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# CASE STUDY

## BOGOTA, COLOMBIA 2022



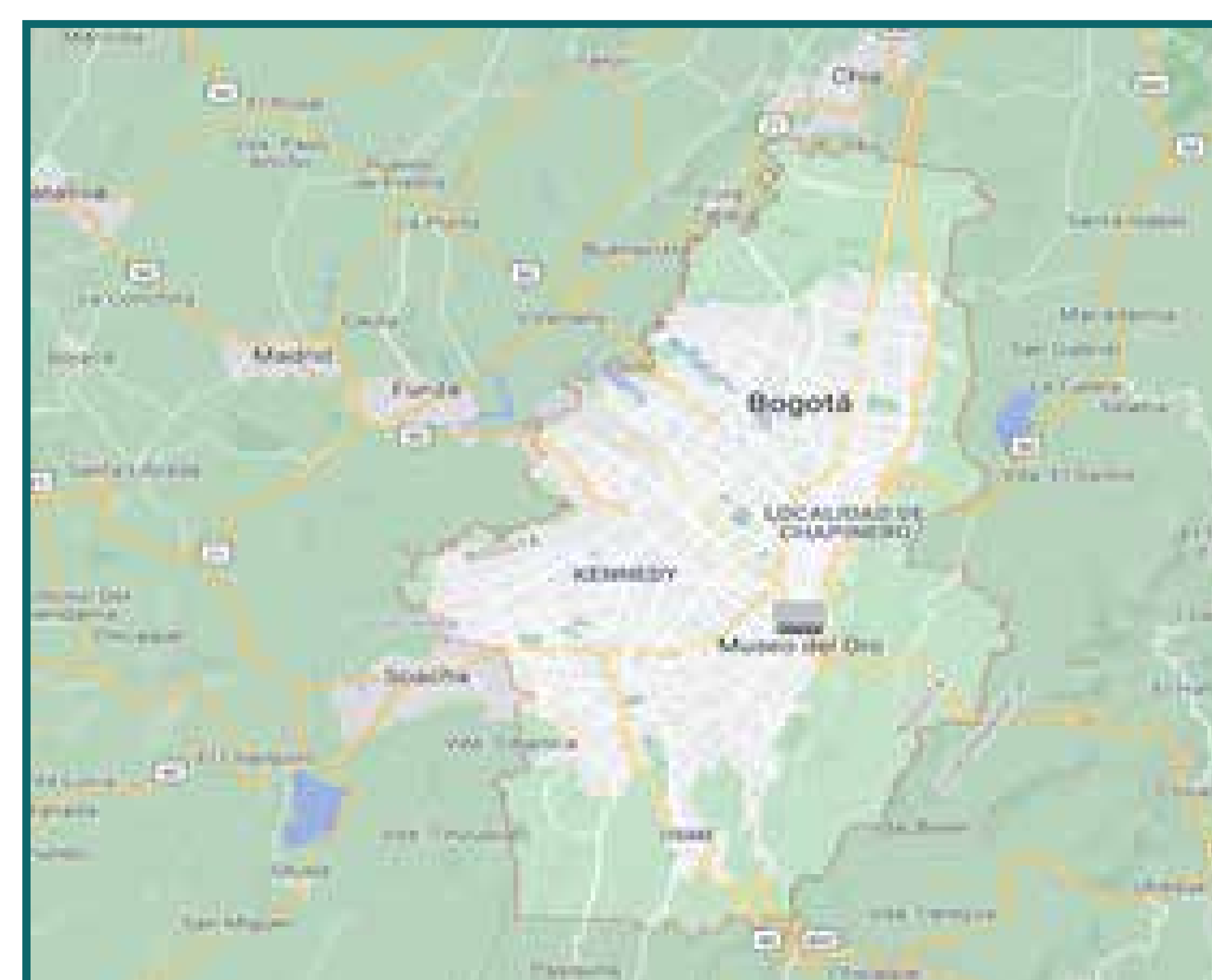
# City Profile

## Key Information



Local Government Name	Bogotá Capital District
Official Name	Bogotá Distrito Capital
Country	Colombia
State/Province (only appears for USA, Canada, Brazil, Australia, and Mexico)	Cundinamarca
Population	8.181.047 (2018)
Total Area	413.88 km <sup>2</sup> (2018)
Municipal Budget	28.509.249.042.000 trillion COP (2022)
Web address (official website of the body)	<a href="http://bogota.gov.co/">bogota.gov.co/</a>

Map, identifying city's location in the country



Source: [Google maps](https://www.google.com/maps), 2022.

