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## Reshaping Bogotá's public transportation with zero-emission and gender focus: a summary on the *La Rolita* case.

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December 2023

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## 1. Introduction

In 2022, Bogotá received 1,485 electric buses, a significant milestone in the city's efforts to reduce carbon emissions from public transportation. However, the city officials and the transport entity, TransMilenio S.A., faced challenges ensuring that electric buses were distributed to socially vulnerable areas historically suffering from inadequate transportation. Ciudad Bolívar, located in the southern part of Bogotá, has had difficulty attracting bidders to operate bus lines. To address this issue, the city of Bogotá launched a new public transportation operator called La Rolita, which aims to improve transportation in underprivileged areas.

The main goal behind this initiative is to establish the operator as an innovative contender in the transportation arena. The move was made to provide better mobility services in areas historically struggling with a lack of good transportation while also maximizing social profitability. In 2023, La Rolita operates a fleet of 195 electric buses and is Latin America's first-ever woman-led electric bus fleet service. The development of La Rolita is part of the city's efforts to promote energy transition and ensure fair benefits, leading to a more diverse and productive workforce.

This article offers a concise summary of an initiative that received backing from multiple sources. The project was supported by C40 Cities through grant resources from the TUMI E-bus Mission, implemented by GIZ and financed by BMZ, and from the British government through the UKAID Climate Action Implementation Programme.

## 2. Context

La Rolita (legally known as Operadora Distrital de Transporte) was created in 2022 by Mayor Claudia López under the development of the 2020-2024 District Development Plan, titled "A New Social and Environmental Contract for the 21st Century" (Un Nuevo

*Contrato Social y Ambiental para la Bogotá del Siglo XXI*)<sup>1</sup>. The plan outlined the creation of a public operator to address the existing challenges in providing public transportation to Ciudad Bolívar, a socially vulnerable neighborhood in the south of Bogotá.

Ciudad Bolívar comprises narrow, steep streets and is infamous for its precarious urbanisation and public safety concerns. Due to these factors, Ciudad Bolívar was deemed a "low profitability" area for private operators. They had repeatedly turned down the opportunity to operate in this location. According to information from the IDB and the newspaper *El País* in 2022, at least five attempts to provide public transport to Ciudad Bolívar were abandoned over the last decade. Other factors are attributed to fare evasion and concerns about public safety<sup>2</sup>.

Apart from the socioeconomic hurdles, the southern zone of Bogotá also grapples with environmental issues, standing out as one of the areas most affected by air pollution. Data from the 2020 Emissions Inventory reveals that 40% of the city's pollution is generated in this sector<sup>3</sup>. Figure 1 offers a detailed perspective on El Perdomo, delving into the area's architecture, topography, and urban structure.

Figure 1: View of *Ciudad Bolívar* neighborhood south of Bogotá.



Source: Pedro Bastos, C4O Cities, February 2023.

<sup>1</sup> Bogotá (2020). [Mayor Claudia López Sanctions New Four-Year Development Plan](#). Bogotá, June 21.

<sup>2</sup> Orozco, J. (2023). [Colombia's Women-Led Electric Bus Fleet Is Reshaping Bogotá's Public Transit](#). Bloomberg, May 8.

<sup>3</sup> Bogotá (2023). [Así es el plan del Distrito para mejorar calidad del aire en zona suroccidental](#). Noticias, March 6.



Mayor López had a unique plan for La Rolita to address social vulnerability in geographical, environmental, technological and gender employment aspects. The transportation industry has traditionally been dominated by men, making it one of the sectors with the highest rate of gender imbalance. On average, women make up only 15% of the workforce in the transportation sector in Latin America<sup>4</sup>.

