

CITY FEATURES



Bucaramanga is a Colombian municipality, and capital of the department of Santander. In 2015, a World Bank report ranked it as one of the most competitive cities with the best quality of life in Latin America. It is located in the northeast of the country on the Cordillera Oriental, a branch of the Andes mountain range, on the banks of the Rio de Oro River. Bucaramanga has more than 600,000 inhabitants and, together with Floridablanca, Girón and Piedecuesta, makes up the Bucaramanga Metropolitan Area, with a total of 1,224,457 inhabitants. This makes it the fifth most populated urban areas in the country.

The sectors of the economy, in order of largest percentage of the city's economy, are commerce, services and industry; like its population, the economy of the Bucaramanga metropolitan area is the fifth largest in the country.

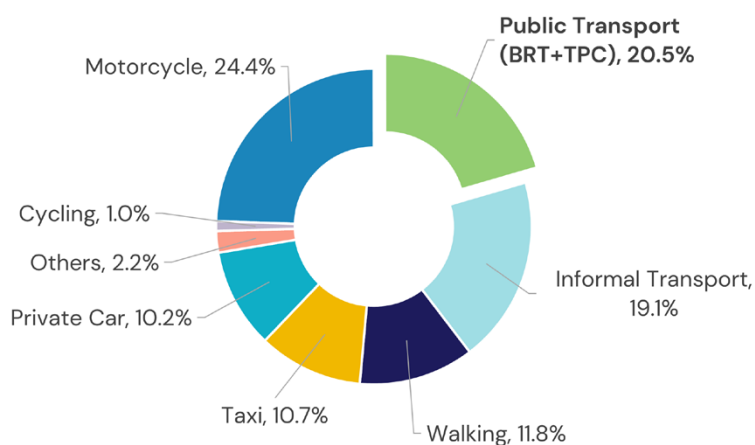
Population
607,428
 (2020)

Land area
162 km²

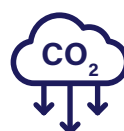
Average temperature
23°C

TRANSPORT FEATURES

Modal Split¹



GHG Emission Levels²



Total GHG emissions
2,629,037 tCO_{2eq} (2019-2020)

From road transport
1,310,663 tCO_{2eq} (2019-2020)

Air Pollutant Levels³



PM 2.5	NO ₂
10 µg/m³	—
PM 10	SO ₂
18.5 µg/m³	—

The Metropolitan Area of Bucaramanga does not have an integrated public passenger transportation system responsible for the operation of both the “Colectivos”, small and medium privately-owned buses, and mass transportation; however, the metropolitan transportation authority continuously evaluates the possibilities of adjusting the services authorized to the Collective Public Transportation (TPC) in order to guarantee transportation supply in the entire metropolitan area of Bucaramanga. The process of complementarity and integration of these two modes is currently underway in order to reduce negative impacts such as congestion, travel costs, air, visual and auditory pollution, accidents and safety, among others, with the aim of positioning public passenger transportation as the first travel option for users, improving accessibility and coverage in the territory.

1 Executive Summary Mobility Master Plan Update, 2022
 2 GHG Inventory of Bucaramanga Municipality
 3 Annual Air Quality Report CDMB, 2022

BUS SYSTEMS OUTLOOK

Bus Trips Features



Number of trips⁴
73,376,585 (2019)
32,911,203 (2021)



Trips by purpose⁶



Trips by gender⁵

Men **27%**
 Women **73%**

Return home **43.7%**
 Work **28.7%**
 Shopping **5%**
 Study **3.5%**
 Errands **3.3%**
 Others **15.8%**

In the city of Bucaramanga, women make up 73% of travelers, compared to men's 27% share. Returning home (43%), and working (28.7%) are the two main purposes for travel. Only 20.5% of trips are taken using public transportation overall. In addition to that, more than 60% of daily trips in the metropolitan region still originate in Bucaramanga. This situation demonstrates the need for public transportation to be enhanced and optimized, as well as to improve the supply and service to the population. The introduction of environmentally friendly modes of transportation, like electric buses, could also enhance the quality of life in the city.

