# INTELLIGENT TRANSPORTATION SYSTEM

Overview

The rapid urbanization and shifts in population density coupled with limited road system capabilities have resulted in constantly increasing commute times, fuel consumption and air pollution, thereby reducing the efficiency of the transportation infrastructure. Building new roads to meet the transportation demand can be prohibitively expensive, and adding new lanes in highly congested urban areas is often impossible. In order to keep the traffic moving, a tried and tested solution is an Intelligent Transportation System (ITS), consisting of advanced traffic signal control, speed meters and many other components ranging from weather sensors, to dynamic messaging signs, to video surveillance cameras.

Addressing the ITS deployment concerns:

Current traffic surveillance systems rely on wire line networks to transmit the video. But as networks expand, more cameras mean more trenching and cabling, resulting in a cost-prohibitive and often impossible proposition.

Proxim wirelessly binds all the different components of a transportation system over hundreds of square miles with an end-to-end wireless network. This wireless technology also enables a wide variety of high-uptime and bandwidth-intensive applications ranging from real-time traffic updates to warning drivers of road conditions, and detours via dynamic messaging signs boards, facilitating a scalable, reliable, and cost-effective transportation system.
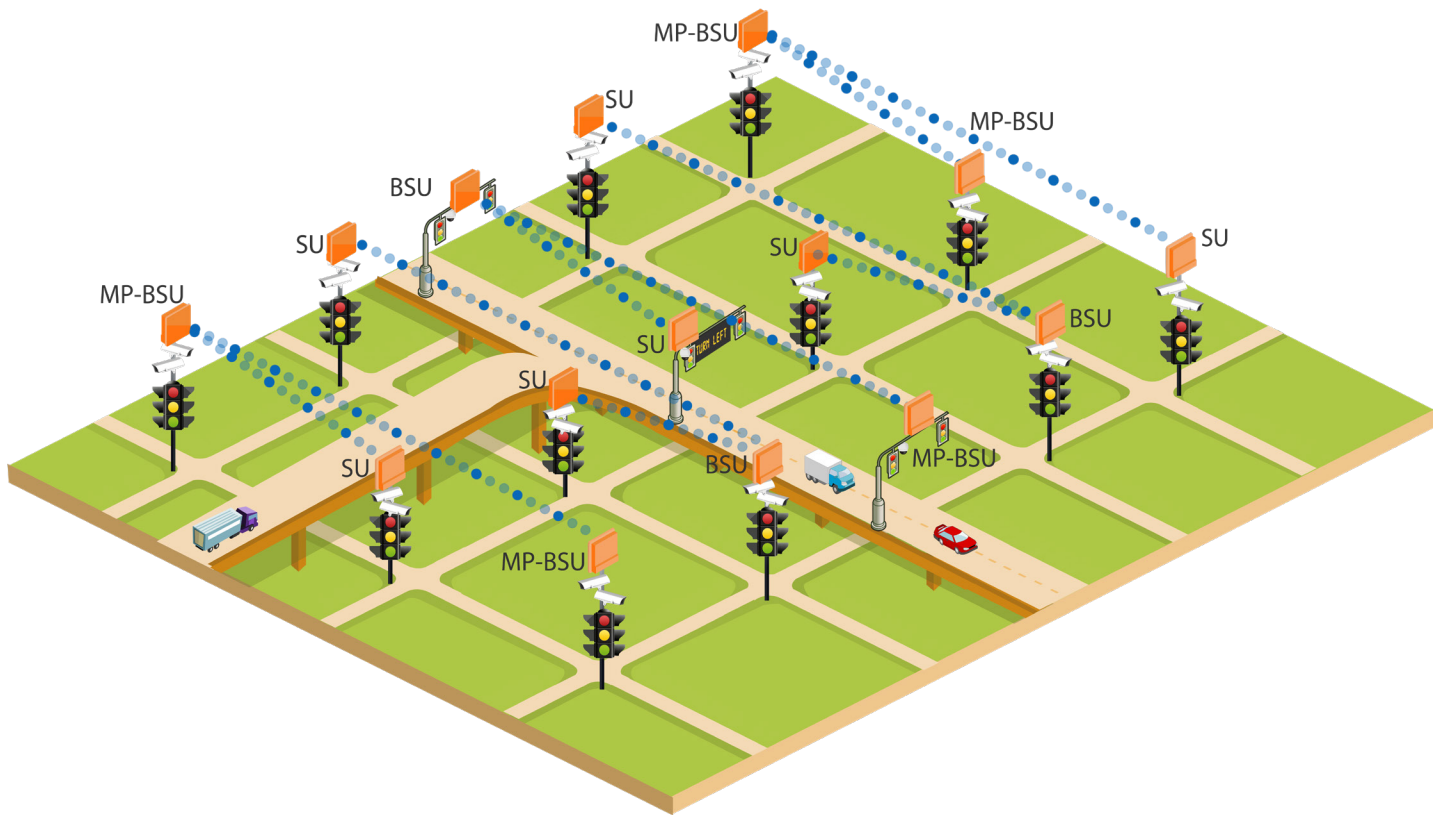
The Proxim Difference:

▶ Proxim's Point-to-Multipoint (PtMP) solutions utilize base-station units (BSUs) connecting to multiple lower-cost subscriber units (SUs) adjacent to each major ITS component in the network. This enables SUs to deliver the video traffic directly from the camera back to the BSU. The Proxim advantage is in its deployment. Unlike wireless mesh deployments that introduce detrimental latency based on the non-direct multi-hop nature of the technology, PtMP networks provide a series of direct connections from the many SUs back to the BSU. This provides dedicated connectivity to ensure the quality and performance needed for mission-critical ITS networks and the cost-effectiveness of a distributed network (as opposed to many dedicated links).

▶ Proxim's PtMP networks for ITS utilize a reliable polling algorithm to provide an efficient and effective means of distributing bandwidth among the end points/SUs fairly and in a controlled manner. This helps to provide quality of service (QoS) in the wireless ITS

network, and to ensure that each component receives the necessary bandwidth to deliver a constant, reliable stream of information. Although wireless technology traditionally required line-of-sight connectivity between SUs and the BSU, recent advances have enabled NLOS functionality in some PtMP systems, which provides even greater ease of use and configuration. However, for the best performance, line-of-sight operation among PtMP links still yields the greatest return.

Benefits:

Quick and Easy Installation:

Installation is relatively easy and can be set up within hours

Carrier-class uptimes:

Ensures non-stop, real-time transmission from surveillance cameras and other ITS components

Cost-effective:

Does not require any cabling/ trenching, thus avoiding huge expenditures

Scalable:

Deploys virtually anywhere - across rugged terrain, bodies of water and remote areas and within no time

About Proxim

Proxim Wireless is a global leader in advanced wireless broadband and WiFi solutions that deliver high performance and high availability communications. Celebrating 40 years of pioneering wireless solutions, Proxim is recognized for unparalleled reliability, superior performance, and drive for innovation.

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