



TUMI INITIATIVE'S TRANSFORMATIVE STORIES

MEXICO CITY, MEXICO: IMPROVING THE PUBLIC BIKE-SHARING SYSTEM AND BICYCLE INFRASTRUCTURE AS A MEAN TO TACKLE CONGESTION AND POLLUTION

Mexico City has made great efforts to diversify its public transport system in order to address congestion, air pollution, and road fatalities. ECOBICI, the city's public bike-sharing system, represents a convenient, environmentally friendly, and affordable mode of transport, being used for 40 percent of short- and medium-distance daily trips within the city.

ABOUT MEXICO CITY

Located in the Valley of Mexico at an altitude of 2,240 meters, Mexico City (CDMX) is the capital of Mexico and one of the most populous and important cultural, political, and financial centers in the Americas. The city experienced rapid urbanization and population growth, characterized by a concentration of services and employment opportunities in the city center and poor infrastructure in the periphery of the area. The increasing demand for mobility has led to congested streets, overcrowded public transport, and increased private vehicle ownership.

Since the 1990s, Mexico City has been known as one of the world's most polluted cities. Transport is the main source of pollutants contributing to 52 percent of PM10 emissions, 55 percent of PM2.5 emissions, and 86 percent of carbon monoxide and nitrogen oxides emissions (SEDEMA, 2018). The federal government and Mexico City have put great efforts into tackling high pollution levels over the past two decades. Some of their implemented measures include requiring catalytic converters on automobile engines, the removal of lead from gasoline, constant monitoring and reporting on air quality levels, and compulsory emission tests for vehicles every six months. Mexico City adopted in 1989 the program "Hoy no circula" (which can be translated as "Today your car doesn't circulate") that restricts vehicle circulation based on their plate number. The City also invested in sustainable transport modes, introducing the Metrobús Bus Rapid Transit (BRT) system in 2005 and the ECOBICI bike-sharing system in 2010.



Population: 8,985,339 inhabitants (2015)

Land area: 1,485 km²

MODAL SPLIT (INEGI 2017)

- 49.8% Public transport
- 26.0% Walking
- 23.5% Private vehicles
- 1.4% Cycling



VISION:

1. 100% of public transport services, run by the City's decentralized state-owned agencies (Metro, Metrobús, RTP, and LRT) are interconnected and benefitting from an integrated payment system
2. 15% increase in the bicycle lane network
3. 100% increase in bike parking areas adjacent to mass-transit stations
4. 32 intersections in the city, 40 km of bicycle paths and 15 pedestrian sidewalks improved with safe infrastructure and universal accessibility for pedestrians and cyclists

MOBILITY IN THE CDMX

In 2017, more than 17.37 million trips were made daily within and towards Mexico City, with 2.25 million originating from adjacent municipalities where housing is more affordable. Almost half of these trips were made by public transport, while approximately 23.5 percent were made by private car. Of the trips made by public transport, 74.1% were done by microbus (also known as pesero). Operating with old and inadequate fleets, these polluting and often dangerous peseros are usually grouped in disorganized and fragmented networks, making them hard to regulate. Highly congested roads and overcrowded public transit affect more low-income residents from the periphery, who spend on average two hours per way commuting and one third of their daily income on fares.

Mexico City was declared the most congested city in 2016 (TomTom Traffic Index, 2017). Its mobility sector is experiencing a deep structural crisis characterized by institutional fragmentation, disaggregation of transport services, and severe inefficiencies due to poor infrastructure and fleet maintenance. This has negatively affected non-motorized transport while also generating inequality in users' travel times and conditions. Average vehicle speed has reduced steadily and is now estimated at 11 kilometers per hour in central areas of the city (IDB, 2018), resulting in longer commuting times and poorer air quality.

To curb growing congestion, pollution and inequalities, the City has ramped up efforts to provide a diverse number of public transport systems including buses, metro, bus rapid transit, light rail, and trolleybuses. Suffering from their popularity and increasing demand, these public transit options need to be better integrated, for instance via the introduction of a unified ticketing system, and they also need more investment for maintenance and expansion of infrastructure.

AMLÓPOLIS AND THE 2019 STRATEGIC MOBILITY PLAN

Acknowledging the city's mobility challenges, the federal government of Mexico adopted in 2018 Amlópolis, a roadmap for better living outlining the strategies for a more sustainable urban development. In terms of transport, priorities lie in the modernization of existing transport systems and a better integration of the different services in order to improve accessibility and efficiency for all users. Amlópolis specifies that public spending needs to be more equitable across all modes of transportation, taking into account the needs of public transport users, cyclists, and pedestrians.

