

The right signals

The Gotthard Tunnel in the Swiss Alps is at the leading edge for safety control



→ LLOYD FULLER

Stora Sundby, Sweden The Gotthard Tunnel in the Swiss Alps is considered to be one of the narrowest bottlenecks on the road between northern and southern Europe – and is one of the longest tunnels in the world.

Wells-Electronic, which delivers its traffic management system, has selected Westermo's LD-64 optical-fiber modems to transmit data from the 272 traffic lights and 68 speed or emergency display screens. A new road control installation allocates vehicles to the appropriate lanes of the tunnel's gateway. This can be closed when passageway through the tunnel is not possible due to an accident. The metering of vehicles allows only a safe number in the tunnel at the same time. Also, by means of a 'drop control', the trucks can be singularized so bunching is avoided (this is important in case of fire).

The necessary signal switching will be started automatically if there is a fire,

if the allowed CO concentration is exceeded, or if stopped vehicles are detected. The entire data management network is based on redundancy rings, so can still be controlled in the event of a defective cable or device failure.

All data is transmitted through the LD-64, RS-485, fiber-optic modem. There are 68 stations – each has two LD-64s, one for the normal bus and one for the emergency bus used for alarm signal transmission in case of an optical link failure. Each station has four signaling lights and one speed limit or emergency display.



→ ...as installed at the Gotthard Tunnel

"We have to adjust the traffic so that there are no more than 150 lorries in each direction an hour, and not more than 1,000 cars in each direction an hour. In case of fire detection, the tunnel has to be closed in less than 10 seconds. This means that each light and each display panel has to display the right emergency message at the right place," says Joerg Gelz, project manager at Wells-Electronic.

Switches in road infrastructure have to resist vibration, moisture and high levels of corrosion. The LD-64 is designed to provide a redundant fiber-optic ring solution for equipment with RS-232/V.24 or RS-422/485 interfaces. Used mostly in applications where high reliability is required, it can still function even if a fiber or a fiber pair are broken. In the event of line failure, it is equipped with alarm outputs that can be connected to a local I/O device (a PLC) to provide a network alarm. The LD-64 handles transmission rates up to 375kbit/sec and is available in both multi- and single-mode fiber.



Westermo's LD-64 optical-fiber modem...

Better by design

Florida, USA FDOT District Seven has awarded Jacobs Engineering Group a contract to provide design improvements on US-19, from the Pinellas County line to the Hernando County line. Improvements to be implemented include designing continuous right-turn lanes, relocating existing lighting, reconstructing signals, improving drainage, and modifying medians. These aim to address access-management issues, increased local traffic, pedestrian accommodations, and requirements for elderly drivers.

End-to-end expansion

Massachusetts, USA Gatsometer has announced the expansion of its operation in the USA: it now offers a complete system, 'from violation to citation'. This end-to-end program involves installing the cameras, mailing the citations and collecting the fines. Slated to begin in the summer, the program management components of this system will at first only be available to the North American market.

A logical choice

Rome, Italy ESC could save 4,000 lives a year on Europe's roads – at least that's the message of the Europe-wide 'Choose ESC!' campaign, which was launched at Bridgestone's European Testing ground on 8 May 2007.

Euro NCAP released its new ESC survey at the event. UK motorists are apparently offered cars with less life-saving anti-skid technology than in Latvia or Lithuania. They are also worse off than customers in the rest of Europe or the USA. Just 55% of new cars sold in the UK fit the anti-skid devices as standard, compared with 76% in Denmark and 65% in Latvia and Lithuania.

