

Caltrans Expedites Road Construction Projects

Controlling traffic when working on freeways.

The California Department of Transportation (Caltrans) delivered 286 projects, worth \$2.3 billion, in the 2006-2007 fiscal year. Most of those projects are aimed at improving roads and bridges and relieving congestion. However, Caltrans, like most agencies working on road construction, struggles with controlling increased congestion when working on freeways.

“Whenever freeways are under construction, one or more lanes are closed, which causes increased traffic congestion,” explains Peter Vieveen, president of North America Traffic, a manufacturer of traffic control devices. “Controlling the volume of traffic entering the freeway from a ramp is critical to reducing the congestion on the freeway.”

In February 2008, Caltrans became the first agency to use several Portable Traffic Signals (PTL 2.4x), manufactured by North America Traffic (www.northamericattraffic.com), for ramp metering during construction to make traffic flow smoother and less congested. Prior to this use, the devices had been used for monitoring lane closures.

“Up to this point, we had been using traditional temporary traffic signals for our ramp metering needs,” says Mehran Lajevardi, transportation engineer at Caltrans.

Initially, Caltrans saw their construction process expedited. Because the portable traffic signals do not require

electricity, can be easily moved, and adjust to any slope, there is little preparation time necessary.

“It can take up to a year to initiate the project using temporary traffic signals,” explains Lajevardi. “We have to wait for paperwork to make it through several internal departments.”

Long term, Caltrans expects to see cost savings compared to using traditional temporary traffic signals, where there is enormous cost involved in designing, constructing, and removing the signals.

“Once the construction project has been completed most of the money is lost because the signal must be removed and assembled somewhere else, starting the process all over again,” says Vieveen. “A portable traffic signal can be easily transported to the next project saving thousands of dollars. It’s quick take down and set up that can be done in less than a day and is easy to do.”

Latest Technology

The portable traffic signal uses state-



Portable traffic signals, which run on batteries and solar power, are easily moved from project to project and adjust to any slope.

of-the-art technology to run on batteries and solar power. It operates 24 hours a day, 365 days a year on its own power. Cars are detected by a microwave traffic sensor as they approach the traffic signal. The built-in traffic controller cycles the traffic signal from green to red allowing a pre-set number of cars to enter the freeway. The internal clock allows for several independent cycle times during the day and on different days of the week.

“We currently use the signals in the San Francisco Bay area and set them to run during rush hour Monday through Friday,” says Lajevardi. “We purchased additional portable traffic signals in August and have plans to use them in different locations in the future.”