<sup>1</sup>[https://www.shd.gov.co/shd/sites/default/files/documentos/Decreto\\_540\\_2021\\_Presupuesto\\_2022.pdf](https://www.shd.gov.co/shd/sites/default/files/documentos/Decreto_540_2021_Presupuesto_2022.pdf)



# Project Profile



Project Title	EcoLogistics: Low carbon freight for sustainable cities
Project start/end date	2017 - 2022
Project objective	<p>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.</p>
Scale (facility, district, city, regional, inter-regional, global)	<p><b>Project cities:</b></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>



## Bogotá, Colombia

Helping local governments tackle urban logistics from a sustainable approach through feasible Low Carbon Action Plans for Urban Freight (LCAP-UF)

### Summary

Bogotá, capital of Colombia, recognizes cargo transportation and logistics as an important sector within its urban planning, in response to it, the city has established multiple programs and projects to improve mobility issues, air quality, and reduce GHG emissions, however, they have largely overlooked issues concerning sustainable urban freight and last-mile delivery in planning efforts overall.

The city joined EcoLogistics project in 2018 to continue this dynamic. One of the most important products was the creation of the Low Carbon Action Plan of Urban Freight – LCAP-UF, conceived as the roadmap for sustainable and low-carbon urban freight transportation in the long term. This case study describes the steps, and actors that were carried out to formulate the LCAP-UF, the challenges, lessons learned, and results within the EcoLogistics that

### Introduction

For Bogotá, mobility issues are predominant in the Colombian capital, due to its extension and growing population. The citizens mostly move around in carbon-dependent vehicles. Air quality and emissions from the transportation sector are some of Bogotá's biggest concerns. To tackle this situation, the city has been working extensively towards sustainable mobility including passengers and urban freight with a comprehensive planning strategy.

With the help of the EcoLogistics project and the collaboration of the city's environment and mobility offices, Bogotá has been able to create its LCAP-UF and implement a demonstration project. Within the LCAP-UF the city could integrate valuable information and strategies to reduce air pollution and GHG emission from urban freight.

### Bogotá Capital District: Colombia's economic and industrial center

Bogotá as Colombia's economic and industrial center, is responsible for almost a quarter of the country's Gross Domestic Product. The city's economy is primarily based on public services. Commerce, restaurants, and hotels are major sources of employment.

Regarding the greenhouse gas (GHG) emissions inventory, the transport sector contributed to around 38% of total emissions (Alcaldía Mayor de Bogotá 2014). The logistics sector in Bogotá is characterized by small and informal business entities, as well as fragmented deliveries, resulting in the complexity of urban freight transport.



## The city that integrates urban logistics in its territorial planning

Few cities in the world have logistics and cargo transportation on their public agenda. Even before the arrival of EcoLogistics, the city of Bogota already had a valuable journey in this process.

A clear example is that through its Territorial Management planning (POT 2035), Bogotá proposes to include logistics infrastructure. In its District Development Plan, 2020-2024 it established a target to “Make Bogotá Region a model of mobility, multimodal, inclusive and sustainable.”

