



## FIRST 100% ELECTRIC ARTICULATED BUS IS OPERATING IN THE TRANSMILENIO SYSTEM

- On Monday, June 5, the first 100% electric articulated bus began circulating in TransMilenio, along a route that will run from Portal Suba known as the G71 - C71 route.
- This pilot project will be used to gather essential information to complement the fleet renewal process underway, launched by this administration.
- This 100% electric articulated bus provides greater comfort due to the reduction of vibration and noise, and since it does not give off polluting emissions, it does not contribute to global warming by greenhouse gases.

**Bogotá, June 5, 2017.** - As part of the plan underway to improve the TransMilenio service, Enrique Peñalosa's City Hall, TransMilenio S.A., CODENSA, Empresa de Energía de Bogotá, BYD and TransMasivo S.A. are setting the first high-floor, 100% electric articulated bus in motion in the transport system.

*"We are going to learn a great deal by setting this bus in motion, such as effective costs, charging time and real capacity with people on board. The important thing is it is going to operate in the system conditions directly and we are going to be able to analyze its advantages through its operation,"* said Mayor Enrique Peñalosa during an event held at the workshop-yard of Portal de Suba.

This is the first bus of its kind to circulate in the world, which represents a milestone that is especially relevant in the development and modernization of the system based on sustainable technologies.

*"This bus has the capacity to run 320 kilometers on full charge. On average, a bus in the system runs 280 kilometers per day, so you could say that with that charge, it is going to be able to circulate, and most importantly, with this technology, we are contributing to environmental protection,"* said Gustavo García, interim CEO of TransMilenio.

The bus will begin to operate in the system today, Monday, June 5 with a temporary one-year operating permit, which can be extended for another two, granted to the TransMasivo S.A. franchisee.

*"The importance and the benefits of electric mass transportation in a city like Bogotá are a priority to CODENSA, and we are providing all our support and*



*experience in order to make this a reality and continue building a sustainable city. We also want to contribute to improving the quality of life of more than 1,500 users per day that this bus will serve,"* said Lucio Rubio Díaz, General Director of Enel Colombia.

During this pilot project, the electric articulated bus will be subjected to the real operation; variables and indicators will be measured, such as energy efficiency, bus autonomy, operation and maintenance costs, as well as performance of the electric infrastructure, among others, in order to provide relevant information for the fleet renewal process underway by Enrique Peñalosa's City Hall.

*"The fact that a 100% electric articulated bus is actually operating with passengers in the TransMilenio system marks a milestone in clean transportation on the global level, because TransMilenio is by far the most important BRT system in the world. We expect this pilot project to provide the bidders for the concession of Phase 1 with the elements necessary, in order for them to include this technology in their bids,"* said Pedro Cardenas, CEO of BYD Colombia.

Some of the main benefits of this electric articulated bus is that it provides users with greater comfort, due to the reduction of vibration and noise, and since it does not give off polluting emissions, it does not contribute to global warming by greenhouse gases.

For the pilot project, CODENSA will build, maintain and operate the associated electric infrastructure, and it will also provide the power to charge the bus for one year.

### **Characteristics of the Electric Articulated Bus**

The high-floor, 100% electric articulated bus that begins operating today on the different routes of TransMilenio, provides accessibility for individuals with reduced mobility.

The design process had the guidance of Colombian technicians in order to adjust to and comply with the physical characteristics of the buses of the Bogotá system, in accordance with the technical standards and guidelines of the Ministry of Transport, which is the entity that approved it in March 2015.

The bus was subjected to three months of performance testing established by TransMilenio, conducted by the Universidad Nacional de Colombia, with satisfactory results. These tests analyzed hill start, acceleration and recovery on flat roads, maneuverability, approach and overtake, braking, energy efficiency and autonomy, among other tests designed to ensure operation in a system with the characteristics and demands of Bogotá's, and to provide users with increased safety.



## **Technical Details of the 100% Electric Articulated Bus**

Capacity: 160 passengers

Charging time: Quick-charge three hours

Battery regenerative charging by braking and deceleration

Maximum speed: 70 km/h

Maximum power: 360 kW (180 kW x2) 492 horsepower

Battery energy capacity: 450 kWh / 600 amperes/hour

Eco-friendly iron phosphate batteries

No CO2 emissions in operation

## **Manufacturer's Technical Considerations**

- The manufacturer estimates 60% savings on operating costs compared to conventional fuel vehicles. These values are susceptible to validation in operation.
- The manufacturer estimates a useful life of 15 years. The iron phosphate batteries patented by BYD provide a useful life of more than 15 years of charging (6000 cycles) and are reusable in other applications.