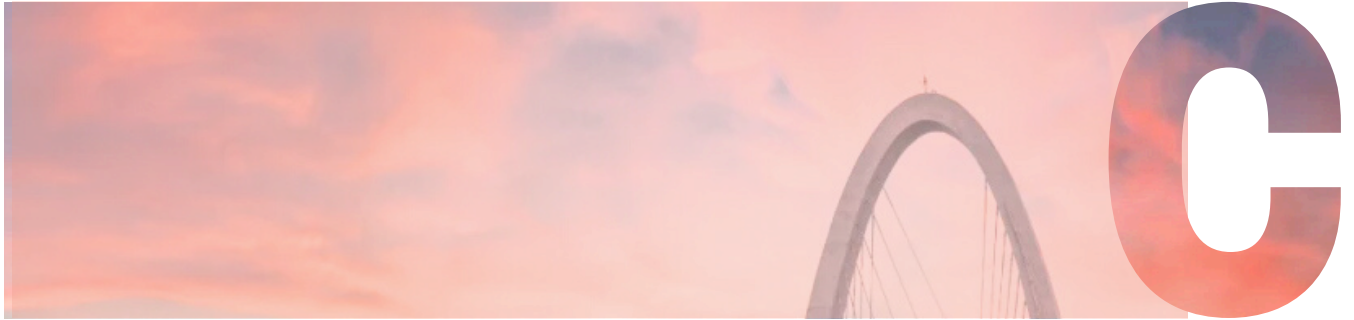


SÃO JOSÉ DOS CAMPOS, BRAZIL



CITY FEATURES



São José dos Campos is a Brazilian municipality in the interior of the state of São Paulo. It is one of the headquarters of the Metropolitan Region of the Paraíba Valley and Northern Coast. It occupies an area of 1,099.61 km², of which 353.9 km² is in the urban perimeter. The municipality is integrated in the Expanded Metropolitan Complex, a macrometropolis with over thirty million inhabitants, the first urban agglomeration of its kind in the southern hemisphere. The city is known for being an important technological and industrial center, with an emphasis on the metallurgical and aerospace sectors. The São José dos Campos Technological Innovation Park, the largest of its kind in the country, hosts research units of large companies and is the only city in the world with research centers of the three largest aircraft manufacturers in the world.



Population¹

697,428
(2022)



Land area

1,099.4 km²



Average temperature

20°C

TRANSPORT FEATURES

Status quo and urban mobility trends

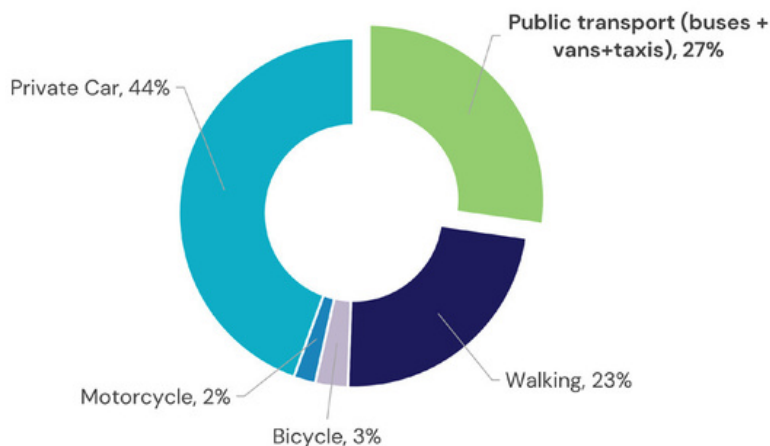
The land use planning policies are in line with the Urban Mobility Plan, especially in terms of the development of a compact city and encouragement of displacement by active modes and public transport. To increase the attractiveness of public transport and reduce the environmental impacts caused by its energy matrix, the City Hall is investing in the electrification of the fleet, linked to the operation model to be tendered. Twelve articulated buses – VLP – have been acquired. With the systems in financial difficulties, due to the fall in demand aggravated by the pandemic, elaborating a model that contemplates electric buses and is economically sound is a great challenge.



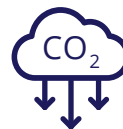
¹ IBGE 2022

TRANSPORT FEATURES

Modal Split²



GHG Emission Levels³



Total GHG emissions
2,973,932 tCO_{2eq}

From road transport
622,305 tCO_{2eq}

Air Pollutant Levels⁴



PM 2.5

11 µg/m³

NO₂

18 µg/m³

PM 10

24 µg/m³

SO₂

2 µg/m³

São José dos Campos, has a diverse transportation modal split. The majority of its residents rely on private cars (44%) for daily commutes, while public transportation accounts for 27%, and walking contributes to 23%. Cycling and motorcycles make up smaller shares at 3% and 2%, respectively. In 2018, the city emitted a total of 2.97 million tons of CO₂ equivalent (tCO_{2eq}), with 622,305 tCO_{2eq} stemming from road transport. Air quality levels show moderate pollution, with PM 2.5 at 11 µg/m³ and NO₂ at 18 µg/m³, highlighting the environmental challenges the municipality faces.