Fleet and Infrastructure



Number of buses
830

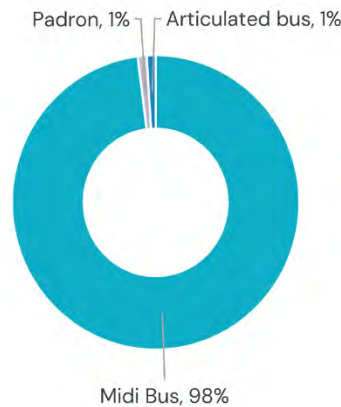


Number of routes
13 BRT
69 Non-BRT

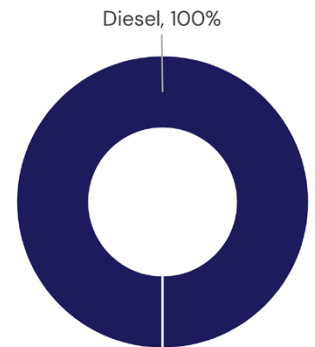


20 BRT bus stops
17 bus depots

Buses by fleet type



Buses by fuel type



Quality of Service

The connection of the public transportation network does not provide complete coverage to all populated areas and does not ensure an acceptable walking distance from the transit stop. The informality and the lack of official routes for rural transportation also create an unsafe scenario. Vehicular traffic gets priority on road space and infrastructure for non-motorised travel is lacking, leading to concerns about safety and quality of service among public transport users.

Additionally, there is no integrated public transportation system that manages both the privately-owned bus fleet and other mass transportation options. Currently, the process of integrating these two modes is underway with the goal of making public transportation the first option for users, improving accessibility and territory coverage.



4 Metrolínea S.A.

5 Gender and Active Mobility, actions to leave no one behind (Moscoso M, et al 2021)

6 Executive Summary Mobility Master Plan Update, 2022

Existing Business Model⁷

A

Model A: Vertically integrated, private operator in BRT/integrated system

B

Model B: Divided responsibilities in BRT/integrated system

C

Model C: Large, more formal, private operator in traditional service

D

Model D: Small, informal, private operator in traditional service

E

Model E: Government-run system

B

Metrolínea S.A., is a corporation incorporated among public entities with contributions from the public sector, managed by industrial and commercial companies of the State. Its corporate purpose is to exercise the ownership, as managing entity of the public mass transit service system. It is responsible for building, operating and maintaining the Integrated Mass Transit System (SITM) through third parties, allowing users to move safely and quickly, and providing use of a single ticket to move (transport integration). The Metropolitan Area of Bucaramanga (AMB), is responsible for planning, regulating, controlling, and monitoring transportation services in cooperation with authorized operators through operating permits or concession contracts.

Metrolínea S.A.'s budget is financed mainly with resources from the collection of transport service fares in the percentages that correspond to the Managing Entity; leasing of premises and advertising spaces in buses and bus stations; sale of SIM cards, and occasionally with transfers from the municipality of Bucaramanga, as well as fines and penalties for performance levels applied to SITM operators.



⁷ Based on "Accelerating a market transition in Latin America: New business models for electric bus deployment", P4G, Zebra and Dalberg, 2020

OPPORTUNITIES AND CHALLENGES FOR ADOPTION OF E-BUS FLEETS



Opportunities

- The TPC fleet is addressing the need to replace the buses that are being taken out of service, and there is a chance to introduce electric buses in 2025 when the useful life of the current fleet of buses expires.
- There is a clear need to have a fleet of new buses, with a new operational design and agreement on a fare structure. Together with the federal government, using co-financing provided by Article 100 of Law 1955 from 2019, Metrolínea should be able to acquire a new electric fleet of buses.



Challenges

- The most difficult challenge is to control informal transport. The current financing schemes do not quantify the risk of low passenger demand and empty kilometers. Therefore, public policies to reduce informal transport offers are needed in order to increase demand – and therefore the fares collected – on mass transit. This increase in fare collection would reduce the need to subsidize the cost of a quality SITM.
- The reorganization process of Metrolínea should be resolved under Law 550 of 1999 and be able to reach agreements with its creditors.



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Acknowledgements

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About the TUMI E-Bus Mission

Funded by the German Ministry for Economic Cooperation and Development (BMZ), a core group of organizations supports cities in their transition toward electric bus deployment. For more information please contact: tumi-network@iclei.org or visit <https://sustainablemobility.iclei.org/tumi/>