

# Light rail pro

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Casablanca's inaugural light rail line, which began operations on December 12 2012, is already transforming public transport in Morocco's largest city, as **Kevin Smith** discovers.

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**T**HOUSANDS of Casablancans lined the streets of their city on December 12 2012 to celebrate the opening of a new light rail line and to catch a glimpse of King Mohammed VI who officially inaugurated the service.

The 74 striking burnt orange LRVs, which are now operating on the 30.7km Y-shaped line, will serve an estimated 250,000 passengers every day by 2015, providing much-needed congestion relief to the hustle and bustle of Casablanca's streets.

Casa Transport is the publicly-owned operator set up in March 2009 to oversee the project after funding was secured in October 2008. In May 2009 it selected Alstom in a contract worth €120m to supply 74 five-section low-floor Citadis LRVs with an option worth up to €70m for the supply of additional vehicles.

The LRVs are formed into 65m-long double units with each vehicle capable of carrying up to 606 passengers, including 102 seated. Alstom says that Casablanca along with the Moroccan capital Rabat, where it has supplied 44 similar Citadis LRVs, are now operating some of the longest trams in the world.

Alstom says the custom design of the vehicles is the result of extensive collaboration with Casa Transport and the City of Casablanca. The rounded exterior is said to emphasize a modern design in a city undergoing rapid economic development, while inside the LRVs have adopted a traditional Moroccan theme. This includes incorporating the native Zellige mosaic art, traditional ornaments and the five pointed star onto ceilings and into seat patterns. Air-conditioning and



# emieres in Casablanca

information displays in French and Arabic also aid passenger experience.

## Line 1

The line itself crosses the city from east to west and serves 48 stations, from its eastern terminus at Ennassim in Sidi Moumen to western termini at Facultés on the El Jadida Road and Ain Diab which is close to the seafront. Stations are on average 600m apart and the line takes in a number of the city's major points of interest including the hospital, mainline station, university and numerous schools.

A consortium led by Systra and comprising Systra Morocco and CID won an international tender in June 2009 to carry out detailed design and to manage construction of the line. Systra subsequently oversaw the award of 50 contracts for the Dirhams 5.9bn (\$US 693.9m) project which came in Dirhams 500m under budget. The government agreed to provide equity of Dirhams 4bn directly to Casa Transport to fund the line, and guaranteed loans taken out to meet the remainder of the costs.

Infrastructure construction was completed on schedule in October with rolling stock testing, which was overseen by Paris Transport Authority's (RATP) development arm, commencing in January 2012 on a completed section close to the depot. This was extended to a shadow service on the entire route from October in the run up to the official opening.

Casa Tram, a consortium headed by RATP Dev, and consisting of the Moroccan Deposit and Management Fund (CDG) and holding company Transinvest, is responsible for operating and maintaining the line having secured a €90m five-year contract in July 2012.

Casa Tram subsequently out-sourced maintenance at the Sidi Moumen depot close to the line's eastern terminus to Alstom. Here 40 Alstom employees conduct preventative and corrective maintenance, while the depot is also the location for the line's Central Command Centre (PCC) where operators manage

tram movements, regulate traffic, monitor stations and facilities, and adjust energy usage when required. Alstom was also awarded signalling and electrification contracts worth €11m in December 2010. The line is electrified at 750V dc while the signalling system provides 75% priority for LRVs at road junctions.

RATP developed the timetable and operating procedures for the line. LRVs operate at an average speed of 18.8km/h, providing a journey time of 63 minutes from Ennassim to Facultés and 69 minutes from Ennassim to Ain Diab. Headways of 4min 45s at peak hours, and 8min 30s at other times are offered, with the line open from 05.30 to 23.30 daily. A fixed price of Dirhams 6 is set for tickets in central Casablanca, with parking charges in the city due to rise to encourage more people to use the tram.

Constructing the line provided Casa Transport with an opportunity to rehabilitate streetscapes and improve road traffic flow. On some sections trams are operating on new central reservations which are flanked either side by improved roads and widened pavements. New traffic signals have also been installed while 90 crossroads have been remodelled. In addition, 2000 new street lights have been introduced

and 4000 trees have been planted along the length of the line to improve aesthetics.

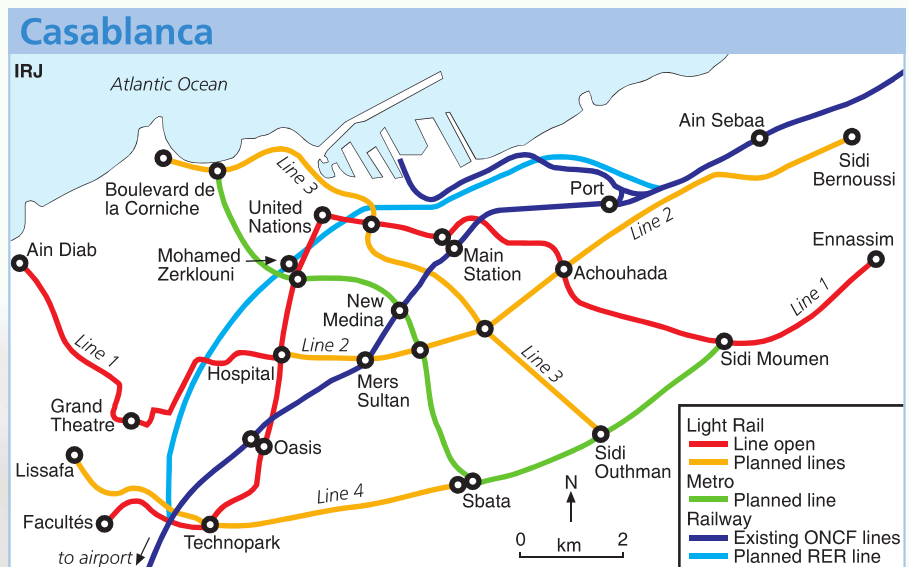
## Further plans

Building a single tram line is just the start of plans to ease Casablanca's chronic congestion. A 2004 study found that public transport accounted for just 13% of all travel in the city, and without a genuine improvement in this sector, this modal share was expected to fall to 11% in 2019.