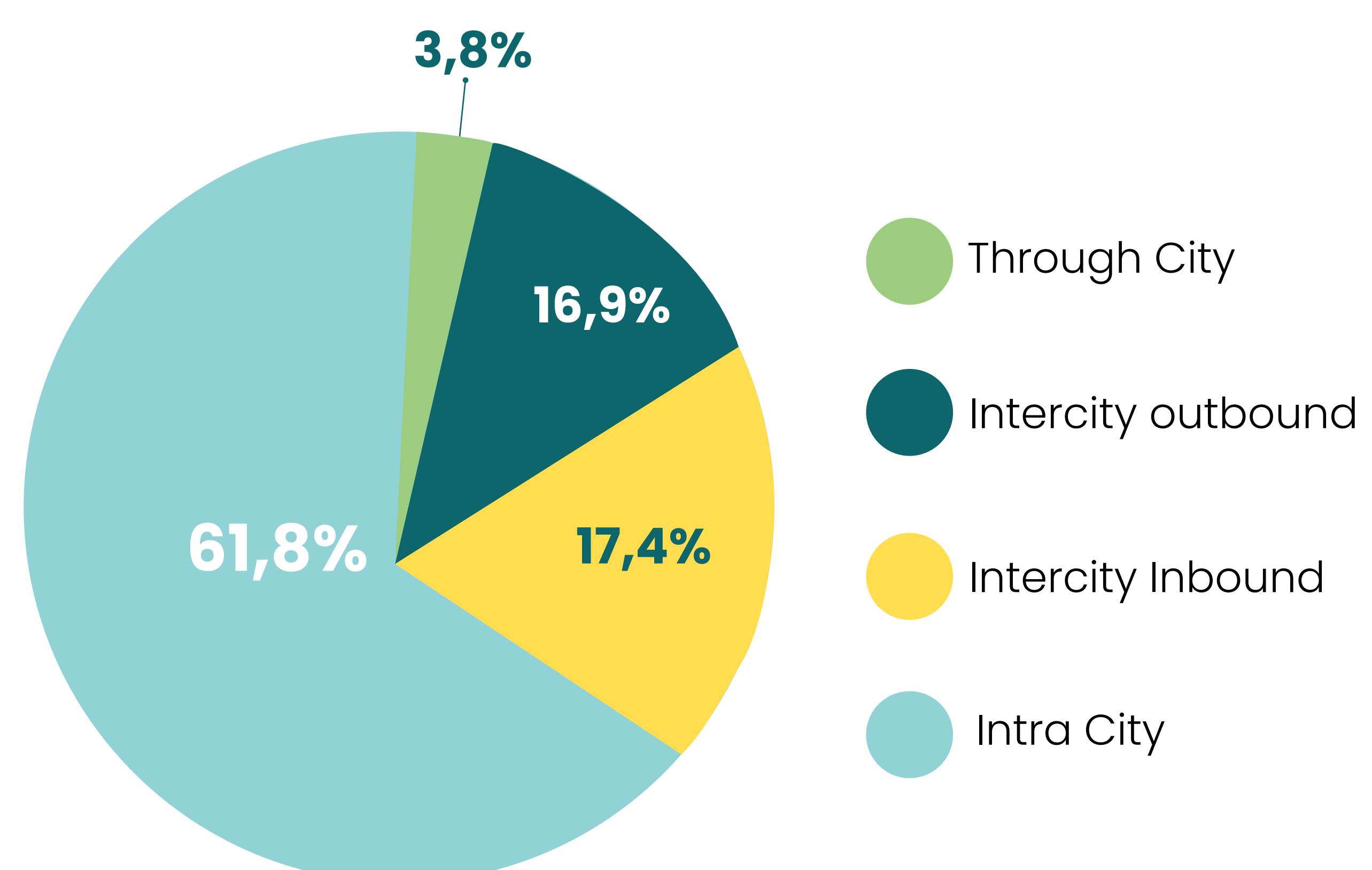
The importance of the Urban Logistics Network (Red de Logística Urbana **RLU**) in the planning and implementation processes of the city is recognized. The **RLU** is an alliance between the District Mobility Secretariat and the private sector, within the framework of the #enCargatedeBogotá strategy.

## Starting point: Baseline for the urban freight transport sector

As a starting point for the elaboration of the LCAP-UF was the collection of data related to urban logistics. EcoLogistics project conducted a stakeholder questionnaire in 2010-2020. The data collected include the type of business, vehicle fleet, the variety of Goods that are sold/loaded/received, trip details and vehicle patterns, fuel consumption, among other aspects.

It is estimated that, on average, approximately 158,000 freight trips are made on a weekday within the city’s limit. From these trips, 3.8% is through the city, while the vast majority is entirely within the city (61.8%); 17.4% of the freight vehicles originate their journey in the city, and 16.9% end it in the city (Figure 1).

