

Compromise needed on roads through sensitive wild areas

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Road construction results in considerable environmental destruction, as shown here south of Katavi National Park, Tanzania. Credit: Current Biology, Caro et al.

Compromise solutions must be found when it comes to roads built through sensitive tropical and subtropical areas, say experts writing in the Cell Press journal *Current Biology* on August 18. While developing nations need to deploy adequate transportation infrastructure to develop mineral and energy resources, the researchers write, governments too often put development ahead of wildlife without thinking about the long-term consequences.

"Roads are increasingly being built and upgraded through protected areas, especially in the tropics and [subtropics](#), where there are so many species needing protection," says Tim Caro of the University of California, Davis.

Those roads often act like fences, keeping smaller animals from dispersing across them at all, Caro says. Larger animals that do venture across are at risk of becoming [roadkill](#). As a case in point, Caro and his colleagues note that an animal is killed along a 14-kilometer stretch of road in Brazil's

Morro do Diabo State Park once every 4 days. Those deaths add up, accounting for an annual population loss of 8%–20% per year for midsized to large mammals within the park, including ungulates, carnivores, and the highly endangered black lion tamarin. On the other hand, roads with lower speed limits, gentle gradients, and natural cover can be much less devastating to wildlife, as the scenic roads of Yellowstone National Park show.

"Until now, conservation biologists have used top-down, outside pressure to try to convince governments to restrict rampant infrastructural development, a strategy we suspect will only work in high-profile parks and world heritage sites," Caro's team writes. "Our goal here is to present alternative, compromise solutions for environmentally viable infrastructure development that may ultimately have greater chance of success across different geopolitical contexts."

The researchers call for four measures to help mitigate tensions between roads and protected areas. Those measures include:

1. Early involvement of [infrastructure](#) engineers and natural resource managers
2. Careful, case-by-case consideration of each road project
3. Effective enforcement of traffic speed and volume
4. rigorous national and international policies that make development aid contingent upon long-term analyses of the costs associated with road development



Even dirt roads through national parks are used by heavy vehicles, as shown in Katavi. Credit: Current Biology, Caro et al.

Caro says that citizens can do their part, too, by pushing companies to act in ways that are best over the long haul.

"People need to ask themselves: How will the protected area network be in 100 years with [roads](#) through it?" Caro says. "Pressure needs to be applied to industry and road construction companies to look beyond short-term gain and think of the country's natural heritage."

More information: *Current Biology*, Caro et al.: "Compromise solutions between conservation and road building in the tropics."

Provided by Cell Press

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