

New tunnels in Santa Cruz Mountains will provide cougars safe passage

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As cars whiz by below, Wyoming's pronghorn antelope migrate safely across bridges built just for them. Underneath the Florida Everglades' "Alligator Alley," tunnels offer a low-lying route for Florida's elegant and endangered panthers.

And by the end of this decade, mountain lions, deer and other wildlife that live in the Santa Cruz Mountains will have their own protected passage across notoriously dangerous Highway 17 when Northern California's first major "wildlife corridors" are constructed to cut down on road kills and enhance driver safety.



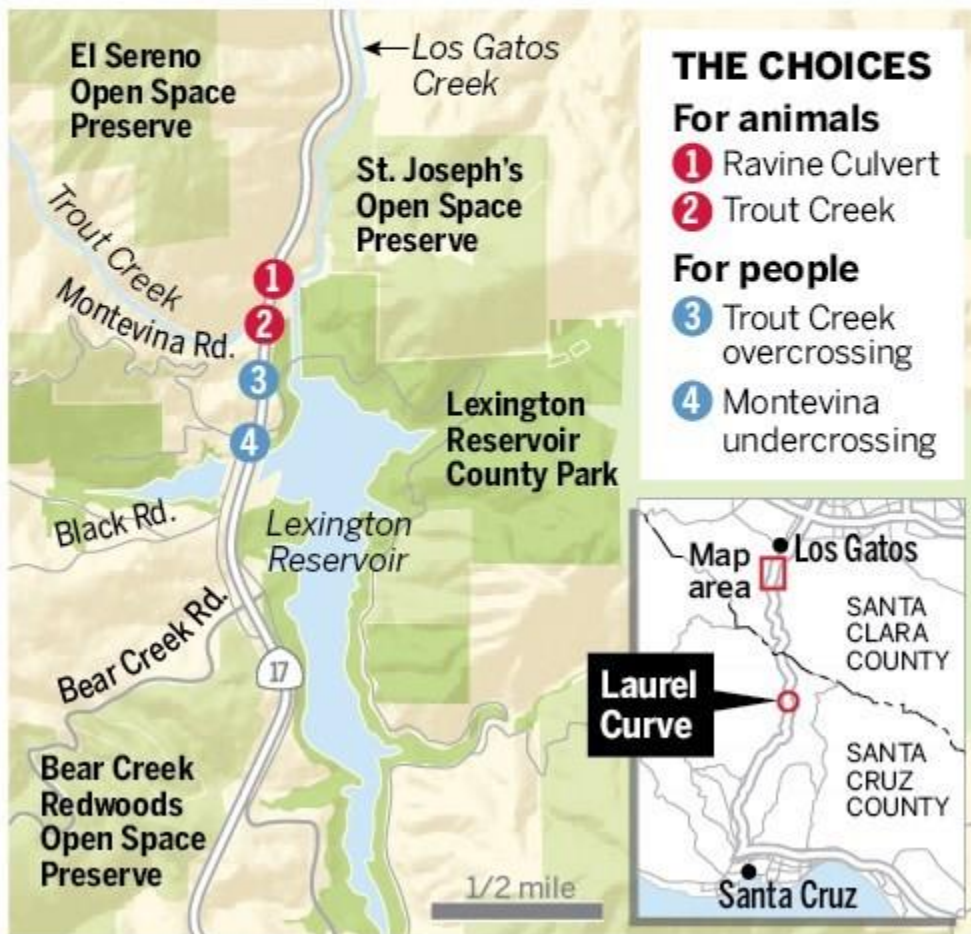
Deer investigate a culvert near Trout Creek in Los Gatos. But it is too dark and narrow to allow safe passage under Highway 17. Tanya Diamond, Pathways For Wildlife

Two new tunnels under the serpentine highway — one near Lexington Reservoir in Santa Clara County, the other near Laurel Curve in Santa Cruz County — will provide much-needed links in an area where home construction and asphalt have fragmented once-continuous habitat, connecting two major wilderness areas where animals roam for food, mates and new territory.

SAFE PASSAGE FOR WILDLIFE AND HUMANS

■ **Two wildlife crossings** are planned for Highway 17. In Santa Clara County, there are two spots under consideration: Ravine Culvert and Trout Creek. In Santa Cruz County, the spot already has been selected: Laurel Curve.

■ **One human trail crossing** is planned, also. There are two spots under consideration: an overcrossing near Trout Creek and an undercrossing at Montevina and Alma Bridge roads.



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The recently unveiled construction projects — which will cost up to \$32 million and be funded

by a grab bag of private, county and state sources — are among the most ambitious in an expanding national effort to reduce roadside carnage.

“We’ve identified the huge hotspots” of wildlife routes, said wildlife ecologist Tanya Diamond, of Los Gatos-based [Pathways for Wildlife](#), who helped initiate the project research after witnessing the death of a cougar on southbound 17 seven years ago.

