SUCCESS STORY

Keeping an eye on the road.
Axis network video keeps Washington State DOT moving.

Mission
The Washington State Department of Transportation’s (WSDOT) regional office in Wenatchee needed a way to link information from its Road Weather Information System (RWIS) to live video images, giving commuters, first responders and truck drivers up-to-date information about road and weather conditions.

Solution
The WSDOT utilized the serial port connections in various Axis network cameras and video servers to integrate the RWIS information with the video from several major highway arteries and bridges in the area. The signals are then transmitted from remote mountain areas via fiber connections or microwave signals to the Wenatchee office.

Result
As a result, the WSDOT’s Wenatchee headquarters can receive accurate traffic and weather information from key sections of the area’s transportation system. This allows the organization to make accurate and informed decisions regarding road maintenance, traffic detours and emergency routes. In addition, commuters and truck drivers can access the information via the Internet at http://www.wsdot.wa.gov/traffic in order to make informed route decisions.

Organization:
Washington State Department of Transportation (WSDOT)

Location:
Washington, USA

Industry segment:
Transportation

Application:
Real-time traffic information
Weathering the storm

The WSDOT maintains 7,000 miles of highways and 3,300 bridges and tunnels. To assist in the management and maintenance of its transportation system, the WSDOT deployed more than 1,000 weather-gathering stations across the state, as part of the RWIS. The RWIS weather sensors measure various data, including air temperature, highway moisture, visibility, wind speed and road surface temperature.

However, there was no way to actually see the conditions on the highways, especially in remote mountain corridors such as Stevens Pass and Blewett Pass. As these roadways serve as major arteries through the Cascade Mountains, it is important for the WSDOT to have up-to-date weather and traffic information in order to provide proper road maintenance and keep motorists safe.

"We needed a way for our maintenance and emergency crews to see real-time road conditions," said Mats Gustafsson, electronic communications systems technician for the WSDOT. "Being able to see conditions such as how much snow has fallen or where traffic is backed up can be extremely beneficial when allocating resources or planning routes around problem areas."

To assist in this effort, the WSDOT added its first Axis network cameras to the RWIS in 1998. The cameras were linked to the web site, mostly for the use of commuters and truckers. However, the cameras soon proved to be such a valuable tool that the WSDOT added several more. There are now 22 RWIS sensors near the Wenatchee regional office, and nearly all of them make use of Axis network video technology.

An unblinking eye

Now that the Axis network video equipment is in place, the WSDOT maintenance crew can easily determine which road-ways should be serviced first. This is especially important in the winter months when snowplows and de-icing equipment are frequently deployed. In addition, first responders can use the camera system to determine the best route and see which conditions to expect upon arrival. The images have also come in useful for traffic analysis. Currently, the WSDOT is planning some revisions to a bridge’s on-ramp, based on traffic flow problems captured by the cameras.

The Axis network video products are even meeting some of the WSDOT’s homeland security needs. With the government’s push to better protect the country’s bridges, tunnels and roadways, a network video solution was the ideal way for the WSDOT to remotely monitor some of its critical trans-portionation points and share necessary images with the Washington State Patrol and other government agencies, if necessary. The Axis video servers include pan/tilt/zoom controls that are accessible from any computer within the statewide network, so no state agency requires special equipment to access and control the cameras.

The system has been so dynamic and cost-effective for the WSDOT, that the organization is currently considering the purchase of additional Axis network video products. For this application, which only requires encoding video to Ethernet, competitive camera systems would have cost approximately $5,500 per video input. However, the Axis system was only about $275 per video input.

"We needed a way for our maintenance and emergency crews to see real-time road conditions."
Mats Gustafsson, electronic communications systems technician, WSDOT

"Axis network video has been a valuable tool for us," Mr. Gustafsson said. "It has met a number of needs, including route planning, traffic monitoring, homeland security, first response, maintenance and highway engineering. Thanks to the network video system, we are able to meet these needs and provide higher quality services at a reasonable cost."