



Underground Wireless Coverage

The Project Snapshot

Background

Millions of commuters use public transportation every day. Though this “downtime” offers a significant opportunity for mobile subscribers to conduct business or communicate with others, in most situations mobile usage is not possible due to lack of wireless service in subways and tunnels.

The Problem

A major wireless service provider in the northeastern United States recognized unrealized opportunity that lay in the five-mile stretch of tunnel with no wireless coverage in a major metropolitan area. Providing wireless coverage to mobile subscribers who use the tunnels would allow them to generate additional revenue from the increased minutes of use and data consumption, keep their customers satisfied, and realize an advantage over their competition by keeping their customers connected.

The CommScope Solution

The service provider selected CommScope because of their unique combination of product performance and quality of service, offering the service provider a total solution. CommScope helped the provider to become the only wireless carrier to provide service within this busy train tunnel by using a unique digitized optical RF transport solution.

The wireless service provider installed two base transceiver stations (BTSs), with approximately three to five radios on each sector of both cell sites. There were also four code division multiple access (CDMA) carriers per sector. CommScope's seven host units were centralized at one BTS and six host units were centralized at the other BTS. Each host unit was connected via singlemode fiber to a remote cabinet mounted within the tunnel.

CommScope's patented technology digitizes the entire designated RF band and digitally transports it over fiber from the host to the remote nodes. Therefore, the signals are replicated at full dynamic range, changing the capability for high data throughput and essentially delivering future broadband services.

Benefits Realized by the Customer

Utilizing CommScope's digitized RF transport distributed antenna solution has allowed the service provider to provide high quality wireless service within the five-mile span of railway tunnel. Before the system was installed, no wireless service was available. Since the system was installed, millions of communications have been successfully completed in the tunnel. Because their customers can now use their mobile devices within the tunnels, use by the commuting subscribers has provided additional revenue for the provider. Existing subscribers are also more satisfied with the service provider because they can use their mobile devices during their commute. In addition, because this service provider is the exclusive provider to offer service in the tunnels, it gives them a competitive advantage and the opportunity to earn new subscribers.

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