**Figure 1.**  
Origin and destination of freight traffic on a weekday in Bogotá (2015)  
**Source:** ICLEI-Despacio



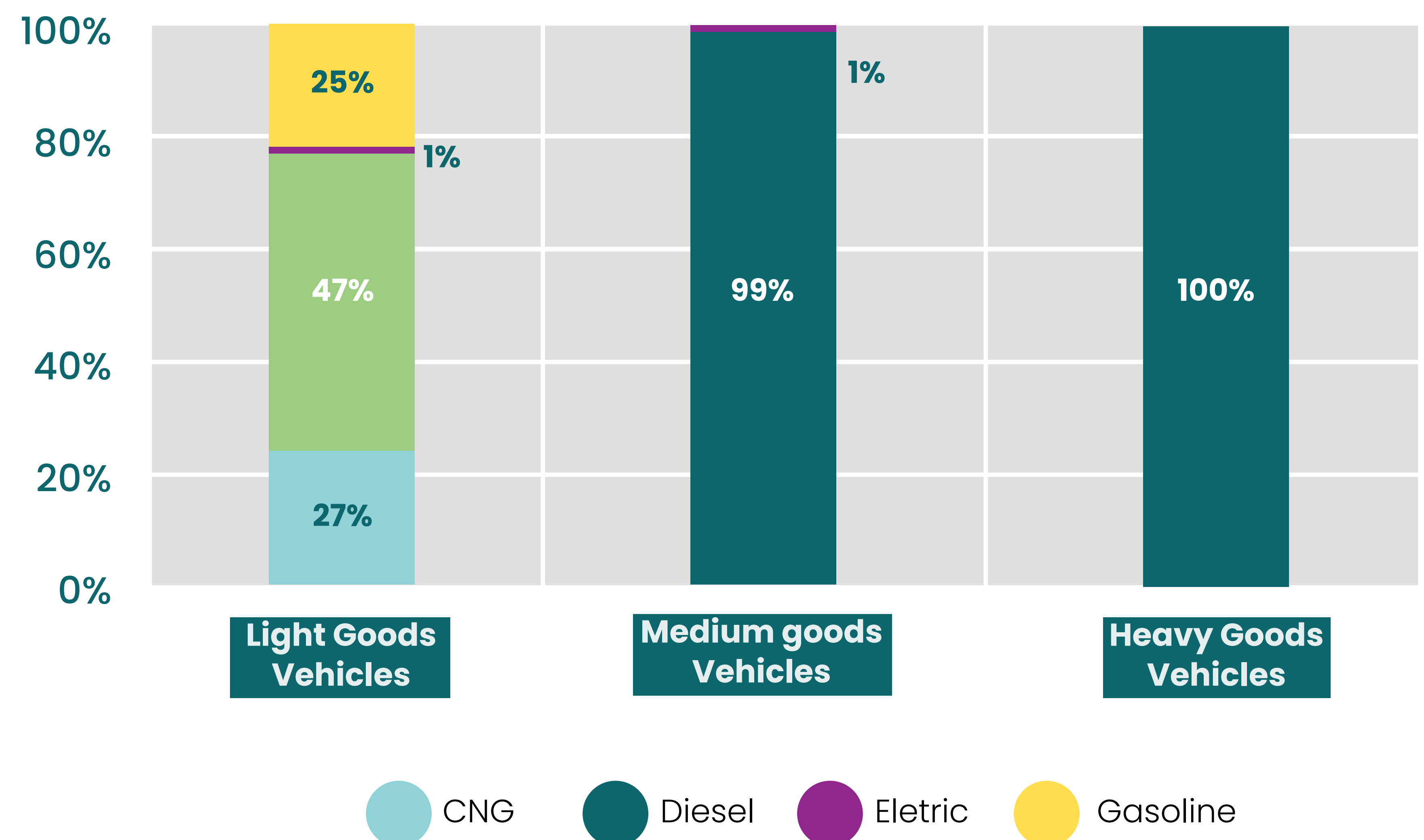
Regarding Fuel used and fuel efficiency, most vehicles consume Diesel (85%) followed by Compressed Natural Gas -CNG (8%) and Gasoline (7%) (Figure 2)



**Figure 2.**

Fuel consumption distribution by vehicle weight classification in Bogotá, 2020.

