

CITY FEATURES

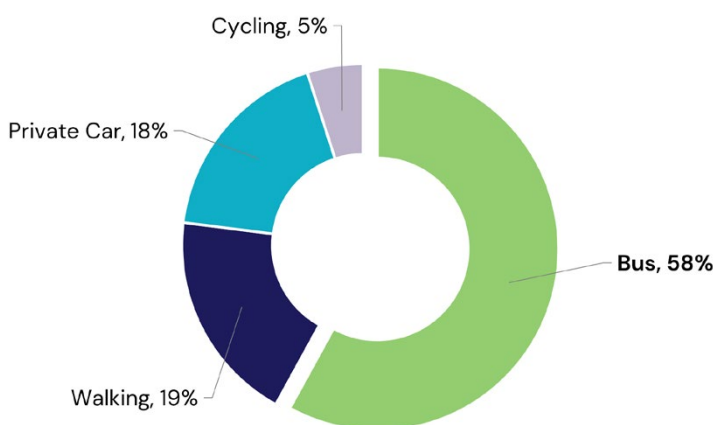


The State of Mexico is located in the central plateau of the country, with several municipalities surrounding Mexico City to the north, east and west. Much of the territory is covered with mountain trails and valleys, and most of the inhabitants live in the surrounding area. For decades, the city has encouraged individual motorised transport. The low density and unmixed urban growth towards the peripheral areas results in an average commute of 2 hours from origin to destination, with long delays and congestion.

 Population	 Land area	 Average temperature
17,000,000 (2020)	22,500 km²	14.7°C

TRANSPORT FEATURES

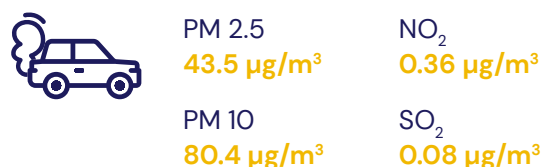
Modal Split¹



GHG Emission Levels²



Air Pollutant Levels³



In each region of the State of Mexico, public transport is governed according to its service area, but metropolitan areas have a greater influx of private vehicles and public transport service due to population and industrial growth. However, the transport system has not been able to meet the growing demand. Therefore, the government is continuously trying to provide an alternative to meet the transport needs by introducing commuter trains, cable cars (Mexicable), etc. During the last decade, the introduction of the Mexibús system in the State of Mexico has largely responded to the growing daily demand as more than 10 million Mexicans from the municipalities surrounding the Mexico City Metropolitan Area use the system.

1 Origin-Destination Survey, INEGI, 2017

2 Inventario Estatal de Emisiones de Gases de Efecto Invernadero, 2018

3 ProAire Estado de México (2018-2030)

BUS SYSTEMS OUTLOOK

Bus Trips Features



Number of bus trips
1,774,980



Trips by purpose⁴

- Return home **47%**
- Work **22%**
- Study **12%**
- Errands **7%**
- Shopping **7%**
- Recreation **3%**
- Others **2%**

Public transport passengers have to adapt to the schedules and routes offered by the operator; the service is maintained by charging passengers directly. Normally these services are regulated by the State Government.



Average time
2 hours

Young people, due to their school and work activities, are captive users of public transportation; another segment are men and women who use public transport daily to go to work and tend to travel to Mexico City since it is the destination point of their employment. Passengers take up to two hours to get to their destination in a one-way trip, whether it is work or school or a trip for shopping or to visit places or relatives.



Trips by gender⁴

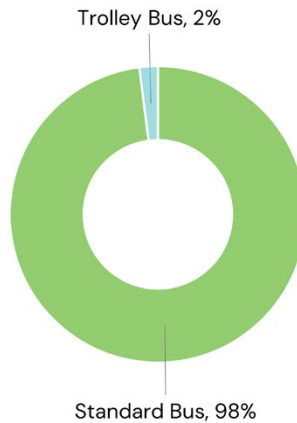
- Men **49.9%**
- Women **50.1%**

Fleet and Infrastructure^{5,6}



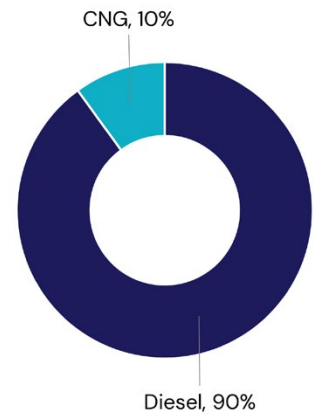
Number of buses
8,966

Buses by fleet type



Number of routes
4 (BRT)
4,780 (non-BRT)

Buses by fuel type



Number of bus stops
187 (BRT)

Quality of Service

The State of Mexico has a broad infrastructure of roads and highways that connects it with the remote areas. Public buses operates over long distances outside metropolitan areas, for example, towns and remote locations where the transport services are scarce. In metropolitan areas, due to the high demand, women, children and the elderly struggle to travel comfortably. The growth of the vehicle fleet has congested inner-city roads, resulting in public transport users reaching their respective destination in approximately two hours. The number of small enterprises are involved in the provision of public transport services, therefore, these small firms have to compete with each other to attract greater number of passengers.



4 Origin-Destination Survey, INEGI, 2017

5 ITEM, 2022

6 Appearance of the C. Secretary of Mobility before the LX Legislature of the State of Mexico, October 23, 2020.

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

A

Mexibús is a BRT system promoted by the state and managed by the Sistema de Transporte Masivo y Teleférico. Operations are subcontracted to the following companies: Transmasivo S.A. (line I of Mexibús), Transcomunicador Mexiquense, S.A. de C.V. (line II of Mexibús) and Red de Transportes de Oriente S.A. de C.V. (line III of Mexibús). It has 4 lines with a total length of 79.6 km and 134 stations. The current fare is \$9 Mexican pesos. The service schedule depends on each line, operating from Monday to Sunday from 4:00 a.m. to 1:00 a.m.

C

Separate lines for minibuses, buses and vans (combis) operate in the State of Mexico. The responsibility for operations rests with the private companies. However, fares are decided by the State Ministry of Mobility. Currently, the fare is \$12 Mexican pesos for the first 5 km and increases by \$0.20 for each additional km. Each route must have a visible fare structure for passenger information. In addition, other means of transport include the suburban electric train in the Valley of Mexico which is environmentally friendly and allows free access for persons with disabilities.



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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

- Infrastructure needs to be adjusted to introduce dedicated lanes for public transport services to avoid congestion delays.
- Discussions are ongoing with the private sector to improve the public transport service in the city. Companies have committed to promote electric buses and vans in the city.
- In the metropolitan mobility plan, the aim is to build an integrated mass transport network, along with improving infrastructure, by attracting leading companies to restore public transport. Operators are also encouraged to start trial runs of electric vehicles.



Challenges

- Concessionaires do not have the capital to advance the bus fleet, they need financial support from the government to renew the fleet or build capacity to adopt electric buses.
- It is important for private operators and the government to discuss future service provision and how to address green issues through the deployment of environmentally friendly bus systems.



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Publisher

ICLEI – Local Governments for Sustainability. e.V. © 2023
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The publication should be cited in full as: "ICLEI – Local Governments for Sustainability (2023). TUMI E-bus Mission City Network – Profile: State of Mexico, Mexico. Bonn, Germany".

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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