

Indiana Department of Transportation (INDOT) Deploys Proxim Wireless for Statewide Intelligent Transportation System

In order to help monitor and manage traffic throughout the state, the Indiana Department of Transportation (INDOT) has deployed an end-to-end Proxim wireless network for a statewide Intelligent Transportation System (ITS). This wireless network connects traffic and video components over hundreds of square miles throughout the Northwest Indiana and Indianapolis areas, enabling the following traffic-related applications:

- **Traffic Management** – Residents of Indiana and Illinois can visit INDOT’s TrafficWise Website to get real-time traffic updates as well as visual images of the roads they are traveling. The images are provided by video cameras connected wirelessly via Proxim’s unlicensed WiMAX radios, the Tsunami MP.11 5054.
- **Dynamic Messaging Signs** – Many of the digital messaging signs along Indiana’s highways are wirelessly connected to Proxim’s wireless network via Proxim Tsunami MP.11 5012 subscriber units. This enables the immediate updating of the dynamic messaging signs to warn drivers of road conditions, accidents, detours and Amber Alerts.
- **Solar-Powered Traffic Detection Radar Sites** – INDOT utilizes many radar sites to detect the flow of traffic and warn drivers of slow traffic conditions ahead. These radar detection sites are all connected via Proxim’s Tsunami MP.11 5012 subscriber units, which – due to the low power consumption of the radios – enables each of these sites to be powered via solar.
- **Seamless Connectivity to Traffic Management Centers (TMCs)** – All of these components are seamlessly connected back to INDOT’s two TMCs via Proxim’s high-performance wireless backhaul links, saving INDOT millions of dollars in up front deployment costs by not requiring the use of fiber to connect all components. INDOT uses a leased line to tie the two TMC sites together.
- **Wireless Remote Management** – INDOT engineers can access the network remotely via Wi-Fi thanks to Proxim’s ORiNOCO AP-4000 MR-LR.

“When we began rolling out this statewide Intelligent Transportation System (ITS), we knew that the cost to connect the hundreds of components via fiber would be completely cost-prohibitive,” said Troy Boyd, Indiana Department of Transportation (INDOT) ITS Technology Deployment Division Director. “With Proxim’s end-to-end wireless solutions, we were able to deploy a single network consisting of wireless backhaul, unlicensed WiMAX and Wi-Fi that enabled us to connect and manage the entire ITS. As a result, we are able to deliver mission-critical traffic services to the citizens of Indiana in a fiscally responsible manner.”

Initially, INDOT had evaluated several competing wireless technologies, including products from Alvarion and Firetide. At the end of the day, the autonomous operation of Proxim’s MP.11 5054 and 5012 series radios performed better and offered greater value than the other offerings.

“Here at Proxim, we understand that not all networks and applications have the same requirements – and the flexibility of our end-to-end wireless platform enables us to use the right wireless solution for many given applications,” said Shaun Cohl, Senior Systems Engineer for Proxim Wireless. “Rather than forcing organizations to choose between technologies that are good for one application but not another, we can provide a mix of wireless backhaul, WiMAX/point-to-multipoint, and Wi-Fi technologies to match the needs of any customer’s network.”

To roll out this large ITS network in a timely manner, Proxim strategically partnered with Meade Electric of Illinois to handle the integration of the more than 600 Proxim radios throughout the network, including all of the tower and electrical work. The ITS Technology Deployment Team at INDOT managed the entire process, from initial design all the way through deployment.

“Without the expertise of the INDOT’s ITS Technology Deployment Team, this project would have been considerably more complex,” said Cohl. “The INDOT team is amongst the most professional ITS teams I’ve ever had the pleasure of working with.”



Challenge:

- In order to reduce traffic congestion and make the roads safer throughout the state of Indiana, the Indiana Department of Transportation (INDOT) needed to deploy a statewide Intelligent Transportation System (ITS)
- To provide remote monitoring and traffic management, solar-powered speed detection sites, automated dynamic messaging signs, weather detection and more, INDOT needed a way to cost effectively deploy and connect hundreds of individual components and link them back to the central traffic management center (TMC)
- Because of the scope of the system, fiber and other wired alternatives were not financially feasible for connecting all of these components

Proxim solutions:

- Tsunami MP.11 5054 – Unlicensed WiMAX/point-to-multipoint radios provide the wireless connectivity for all video surveillance cameras throughout the system
- Tsunami MP.11 5012 – Unlicensed WiMAX/point-to-multipoint subscriber units provide the wireless connectivity for all dynamic messaging signs through the system, enabling the immediate updating of the messaging signs to warn drivers of road conditions, accidents, detours and Amber Alerts
- ORiNOCO AP-4000 MR-LR – Proxim’s mesh-enabled, outdoor Wi-Fi access points enable INDOT engineers to connect remotely from the field

Results:

- By utilizing Proxim’s end-to-end wireless solutions – including point-to-multipoint, wireless backhaul, and Wi-Fi – INDOT was able to save millions of dollars in upfront costs as compared to wired alternatives
- In addition to the cost savings, INDOT was able to deploy the statewide ITS system in a fraction of the time required to deploy wired alternatives for the connectivity of every component

ABOUT PROXIM

Proxim Wireless Corporation (OTCQX: PRXM) provides Wi-Fi®, WiMAX, Point-to-Multipoint and Point-to-Point Backhaul technologies for a complete indoor and outdoor wireless broadband ecosystem. Our systems enable service providers, governments and enterprises to deploy fixed and mobile security and video surveillance, indoor and outdoor Wi-Fi, business and residential internet access and cell tower backhaul. Proxim has shipped more than 2 million wireless devices to more than 250,000 customers in over 65 countries worldwide. Proxim is ISO 9001-2008 certified. For more information, visit <http://www.proxim.com>.