Bus Trips Features



Number of bus trips (total)

51,903,346 (2021)



Average distance

6.5 km



Average time

45 min



Trips by purpose⁴



Trips by gender

Men

62%

Women

38%

Work

44%

Study

16%

Errands

14%

Recreation

10%

Shopping

7%

Return home

5%

Others

5%

The current public transportation system is centered around a radial structure, meaning that the lines originate from various neighborhoods and macro-areas, converging toward the city center, where passengers can transfer to other lines. This justifies the high incidence of lines that pass through this macro-zone – 86% of the total (Origin Destination Survey – 2011).

There is a predominance of the “passenger transportation” mode among those with incomes up to two minimum wages, with 28.5% of women as heads of households. Most of the population declares the reason for their commute as work (37.9%) and study (16.83%).

² Origin-Destination survey Sao José dos Campos, 2011

³ SEEG Municipios, 2022

⁴ Report on air emissions and air quality. Urbanism and sustainability Secretary Sao Jose dos Campos, 2022

BUS SYSTEMS OUTLOOK

Fleet and Infrastructure



Number of buses
392

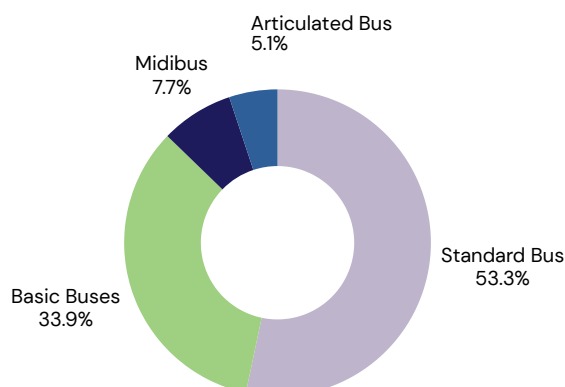


Number of bus routes
99

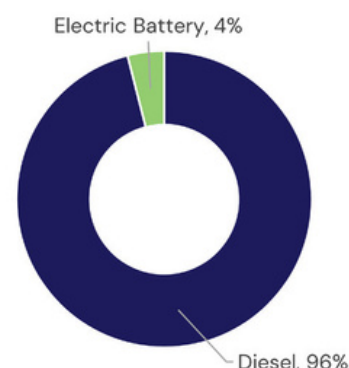


2,515 Bus stops
3 Bus depots

Buses by fleet type



Buses by fuel type



São José dos Campos has 99 urban bus routes, 2,515 bus stops, and 3 bus depots, all managed by public transport operators. The city's BRT system, called Linha Verde, is an important public transport corridor designed to urbanize an area while connecting high-demand neighborhoods and key trip generators. The corridor is served by 12 fully electric articulated buses, introduced in a pilot program in December 2021 and officially launched in August 2022. The Linha Verde offers faster and more comfortable travel, with a 50% reduction in travel time compared to conventional routes. From August 2022 to February 2025, it transported over 3.3 million passengers, with a 90% reduction in GHG emissions compared to diesel-powered vehicles. Additionally, 23% of passengers on Linha Verde integrate with other conventional bus lines. The fleet also includes 13 electric buses (12 articulated and 1 basic), while the rest of the fleet runs on diesel.

Quality of Service

The public transportation system in São José dos Campos is extensive, covering urban and rural areas, with 91.14% of the population living within 0.5 km of a bus stop. Buses run every 20 minutes during peak hours, but bus travel is slower compared to private cars. The system includes 9.64 km of exclusive bus lanes, improving efficiency, and offers a time-based integration allowing up to four transfers within two hours with one fare. Buses are accessible to the elderly and disabled, meeting required standards. Despite a moderate overall satisfaction score of 6.4/10, the system faces issues with comfort and crowding, especially on high-demand routes. Regular monitoring helps adjust services to reduce overcrowding. Safety ratings are generally good, with the system seen as safe, particularly for women, who make up a large portion of passengers. The city continues to work on enhancing the quality, comfort, and efficiency of its transport services.



