

Coexisting with biodiversity

Denis François, Gustave Eiffel University and Julie de Bouville, Foundation for Biodiversity Research, France

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For road project developers, “biodiversity” is often synonymous with constraints, difficulties or even opposition to the implementation of projects. A century ago, however, the road sector witnessed the birth of road ecology, an applied science designed to formalise interactions between biodiversity and road transport and provide an objective basis for choices in this area. Given the similarity of numerous issues with other types of infrastructure such as railways, waterways and electricity transport, road ecology has since expanded to transport ecology. It has seen the birth of its own think-tanks and the structuring of scientific communities on all continents. Roads play a leading role here due to the inherent complexity of the various types of vehicles which travel upon them, the diversity of the territories that they cross and their openness to various interactions. Through a series of articles illustrating the most recent achievements and reflections, this special issue offers an overview of what transport ecology can bring to the road sector today and in the future. Its articles have been written by numerous European, African and American authors who are members of various international bodies (PIARC, ACLIE, IENE, etc.) and, in some cases, contributors to the recent Coordination and Support Action BISON (2021–2023), the first project funded by the European Commission to address the integration of biodiversity in the development and adaptation of transport infrastructure.



Denis François



Julie de Bouville

This biodiversity feature reminds us, first of all, that the issue of free and safe mobility is a need shared by humans and biodiversity: searching for food, bringing together fellow people/creatures and seasonal migrations, etc. It outlines the technical solutions developed so far – and their limitations – to allow the coexistence of these mobilities. Improving mutual understanding among stakeholders is also crucial to design and implement more effective solutions than in the past. It also presents an online guide that is updated on a regular basis with a view to providing easy access to up-to-date knowledge and practical solutions. An e-learning platform which provides training adapted to each person’s role in running a project has also been developed. This platform improves cooperation between stakeholders so that biodiversity can be better taken into consideration. Transport ecology relies on the acquisition of knowledge to address current and future, recognised or anticipated problems and opportunities. Anticipating is therefore also its vocation. This feature presents examples such as the development of data acquisition and processing techniques on the one hand and the development of continent-wide transport networks on the other. At European level, a strategic research agenda has been drawn up to identify all of the research questions to be resolved over the next 20 years, particularly in the road sector.

Having been overlooked for so long, biodiversity has now become a primary concern for humanity. It is a resource for the territorial economy. In a renewed approach of its mission to serve the territories that it passes through, the road sector is now able to integrate this reality and, thanks to road ecology, to respond with adapted solutions.#