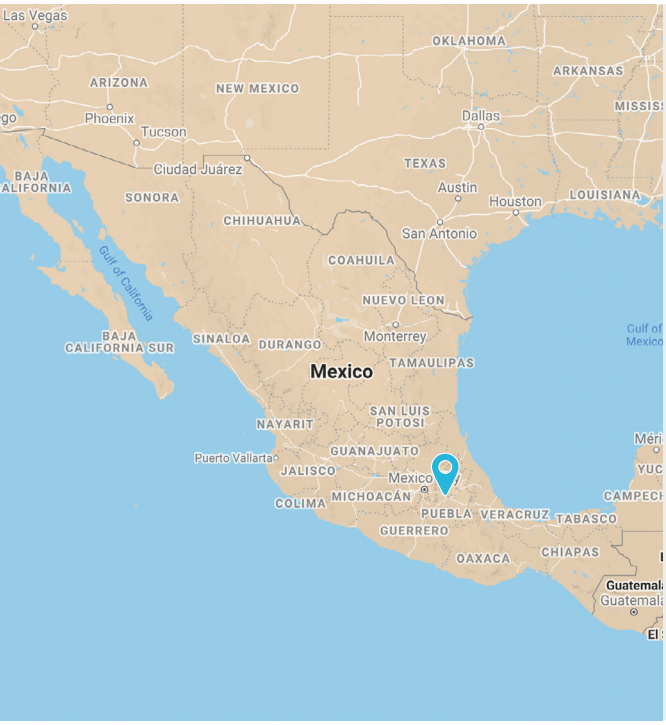
Puebla, Mexico

Partner city

Status of the project: **Completed pilot project**



Basic Information

Urban area: **563.4 km²**

Population: **3,250,000** | Growth rate: **1.59%**

Type of city: **Regional capital city**

GDP per capita: **USD 12,184**

Modal Share:

- **Formal public transport: 0.7%**
- **Private cars: 75.5%**
- **Private motorbikes or 2-wheelers: 5.2%**
- **Taxis: 1.1%**
- **Freight vehicles: 18.2%**

National GHG emissions per capita: **5.39 (tCO_2eq)**

Exposure to climate change: **Medium**

Context

Located in the Valley of Puebla also known as the Valley of Cuetlaxcoapan, Puebla has a current population of 3,250,000 people, making it the fourth largest city and also the fourth largest metropolitan area in Mexico. The territory of Puebla consists of 563,4 km², with an urbanised area corresponding to 43.1%. In the last four decades, the urban area of the municipality of Puebla has grown by more than 500%, while the urban population barely doubled in the same period. Since 1960, the city of Puebla has become a national reference for important public investments and the attraction of external capital and foreign direct investment. As a consequence, a mono-centric and compact urbanisation process was transformed into an extensive and low-density city, initiating developments further and further away from the city centre near its municipal boundaries.

In 2015, Puebla registered a vehicle fleet of 578,784 motorised vehicles in circulation, composed of 75.5% cars, 1.1% public or private passenger transport, 18.2% freight transport and 5.2% motorbikes. In this sense, for 2015 the motorisation rate of the municipality was 277 vehicles per 1,000 inhabitants. According to the statistics, the number of private cars in the municipality of Puebla grew five times more than the municipal population in a period of twenty years (1995-2015), this situation represents a disproportionate increase in private motorised transport that reproduces unsustainable patterns of mobility and urban development.

The city's BRT public transport does not guarantee an intermodal scheme, as there is no integrated system facilitating the transfer from one mode of transport to another.

The local counterpart has the mandate and responsibility to finance public transport infrastructure. It does not have authority to borrow from international finance sources. Systems are partially in place to monitor, evaluate and report on urban mobility.

A large percentage of cyclists come from neighborhoods located in the south of the city, where the Margaritas terminal from Line 2 is located. The pilot project's goal is to connect this population with the BRT system through the installation of safe and accessible bicycle parking spaces at the terminal. It seeks to facilitate conditions for BRT users to use bicycles as a complementary alternative in their travel chain, as well as to encourage active modes of transport over motorized private vehicles. This pilot project is part of the national sustainable urban mobility strategy and the sustainable mobility program of the municipality of Puebla, approved in 2017.

