

# Innovation for More Sustainable Public Transport

Public transport, especially buses, is crucial for improving air quality in cities by reducing car traffic and atmospheric pollution. The European project Re-Breath, co-funded by LIFE Programme, focuses on developing innovative solutions for more sustainable transportation.



## On-Road Testing

Re-Breath conducted 16 months of testing in two cities known for their commitment against air pollution: Bergamo (Italy) and Bratislava (Slovakia). Ten buses of the same model and size were used, traveling thousands of kilometers on urban and suburban routes to assess the impact of an innovative braking system. During the tests, the buses achieved ambitious mileage goals that reflect realistic, daily urban bus usage, essential for evaluating the new braking system's impact.

**250.000 km**  
routes in Bergamo  
from 5 buses in 16 months

**417.000 km**  
routes in Bratislava  
from 5 buses in 16 months

## The New Braking System

At the heart of the project is an advanced braking system developed by Brembo:

- Low wear cast iron brake discs
- Custom design copper free brake pads

**The goal?** To ensure maximum braking safety while significantly reducing particulate emissions compared to conventional systems.

## Monitoring and Results

The Key Performance Indicators (KPIs) evaluate the impact of the project in terms of geographical and human areas, the technical content of the developed solution in terms of chemical composition and air impact, the communication activities and the revenue that the new braking solution could generate. Monitoring these KPIs ensures the success and sustainability of the project.

Through RE-BREATH, the partners developed a dedicated methodology to measure brake wear emissions from busses. The partners used updated emission factors and integrated mobility and atmospheric modelling to assess the spatial and temporal distribution of these emissions. This study provides important insights into non-exhaust PM pollution in urban environments, supporting targeted mitigation strategies and contributing to cleaner air and more effective policies for sustainable urban mobility.

## Next Project's Event

On the 18th and March 2025, the project consortium will organize an international event in Bratislava focusing on sustainable mobility in an urban context. The partners will meet local and national policy makers, sector experts and stakeholders. Participants will take the opportunity to present the results of Re-Breath and discuss best practices for sustainable urban mobility.

## Towards a Sustainable Future

Re-Breath demonstrates that public transport can play a vital role in reducing pollution. The project paves the way for greener cities and reaffirms a commitment to innovative, environmentally friendly solutions.



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