

CITY FEATURES

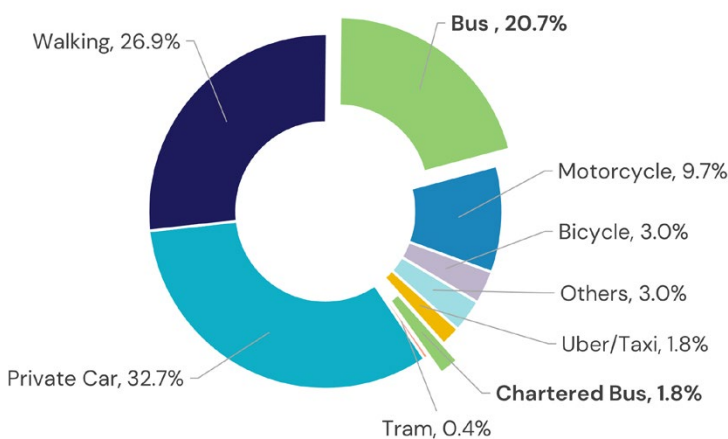


João Pessoa is a Brazilian municipality, the capital of the state of Paraíba. With an estimated population of 825,796 (2021), the city is the eighth most populous city in the northeast region, and together with 10 other cities, it makes the metropolitan region of João Pessoa. It is known as “Sun’s Door” because the municipality is located at the Ponta do Seixas, which is the eastern-most point of the Americas. The city is considered one of the greenest in the world, because it maintains 31.47% of arboreal vegetation and preserved areas of the Atlantic Forest. In addition to this, there is 47.11 m² of green area per inhabitant. The city’s economy is mainly driven by the services sector, responsible for a little over 50% of all the wealth produced, followed by the industrial sector.

Population¹ **825,796** (2021)
 Land area¹ **210.044 km²**
 Average temperature **27°C**

TRANSPORT FEATURES

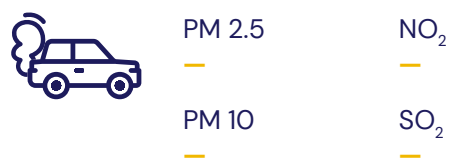
Modal Split²



GHG Emission Levels³



Air Pollutant Levels



João Pessoa has a sprawling and dispersed urban growth model, across different areas of the city and with low population densities. The result is socially segregated cities, which negatively impact the environment, transportation and people’s quality of life.

Seeking to reverse this situation, the municipality approved the Urban Mobility Plan (PlanMob, 2022), which aligned with the city’s Master Plan and adopted the concept of Sustainable Transport Oriented Development (DOTS). This focuses on the integration between urban mobility and land use, establishing guidelines to avoid dispersed urban growth and promote the efficient use of urban infrastructure, bringing housing areas and employment opportunities closer together by encouraging mixed land use near public transport corridors and hubs.

1 IBGE, 2021

2 Executive Superintendence of Urban Mobility, João Pessoa

3 SEEG Municípios, 2019

BUS SYSTEMS OUTLOOK

Bus Trips Features



Number of bus trips⁴
1,391,182 (2019)
768,048(2021)



Average distance
30 km



Average time
80 min



Trips by purpose

- Work **39%**
- Study **25%**
- Health **7%**
- Recreation **5%**
- Shopping **5%**
- Payments **5%**
- Others **14%**



Trips by gender⁵

- Men **40%**
- Women **60%**

The majority of public transport users are between 18 and 39 years old, accounting for 42.9 percent of the total population, thus indicating that the city has a fairly young demographic. The main reason for bus transport users is work, which accounts for 40.9 percent of transport use. According to the Diagnostic Report of the Master Plan for Urban Mobility, more than 50 percent of the bus trips by people with low family incomes use it for work and study purposes. The report also pointed out that the percentage of bus trips for education purposes increases as income grows. The destinations that most attract passengers are the city center, southeast and south regions, as these areas have more jobs and services.

Fleet and Infrastructure



Number of buses
459

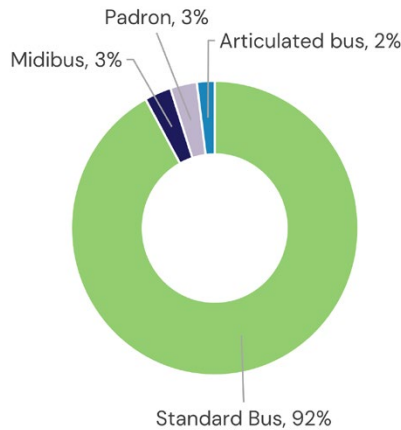


Number of routes
73

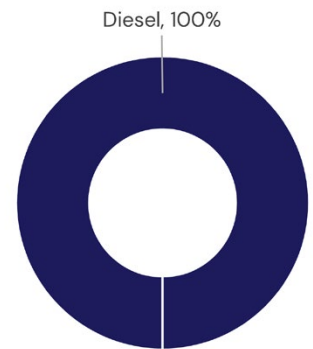


- 1,971** bus stops
- 4** parking garages
- 34** line control points
- 2** integration terminals

Buses by fleet type



Buses by fuel type



Quality of Service

In the city, there is a bus transportation system that is generally radial towards the central area, triggering excessive travel times for users, leading to a significant waste of hours that could otherwise be productive. This leads to detrimental effects on sustainability and quality of life of the general population. This scenario is further impacted by the increase of cars on city roads in recent years, increasing traffic jams, the irregularity of the bus lines schedule and road accidents. In addition, there is an increase in noise and environmental pollution. Although there are multiple public transport modes operating in the region, public transportation lacks effective integration between potential systems, such as buses and commuter rail.



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4 SEMOB João Pessoa

5 Data refers to all kinds of collective transport (Bus, Tram, Ferry, and Chartered Bus)

Existing Business Model⁶

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

C

The bus system of João Pessoa is operated by six companies divided into two consortiums. The consortium started its operation in 2011 with a 20-year term. The Executive Secretary of Urban Mobility (SEMOB) of the city government is in charge of the organization, coordination, control, grant and supervision of the services of the city's transport system. The SEMOB is also responsible for determining the operational characteristics of each line, such as itinerary, terminals, timetables, fleets and fares.



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6 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 city's Mobility Plan, approved in 2022, meets the principles of the National Policy of Urban Mobility – PNMU. It is focused on sustainable urban mobility in all its aspects, defined as a guideline “encourage scientific-technological development and the use of renewable energy and less polluting bus fleets”.
- The deployment of electric buses is an opportunity to implement this guideline of the plan, since it is a non-polluting technology and can have a renewable energy source.
- The efforts of the municipality have been integrated in all its policies for territorial planning, such as PlanMob, the João Pessoa Sustentável Program, and the Master Plan.



Challenges

- Breaking paradigms, prioritizing public transportation and active transportation over individual transportation, promoting improvements in urban infrastructure and management of the Collective Public Transportation Systems and urban mobility.
- Promoting sustainability and environmental comfort through different strategies in mobility, but mainly through an electric fleet, considering the high cost of vehicles and the necessary infrastructure is a challenge to overcome.
- Deploying electric vehicles in the trunk lines, aiming to improve transportation, increasing sustainability and comfort of the population.



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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/>