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Mobility – Brazil

A new tram for Rio de Janeiro

Shortly before the opening of the Olympic Games in 2016, a new tram was put into operation in Rio de Janeiro with KfW support: 28 km of length, it connects the historic port of Rio in the north-west with the city centre further to the east. The long-distance bus and ferry terminals and the national airport Santos Dumont are also located along the route. The new line contributes to an environmentally friendly and sustainable transport in a city that has one of the highest risks for congestion in the world, not only during the Olympic Games.

Context

In 2010, 84 % of Brazil’s population was living in cities while in 1940 it was less than 30 %. Even if its capacity is growing, the public transport system is far from meeting the actual demand. At the same time, the increasing number of cars and motorcycles produce congestion, air pollution, and stress. Along with it the number of fatalities and injuries in road traffic are growing as well. According to the Brazilian Climate Observatory (SEEG – Sistema de Estimativa de Emissão de Gases), the sector in 2015 was responsible for more than 200 Million tCO₂e, nearly 11 % of Brazilian total emissions.

The transport sector is one of the largest sources of greenhouse gas emissions. In the past 30 years, it has increased four times its total energy consumption. According to the Intergovernmental Panel on Climate Change (IPCC), the sector is responsible for nearly a quarter of global carbon dioxide emissions, three-quarters of which are attributable to individual mobility. Brazil has developed several national and regional plans and policies to – among others – reduce greenhouse gas emissions from the transport sector. The

focus is on expanding public transport, as railway systems use less energy per passenger kilometre in comparison to what is consumed by motorized private transport. Using a credit line, KfW supports two cities in their efforts to update their transport systems and make them more sustainable.

Project approach

In 2015, KfW signed a loan agreement for EUR 265 million with the state-owned Brazilian development bank Banco Nacional de Desenvolvimento Econômico e Social (BNDES). The resources were used to finance parts of especially climate-friendly and sustainable public transport systems, the VLT line in Rio de Janeiro and the metro in Salvador de Bahia. The selection of the

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The new VLT in Rio de Janeiro. Source: KfW photo archive, photographer: Kurt Rieckhoff.

projects was based on a CO₂ eligibility criterion, among other relevant factors. In Rio de Janeiro, the new VLT Carioca line, a light rail, connects on its 28 km long tracks the historical part of Rio – comprising the city centre and the commercial hub – with the main station, the long distance bus station, the national airport and the ferry harbour. It is integrated within the existing metro, ferry, bus and BRT networks and can be used with the city public transport pass. The VLT is a crucial part of a continuous enhancement of the city including, including initiatives to calm traffic in the centre and to upgrade the living and working conditions in the harbour and historic areas where a lot of poorer people live. The first line of the VLT Rio started its operation shortly before the Olympic Games in 2016. By now it is already used by approximately 65,000 passengers per day and will reduce CO₂ emissions by more than 300,000 tonnes over a period of 25 years.

The extension of the metro in Salvador de Bahia is a high-performance city rail network, connecting the city of Salvador with neighbouring communities, the bus station and the international airport with a total length of 42 km. The metro offers commuters an alternative to the congested road network in form of a cost-effective, fast and safe mass transit system. Approximately 200.000 people use the metro every day. Greenhouse gas emissions will be reduced by more than 200,000 tCO₂ over its 25-year lifetime. In addition, KfW supported BNDES to enhance the bank's own CO₂ calculation tool for the transport sector (urban rail and BRT) and develop a guide on selecting and implementing appropriate public transport technologies.

Impact

When completely used to its capacity, the VLT in Rio de Janeiro and the metro lines in Salvador will avoid more than 18 million car trips per year. That reduces the overall greenhouse gas emissions by approximately 530.000 tCO₂ equivalents. The tool and selection manual will ensure long-lasting effects as future public transport projects financed by the BNDES and the Brazilian Ministry of Urban Affairs will be selected on the basis of technological adequacy and checked for their climate mitigation benefits. Through this engagement KfW is helping Brazil not only to move forward with the switch to public transportation but also to meet its national climate goals under the Paris Agreement.



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