Source: ICLEI-Despacio



**LCAP-UF: A tailor made plan for Bogotá**

The Strategic Axes, Objectives, Goals, Actions, and Indicators were established, considering the diagnosis of the freight sector, a SWOT analysis, and the participation of the Local Working Group. The actions defined within each strategic axis are indicated.

<p><b>Axis 1. Technological change</b></p> <p>Actions:</p> <ul style="list-style-type: none"> <li>• Workshops for the promotion of the supply of cleaner conventional fuels.</li> <li>• Monitoring and control of vehicle technologies (old and new)</li> <li>• Structuring of non-fiscal economic incentives</li> <li>• Promotion last-mile delivery vehicles of clean technologies</li> <li>• Definition of goals-strategies for the renewal of zero and low-emission fleets</li> <li>• Structuring of tax incentives to promote fleet renewal.</li> <li>• Emission factors and energy consumption characterization</li> </ul>	<p><b>Axis 2. Actions to define the vision for the transit of urban freight.</b></p> <p>Actions:</p> <ul style="list-style-type: none"> <li>• Promotion of loading and unloading in non-conventional schedules</li> <li>• Monitoring of cargo movement restrictions</li> <li>• Harmonize strategies and movement restrictions in freight vehicles according to technology</li> <li>• Definition of merchandise distribution strategy in zero and low emission zones</li> <li>• Characterization of cargo transport</li> <li>• Implementation of Intelligent Transportation Systems</li> <li>• E-commerce strategies</li> </ul>
<p><b>Axis 3. Infrastructure</b></p> <p>Actions:</p> <ul style="list-style-type: none"> <li>• Development of a deconsolidation center and distribution nodes</li> <li>• Integrate the vision of cargo and urban logistics</li> <li>• Electric charging points network</li> <li>• Infrastructure management for transit, parking, loading, and unloading with clear and visible signs.</li> <li>• Assess the feasibility of implementing freight corridors.</li> <li>• Structuring of tax incentives to promote fleet renewal.</li> </ul>	<p><b>Axis 4. Communication, pedagogy, and co-responsibility</b></p> <p>Actions:</p> <ul style="list-style-type: none"> <li>• Articulation and learning spaces through the RLU</li> <li>• Definition and implementation of a strategy to strengthen actors in the logistics sector</li> <li>• Structure a co-responsibility program to improve freight transport efficiency and reduce its environmental impact</li> <li>• Linking and articulation of the cargo sector in the preparation of action protocols in episodes of environmental alert.</li> </ul>

**Stakeholders' role within the LCAP-UF process**

The Urban Logistics Network -RLU- was invited to participate. In all stages of the planning and co-creation process. Also, the municipality of Bogota was involved in creating the plan to guarantee the political will to implement it. The city was fully committed to designing the LCAP-UF, by creating a team of experts.



## From planning to action

Based on the strategic axes of the LCAP-UF and considering the challenges and opportunities identified, different low-carbon urban logistics projects were considered to bring the plan into action. Linked to the first axis, “Technological change,” “Evaluation of cargo transportation alternatives” was described as a key action to improve urban logistics and was implemented in 2022.

## Results

- ▶ **A self-monitoring tool and baseline.** The tool allows cities to calculate GHG emissions of the freight sector and the trend scenario. A baseline for urban freight logistics was consolidated for each city, allowing the analysis of freight vehicle regulations and restrictions, road freight transport activity, road network, vehicle fleet, types of goods carried/received/transported, trip details, and fuel consumption.

- ▶ **The Low Carbon Action Plan for Urban Freight – LCAP-UF.** Goals, actions and indicators were structured in different axes according to the challenges and baseline. It is the roadmap for enhancing the freight movement with a low-carbon approach
- ▶ **A demonstration project was successfully implemented.** Evaluation of cargo transportation alternatives in zero-emission vehicles in the last mile distribution of packages in prioritized areas of Bogotá D.C was implemented.

- ▶ **The National EcoLogistics Policy Recommendations – NELPR.** Presents recommendations to promote better management of cargo transportation at the national level and support local governments in the implementation of their LCAP-UF. It highlights the potential of urban logistics for the achievement of NDCs.