As a result plans to build a Dirhams 45bn network of four light rail lines, an elevated metro and a cross-city RER-style commuter rail line are currently under development. The foundation for these lines is Casablanca's Urban Plan Mobility Study which was made public in 2007 and suggested building a 157km public transport network which was projected to increase public transport usage to 21% by 2030 by providing new connections to the city's high-density population areas.

Following the completion of Line 1, the next project to proceed is the 15km elevated metro line.

Preliminary studies for the line were completed by Egis and Systra in December 2012 and fundraising is said to be underway. The line will run



# Casablanca



King Mohammed VI of Morocco (left) and French prime minister Mr Jean-Marc Ayrault (right) attended the inauguration of Casablanca's first metro line on December 12 2012.

southeast from Boulevard de la Corniche close to the seafront where it will intersect with future tram Line 3, along Mohammed VI Boulevard, and then via Sbata northeast along Driss El Harti Boulevard. The line is projected to serve 400,000 passengers per day from a potential catchment of 2 million people.

Casa Transport says it hopes to launch tenders for the preparatory works by the end of the first quarter of 2013 in order to complete the line by 2017, which is integral for the project because it coincides with the conclusion of the contract with Casa Tram.

As for the additional tram lines and

RER system, Casa Transport says that it plans to launch a new tender in 2016 for operation and maintenance of the entire network of rail lines and bus routes outlined in the 2007 plan. These include:

- the 19km Line 2 which runs east - west from Sidi Bernoussi to Hospital where it intersects with Line 1
- Line 3 which runs 14km along Boulevard de la Corniche via an interchange with the metro and southeast via interchanges with lines 1 and 2 to its terminus at Sidi Outhman which is also on the metro line
- Line 4 which goes 15km west from

Sbata to Lissasfa via an interchange with Line 1 at Technopark, and

- a 63km RER line using existing Moroccan National Railways (ONCF) infrastructure and a new alignment through the city centre where an underground section will be built. The line then rejoins existing ONCF lines, terminating at Mohammed V International airport.

Casa Transport says it is too early to project the quantity of rolling stock that the new lines will need until various consultants and industry partners, including ONCF for the RER line, complete detailed studies which will advance the 2007 plan.

By continuing to back the results of this plan, the government has placed rail at the forefront of its vision to transform mobility - and quality of life - in Casablanca over the next 17 years.

Regulations restricting the flow of heavy goods traffic through the city centre during designated times of the day will boost the new network which will offer high-capacity and frequent connections to outlying areas of the city. Congestion, which has been such a problem as Casablanca has expanded, is now set to ease its grip on its choked streets paving the way for further economic growth and development. **IRJ**

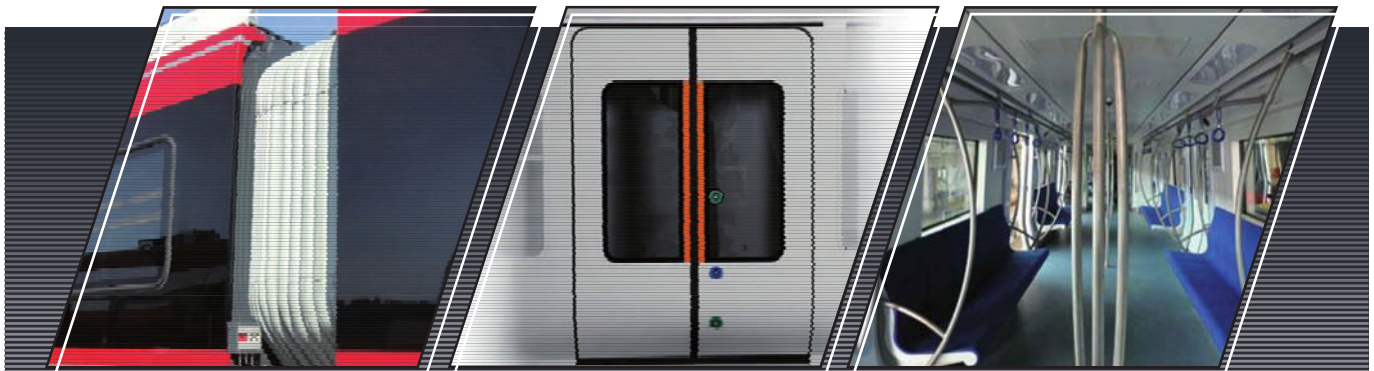
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**Transportation Equipment GmbH**

Industriestraße 3 • 3300 Amstetten • Austria • Tel.: +43 7472 66066 100 • Fax: +43 7472 66066 200 • transport@ultimate-eur.com



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