

Belo Horizonte, Brazil

Pilot Project

Completed

Basic information

Urban area → 14,420 km²

Population → 5,700,000

Growth rate → 1.05%

Region capital city

GDP per capita → USD 17,239

Modal share

Formal public transport → 28%

Walking → 35%

Cycling → 0.4%

Private cars → 33%

Motorcycle → 4%

National GHG emissions per capita → 5.12 (tCO₂eq)

Exposure to climate change → HIGH



Context

Belo Horizonte is the capital of the state of Minas Gerais and is located in the south-eastern region of Brazil. According to IBGE (2014), is the third-largest metropolitan area in the country, with a population of over 2.4 million, and 5.7 million in the official Metropolitan Area. Given Brazil's relatively modest NDC ambition, local action in cities is crucial to climate change mitigation. Belo Horizonte is one example of an active, mid-sized city committed to sustainable development.

Brazil commits to reducing greenhouse gas emissions by 37% below 2005 levels by 2025 in its NDC. The NDC also has a subsequent indicative contribution to reducing greenhouse gas emissions by 43% below 2005 levels in 2030. Compared to the 1990 level, this translates to a 6% and 16% reduction, respectively. With this target, Brazil is the first major developing country to commit to an absolute reduction in GHG emissions below 1990 levels.

Belo Horizonte has established a range of plans and policies, including the Master Plan, PlanMob-BH, and the Smart City initiative, which are regularly reviewed and monitored to guide urban development. The city has made significant progress toward sustainability. It aims to serve as a model for smart, sustainable urban development in Brazil and Latin America in the medium- and long-term. Despite these efforts, road transport accounts for 53% of greenhouse gas emissions in Belo Horizonte and could reach 6 million tons of CO₂ by 2030. The city's Sustainable Urban Mobility Plan (PlanMob-BH), introduced in 2010 and reviewed in 2016, outlines comprehensive measures across eight strategic areas: active mobility, collective mobility, motorised individual mobility, traffic calming and circulation, urban logistics, sustainable city, universal accessibility,

and management, supervision, and operation. Each intervention is supported by specific actions and indicators for short-term (2020), medium-term (2025), and long-term (2030) planning.

Since 2017, Urban Pathways has supported Belo Horizonte in implementing active mobility projects by facilitating participation in international forums, training sessions, and peer-to-peer learning opportunities. The initiative has also provided technical assistance for developing project proposals for donor submission. In 2019, Belo Horizonte implemented four “Zones 30,” with Urban Pathways supporting the “Zone 30 Confisco” from conceptualisation to financing. The successful implementation of these Zones 30 has resulted in strong political support and widespread public acceptance.

The Zone 30 pilot project includes extensive installation of vertical and horizontal signage, reallocation and repositioning of parking spaces to reduce vehicle speeds, and the widening of sidewalks with the addition of urban furniture, thereby creating pedestrian-friendly areas. Beyond addressing mobility concerns, these measures are viewed as opportunities to revitalise the downtown area and improve quality of life by establishing pedestrian streets and reallocating space from vehicles to people.

For capacity building, Urban Pathways partnered with Belo Horizonte to host webinars on topics such as e-scooters, tactical urbanism, public space interventions, and air quality sensors. The initiative also facilitated the city’s participation in events, including Transport and Climate Change Week (2018 and 2022, Berlin), the Sustainable Urban Infrastructure Forum (Quito), the International Conference on Climate Action 2019 (Heidelberg), and a site visit to Santiago de Chile (2020). Urban Pathways intends to continue supporting Belo Horizonte in developing active mobility projects, raising awareness, and promoting cross-sectoral integration to mitigate climate change.

Support from the Partnership

Technical Assistance: Pilot Project development

Funded by: Bundesministerium für Umwelt (BMU) through the International Climate Initiative (IKI), WRI Brasil, Transformative Urban Mobility Initiative (TUMI)

Funding amount: EUR 100,000

Implemented by: Wuppertal Institute and UN-Habitat through the Urban Pathways project

Local counterpart: Belo Horizonte Transport and Traffic Company (BH-TRANS)

Supported activities:

- Pilot project financing and implementation
- Capacity building, training, and participation in international fora
- Assistance in the development of project proposals for donors

Status of project implementation

Project start: 2017

Project completion: 2022

Completed outputs:

- Pilot project implementation of Zone 30 in the Confisco neighbourhood.
- Pilot project implementation of the EcoZone in the Santa Tereza neighbourhood
- Capacity building and webinars on e-scooters, tactical urbanism, public space interventions, AQ sensors



Figure 1 Tactical urbanism project in bairro Confisco. Source: WRI Brasil

Insights from practice: key pilot project takeaways

The necessity of a pilot project as a first step for implementing zone 30 in Belo Horizonte

The pilot project, implemented in the Confisco neighbourhood in 2019, aimed to create a low-cost Zone 30, increase safety around the school area, and enhance social cohesion in the neighbourhood. The project's positive results, including increased public perception and city-wide replication, have led to the institutionalisation of this type of intervention in Belo Horizonte. Despite the pilot project's success, there is still room for improvement in the intervention strategy and the specificity of the project's results. Possible improvements include addressing measurement errors, increasing the number of assessment days, and incorporating awareness-raising activities on waste.

Incorporating sustainability and awareness-raising activities in future urban intervention projects: Insights from the Confisco Zone 30 pilot project

The pilot project showed that community participation, pre- and post-assessments, and inter-institutional cooperation are crucial to the success of an urban intervention project like the Confisco Zone 30. The project's positive results, such as increased safety around the school area, social cohesion in the neighbourhood, and the public's positive perception, have led to the institutionalisation of this type of intervention in Belo Horizonte. BHTrans is now creating a Zone 30 guide to help replicate this success city-wide.

The pilot project also revealed that there is still room for improvement in the intervention strategy and the specificity of the project's results. For example, the Smart Citizen Kit results did not show the desired results during the mobility week, and the relative numbers of pedestrian and cyclist counts showed little difference in mobility behaviour around the school. To address these issues, covering a longer period before and after the intervention and increasing the number of assessment days could help reduce data biases and measurement errors.

Finally, some elements that could be included in future urban intervention projects were identified, such as the fabrication of urban furniture with local partners using recycled materials and the inclusion of awareness-raising activities related to waste. The Confisco Zone 30 already incorporated some of these elements, but further attention to these topics could improve the success of future projects. Overall, the pilot project provided valuable insights into what works and what could be improved in urban intervention projects, serving as a model for future initiatives.

Results and perspectives for scaling

Belo Horizonte's Model for Safe and Sustainable Mobility: A Blueprint for Cities Worldwide?

While the project's specific implementation may not be directly replicable in other locations, the project's emphasis on community engagement, inter-institutional cooperation, and low-cost interventions can serve as a model for similar projects around the world. The creation of a Zone 30 guide can be a valuable tool for other cities interested in pursuing similar initiatives.

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