TUMI E-bus Mission City Network - Profile

BOGOR, INDONESIA

CITY FEATURES

The city of Bogor is located in the West Java Province and is at a distance of approximately 60 km from Jakarta. This gives Bogor potential for the development and growth of the economy and services, as the national center for industry, trade, transportation, communication and tourism. Bogor has hilly and undulating contours with varying heights - a minimum elevation of 190 meters and a maximum elevation of 330 meters above sea level. Bogor's economic structure is dominated by 6 business fields, namely, wholesale and retail trade, industry processing, transportation and warehousing, construction, information and communication, and financial and insurance services.

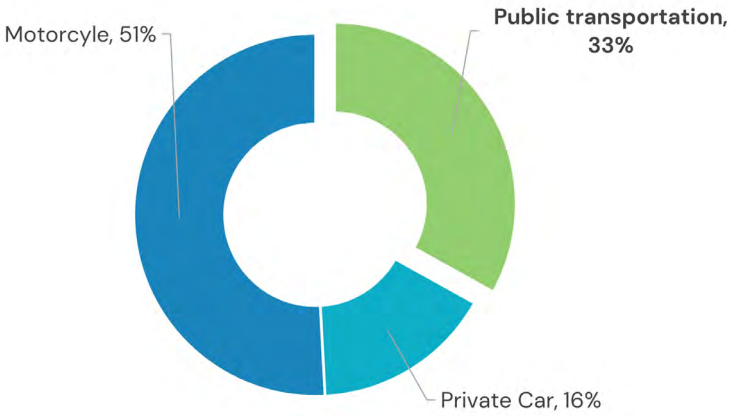
Population
1,052,359

Land area
111.38 km²

Average temperature
33.9°C

TRANSPORT FEATURES

Modal Split[1]



GHG Emission Levels

Total GHG emissions
2,044,087.41 tCO_{2eq}

From road transport
368,983.18 tCO_{2eq}

Air Pollutant Levels

PM 2.5	NO_2
44 µg/m³	**—**
PM 10	SO_2
37 µg/m³	**—**

Mobility in Bogor is currently still dominated by private vehicles, especially motorbikes, where public vehicles only contribute around 33% to GHG emissions. Public transportation is dominated by Angkot, a mode of public transport with a predetermined route, which currently has service coverage of up to 80% of the area. However, Angkot routes concentrate towards the city center, so currently rerouting and reducing the use of Angkot is in process. This is followed by conversion 3 - 1 and conversion 2 - 1, based on the Structure Reform of the Angkot Public Transport, carried out by the Bogor Transport Agency. The Structure Reform follows several indicators, namely, rerouting, formation of legal entities, compensation/subsidies and adjustment and relocation of street vendors (PKL). Since 2021, Trans Pakuan has been operating in collaboration with Jabodetabek Transportation Management Agency (BPTJ). Moreover, the city also has a Sustainable Transportation Development Program listed in the regional development planand has also tested electric buses in collaboration with the private sector.

1 Survey BPTJ, 2019

BUS SYSTEMS OUTLOOK

Bus Trips Features

Number of bus trips (return trips)
11,690 (November 2022)

Average time
12 min/km

Passengers by gender

Men	**41%**
Women	**59%**

Trips by purpose

Study	**32%**
Work	**30%**
Recreation	**13%**
Take and pick up kids from school	**13%**
Shopping	**12%**

The Trans Pakuan bus is widely used by the residents of Bogor for work, mostly by residents aged 27 - 45 years. That means that the majority of buses are usually full when leaving and returning from work. The bus users are also mostly women as men are captive motorbike users. Most of the passengers in public transport belong to the lower middle income group and use buses to destinations within a distance of up to 7 km.

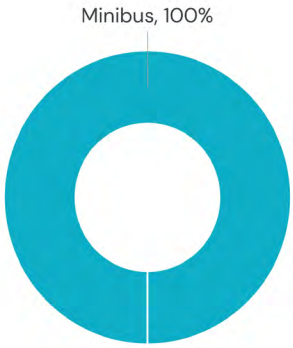
Fleet and Infrastructure

Number of buses
49

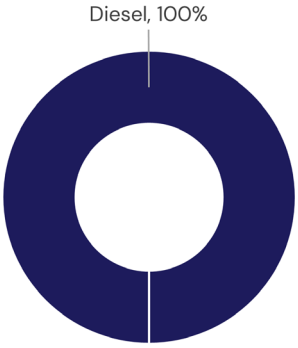
Number of routes
4 (BRT)

30 bus stops
1 bus depot

Buses by fleet type



Buses by fuel type



Quality of Service

Trans Pakuan is a comfortable mode of transportation because buses are equipped with AC, CCTV and are friendly for disabled users. Trans Pakuan is also well-equipped with an application to make it easier for passengers to get information on travel routes and , departure/arrival schedule/(real-time). Trans Pakuan has 4 corridors that reach the outskirts of the city. Currently, the buses are operating without charging any fare from passengers and fully subsidized by the national government. Based on an evaluation of Bogor's public transport in 2022, the load factor in several corridors is still below 70%, both on weekdays and weekends. The buses have the headways between 6 to 14 minutes, depending on the corridor.

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Existing Business Model[2]

A	B	C	D	E
Model A: *Vertically integrated, private operator in BRT/integrated system*	***Model B:*** *Divided responsibilities in BRT/ integrated system*	***Model C:*** *Large, more formal, private operator in traditional service*	***Model D:*** *Small, informal, private operator in traditional service*	***Model E:*** *Government-run system*

A

The Trans Pakuan, a municipality-owned entreprise (BMUD), is a company that operates and manages the public BRT in the city of Bogor. The public BRT is supported by the national government in a contractual framework which is renewed each year. Currently, the BRT is in trial phase and free for public. Later, the national government and the Trans Pakuan will adjust the fare system for the BRT. The local government regulates and manages bus routes, bus stops, operational and bus specifications.

D

Mini-bus (Angkot) is a privately owned 8-seat passenger vehicle, which is owned by multiple mini-bus Angkot operators called Angkot Association. Mini-bus Angkot association is allowed to operate at the certain registered routes and collectively self-regulate by managing its own routes and schedules. Angkot operators require a license for the operations from the Bogor city government and are regulated by the Bogor city transport agency.

2 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 national government has set a target that all cities/districts use 100% electricity-based public transportation by 2045. This has become the main opportunity for the local government to accelerate the transition towards e-bus deployment.
- Bogor has committed to deploying e-buses, as indicated in its medium-term development plan with the Sustainable Transportation Development Program.
- Currently, the local government is revising the regulation related to transportation by adding the use of alternative energy for the public transportation. Moreover, an e-bus trial was conducted in collaboration with the private sector, and checking the feasibility of implementing e-buses in Bogor is underway.

Challenges

- Limited budget of the local government to deploy e-buses and their infrastructure, such as charging stations remains one of the main challenges in Bogor, as it needs high investment upfront.
- Limited understanding and knowledge of e-bus operations amongst local government and bus operators is an added challenge for Bogor to deploy e-buses.
- No clear guideline or policy regarding the transition to e-buses limits local government to take the necessary steps forward. Moreover, currently the city of Bogor is focusing on reducing the number of Angkot because of the large number of routes overlapping in Bogor's city centre.

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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/

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