Support from the Partnership

Technical Assistance: Pilot Project development

Funded by: European Commission

Funding amount: EUR 500,000

Implemented by: AFD through the EUROCLIMA+ Program

Local counterpart: Secretary of Mobility Puebla

Supported activities:

Implementation of the pilot project of the BRT's Margaritas terminal: implementing bicycle parking infrastructure and equipment, new bike lanes, and a potential fee system. The project has three components:

- Technical, financial, environmental, and social studies
- Construction monitoring
- Communication and visibility of the project

Status of implementation

Project start: 2021 Q1

Expected project completion: 2024 Q2

Completed outputs:

- Plan of participatory processes
- Report on the results of participatory processes
- Communication and awareness-raising plan
- Diagnostic document
- Preliminary proposal of solutions
- Implementation plan
- Monitoring, reporting and verification (MRV) plan of the project's impacts
- Project implemented and operating

Insights from practice: key pilot project takeaways

Urban sprawl caused by car-centric planning must be countered with sustainable mobility solutions that promote accessibility and equity[1].

The Municipality of Puebla, particularly in the southern area, has faced challenges due to urban sprawl driven by car-centric development. This has led to congestion, inequality, and high pollution levels. To reverse these impacts, sustainable urban mobility systems must be implemented, ensuring equitable, safe, and efficient access to the city's opportunities. The Sustainable Intramodality Project, aligned with the Municipal Development Plan, aims to shift away from motorised transport dependency and foster intermodal mobility to improve residents' quality of life.

Strengthening and clarifying legal frameworks is essential to support and scale sustainable mobility solutions effectively.

Clear and robust regulations are crucial for the successful implementation and long-term sustainability of mobility projects. In Puebla, the current legal framework is insufficient and vague, posing challenges in the expansion of sustainable transport infrastructure. The lesson from the intramodality project highlights the need to strengthen and review policies that ensure the integration of active modes and sustainable mobility practices into urban planning. By establishing clear legal requirements and ensuring enforcement, the municipality can create a solid foundation for scaling mobility solutions like the Biciestacionamiento Masivo, ensuring broader and more effective impact.

Results and perspectives for scaling

Pilot projects are key to proving the feasibility of sustainable mobility solutions and driving broader adoption.

The Biciestacionamiento Masivo project demonstrates the effectiveness of pilot initiatives in transforming mobility systems. By aligning with the existing urban mobility plans, this pilot not only contributes to improving local connectivity but also serves as a model for larger-scale implementation. The project's success underscores the importance of pilot projects in testing, proving, and expanding sustainable mobility solutions, showing that incremental steps can lead to broader adoption across different levels of government and other cities

The project provides a replicable model for integrating cycling with BRT systems

Active modes, particularly bicycles, offer a strong opportunity to enhance connectivity with mass transit systems through replicable models. In the Margaritas area terminal, the high volume of cyclists highlights the need for intermodal systems that ensure safe and convenient travel across Puebla. The pilot project aims to promote cycling, increase BRT usage, and reduce GHG emissions. This model can be easily replicated in other Latin American cities with BRT systems, fostering seamless integration between public transport and cycling, a growing mode of transport in the region that contributes to reducing environmental impact.

The Project is designed for scalable growth and community integration, offering a model for sustainable mobility that can be replicated in other areas.

The Massive Bicycle Parking Project is designed for scalable implementation, beginning with 200 bicycle anchorage ports in a two-story building. The structure is pre-engineered for vertical expansion, ensuring that future growth can be carried out as resources become available without disrupting operations. This phased approach enhances feasibility while keeping the project adaptable and replicable in other parts of the city, as well as nationally and internationally.

[1] To know more about lessons learned from the Euroclima's urban mobility component visit https://despacio.org/portfolio/movilidad-urbana-euroclima-resultados-y-lecciones-2018-2024/

Beyond bicycle parking, the facility serves as a multifunctional community hub, offering a children's play area, an adult exercise zone, a pet area, and public restrooms. To maximize impact, the city plans to develop dedicated bicycle lanes connecting the facility to surrounding neighborhoods, ensuring safe and convenient cycling infrastructure. This integration will drive user adoption and set a strong precedent for expanding similar mobility solutions elsewhere.

Highlights in the past year

On February 27, 2024, the inauguration event of the massive bicycle parking was held, with the participation of the Secretariat of Mobility and Infrastructure of the City Council of the Municipality of Puebla, AFD representatives and Councilors of the Puebla City Council. That day the operation began.

Updated in December 2024