

New bridge testing device tried out on Soquel Drive

Bridges
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LIVE OAK — Dangerously weakened steel bridge spans could be more easily identified with cutting-edge technology tested Thursday at the Rodeo Gulch Creek bridge on Soquel Drive.

Developed by SonicForce Corp., the system uses magnetically attached sensors to produce computerized measurements to detect potentially dangerous stresses in steel bridges.

"Very few bridges get tested now," said George Schapiro, president and chief executive officer of SonicForce. "It's just so expensive."

Traditional testing devices require trained technicians to install because their sensors must be glued or welded into place. Paint must be removed and the bare metal polished before these sensors are installed.

Because the bridge paint is often lead-based, technicians who remove patches of it during testing must have special equipment and government permits. Disposing of the hazardous lead-based paint also requires special clothing and procedures.

It can quickly add up to a \$10,000 bill per bridge.

Abba Lichtenstein, a consulting engineer who wrote the manual used by federal and state bridge inspectors, conducted Thursday's test. He said tests on the new technology have proven that it produces results comparable to existing technology.

"Before, I test a bridge anywhere in the United States, I got to use the conventional equipment," Lichtenstein said. "It takes a lot of time."

Thursday's test involved putting two Graniterock gravel and cement trucks weighing 55 tons on the bridge and then measuring the "live load stresses" on the span.

Although the computer-stored information still must be analyzed, Lichtenstein said the bridge appeared to be in good shape.

He said not only would SonicForce's new device encourage cities, counties, states and the feds to do more than visual inspections, it could prove that bridges now thought to be dangerous actually are safe.

"Before they spend money on repair and replacement, they ought to check them out," Lichtenstein said. "I'm always finding out the bridges are smarter than human beings. ... except the Russian bridges."

Lichtenstein said the new stress measurement system opens the door for more accurate testing of bridges that now only receive an eyeball review on an annual basis.

"It's faster and I believe in the long run, cheaper," Lichtenstein said.

Steel bridges make up about 60 percent of the spans nationwide. In California, however, only 20 percent of the bridges are made of steel.

That still amounts to as many as 10,000 bridges, said Brian Fisher, SonicForce's marketing director. "Caltrans is our biggest booster," he said, adding that there are 1,000 steel bridges in California that officials "are very concerned about."

Bill Williamson, senior design engineer in the county Public Works Department, helped scout potential bridges in the area for SonicForce to test.



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George Schapiro watches Skip