

Redline's Wireless Systems Keep Utah Highways Operating at Peak Capacity

CUSTOMER



Utah Department of Transportation,
Traffic Operations Center

INDUSTRY

Local & State Government

THE CHALLENGE

- To provide connectivity for traffic sensors operating in real time.
- To complete it within a very tight time frame.
- To provide system expansion for future applications such as video surveillance.

THE SOLUTION

- AN-80i in 5.8 GHz, 5.4 GHz and 3.65 GHz
- SmartLINK software to provide real-time sensor control.

THE RESULTS

- System operational on time and at a fraction of the cost of fiber.
- Reliable operation with plenty of capacity for future expansion.
- Safer travel with reduced commuter travel times..

The Utah Department of Transportation (UDOT) Traffic Operations Center (TOC) is responsible for keeping traffic running smoothly and safely. The UDOT TOC uses CommuterLink, a computer controlled Intelligent Transportation System (ITS) to manage traffic and provide travelers with up-to-date information via variable message signs (VMS) and the 511 Travel Information Line.

CommuterLink is connected to a sophisticated network of closed-circuit television (CCTV) cameras, VMS and ramp meters that provide data on weather conditions and traffic speed, volume and flow.

Due to the system's success at reducing traffic congestion, the UDOT expanded it to cover the I-15 throughout Utah County. Design requirements called for the installation of traffic sensors and traffic ramp meters in more than 200 locations within a tight budget and an even tighter timeline. This expansion over such a wide area and within a short time frame and tight budget presented a significant challenge.

REAL-TIME SIGNAL MONITORING TO CONTROL TRAFFIC

The UDOT selected wireless networking technology to provide real-time traffic control over this expansive area. Wireless technology can cover the area quicker and at much less cost than laying miles and miles of fiber. However, wireless presents its own challenges in terms of bandwidth, range, capacity and ability to handle real-time traffic. The Redline AN-80i was selected for the project, because it can deliver industry-leading throughput and range in the toughest outdoor environments and because it can be upgraded via software to support bandwidth and application expansion as needs change.

The high capacity of the AN-80i easily supported all the new sensors and traffic ramp meters while leaving plenty of room for future expansion. Its long range kept costs down. Its small size, its low power, and its integrated antenna alignment indicators eased installation. In addition to handling sensors and traffic ramp meters, the AN-80i also provided the communication links for VMS, eliminating the cost, the time and the expense of a separate VMS network.

Equipped with SmartLINK software that allows machine-to-machine communications and delivers low latency — up to 10 times lower than the competition — the AN-80i ensures flawless real-time operation of the sensors

and traffic ramp meters. Additional bandwidth or support of CCTV operations can be added via a simple software upgrade.

With the AN-80i's non-line-of-sight (NLOS) capability, its rugged design, and its five-9's reliability, the TOC can assure a consistent and accurate flow of information across the network — even in the harshest weather conditions.



“Redline’s AN-80i radios were the obvious choice for UDOT due to their high bandwidth capability, hardened design, reliable service, and experienced staff and because the radios can go from traffic signal control operations in one installation to wireless CCTV operations in another with a simple software upgrade.”

*ITS Standards and Contracts Manager,
UDOT – Traffic Operations Center*

ABOUT REDLINE COMMUNICATIONS

Redline Communications (www.rdlcom.com) is the creator of powerful wide-area wireless networks for the world's most challenging applications and locations. Used by oil and gas companies, militaries, municipalities and telecom service providers, Redline's powerful and versatile networks securely and reliably deliver M2M, voice, data and video communications.

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