Similarly, the 2019 Strategic Mobility Plan for Mexico City recognizes the need for safe streets and the protection of its vulnerable users through urban design, the provision of adequate infrastructure, and education. The plan favors non-motorized transport policies, walkability, a stronger bike network, and a better integration of public transport.

This shift in public spending is expected to improve Mexico City's public transport systems and non-motorized transport infrastructure, which have long been suffering from underfunding: in 2012, only 20 percent of the transport budget was allocated to public transport, cycling and pedestrian infrastructure combined, while 30 percent was used towards car infrastructure alone. Since public and non-motorized transport options make approximately 77 percent of trips against 23 percent by car, a redistribution of resources could go a long way to address inefficiencies in the public transport sector and promote non-motorized transport as a faster and healthier choice for short-distance trips.



UNLOCKING POTENTIAL FOR CYCLING THROUGH THE BICYCLE STRATEGY

According to Mexico City's Bicycle Strategy, cycling is the ideal mode of transport for short- and medium-distance trips. Forty percent of daily trips in Mexico City do not exceed eight kilometers, the equivalent of a 30-minute bike ride. Commuters can shorten their daily trips by riding a bicycle, which is the fastest mode of transport in gridlock traffic, where the average speed of cars is 11 kilometers per hour compared to 16.4 kilometers per hour for bicycles. With appropriate infrastructure and planning, cycling is the ideal complement to other modes of transport, providing a healthier, more efficient, environmentally friendly first- and last-mile option.

ECOBICI, Mexico City's public bike-sharing system, was introduced in 2010 to increase cycling rate while reducing traffic congestion and transport-related greenhouse gas emissions. Since its launch, user demand has grown rapidly along with an extension of bicycle infrastructure. The program, which started with 84 docking stations and 1,200 bicycles, has expanded and now comprises 480 stations and 6,800 bicycles within an area of 38 km², benefitting more than 220,000 residents and tourists annually. In May 2019, ECOBICI had registered a total of almost 60 million rides and had contributed to avoiding the emission of 4,541 tons of CO₂. In 2018, the system launched an electric bicycle fleet, offering an additional and more convenient option for users travelling longer distances. Key factors behind the success of ECOBICI include its affordability and convenience. The annual membership fee amounts to 21.60 euros, which includes an unlimited number of free 45-minute-long trips and complimentary access to the Bike School Program where users can learn how to ride a bicycle. ECOBICI caters particularly well for the mobility needs of women, whose use has increased from 20 to 40 percent between 2010 and 2016. Offering alternative payment systems besides credit cards could further improve accessibility to the bike-sharing system, along with more interconnected infrastructure.

PAVING THE WAY FOR MORE BIKE RIDES

Roads in Mexico City serve many purposes and users. Pedestrians and cyclists are particularly vulnerable due to a lack of safe infrastructure and poor road signs and maintenance. With 13,629 traffic accidents resulting in 2,248 injured people in 2017 in Mexico City, traffic accidents are the second cause of death for children between 5 and 14 years old in the city, according to the National Institute for Statistics and Geography (INEGI). Despite progress and improvement in recent years, the city's bicycle infrastructure is still limited, disconnected, and concentrated in central areas, which affects the efficiency and convenience of cycling as a daily mode of transport. In the 2019 Strategic Mobility Plan, Mexico City's Ministry of Mobility (Secretaría de Movilidad) set a number of initiatives towards improving non-motorized transport infrastructure, including the installation of 129 radar speed signs around schools as a traffic-calming measure, the inauguration of new bike racks near transportation hubs, and measures to improve connectivity among the bicycle network.



Moving forward, Mexico City is planning to add 40 kilometers to its cycling network to link the existing 194 kilometers of bike paths. It also aims to promote multimodality by creating bicycle parking facilities at main public transport stations. Multimodality measures, along with an integrated ticketing system, would improve connectivity between the city center and the peripheries, where there is still no cycling infrastructure to date.





1 Metrobus sustituye 126 automóviles

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ADDITIONAL READINGS

Mexico City's Secretariat of Mobility website:
<https://www.semovi.cdmx.gob.mx/>

ECOBICI website: <https://www.ecobici.cdmx.gob.mx>

Mexico's National Institute for Statistics and
Geography website: <https://www.inegi.org.mx/>

The [Transformative Urban Mobility Initiative \(TUMI\)](http://transformative-mobility.org) enables leaders in developing countries and emerging economies to create sustainable urban mobility. It offers technical and financial support for innovative ideas. In TUMI the German Federal Ministry of Economic Cooperation and Development (BMZ) has brought together some of the world's leading institutions working on sustainable mobility with city networks and think tanks to implement projects on site where they are needed most. Partners include ADB, CAF, WRI, ITDP, UN-Habitat, SLoCaT, ITDP, ICLEI, GIZ, KfW and C40. transformative-mobility.org

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