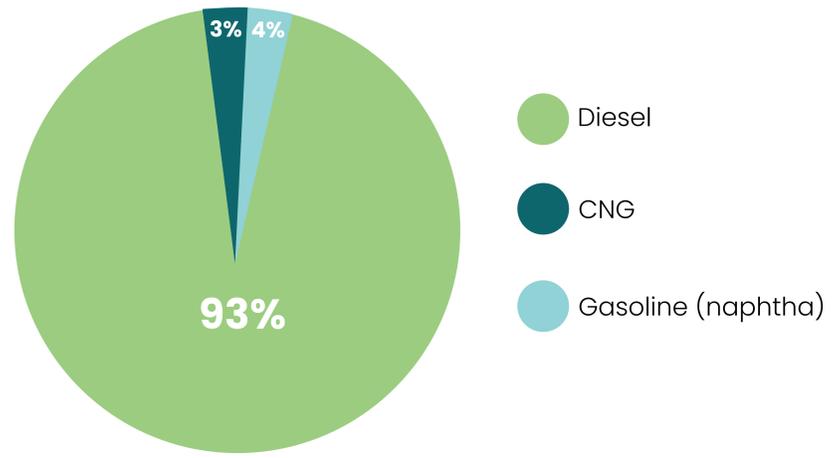
Then, to assess the urban freight performance of Rosario, a stakeholder questionnaire was shared with freight transport operators, receivers, and shippers in 2020. Based on the sample, some of the urban freight key results for Rosario, allowed us to know that the majority of vehicles are between 10 and 20 years (92%), followed by 5 to 10 years (6%) and 0–5 years (2%). Regarding **fuel consumption**, it is estimated that the majority of vehicles of the sample use diesel fuel (93%), followed by gasoline or naphtha (4%) and Compressed Natural Gas – CNG (3%). (See Figure 1).

¹It is important to consider that, according to the Argentine national mandate, gasoline is blended with 12% bioethanol

Figure 1.

Fuel Consumption (without Port fleet) in Rosario 2020

Source: ICLEI-Despacio

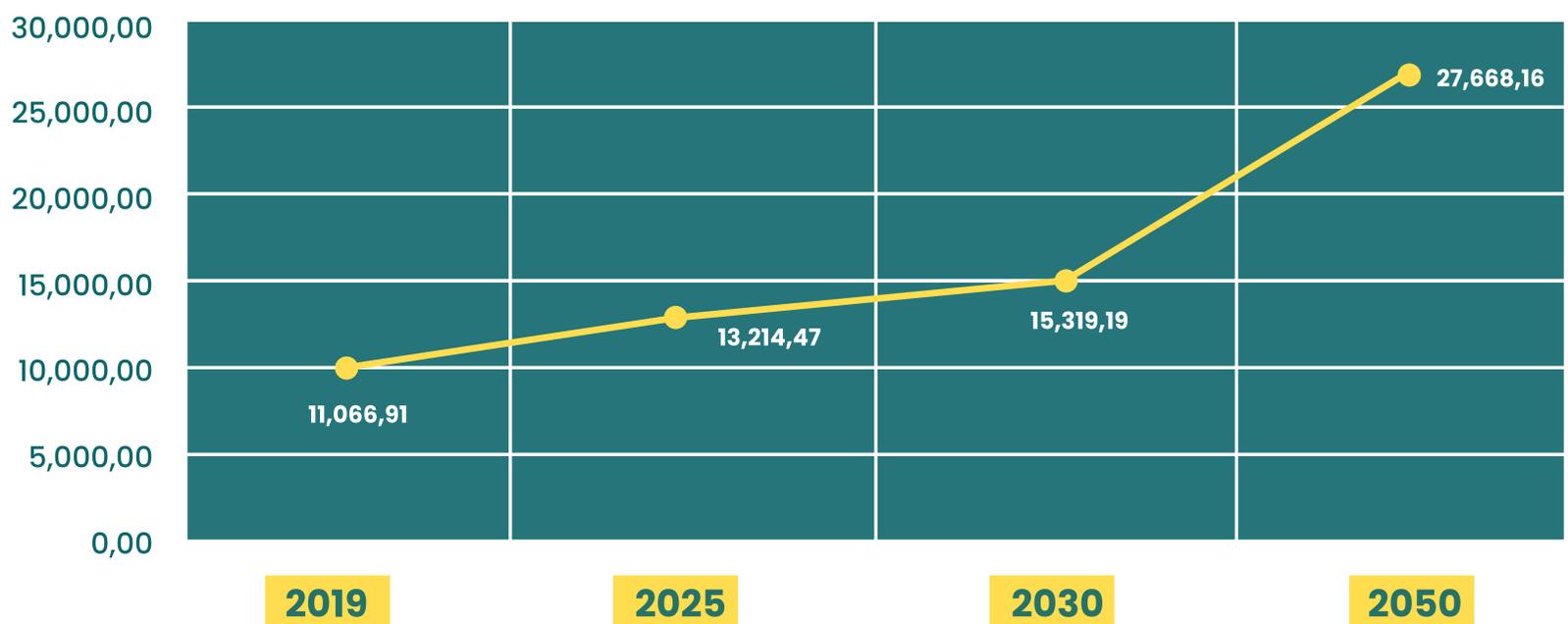


Finally, considering the sample survey data, the GHG emissions of the sector (2020) were 11,067 tCO₂eq. And considering transport related emissions from the GHG Inventory (2016) are 1,093,415 tCO₂eq, as it shows in Figure 2.