“There are so many wonderful preserves on either side of Highway 17, but it’s heartbreaking to see animals unable to connect,” she said.

Every year, about 200 Americans are killed in as many as 2 million collisions between wildlife and vehicles, according to the Western Transportation Institute. And the numbers are expected to increase as development expands into rural regions. In the past two decades, by one estimate, almost 40 percent of the new homes built in the West are in the “urban wildland interface.”

Steve Mandel, of Soquel, still aches over his fatal collision with a young male mountain lion on Highway 17 on Dec. 23. Mandel, a management consultant and wildlife photographer who volunteers his work to the Land Trust of Santa Cruz, was driving home from San Jose with his wife and two sons in the car. It was dusk, and they were approaching the summit.

“I saw it sitting on the side of the road. In a split second, it dashed out and was immediately hit by the car on my right,” he recalled.

The puma was flung forward, right in front of Mandel’s car. “All I could do was hold the steering wheel steady and run over it,” he said. “I had to keep going. If I veered to the right, I’d hit the other car; if I veered to the left, I’d hit the center divide. If I hit the brakes, there would have been an accident behind me.”

“We were traumatized,” said Mandel, who now works to help raise funds for the Laurel Curve tunnel. “To hit this beautiful animal on 17 was so upsetting.”

The goal of the Santa Cruz Mountains projects is not just to save lives. Advocates envision a future landscape in which large populations of wildlife can thrive, avoiding the genetic perils of isolated clusters trapped in shrinking and fragmented habitats.

Caltrans has been involved in other — albeit smaller — projects in other regions of California.

Endangered California tiger salamanders wend their way through a series of three small tunnels, constructed with 35-foot steel pipes, under Stony Point Road in the Sonoma County town of Cotati. They're also helped near Lompoc, where Caltrans has installed several 7-foot diameter pipes, each with a dirt path, under Highway 246. In Tahoe National Park, mule deer travel through a new pair of undercrossings, completed last spring, along a busy 25-mile stretch of state Highway 89, between Sierraville and Truckee.

The world's largest wildlife corridor is under consideration in Southern California, where a bridge may traverse the eight-lane Highway 101 in Agoura Hills, connecting the Santa Monica Mountains and the Santa Susana Mountains.

A key part of the Highway 17 projects was identifying exactly where animals cross. Diamond and her team analyzed data from three sources: roadkill, collected by Caltrans; radio signals, from collars worn by pumas; and motion-detecting cameras, along existing culverts. Then they overlaid the crossing points onto highway maps to select the ideal spots for constructing the tunnels. The highway presents unique challenges to excavation. It is a busy, winding and narrow state road with steep topography and unstable geology, traversing two different counties.

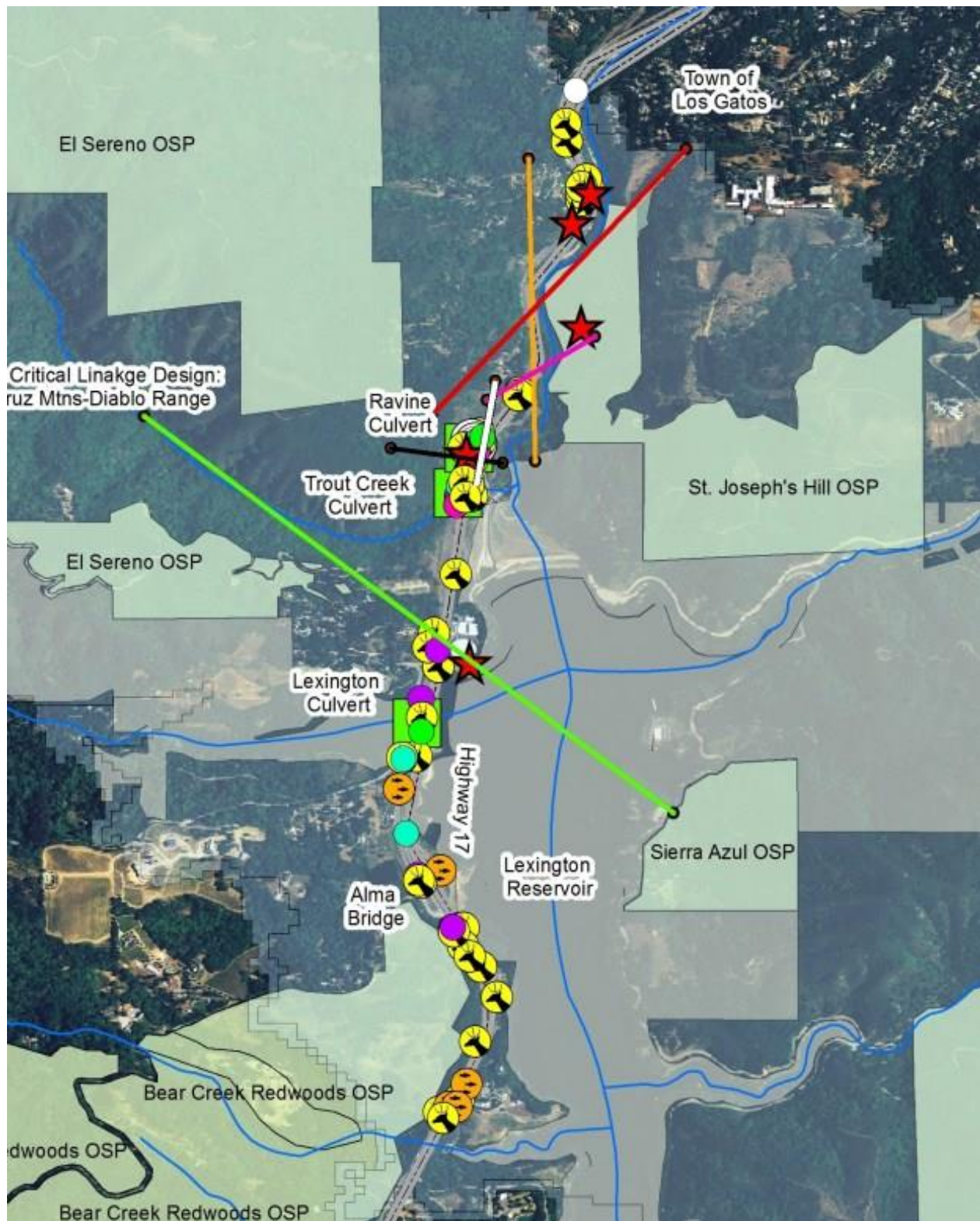
The tunnels must be wide enough to be inviting to animals. The Santa Clara County tunnel could measure up to 400 feet long; the Santa Cruz County tunnel, where the route is a bit narrower, could be as short as 120 feet. They'll require wire fencing to funnel wildlife into safe passage.