Existing Business Model⁵

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

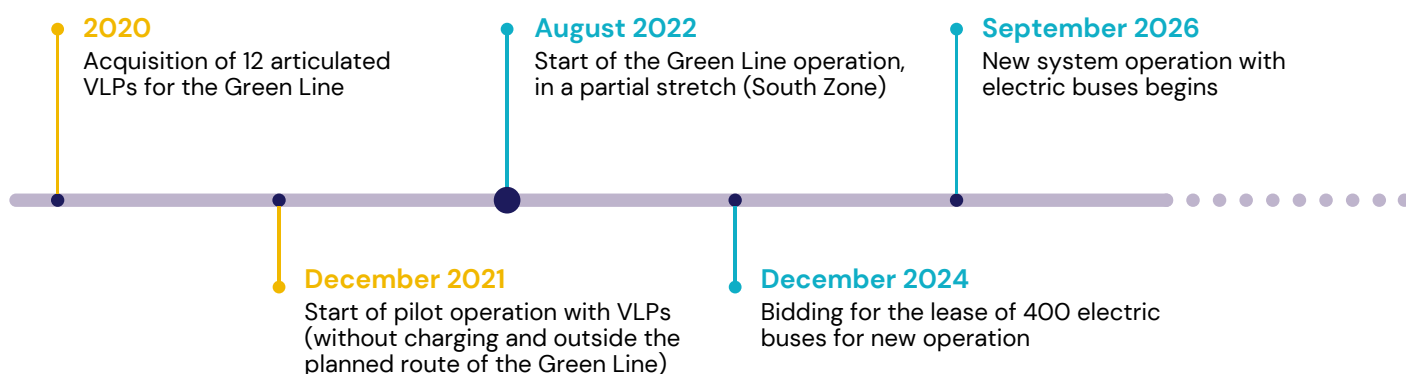
C

The public transportation system in SJC is operated by 3 companies, through a service concession. In the current contract, the companies are responsible for the operation and management of the ticketing, and the City Hall is in charge of the operational planning and inspection of the services. With the pandemic, to maintain the economic-financial balance of the system, the City Hall is financially assisting the companies, since the system does not operate with municipal subsidies.

The current contracts are approaching their end, and the municipality is seeking a new model and distribution of responsibilities among the municipality and the private bus operators. The idea is to separate the operation from the ticketing system for the tendering process and elaboration of new contracts.






E-BUS ADOPTION APPROACH



⁵ Based on Accelerating a market transition in Latin America: New business models for electric bus deployment, P4G, Zebra and Dalberg, 2020

E-Bus Fleet Technical Features

	Model/Brand		Number of buses with this Technology	
	Type A (BYD/D11B ATTIVI EXPRESS)	Type B (MB/OF1721 TORINO)	12 bus Type A	1 bus Type B
	Passenger capacity		Charging System	
	Type A 168 pax	Type B 89 pax	Type A 100 kw	Type B 120 kw
	Battery features		Price	
	Type A Capacity 553 kWh Range 250 km/charge	Type B 125 kWh 100-120 km/charge	Type A R\$2.895.000,00	

E-Bus Business Model

The electric bus operation in São José dos Campos follows a public-private partnership model. The municipality owns the buses, chargers, and energy supply, while private concessionaires handle operations, maintenance, and staffing. The electronic fare collection system is managed by the concessionaires, though the city oversees route planning, fares, schedules, and fleet specifications. To maintain financial stability, the government subsidizes approximately 30% of total system costs, a measure introduced after COVID-19. The model's strengths include fare stability and shared costs and risks. However, challenges include limited municipal control over fare collection, expansion constraints, and reduced influence in vehicle selection.

Opportunities and Challenges to Scaling E-Bus Fleets



Opportunities

With current public transport contracts nearing expiration, São José dos Campos has a unique opportunity to transition to a more sustainable energy model. The renewal of these agreements provides a strategic moment to introduce more electric buses into the fleet, reducing emissions and improving air quality.



Challenges

The main obstacles to expanding the electric bus fleet are the high costs of vehicle acquisition and the development of necessary infrastructure. Establishing charging depots, ensuring a stable energy supply, and funding the transition require significant investment.

OVERALL FRAMEWORK

Policy

The Secretariat of Urban Mobility is responsible for promoting sustainable mobility in São José dos Campos. The Integrated Development Master Plan, approved by Complementary Law No. 612/2018, incorporates guidelines from the Urban Mobility Plan (Law No. 576/2016) to build a more sustainable transport system. The Bike SJC Project, launched in 2024, offers a bike-sharing system integrated with public transport, allowing Bilhete Único users to unlock bikes via QR Code at no extra cost. Additionally, local and state departments oversee transport planning and electric vehicle initiatives, particularly the electrification of bus fleets to enhance urban mobility and sustainability.

Financing

The electrification of public transport in São José dos Campos is supported by multiple funding sources. The electric buses operating on the Linha Verde were partially financed through revenues from the New Rotational Parking concession, while the remaining investment came from municipal resources. These initiatives align with the city's broader sustainable mobility strategy, managed by the Secretariat of Urban Mobility. Alongside efforts to integrate electric vehicles, projects like Bike SJC, launched in 2024, enhance urban mobility by offering bike-sharing linked to public transport, ensuring accessibility and environmental benefits while leveraging both public and private financing mechanisms.

Impact

São José dos Campos has set ambitious climate and mobility goals, including converting 10% of municipal enforcement vehicles and 5% of the public transport fleet to electric by 2025. Full replacement of the urban bus fleet with electric vehicles is underway, with deliveries planned from September 2025 to September 2026. The Secretariat of Urbanism and Sustainability is finalizing a baseline emissions assessment. Key initiatives include finalized electric bus leasing, ongoing fleet replacements (since 2018), electric bus testing (2022–2024), the operational Bike SJC program, and continuous expansion of cycling infrastructure. The transition is inclusive and fare-free, ensuring access for all communities.



TUMI E-bus Mission City Network – Profile

SÃO JOSÉ DOS CAMPOS, BRAZIL



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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.

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