

Designing Roads for People and Nature

➤ Natural Hazard Risks

Avoid building on or near unstable slopes to minimize the risk of landslides.

➤ Wildlife Corridors

Wildlife needs to be able to flow from one area to another to access vital resources like food and water.

➤ Protected Areas

Avoiding vulnerable or protected habitat may make the road longer but is vital to reduce harmful impacts.

➤ Land-Use Planning

In agricultural areas, habitat strips can be left to facilitate wildlife movement.

➤ Safety Measures

Roads can be made less dangerous for animals through speed mitigation efforts—like speed bumps or animal detection and alert systems.

➤ Consolidation

Aligning various forms of linear infrastructure, like power lines and roads, to reduce their collective footprint.

➤ Road Construction

Apply best management practices to avoid negative impacts during construction.

Mitigation Hierarchy

A hierarchical framework to reduce infrastructure development impacts. (The earlier stages tend to be more effective for conservation than the later ones.)

➤ 1. AVOID

Planners should avoid building roads in **sensitive areas** like protected areas.

They should also take into account **climate change** scenarios to avoid unexpected impacts.

➤ 2. MINIMIZE

Care should be taken to minimize the impacts of the infrastructure project.

Roads, power lines, and railroads can be **aligned** to reduce their combined impact on a landscape.

➤ 3. MITIGATE

Roads should include **wildlife crossings** to allow animal movement and **vegetation buffers** to protect sensitive habitats.

Steps should be taken during **construction** to avoid contamination of water bodies and surrounding habitats.

➤ 4. RESTORE

Post-construction, areas affected by infrastructure development should be **restored** with native plant species.

➤ 5. OFFSET

The least-effective step in the hierarchy, offsetting should be considered only after all other options have been exhausted. It involves taking various actions to compensate for the negative impacts of a project, such as rehabilitating similar habitat elsewhere.

➤ Community involvement

Local community members, who are often most affected by a project, should be involved in decision-making and able to monitor road construction and conservation efforts.

