

Electric School Bus Fleet in Bogotá, Colombia



Country
Colombia

City
Bogotá

Sector
Mobility

Project Stage



Idea

Implementation



373

school buses in Bogotá would be electrified



9,915

students from rural and urban areas in Bogotá would directly benefit



17 M €

Estimated investment value



10,000

tonnes of CO₂ equivalent/year emission reduction annually

The Gap Fund's Support

The Technical Assistance carried out by the Gap Fund consisted of the following elements:

- 1** Develop a comprehensive understanding of the current school bus fleet operating in Bogotá.
- 2** Identify key stakeholders, potential business models and financing structures for fleet electrification.
- 3** Design a roadmap with priority actions for the pilot phase of the electrification process.
- 4** Data collection for the electrification of a school bus route
- 5** Technical and economic analysis of upscaling options
- 6** Develop draft Terms of Reference (ToR) for a full feasibility study

Current Challenges and Solutions

Bogotá's school transport sector faces aging diesel fleets, high particulate emissions, limited data, weak stakeholder coordination, and high upfront electrification costs. Most buses are over nine years old, with 99% running on diesel, impacting children's health and air quality.

The city sees electrification of its school bus fleet as a strategic solution to reduce greenhouse gas and particulate emissions, improve air quality, and protect children's health. The electrification approach builds on Bogotá's strong e-mobility foundation, existing charging infrastructure, and its Public Policy for Zero and Low Emission Motorized Mobility (2023-2040).

Objective of the Intervention

The intervention aimed to conceptualize a pilot project and explore scalability options for electrifying Bogotá's school bus fleet, serving both public and private schools. The project primarily targeted routes in rural and underserved urban areas, emphasizing the transition to sustainable and efficient public transportation systems. This initiative also aimed to improve air quality and public health. With Bogotá already at the forefront of the transition to electric bus systems in Latin America, this project specifically focused on school children as a vulnerable population group.



School bus in Bogotá (Credit: Gap Fund TA)

The Intervention at a Glance

The intervention supported Bogotá's plan to replace 373 diesel school buses with electric vehicles, install charging stations, and create operational strategies for priority routes in rural and underserved areas. It delivered a phased roadmap, a cost-benefit analysis, and pilot results comparing diesel and electric buses. Aimed at cutting emissions, improving air quality, and protecting children's health, the project engaged key stakeholders and aligned perfectly with Bogotá's climate and mobility goals.



Lessons Learned and Challenges

Engaging stakeholders such as schools, families and transport operators is vital for project relevance and acceptance. Infrastructure planning must account for both urban and rural contexts to ensure fair access. Key challenges included limited charging stations in rural areas, and complex regulatory frameworks that hinder the procurement of electric buses in an educational context.

Financial Pathways

The project evaluated different ownership structures and corresponding financing options –private investment, municipal funds, and IFI loans – for electrifying the school bus fleet on 146 routes. While the cost-benefit ratio is close to one (1), long-term savings from lower maintenance and energy costs could reach COP\$2,073 million annually by year fifteen (15). Success depends on incentives such as tax exemptions, low-interest loans, and subsidies, along with clear role definitions for district entities to lower capital costs and support fleet acquisition.

Co-Benefits of the Intervention

- Job creation in clean transport and infrastructure.
- Promote sustainable urban mobility models.
- Encourage public-private partnerships.
- Improve air quality and public health.
- Supports social inclusion by improving clean transport for underserved areas and vulnerable population.
- Raises public awareness on climate and health issues.

Scale-Up Potential

The project serves as a scalable model for electrifying public transportation fleets, especially in school transportation. The Gap Fund TA focused on a selected number of routes. However, in future the project can and shall be expanded to cover additional school bus routes across the city of Bogotá. Moreover, the model can be replicated in other Colombian cities and Latin American regions with similar environmental and operational challenges.

Next Steps:

- The project has been taken up by C40 for the conduction of further feasibility studies.
- Ownership and operational models need to be determined based on the final outcomes of the feasibility study and the stakeholder matrix.
- Regulatory frameworks to facilitate fleet acquisition and operation need to be developed.
- Capacity-building programs for personnel involved in operations and maintenance need to be designed and delivered.

The Gap Fund in a Nutshell

Since its launch in 2020, the City Climate Finance Gap Fund provides technical assistance to cities in low- and middle-income countries to support the early preparation of climate-smart infrastructure projects, including energy, transport, waste, water, wastewater and nature-based solutions (NbS).

More information: [City Climate Finance Gap Fund](#)

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Summary of the Electric
School Bus Fleet in Bogotá,
Colombia

TA Partner and
Beneficiaries



TA implemented by



On behalf of:



of the Federal Republic of Germany



THE GOVERNMENT
OF THE GRAND DUCHY OF LUXEMBOURG
Ministry of the Environment,
Climate and Biodiversity

