

Customer:	<b>California D.O.T. (CALTRANS)</b>
End User:	CALTRANS - Maintenance HQ Emergency Operations Center, District 3, District 4, District 7, District 8, District 11
Application:	ITS - Intelligent Transportation System (highway traffic monitoring) High Quality Video Transport
VBrick Equipment:	VBrick 3200 encoders/decoders with Ethernet interface
VBrick Software:	ActiveX Controls
Networks Employed:	Local Area Networks (LANs): Ethernet over 10/100Base-T Wide Area Networks (WANs): Consisting of native ATM Transport and T1 leased lines

### **Challenge**

Various cameras located along California's highways transmit video to the Transportation Management Centers (TMCs) located in most of the 12 districts. Currently, each TMC is connected to other TMCs via the California ATM backbone network. TMCs can communicate with each other by voice or email. There is a need for distributing live, full motion video from TMCs to adjacent TMCs and to the Headquarters EOC (Emergency Operations Center). In addition, Caltrans needs to provide traffic conditions images over the Internet to remote employees and the traveling public. Caltrans is using the existing ATM backbone network and dedicated T1 lines.

### **VBrick Solution**

For this pilot project, selected TMCs have four video streams from cameras feeding into a VBrick 3200 MPEG network appliance. The Model 3200 provides video encoding and decoding with an Ethernet network interface (10BaseT). The VBricks are connected to the local area switched Ethernet network. The video IP packets are then transported over the statewide ATM WAN or via T1 point to point. At the EOC a VBrick connected to the LAN receives the video coming from the WAN and displays it in full motion on one or more television monitors.

In addition, Caltrans uses ActiveX controls for the VBrick 3200s. The ActiveX controls residing on PCs allow the personnel in the TMCs to switch from one video source to another with one mouse click. For example, at one monitoring location there are 16 video streams available but only 4 TV monitors. By using the ActiveX controls personnel can easily view any of the 16 video streams on any TV monitor.

### **Customer Benefits**

Cameras along the California highways are used for a variety of reasons including incident verification, monitoring traffic flow, and for observation of roadways after catastrophic natural events. The CALTRANS TMC network allows one district to view another district's traffic flow, which results in many benefits. For example, during the ski season, the Sacramento District may require video information from the San Francisco Region to monitor congestion and reroute traffic if necessary.

In the Sacramento area, where the EOC is located, the benefit of being able to view all traffic districts will be critical in the event of emergencies. The Governor and members of the emergency team will be able to view conditions easily if necessary.

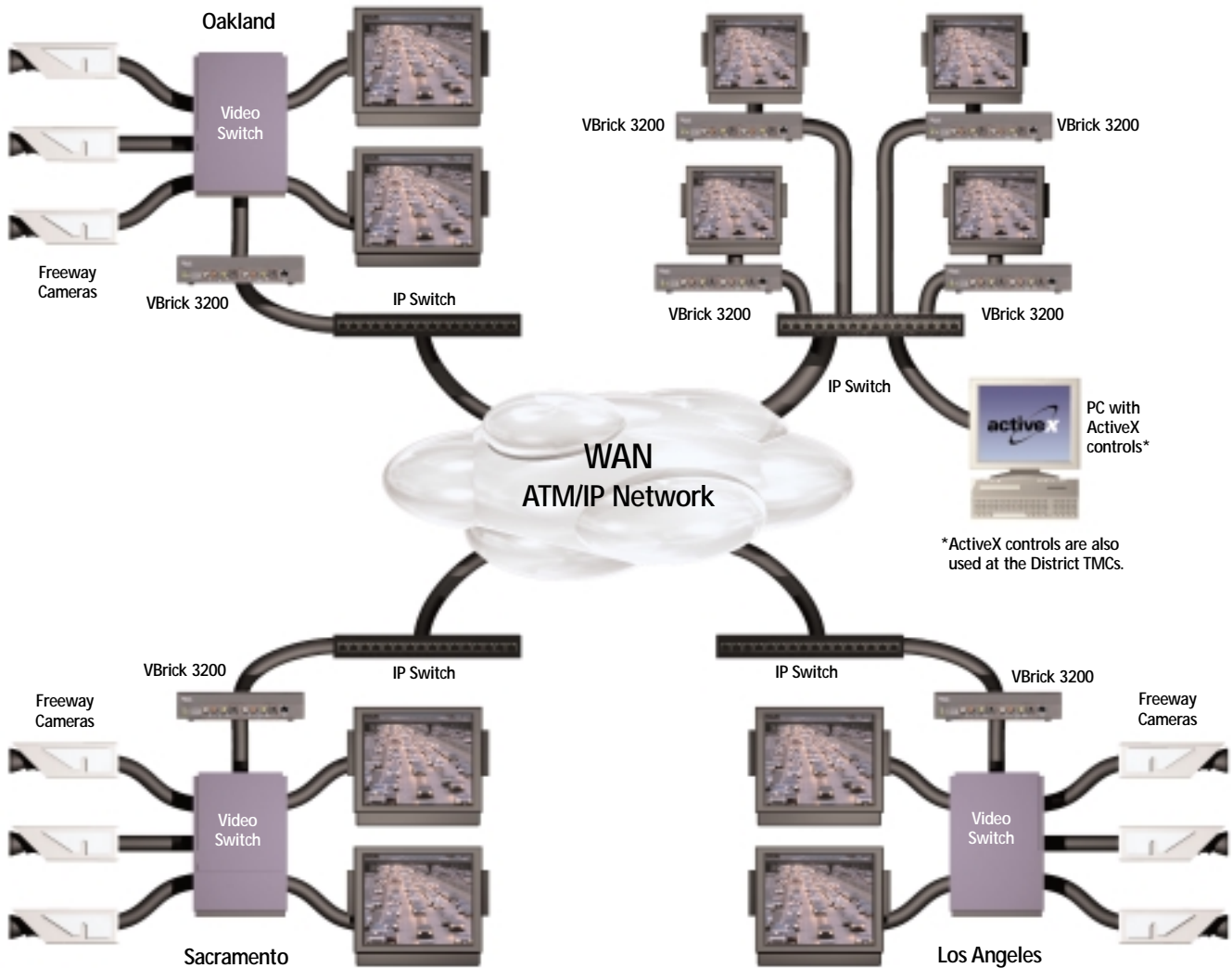
### **Conclusion**

CALTRANS is entering the next generation of video transport with the deployment of VBricks. The use of the statewide network and the features and functionality of the VBricks will provide for varied observation of traffic conditions. This will lead to better management of the highways and other transportation systems.

The VBrick was chosen for a variety of factors: quality of video, stability, environmental capacities, and cost. Initially, the VBricks are providing high quality video transport from TMC to TMC or EOC. Caltrans is also evaluating VBricks for deployment on other California highways.

District TMC (Transportation Mgt. Center)

CALTRANS Emergency Operations Center (HQ)



\*ActiveX controls are also used at the District TMCs.

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