Figure 2.

Forecasts for urban freight CO₂e emissions in the BAU scenario (sample survey)

Source: ICLEI-Despacio



LCAP-UF Formulation

Considering the diagnosis and the emissions baseline developed, the LCAP-UF was consolidated, considering 3 main pillars with its actions. The objectives, indicators and enabling conditions of each axis are detailed in the complete document of the city.

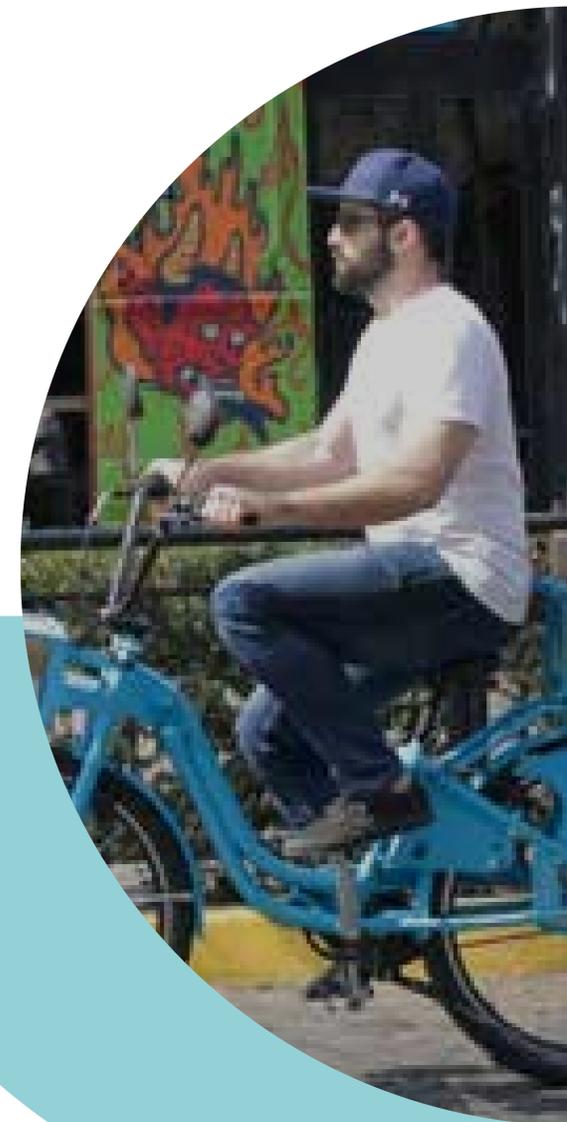
<p>Pillar 1. Institutional strengthening</p> <ul style="list-style-type: none"> • Articulate an institutional structure of work • Creation of multisectoral work space • Generation, systematization and analysis of information on urban logistics. • Review and adaptation of existing regulations - new normative framework. Monitoring compliance. 	<p>Pillar 2. Technological innovation</p> <ul style="list-style-type: none"> • Development of spatial data infrastructure for urban freight logistics in the city. • Generation of digital tools for goods distribution • Dissemination of knowledge and innovation for local development. • Promotion the use of low-emission vehicles and fuels through the creation of public services and pilot tests in private companies.
<p>Pillar 3. Infrastructure</p> <ul style="list-style-type: none"> • Creation and implementation of load consolidation centers or distribution nodes • Definition of loading and unloading areas for the last mile. • Promotion of withdrawal purchases points made through the Internet. 	<ul style="list-style-type: none"> • Promotion of infrastructure's development for electric mobility, through actor coordination • Development and adaptation of infrastructure for the implementation of cargo bikes.

Taking action innovative urban logistics solution

LCAP-UF has a list of demonstration projects feasible to be implemented. For the city of Rosario, integrating cargo bikes into the current public bicycle system of the city (“Mi Bici Tu Bici”) was chosen as the pilot project.

With this project, Rosario became the first Latin American city to promote this innovative model. There is a great community acceptance of the system at the moment, and a big potential of scalability and replicability in the coming time.

The project registered more than 150 users, with an average of 6.5 trips per day and 2 kgCO₂e per trip. The operation, maintenance and scalability of the system, once the present project is finished, remains in the hands of the city.



Results

The city was committed from the beginning, with the involvement of multiple areas and actors. The results of the EcoLogistics project implemented in Rosario are described below:

- ▶ **A self-monitoring tool was developed.** The tool allows cities to calculate GHG emissions and apply them in its projects based on established methods and good practices. In the city of Rosario, the tool was implemented to determine the baseline of greenhouse gas emissions of the sector and the trend scenario.
- ▶ **The Low Carbon Action Plan for Urban Freight – LCAP-UF was consolidated.** Goals, actions and indicators were structured in different pillars to organize the lines of action in three specific categories: institutional strengthening, technological innovation and infrastructure.

