

# Preparation of a Manual of Road Crossing Structures for Wild Animals (Draft)

MATSUE Masahiko, Head  
 SONODA Yoichi, Researcher  
 Landscape and Ecology Division, Environment Department

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## 1. Need for road crossings for wild animals

The construction of a road directly and indirectly impacts the ecosystems where the road is built. Direct impacts of road construction include automobiles running over wild animals (road kill)<sup>1)</sup>, loss or division of wild animal habitat environments, and decline of the quality of the ecosystem. Road kill not only impacts the wild animals, it is reported that in some cases, collisions with animals have injured drivers or other people. Under these circumstances, road crossings for wild animals are effective compensation measures which mitigate the impact of dividing habitats of wild animals, and also an effective way to prevent injuries to humans involved in road kill incidents.

## 2. Road Crossing Installation Manual (Draft)

Technical Methods for Evaluating Road Environment Impact<sup>2)</sup> is used to study environmental conservation measures with reference to Scientific Knowledge and Similar Cases, to install road crossings for wild animals.

The Landscape and Ecology Division of the Environment Department of the National Institute for Land and Infrastructure Management corroborated the effects of installing road crossings by organizing cases of measures taken to deal with the division of habitats of wild animals and by conducting a monitoring survey from 2007 to 2009. It also performed a fact finding survey of the use of road crossings by wild animals for a three year period to prepare the Road Crossing Installation Manual (Draft) based on scientific knowledge. This manual provides a comprehensive corroboration of the usefulness of road crossings and organizes the process of work done to install and maintain road crossings based on knowledge obtained from past surveys and other existing knowledge. An outline of the structure of the manual is shown in Figure 1.

The manual summarizes the basic concepts and reference cases applied to study every step from planning and design to maintenance and management of road crossings and their auxiliary structures provided for use by wild mammals on new and existing roads, and at the same time, presents a detailed explanation of monitoring methods using infrared cameras as a road crossing post-survey

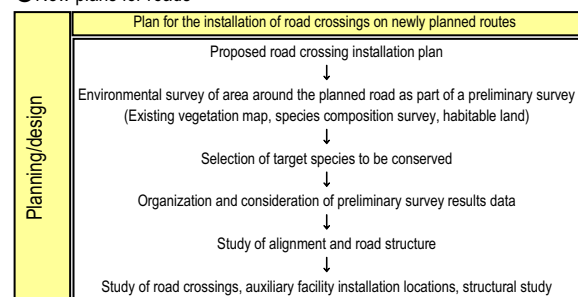
method.

The manual will be used by persons in charge of road projects of regional development bureaus and regional governments after it is published as an NILIM report, and it will be revised in response to the opinions of its users so it is easier to apply in the field.

### [References]

- 1) N. Fujiwara, Y. Kaneko, Y. Iizuka (2004): Research on methods of providing ecological corridors for medium to small size wild mammals, Report by the Landscape and Ecology Division of the National Institute for Land and Infrastructure Management, 147, 55-118
- 2) Highway Environment Research Institute (2007): Technical methods for evaluating road environment impact, Vol. 3, p. 423

### ● New plans for roads



### ● After use

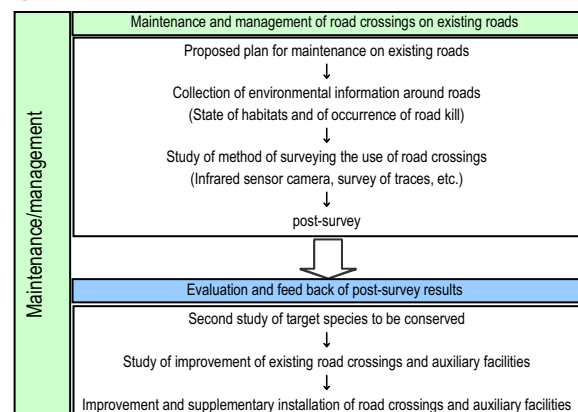


Figure 1. Road Crossing Structure Installation Planning Flow Chart