

Reducing wildlife-vehicle collisions should increase road safety and help countries achieve sustainable transport systems.

Edited by Jennifer Sills

Wildlife collisions put a dent in road safety

In September 2020, the United Nations (UN) adopted a resolution to halve road traffic deaths and injuries by 2030 (1). A Global Plan for the Decade of Action for Road Safety (2) was developed emphasizing the importance of a holistic approach to road safety, including the improvement of the design of roads and vehicles and the enhancement of laws. However, the Global Plan overlooks wildlife-vehicle collisions.

Millions of wildlife-vehicle collisions occur every day around the world (3, 4), causing countless human deaths and injuries as well as high vehicle damage costs (5). The collisions also threaten biodiversity (4, 6), given that virtually all species that live in the vicinity of roads are at risk. Hence, reducing wildlife-vehicle collisions goes hand in hand with improving road safety, while also promoting biodiversity conservation.

In line with the UN resolution, we suggest promoting simple but effective mitigation actions. Installation of proper fencing linked to existing road-crossing structures (such as culverts for water drainage) can prevent wildlife crossings on the road (7). Given that most wildlife-vehicle collisions occur at night, nocturnal traffic should be substantially decreased or slowed, where possible.

Such measures should be integrated into road construction and mitigation legislation. More ambitiously, the car industry should target the integration of artificial intelligence technology, which could help to prevent collisions by automatically detecting animals approaching the road and warning the driver in real time (8). Adopting plans and policies to reduce wildlife-vehicle collisions will be a step toward meeting the UN goal of a sustainable transport system.

Fernando Ascensão^{1*}, Rafael Barrientos², Marcello D'Amico³

¹Centre for Ecology, Evolution and Environmental Changes, Faculdade de Ciências, Universidade de Lisboa, Lisboa, Portugal. ²Road Ecology Lab, Department of Biodiversity, Ecology and Evolution, Faculty of Biology, Complutense University of Madrid, E-28040 Madrid, Spain. ³Department of Conservation Biology, Doñana Biological Station, Spanish National Research Council, Seville, Spain. *Corresponding author. Email: fjascensao@fc.ul.pt

REFERENCES AND NOTES

- UN General Assembly, "Improving global road safety" (2020); https://undocs.org/en/A/RES/74/299.
- World Health Organization, "Global Plan for the Decade of Action for Road Safety 2021–2030" (2021); www. who.int/publications/m/item/global-plan-for-thedecade-of-action-for-road-safety-2021-2030.
- 3. C. Grilo, E. Koroleva, R. Andrášik, M. Bíl, M. González-Suárez, Front. Ecol. Environ. 18, 323 (2020).
- R. Barrientos, F. Ascensão, M. D'Amico, C. Grilo, H. M. Pereira, Perspect. Ecol. Conserv. 19, 411 (2021).
 M. R. Conover, Human–Wildlife Interact. 13, 12 (2019).
- 6. Van der Ree, D. J. Smith, C. Grilo, Handbook of Road
- Ecology (John Wiley & Sons, 2015).
- 7. D. Lesbarrères, L. Fahrig, *Trends Ecol. Evol.* **27**, 374 (2012).
- 8. F. Ascensão, C. Branquinho, E. Revilla, *Nat. Electron.* 3, 295 (2020).

10.1126/science.abm8468

Rethink roads through the Chaco Serrano forest

Despite global initiatives to protect ecosystems (1), human development continues to threaten the environment. In central Argentina, the subtropical dry Chaco Serrano forest has lost 94% of its original area (2) to the economic growth of the region led by agriculture, urbanization, and mining (2, 3). Now, plans for new road infrastructure (4) suggest that the Chaco Serrano forest will continue to shrink, further fragmenting the forest ecosystem. The Córdoba provincial government has granted an environmental license for the construction of two additional roads that will cut through areas of Chaco Serrano forest in the Punilla and Paravachasca valleys. These recently burned forest areas of high conservation priority, according to national laws (5, 6), should be protected without exception.

These roads have been advertised as beneficial for tourism, transportation, and commercial and urban development. However, most speakers at the nonbinding public hearings (including people from local communities, civil organizations, neighborhood assemblies, and Indigenous peoples, as well as small landholders and scientists) rejected these projects (7). Land speculation will likely increase deforestation, while the more pressing priorities of the region, such as water access, schools, hospitals, and fire brigades, are completely ignored. Moreover,

1208 3 DECEMBER 2021 • VOL 374 ISSUE 6572