

# Secretaria de Metro de Panama

## Turnkey Metro for Panama Metro L1

Alstom's turnkey solutions support Panama City in developing Central America's first subway system—which helps alleviate the booming Capital's serious traffic congestion. The new subway takes approximately 23 minutes to travel from north to south of the city, has a capacity of 600 people per train, and can transport more than 15,000 people during peak hour.



### KEY BENEFITS

**Turnkey solutions ensures reliability**

—Alstom delivers turnkey infrastructure systems allowing its customers to achieve simplified project management, strict budget control and reduced construction time. High reliability and service proven Metropolis trains ensures availability of 96% for commercial operation.

**Modular RS configuration**

—Allowing future extension up to 5-cars train to meet future growth of ridership. By running five-car trains at 1.5-minute headways, capacity can be ramped up to 40,000 passengers/hour/direction.

**Serviceability**

—Metropolis is equipped with standard sub-systems that are grouped by function and are more compact, thereby more accessible and easier to exchange.

**Country:** .....

Panama

**Project:** .....

Start of commercial operation in April 2014, Panama metro Line 1 is 13.7 km long, of which 7.2 km is underground and 6.5 km on viaduct. The line counts 12 stations and runs from Los Andes at the north of the city, through the historic downtown (Plaza 5 de Mayo), the financial centre (Vía España), and ends at the Albrook neighbourhood, where the maintenance and workshop center is located.

**City Context:** .....

Panama city is the capital and largest city of the Republic of Panama and has a population of 880,691, with a total metro population of 1,272,672. As the hub for international banking and commerce as well as the political and administrative center of the country, Panama City is responsible for the production of approximately 55% of the country's GDP.

**Scope:**.....

In 2010, the SMP (Secretaría del Metro de Panama) awarded a contract to the "Consortio Linea 1" to build the first line of the Panama Metro. This consortium consists of a Brazilian civil works company Odebrecht (55%) and the Spanish FCC (45%). As a subcontractor of this consortium, Alstom is the leader of electromechanical group and is in charge of the engineering, integration and commissioning of the electromechanical works on a turnkey basis. Alstom is also supplying 57 metro cars, traction substations and the CBTC train control system.

## TECHNICAL SCOPE AND KEY FEATURES

### Rolling Stock

19 3-car METROPOLISTM trains	Steel wheel, aluminium carbody
Width	2.7 m
Length	52.5 m

### Electrification

2 x 24 MW intakes (13.8 kV - 2000 A)
13.8 kv redundant distribution network
8 x 3,5 MVA traction substations (1500 DC)
12 x 1,6 MVA station auxiliary substations

### KEY FEATURES

Length of line	13.5 km
Traction voltage	1500 V <sub>DC</sub>
Maximum speed	80 kph
Headway	90 s
Transport capacity	24 000 pphpd (future: 39 000 pphpd)
Train length	52.5 m
Number of stations	12



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