

# Proxim's Mobility Solution Powers Video Surveillance and Wi-Fi Access in Metro Ligero Oeste Line, Madrid

## Introduction

With a fleet of 27 vehicles and 3 railway lines traversing a total distance of 22Kms, the Metro Ligero Oeste (MLO), S.A. has been built to provide a safe, punctual and fast transportation service in Madrid. Thousands of riders each day use this public transportation, and they want not only WiFi access while en route, but the safety from video surveillance as well.

## Challenge

José Luis López Jiménez - Director of Systems at Metro Ligero Oeste and his team were tasked to provide reliable, high-speed onboard internet access in the trains.

The requirement also included a reliable network infrastructure for train route management and real time communication between ticketing systems and the vehicles. Furthermore, to enhance passenger safety and security, the infrastructure was required to support real-time video transmission from onboard CCTV cameras and VoIP services for real-time Public Address system for emergency situations.

## Solution

The network incorporates Proxim's field proven FastConnect™ technology that guarantees dedicated bandwidth and supports seamless application handover to ensure a high quality of service and service continuity. It also incorporates WORP® and ClearConnect™ for robust, multi media high capacity operations, making Proxim's solution one of the most advanced train mobility communications solutions.

The solution implemented incorporates two primary elements:

- Proxim's Base station Units (BSU): deployed along the train route to provide continuous coverage and connectivity.
- Proxim's Subscriber Units (SU): mounted on the roof of the train to assure continuous communications with the nearest BSU.

The solution consists of 80 Tsunami® point to multipoint base stations with 60° sector antennas along the 22 Kms of tracks including tunnels, train yards, etc. Subscriber units are installed on train roofs. For onboard internet access, two Orinoco access points are placed in every train.

## Result:

Proxim's solution operates in challenging environments and underground tunnels to provide upto 15Mbps internet speeds on every train. The infrastructure supports additional applications such as Ticketing, Public Announcement (PA), Communication based Train control (CBTC), and CCTV for enhanced traffic monitoring and incident management.

**"The biggest reason for selecting Proxim's wireless solution was the mobility feature. Proxim reliably connects the entire set of applications including many mission critical ones across the distributed sites, while at the same time provides "on the move" internet access to approximately 700 passengers daily."**

- José Luis López Jiménez - Director of Systems at Metro Ligero Oeste



## Highlights

- Metro Ligero Oeste (MLO) required mobility enabled high-bandwidth connectivity to support onboard video surveillance and internet access
- FastConnect™ Technology guarantees seamless handoffs between base stations
- Multipoint Network installed along the tracks to support mobility and access points for onboard WiFi

## About Proxim Wireless

Proxim Wireless is a pioneer and global leader in advanced Wi-Fi, point to point, and point to multipoint outdoor wireless systems that deliver high performance and high availability communications.

With over 30 years of wireless experience, Proxim is recognized for its unparalleled reliability, superior performance and drive for innovation.