The plan included mainly hiring female drivers, using an all-electric bus fleet, and choosing a fleet name that would make Bogotá residents proud, known as "rolos." The company is legally known as *Operadora Distrital de Transporte*, but it was the Mayor's idea to create a nickname that could stick. This initiative is a testament to Mayor Claudia López's commitment during her term, focusing on the following pillars<sup>5</sup>:

- **Social Environmental Orientation:** The new company's approach was centered on improving service quality by prioritising a social vision. This vision included promoting gender inclusion, adapting to the challenging geographical features of El Perdomo through spatial considerations, and incorporating environmentally sustainable practices.
- **Public Awareness of Public Transportation Operations:** Transparency and community engagement were pivotal. *La Rolita* aimed to inform and actively involve the population, increasing awareness of how public transportation functions and the associated benefits.
- **Foster Competitiveness and Social Innovation:** The establishment of *La Rolita* not only brought in a new transportation service provider but also encouraged competition and fostered innovation. This aligned with the city's efforts to drive positive change and promote social transformation. By doing so, the city played a crucial role in ensuring it remained competitive and continued benefiting from innovative projects.

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<sup>4</sup> [Banco Interamericano de Desarrollo \(2021\). ABC Género y Transporte, Transport Gender Lab, BID Transporte.](#)

<sup>5</sup> [Ver más en el sitio institucional de La Rolita.](#)

### 3. Focus on gender

Since 2017, Bogotá has been focusing on implementing public policies that prioritise accessibility, safety, and the integration of women into the workforce. One of the critical components of these efforts is the Comprehensive Strategy, which aims to support women in improving and developing capabilities for non-traditional roles, such as in urban transport. This program aims to cultivate skills promoting productive inclusion, economic autonomy, and employability while challenging gender stereotypes.

A critical aspect of this strategy is the Eco-driving Program for women, which was collaboratively developed with critical entities such as the District Secretariats for Mobility and Women, Transmilenio, and the National Service for Learning and Employment (SENA). This program has gained renown by Mayor Claudia López's 2020–2024 District Plan<sup>6</sup>.

In 2021, the program was launched to train and employ 450 women as drivers for electric buses for the entire city's system. The program's second edition, in the following year, was called "More Women in the Transport Sector!" (*¡Más mujeres en el sector del transporte!*), aimed to train over 300 more women specifically for *La Rolita's* upcoming workforce<sup>7</sup>.

One requirement to enroll in the Eco-driving Program was to have an active B3 or C1 license. Candidates must have been 18 years old and possess a high school diploma. The applicants should have at least one year of experience driving buses or other heavy vehicles weighing 2.5 tons. Women meeting these requirements could begin the re-categorisation process to obtain the C2 license necessary for working in public transportation and start the training process with Transmilenio. However, the requirement of having an active type C1 license to enter the type C2 re-categorisation process limited women's access since many did not meet that requirement.

The training included both theoretical and practical classes taught by instructors from Transmilenio. For the theoretical part of the course, the NGO Despacio and KOPTA (a training resource for the railway industry) developed a curriculum that consisted of three training modules. These modules are outlined in the following table.

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<sup>6</sup> [De la Torre Ríos, G.; Delgado, J. \(2023\). Inclusión laboral femenina en el transporte público. Estudio de caso del Programa Mujeres Conductoras en Jalisco, México. TUMI E-bus Mission.](#)

<sup>7</sup> [https://www.sdmujer.gov.co/sites/default/files/2022-08/archivos-adjuntos/boletin-eco-conductoras-regresa-exitosa-convocatoria\\_.pdf](https://www.sdmujer.gov.co/sites/default/files/2022-08/archivos-adjuntos/boletin-eco-conductoras-regresa-exitosa-convocatoria_.pdf).

Table 1. Designing a human talent training program for the mass adoption of electric buses in mass transportation systems.