- ▶ **Workshops, webinars, and a cooperation cycle:** Different spaces were held for the exchange of information and knowledge among cities and experts, which allowed the joint construction of the Action Plan.

## Lessons Learned

The participation of Bogotá in this project demonstrates the possibility of including cities and various stakeholders in developing more sustainable urban logistics that support sustainable transport and cargo infrastructure planning.

It is highly recommended to create a Local Working Group -LWG- (or activate/work with an existing one), by a decree or memorandum of understanding, reflecting the roles and responsibilities of each party. In the case of the city of Bogotá, there was the Encargate Strategy, for which ICLEI, as the implementer of the EcoLogistics project, joined this already active group.

In terms of things to look out for, it is important to identify the instruments to source data and create baselines before starting the action plan. In the EcoLogistics project, technical partners such as Despacio, The Zaragoza Logistics Center, and Smart Freight Center were fundamental to creating a solid methodology with statistical value.

Concerning the co-creation process of the Action Plan, joint work among different stakeholders was valuable to construct the LCAP-UF, however, it is important to define the roles of each contributing party at the beginning of the process and this must be made clear from the beginning of the project to avoid setbacks. This influences the validation process of the content of the action plan and how stakeholders engage in this review process.

## Challenges

- ▶ **Stakeholder engagement:** Involving stakeholders is a challenge since it is necessary to bring different points of view and technical knowledge. Logistics projects require private sector engagement since these companies are the ones that move freight and therefore are the ones with the needs of urban freight.

**Externalities:** There were no unforeseen challenges and the pandemic did not greatly affect the project, because the planning stage was developed in virtuality. Concerning the next steps, the city is going to implement the pilot without limitations due to COVID because the risk levels have decreased.

**Consolidating the urban logistics baseline** was the main challenge of the process because there is a lack of urban data available for multiple reasons, due to security or competition issues, companies do not have this data easily accessible, there are no platforms or tools to report the information in a clear and agile manner. It was critical in the process to know what to ask that would serve for decision-making.



- ▶ **Establish goals in the short, medium (2030), and long term (2050)** it is difficult because it requires a real understanding about what the government and the companies can achieve. Related the public sector, this is further reinforced by the fact that government periods last 4 years and sometimes projects do not have continuity.

## Replication

- ➊ **Stakeholder involvement:** It is key to have the participation of a multi-stakeholders group during the whole process. It is important to have a focal point for each sector institution, available to attend meetings, anticipate risks and communicate the main decision to the other members.
- ➋ **Staff:** The participation of the city staff is of the utmost importance since it allows the initiative to develop organically, obtaining responses in time and expanding possibilities when proposing actions to the problems raised. Staff capacity is relevant to meet the time to deliver products, their accuracy, and integration into the different city plans.
- ➌ **Time for planning and implementation:** Having a work plan with clear outputs, activities, deadlines, and stakeholder responsibilities is necessary to know the flow of all the project stages. Project time management directly affects project quality, scope, and cost. Communicating the work plan to the stakeholders is highly recommended.
- ➍ **City Characteristics:** When selecting the influence areas for the development of the project, it is important to bear in mind the different characteristics of the city as its size, main economic activities, geographical context, and population. Also, consider technical aspects needed by the project (safety, vehicle types, company requirements) and policies or strategies that could synergize with the pilot project area.
- ➎ **Finance:** The budget coming from this international cooperation project was key to completing all the outputs, keeping in mind the limited resources that municipalities have designated for urban logistics. To replicate the initiatives and actions, it is important to search for other sources of income, such as the private sector, national government, bank credits, and other funds created to reduce GHG emissions and contribute to the NDC commitments.

## Costs and Funding

For the development of the project, the financing received to cover personal, 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 an approximate value of EUR 113.232,44 for Colombia. The implementation of the pilot project had an approximate cost of EUR 120.000. Bogota 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 involved in the project.



### Additional reading

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

### References / Sources

- ▶ [Alcaldía de Bogotá \(2018\). Perfil de la Ciudad.](#)
- ▶ [Alcaldía Mayor de Bogotá \(2021\)](#)

## Acknowledgements

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## City and partner – funder logos

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