

Project Finance Factsheet

Electrification of the Ecovía BRT Corridor and Extension of the Trolebús Corridor

Quito, Pichincha, Ecuador

TYPE

Low emissions transport & e-mobility



SECTOR

Transport

OVERVIEW

Quito's public transportation system is facing a significant change. While its aging fleet of around 3,000 buses will need to be replaced with Zero-Emission Buses (ZEB) by 2050 due to new laws, the transport system will also need to undergo changes to integrate the newly introduced metro and other active modes of transport.

CFF's cooperation with the municipality has focused on preparing two sub-projects to ensure the Ecuadorian capital's successful transitioning towards its low-emission transportation target for 2050. The project encompasses the following two bus corridors:

(1) Ecovía Bus Rapid Transit (BRT) Corridor – Procurement of 276 electric 18-meter buses aiming to upgrade 100% of the corridor's current 276 diesel bus fleet by 2033. This investment will also cover the installation of charging stations at strategic locations throughout the corridor.

(2) Trolebús Lane Extension from Labrador to Carapungo – A procurement of 69 (electric)trolleybuses, the construction of a new BRT lane, and further infrastructure such as a terminal and a depot in the parish of Carapungo are planned after 2027.

The project will contribute to Quito's commitment to the Paris Agreement by building climate change resilience in the city and reducing GHG emissions. Additionally, the project will provide clean, safe and inclusive transportation to over 150,000 new users and approximately 600,000 current users.

Timeline

Status of preparation

- Nov 2020** Technical, Financial and Legal Feasibility Studies are finalised
- Mar 2021** Business Model and Draft Procurement Documents will be delivered

Procurement Timing

- Phase I**
 - Sep 2021:** Issue of Request for Proposals
 - Jan 2022:** Submission of Tenders
 - Sep 2022:** Start of Operation: 37 BEBs* and 51 new trolley buses
- Phase II**
 - 2027:** Quito will procure a further 73 BEBs and 18 trolleybuses. The operational start of the Labrador-Carapungo Extension will also take place
- Phase III**
 - 2033:** Procurement of final batch of 166 BEBs

*BEB = Battery Electric Bus

Implementing Agency

The Mayor's Office, the Secretary, Secretary of Mobility of Quito and the *Empresa Pública Metropolitana de Transporte de Pasajeros de Quito* (EPMT PQ) - (Public Transport Company)

Key Climate Impacts

A fleet of 345 e-buses in Quito will have the following GHG emission savings:



Average annual GHG emission reduction:
24,118 tCO₂e



Cumulative GHG emission reductions (2022-2050):
683,128 tCO₂e

Development Outcomes

- Improves health benefits and quality of life for project users and nearby residents
- Addresses these four SDG Goals: 3 7 11 13
- Service quality improvement will ultimately encourage a modal shift in favour of public transport
- Demonstrates the economic and technical viability of sustainable and green transportation in Ecuador on a large-scale
- Big step towards expanding the e-bus system to other corridors in the city
- The city's project presents a replicable case study in Latin America
- Opens new financing windows for the city through new forms of private sector engagement

Investment Structure

Procurement Method

Due to the repercussions of COVID-19, the city is facing increased financial pressure on their budgets. Therefore, the current project concept entails a phased procurement approach:

- **Phase I (2022):** PPP or lease arrangement for 37 BEBs and 51 new (electric) trolleybuses for both subprojects
- **Phase II (2027):** PPP or lease arrangement for the second batch of 73 BEBs and 18 trolleybuses
- **Phase III (2033):** PPP or lease arrangement for the remaining acquisition of 166 BEBs

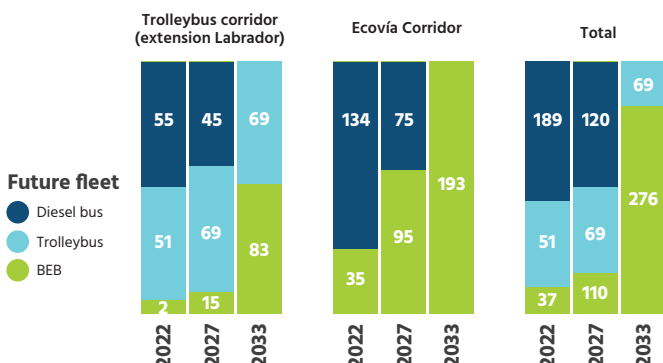
Each contract will have a duration of 15 years.

Proposed new fleet

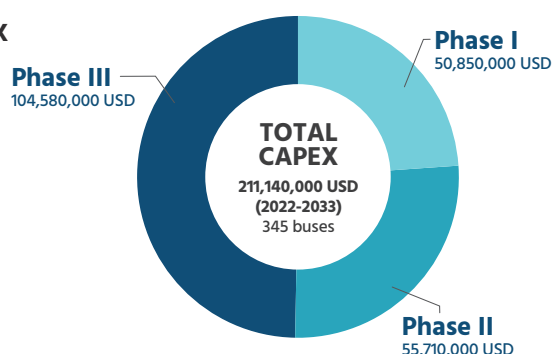
	Phase 1: 2022	Phase 2: 2027	Phase 3: 2033	TOTAL
Trolleybus	51	18	0	69
BEB	37	73	166	276
TOTAL	88	91	166	345

Proposed Investment Phases

The following graph show Quito's commitment and planned transition to low emission public transportation over the next 13 years:



CAPEX



Note: CAPEX includes e-bus charging stations. The calculations consider 15 years lifespan for all buses.

OPEX

	Phase 1: 2022	Phase 2: 2027	Phase 3: 2033
Trolleybus	4,500,000	5,500,000	5,400,000
BEB	3,300,000	9,300,000	23,000,000
TOTAL	7.8 million	14.8 million	28 million

Note: OPEX related to bus km travelled.

Proposed Funding

The City of Quito has identified the following available funding sources for the project:

- Bus fare revenues
- Municipal revenues
- National transfers
- Ancillary revenues (i.e. advertising, commercial shops rentals)
- Grants (contributions from national and international agencies)

Readiness Issues

As Quito has reached its legal debt ceiling, the national government is currently reviewing the budget and looking for solutions. The city's most cumbersome debt is related to the cost of building the new Metro, which the municipality began servicing this year. The phased approach recommended by the CFF reflects the realistic forecast of funds available by the administration in the coming years.

The Trolebús Corridor might require the expropriation of two land parcels for the construction of the terminals in Carapungo and in Carcelén in the mid-term future. No major negative cultural and socio-economic impacts were identified for both subprojects. Minimal environmental impact mitigation will be required during construction and operation.

Legal Framework

Law of Energy Efficiency, Law of the Electric Public Service, Law of Land Transit and Transport, Quito's Municipal Code, Public Procurement Law.

CFF Support Summary

The C40 Cities Finance Facility is providing the following support in Quito:

- Creation of two bankable projects for the city to implement in the future
- Design of Management Models and Business Cases for both subprojects, considering possible public-private partnerships or outsourcing to the private sector
- Identification of the most suitable e-bus technology for the city
- Preparation of tender documents for both projects
- Development of capacities in the city on e-mobility and project preparation in the mobility sector

For additional information, contact: contact@c40cff.org