- ▶ **A demonstration project was successfully implemented.** The last-mile delivery cargo bikes pilot project showcases the potential of low carbon urban freight strategies.
- ▶ **A projection of future trends in the urban freight transport was elaborated.** Understanding the way forward allows policymakers to make the right decision at the right time. The study examined the freight transport sector and its relationship with the national energy transition, giving a better idea of the context of the city and its optimal projection.
- ▶ **The National EcoLogistics Policy Recommendations – NELPR was made and presented to the national government.** It highlights the potential of urban logistics management for the achievement of NDCs and to strengthen the capacities of the national government to facilitate developments at the local level.

Lessons Learned

- ▶ **Having a specific city team dedicated to the project is especially important.** This team must have technical capacity evaluation; leadership; articulation ability with all stakeholders; decision-making faculty; and proactivity to handle the project. In addition, it is ideal that this team is maintained throughout the implementation of the entire project.
- ▶ **The project's success is highly linked with the multi-stakeholders engagement.** LWG active participation is essential for the collection of information, understanding the challenges and needs in the urban freight sector, and structure the actions and goals to face those challenges. Furthermore, the collaboration between political and technical teams is key to success.
- ▶ **Capacity building and formal training activities** on the challenges of urban logistics and the last mile approach are essential to consolidate the knowledge of all key actors in the sector
- ▶ **Experience-sharing meetings with other local governments are fundamental instances,** which serve as inspiration for cities which are just beginning to venture into the subject.
- ▶ **It is accurate to have disaggregated information available from the city's urban logistics sector.** With the EcoLogistics baseline in the city, there is a first approximation to the diagnosis on urban freight transport. It is important to define an instrument to collect information from private institutions (Transporters, receivers, load generators), about the load movement, fuel consumption, km traveled, types of vehicles.

Challenges

- ▶ **Stakeholders engagement:** The involvement of a multi-stakeholder group and keeping them active throughout the whole process is a challenge. It is necessary to plan a win-win strategy and to find agreements combining public and private perspectives

- ▶ **Continuity of the low carbon transport policies:** To achieve political commitment, despite the changes in local and national government, especially in election periods, is a big challenge. Consolidating plans with a long-term vision as a public policy is strategic.
- ▶ **Data available:** Gathering information on the city's freight transportation and logistics could take considerable time. The main barriers are to define: the type of data needed and the collection and analysis process. The data was not centralized, or there was no traceability, or due to confidentiality policies, it was difficult to access.
- ▶ **Financing:** Generally, there is a lack of resources and financing in the local governments to develop urban logistics infrastructure projects. Therefore, it is important to involve other levels of government or external funding.

Replication

- ▶ **Stakeholder Engagement:** Establishing multi-stakeholder working groups which assist in decision-making processes, as well as communication and dissemination of information mechanisms regarding local actions for urban freight is essential.
- ▶ **Staff:** It is important to highlight the advantage of having a focal point and a team dedicated to the project in the municipality. The trainings, peer to peer exchange, and capacity building sessions are highly recommended.
- ▶ **Time for planning and implementation:** In terms of time, it must be borne in mind that generally there is some uncertainty when planning with local governments. Therefore, it's exclusively important to foresee and analyze the technical, political and economical risks during the formulation of the project.
- ▶ **City Characteristics:** In order to implement low-carbon urban freight actions, having a specific infrastructure for sustainable city logistics becomes an enabling condition. The vision taken in the road map will always go hand in hand with the characteristics of the city and culture. Therefore, a broad knowledge of the territory and its population must be available for the development of all stages of the project.
- ▶ **Finance:** Local governments often do not have the resources to cover the costs of large-scale projects. Therefore, the analysis of external financing opportunities is a key element to the development and consolidation of an action plan. Having a large budget for EcoLogistics allowed, among other outputs, the implementation of a demonstration project.

Costs and Funding

For the development of the project, the financing received to cover personal expenses, national and international events, contracting of specialized consultancies for product development, face-to-face and online training, to develop the baseline tool, the LCAP-UF, national recommendations and others, can be considered for an approximate value of EUR 122.522,84 for Argentina. The implementation of the public bicycle project had an approximate cost of EUR 120.000.

The city also made investments that generated internal costs due to the time dedication of the focal point and the other stakeholders in the municipality who were reviewing the progress of the project.

Additional reading

- ▶ [Creating sustainable cities through low-carbon freight](#)
- ▶ [EcoLogistics Monitoring Tool](#)
- ▶ [LCAP-UF Rosario \(Executive Summary\)](#)
- ▶ [LCAP-UF Rosario \(Complete Version\)](#)
- ▶ [NELPR](#)

References /Sources

- ▶ [Municipalidad de Rosario \(2021\) Plan Local de Acción Climática 2030.](#)
- ▶ [Secretaría de Ambiente y Espacio Público de Rosario \(2022\) Inventario de Emisiones de Gases Efecto Invernadero](#)

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City and partner – funder logos

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