A wide range of species are expected to be helped by the tunnels and fences, which will need to be both tall and deep. In addition to mountain lions and deer, the new corridors will aid animals such as bobcats, gray foxes, coyotes, skunks, raccoons and even Western pond turtles.

A multitude of agencies are involved with the projects, from Caltrans



Sonoma State University graduate student Tracy Bain in 2013 checks netting that leads into a tiger salamander tunnel crossing in southwest Sonoma County near Petaluma. Bain's thesis was to study whether or not the salamanders were using the tunnels to migrate on rainy nights. Bain also set up infrared cameras to capture images of salamanders using the tubes. (Kent Porter/Press



Democrat) A map of Highway 17 through Santa Clara County shows the many animals killed along the route. It was created by Pathways For Wildlife, using 2007-2015 data provided by Caltrans, the UCSC Puma Project and Pathways for Wildlife. Tanya Diamond, Pathways for Wildlife



Deer are frequently hit by vehicles on Highway 17 through the Santa Cruz Mountains, particularly during the autumn mating season. Every year, roughly 200 people are killed in as many as 2 million wildlife-vehicle collisions at a cost of more than \$8 billion, according to the Western Transportation Institute. Tanya Diamond, Pathways for Wildlife to the [MidPeninsula Open Space District](#) to the [Peninsula Open Space Trust](#) and the [Land Trust of Santa Cruz](#). Full funding is already in place for the Santa Clara County project. Funding is not yet completely secured for the Santa Cruz County project, which has been dependent on private donations, but it could get a boost if Measure D, a half-cent sales tax for transportation projects in

Santa Cruz County, passes on Nov. 8. Both projects are expected to be completed by 2020.

As Bay Area traffic grows, crossing Highway 17 has become increasingly difficult. Up to 6,000 vehicles an hour travel the route, making it impenetrable most of the time, even to the fastest cougars. More than 350 animals of 82 different species, including 13 pumas, have been hit on Highway 17 in the last eight years, according to Caltrans data.

Cameras show that animals frequently approach the entrances to the highway's dark and narrow culverts but then turn away, choosing instead to climb up the bank and cross the highway.

Autumn is peak season for collisions with deer because it is mating season, when they are distracted and on the move. The end of Daylight Saving Time on Nov. 6 will make things worse because more commuters are on the roads at dusk, when animals are active but often find it difficult to see.

Many mountain commuters, who say they'd welcome the tunnels, tell tales of harrowing near-misses.

Cherri Nelson, of the Aldercroft Heights area of Los Gatos, witnessed a fellow driver slow down just in time to spare a large buck, with antlers. The animal jumped two cement dividers and crossed both north and southbound lanes of Highway 17.

"My heart was pounding, for the deer and the driver," she said. "Had it been just as commute or beach traffic times were beginning, there would have been a horrific accident."

Mandel, the trauma of his impact with a mountain lion still fresh in his mind, hopes the planned tunnels will spare others the same tragedy.

"The wildlife crossings will go a long way to solve this problem," he said. "The death of the mountain lion wasn't in vain."

"They'll help people, and they'll help animals."