tumi
E-Bus Mission

Deep Dive City
Curitiba
Brazil

ebus.transformative-mobility.org
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Transformative Urban Mobility Initiative

General Information about the City[1]

Population
1.96 million

City Area
434 km²

Average Temperature
21 °C

Annual Rainfall
1500 mm/year

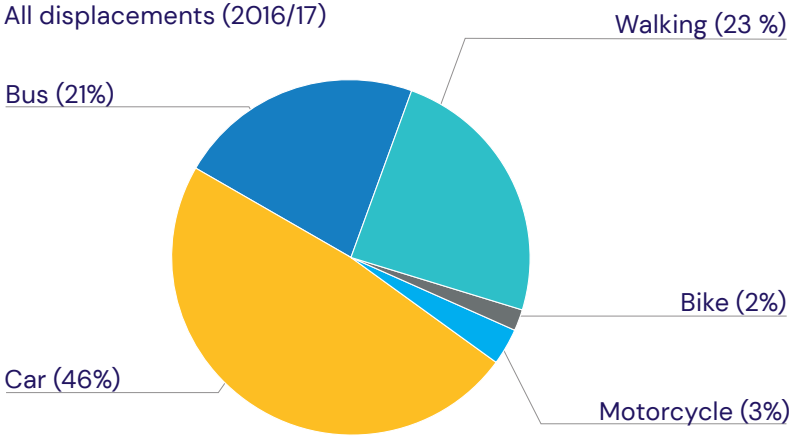
Climate Risks
Sorm - rain storm
Storm- severe wind
Flood - river flood

Number of Car Ownership
1,113,790 car fleet
567 cars per 1000 inhabitants

GDP (US Dollars)
18,4 billion
Rate 1 USD = 5.21472 BRL

Urban Mobility System[2]

Modal Split
All displacements (2016/17)



Public Transport Modes
- Bus Rapid Transit (BRT)*
- Conventional Municipal Bus*
- Conventional Metropolitan Bus
- Coach bus (Metropolitan line connecting airport to city downtown)
- Taxi
- Ride-hailing apps
- Bike sharing system (current bidding process)

* Integrating RIT. RIT is granted to 3 consortia that bring together 10 bus operators. Each consortia assigned an exclusive geographic

Carried passengers
(Avg. daily demand)

2019: 1.36 M pax/day
2021: 0.71 M pax/day

Gender equity
(Share of women of all public transport passengers 2016/17)

61%

Total No. of Routes / Buses *RIT*
- 254 routes
- 1200 (2019) operational buses (Trunk and feeder services comprising 72.2 km bus-only lanes with inter-neighborhood ring routes)
- 966 (2021) operational buses

Climate and Urban Mobility Policies

Vision for net zero urban mobility

- Decarbonize the public transport fleet
- Attract customers to public transport
- Promote active mobility

Experiences

- **1980´s**: First studies on inclusion of low-carbon buses, proposal to electrify the system through the implementation of trolleybuses;
- **1998**: First study on battery-electric buses with automaker Fiat;
- **2010**: Test of hybrid buses (batteries and diesel) in partnership with Volvo, which make up the fleet to this day;
- **2014**: Test of Volvo plug-in electric hybrid systems and signature of an agreement for the development of an articulated hybrid vehicle;
- **2014**: Three-months test of BYD fully electric articulated bus;
- **2015**: Comparative Study between four propulsion technologies for buses (diesel, hybrid, biodiesel and electric), with the main objective of evaluating the 100% electric vehicle proposed by BYD in relation to other technologies that were already in operation or testing in Curitiba.

Political Commitments

The Urban Mobility and Integrated Transportation Plan (PlanMob) was published in 2018 and is currently under revision. Main objective is modernization of metropolitan connections and prioritization of low-carbon public transportation and nonmotorized mobility over the use of private vehicles (focus on accessibility).

References:

1. - https://www.c40.org/cities/rio-de-janeiro/
   - https://cidades.ibge.gov.br/brasil/rj/rio-de-janeiro/panorama
   - https://www.gov.br/infraestrutura/pt-br/assuntos/transito/conteudo-denatran/frota-de-veiculos-2021
2. - https://www.ebusradar.org/en/

Electric Buses

Targets for electric bus adaption

1. 100% of the bus fleet of Lines Inter 2 and BRT East/West operating with electric buses.
2. 100% of passenger transport vehicles powered by clean or renewable energy in 2050.

Ongoing Projects and Planned Projects

- Inter 2 and BRT East/Weast: By 2024, the city plans to deploy approximately 150 articulated electric buses in Inter Lines 2 and the BRT East/West. The main objective is to provide improvements in mobility conditions, initially through interventions in the road infrastructure, starting in 2021, and later through the renewal of the vehicular fleet;
- Next urban transport bidding: By 2025, the city has the opportunity and plans to introduce electromobility into the city's new public transit bidding process.

Bus Technology Share

1513
ICE – Buses

30
Hybrid-Buses

0
E-Buses

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