Content	Level 1 – Basics	Level 2 – Expert	Level 3 – Specific
General knowledge	<ul style="list-style-type: none"> <li>• Passenger safety</li> <li>• Accident management</li> <li>• Emergency management</li> <li>• Economical and ecological driving</li> </ul>	<ul style="list-style-type: none"> <li>• Passenger safety</li> <li>• Accident management</li> <li>• Emergency management</li> <li>• Passenger supervision</li> </ul>	<ul style="list-style-type: none"> <li>• Passenger safety</li> <li>• Accident management</li> <li>• Emergency management</li> <li>• Economical and ecological driving</li> </ul>
Technical knowledge	<ul style="list-style-type: none"> <li>• Engine operational readiness and electrical system check</li> <li>• Basic concepts of electric motor operation</li> <li>• Basic concepts of battery operation and proper use</li> </ul>	<ul style="list-style-type: none"> <li>• Brake system check</li> <li>• Use of the drivetrain, chassis and wheels</li> </ul>	<ul style="list-style-type: none"> <li>• Engine operational readiness and electrical system check</li> <li>• Basics of engine operation</li> <li>• Basic concepts of battery operation and proper use</li> </ul>
Skills	<ul style="list-style-type: none"> <li>• Handling problematic users and negotiation</li> </ul>	<ul style="list-style-type: none"> <li>• Stress management tools</li> <li>• Customer service in transportation</li> <li>• Development of negotiation skills</li> </ul>	<ul style="list-style-type: none"> <li>• Handling problematic users and negotiation</li> </ul>
Raising awareness on gender equity	<ul style="list-style-type: none"> <li>• Driver intervention in cases of harassment</li> </ul>	<ul style="list-style-type: none"> <li>• Types and modalities of violence in transport and how to deal with them</li> <li>• Handling sexual harassment on public transport</li> <li>• Prevention actions on routes</li> </ul>	<ul style="list-style-type: none"> <li>• Driver intervention in cases of harassment</li> </ul>

Source: Despacio and Kopta (internal document).

In partnership with the Bogota-based NGO Bibloamigos, TUMI E-bus Mission (through C40 Cities) provided financial support for renting a conventional urban bus to facilitate practical training for heavy-duty vehicles since the electric buses were still being delivered. The training took around 2 to 4 months, after which they were ready to operate on the road with the electric buses purchased for running in La Rolita.

Figure 2: Melissa Díaz, La Rolita's driver.



Source: Pedro Bastos, C40 Cities, February 2023.

As per official records, by March 2022, the concessionaires of the Transmilenio System employed 2,605 women, out of which 328 were bus operators. In La Rolita, 2.8% of the city's total public bus drivers are women, according to March 2023 data from TransMilenio. However, on the new bus fleet, women make up 48% of drivers, which is a significant step towards inclusivity in gender. For female drivers, it means breaking down gender stereotypes and challenging the notion that women, especially mothers and heads of families, cannot effectively operate a vehicle – as pointed out by La Rolita's manager Carolina Martínez to newspaper El País in 2022<sup>8</sup>.

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<sup>8</sup> <https://elpais.com/america-colombia/2022-11-12/la-rolita-un-modelo-de-transporte-bogotano-ambiental-feminista-y-publico.html>



## 4. Conclusions

La Rolita has set a new standard for other cities by implementing inclusive climate action in public transport. This project is especially important for cities in the TUMI network. The initiative is a bet that public investment can help shift perceptions of mass transportation and increase women's visibility in tasks traditionally considered men's work. This could change the perception that girls and women of different generations have about job options they can access since they can now see it as feasible to perform activities that men thought could only do.

La Rolita also serves as a reference for Ciudad Bolívar for enhanced public transportation and generator poles of cutting-edge jobs. TransMilenio S.A. has constructed a 33,278 square meter depot in Ciudad Bolivar to operate their 195 electric buses assigned to La Rolita. The depot can recharge the batteries of 183 vehicles simultaneously. Plug-in vertical charging infrastructures were installed to optimise space. The depot also features seven container buildings, which include spaces for vehicle maintenance and washing, administrative offices, a cafeteria, recreational rooms, and support for care activities.

These electric buses, manufactured by Chinese company BYD, are equipped with features such as Wi-Fi, USB sockets, screens for public service and route information, and security cameras, and are accessible to passengers with disabilities. At present, there are 11 routes covering 338 kilometers of the city.

Thank you from our TUMI E-Bus Mission Partners:

