

# Expert visit on animal and road safety, Netherlands

Partners for Roads - Roads & Regional Development



25-28 August 2008

Visit memo

Dutch Ministry of Transport, Public Works and Water Management

October 2008

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### Visit memo

file : B5430-03.001

registration number : MD-EO20080115

version : Final

Dutch Ministry of Transport, Public Works and Water Management

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# 1 INTRODUCTION

## 1.1 Aim of the expert visit

The Lithuanian Road Administration (LRA) would like to exchange views and experiences on animal crossings, road design and mitigation measures including habitat defragmentation. More specifically maintenance of environmental mitigation measures is of interest. The focus of the Partners for Roads Window 8 visit is on practical experience and field examples. The program is targeted at environmental engineers/experts at maintenance companies. The visit will be in English, without translation.

## 1.2 Participants

### *From Lithuania:*

- Algimantas Janušauskas, Lithuanian Road Administration
- Jūratė Šarpytė-Vaičiulionienė, Lithuanian Road Administration
- Almantas Rainys, Lithuanian Road Administration
- Antanas Narbutas, Lithuanian Road Administration
- Petras Verbickas, Lithuanian Road Administration
- Vitalija Audzijonytė, state company „Telšių regiono keliai“
- Paulius Baltmiškis, state company „Klaipėdos regiono keliai“
- Valdemaras Ožechauskas, state company „Kauno regiono keliai“
- Leonida Šablickienė, state company „Šiaulių regiono keliai“
- Evaldas Gudonis, state company „Šiaulių regiono keliai“
- Paulius Kairiūkštis, state company „Vilniaus regiono keliai“
- Raimondas Pocius, state company „Tauragės regiono keliai“
- A. Malinauskas, state company „Marijampolės regiono keliai“
- Viktoras Jurcaitis, state company „Alytaus regiono keliai“
- Gintautas Bilaišis, state company „Utenos regiono keliai“
- Tomas Žagūnis, state company „Panevėžio regiono keliai“
- Kazimieras Eirošius, state company „Automagistralė“
- Vladimiras Lukša and Ramūnas Pušinskas, bus drivers

### *From The Netherlands:*

- Mr. Ruud Mes, Environmental expert, RWS
- Mr. Hans Bekker, Senior ecologist, RWS
- Mr. Tjark Huisman, Stakeholder manager, RWS
- Mr. Jan Nuesink, Environmental management consultant, DHV
- Ms Sandra Rihm, Consultant SEA/EIA, DHV
- Ms Jannie Bijzet-Vis, Consultant SEA/EIA, DHV
- Mr. Gerrit-Jan Spek, Spek fauna-advies
- Mr. Gerard Muskens, Researcher, Alterra
- Mr. Frank Theunisse, Field administrator, Natuurmonumenten
- Mr. Edward van Veen, General manager, Arfman BV
- Mr. Bart Mante, Asset management consultant, DHV
- Mr. Frank Klinge, Field administrator, State Forestry Commission

### 1.3 Programme

#### Monday August 25<sup>th</sup>

Time	Activity	Who
16.30	Arrival participants in the Netherlands	Participants from Lithuania
18.00	Check-in at hotel: Van der Valk Hotel Arnhem Amsterdamseweg 505, 6816 VK ARNHEM Tel. (+31) 26 482 1100, <a href="http://www.hotelarnhem.nl">www.hotelarnhem.nl</a>	Lithuanian participants
20.00	Welcome dinner in Arnhem Proeflokaal van de Waag Markt 38, 6811 CJ ARNHEM Tel: (+31) 026 370 5960, <a href="http://www.proeflokaaldewaag.nl">www.proeflokaaldewaag.nl</a>	Lithuanian participants Michel Goppel (RWS) Ruud Mes (RWS) Pieter Pols (RWS) Jan Nuesink (DHV)

#### Tuesday August 26<sup>th</sup>

Time	Activity	Who
08.30 – 09.00	By bus to RWS Arnhem	Lithuanian participants
09.00 – 9.45	Welcome and introduction to the visit theme and program in the Netherlands	Ruud Mes (RWS)
09.45 – 10.30	Planning of mitigation measures in the Netherlands (MJPO)	Hans Bekker (RWS)
10.30 – 10.45	Coffee break	All
10.45 – 11.30	Pine martens accidents with road traffic	Gerard Muskens (Alterra)
11.30 – 12.00	Introduction to the afternoon and Wednesday programme	Ruud Mes (RWS)
12.00 – 13.00	Lunch RWS	All
13.00 – 17.30	Site visit A50 (Arnhem/Apeldoorn), ecoducts Terlet and Woeste Hoeve, fences and game barriers at Koningsweg and A12 Buunderkamp proposed ecoduct location	Ruud Mes (RWS) Frank Theunisse (Natuurmonumenten) Frank Klinge (State Forestry Commission) Edward van Veen (Arfman BV)

19.00	Dinner in Arnhem Restaurant Smaak Rijnkade 39, 6811 HA ARNHEM Tel (+31) 026 4426664, <a href="http://www.smaakarnhem.nl">www.smaakarnhem.nl</a>	Lithuanian participants Pieter Pols (RWS) Ruud Mes (RWS) Sandra Rihm (DHV)
21.00	Hotel in Arnhem Van der Valk Hotel Arnhem Amsterdamseweg 505, 6816 VK ARNHEM, Tel. (+31) 26 482 1100, <a href="http://www.hotelarnhem.nl">www.hotelarnhem.nl</a>	Lithuanian participants

### Wednesday August 27<sup>th</sup>

Time	Activity	Who
08.00 – 9.00	Departure from hotel, check-out and bus transfer to site hut at construction location A12 Veenendaal	Lithuanian participants
09.00 – 9.30	Introduction to A12 construction works Ede - Veenendaal, extra lanes including mitigation measures	Tjark Huisman (RWS)
9.30 – 10.30	Field visit at construction sites, eco-culvert, noise barrier	Tjark Huisman (RWS)
10.30 – 11.00	Bus transfer via A30 (noise screens) to Boshuis, Drie	All
11.00 – 11.45	Overview of asset management and infrastructure maintenance in the Netherlands	Bart Mante (DHV)
11.45 – 12.15	Accidents with large animals on roads	Gerrit-Jan Spek (Fauna-advies)
12.15 - 13.15	Lunch at Boshuis Buurtjes Restaurant, Drie	All
13.15 – 13.30	Introduction of the afternoon site visit	Ruud Mes (RWS) / Gerrit-Jan Spek (Fauna-advies)
13.30 - 15.00	Site visit N309, North Veluwe	All
15.00 – 16.00	Transfer by bus to DHV, Amersfoort	All
16.00 – 18.00	Meet and greet at DHV, drinks and small snacks available (Groene zaal)	All
18.00 – 19.30	Transfer and check-in hotel Amsterdam	Lithuanian participants

20.00 – 22.00	Dinner on canal boat in Amsterdam Steiger Stadhouderskade 30, 1071 Amsterdam Tel: (+31) 20 4272909	Lithuanian participants Ruud Mes (RWS) Pieter Pols (RWS) Dick Rooks (DHV) Jan Nuesink (DHV) Sandra Rihm (DHV)
22.30	Hotel in Amsterdam: Mercure Hotel aan de Amstel Joan Muyskenweg 10, 1096 CJ Amsterdam, Tel : (+31) 20 6658181	Lithuanian participants

### Thursday August 28<sup>th</sup>

Time	Activity	Who
Latest 12.00	Check-out and departure from hotel	Lithuanian participants

## 2 CONCLUSIONS AND LESSONS LEARNED

In Lithuania traffic accidents with larger animals are common whereby collisions with moose pose the largest risk for severe accidents. In the Netherlands accidents with animals are primarily a problem on provincial and local roads because motorways are mostly fenced. A range of mitigation measures, varying from reflectors and fences to ecoducts, are in use in the Netherlands;

- Optical measures like reflectors are only effective for a short period after placement as the animals get used to it.
- Automated game detection systems linked to speed reduction signs are effective to lower the accident rate, although the costs of such systems are high.
- Scent deterrents are not used in the Netherlands.
- Fencing is more effective to keep wildlife out, particularly wild boar, if there is sufficient tension on the wiring and if the wiring continuous for at least 20 cm below ground level.



A spot on ecoduct Woeste Hoeve where wild boar dug for food. The fence still functions as a barrier because the wiring continuous below the surface level

Increased public awareness through road signs, of when and where animals are crossing roads, can be a tool to reduce collisions with animals, particularly in combination with speed limits. The use of fencing to keep animals off the road is effective but not always advisable because of the barrier effect it is creating in the landscape. An alternative is the use of animal detection systems, proven very effective in the Netherlands, in particular in combination with fencing where animals are directed to cross where the detectors are present. The only problem can be found with wild boar as they often are searching for food in the verges and thus passing the detection system without passing the road. This results in animals on the road also after the standard length of the warning signal has passed. The effectiveness of animal detection systems and speed limits, in reducing accidents with animals, is further dependent on how observant and careful drivers are.

New infrastructure or widening of roads might cause or worsen habitat fragmentation. Due to declining animal populations, public pressure and a new nature policy, measures started to be taken in the Netherlands in the 1970's. Through awareness of the fragmentation problem among all stakeholders new fragmentation can be avoided or mitigated and emphasis be put on connecting the existing fragmented

areas. An example of this is the Long-Term Defragmentation Program, which is supported by three Ministries and incorporated in the Spatial Policy Plan, Transport Policy Plan and the Nature Policy Plan. Defragmentation is mainly tackled with the use of tunnels, adapted bridges, viaducts and ecoducts. Ecoducts are an effective way to overcome habitat fragmentation for larger animals. It is important to gather sufficient knowledge on target species, their population size, migration routes and required habitat conditions before starting the design and construction process of the ecoduct accordingly. A good example is the tree trunks for rodents, martens and other smaller animals, which will be retrofitted on ecoduct Terlet to provide coverage for a safe crossing of smaller animals as well. Another example, also related to higher number of crossing animals, is the exclusion of recreational use and hunting on and nearby ecoducts.



Ecoduct Woeste Hoeve

Design and implementation of mitigation measures in the Netherlands is done in cooperation with multiple stakeholders, such as environmental NGOs and local people. There are also NGOs in the Netherlands active in wildlife management and monitoring, which is different from Lithuania. Monitoring of animal populations and road accidents is important as it provides important information on the use and effectiveness of mitigation measures.

In the Netherlands the A12 motorway corridor from Hague to the German border will be designed and landscaped in a uniform approach over the full length. Regarding the landscaping, the assets on the road are designed to fit the well into the surrounding nature by using wood material in forested areas and stone material in agricultural areas etc. Multi-purpose objects that are compatible with the over-all design principles are used to maintain the common design but can fulfill different functional requirements. A good example is gabions which are made out of steel mesh and filled with basalt or lava stones. These gabions act as noise barriers and/or slope re-enforcement but at the same time also have a decorative role.

Communication and interaction with all stakeholders of a road construction project can prevent delays and additional costs caused by objecting stakeholders with resulting legal procedures. In the Netherlands infrastructural projects commonly have a stakeholder manager to facilitate communication with stakeholders.

Road maintenance in the Netherlands is carried out according to the basic maintenance level. This basic level is referred to as the minimum package of measures, which are required to maintain a present road (both physical and functional) in the longer term. The largest maintenance costs in the Netherlands are for asphalt surfacing, structures and intelligent traffic systems. In 2007 maintenance expenditures amounted to € 1.385.000.000 (excl. persons, machines etc).

### 3 COLOPHON

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Client	: Dutch Ministry of Transport, Public Works and Water Management
Project	: Expert visit on animal and road safety, Netherlands
File	: B5430-03.001
Length of report	: 9 pages
Author	: Jan Nuesink, Sandra Rihm, Hans Lenders
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Date	: 29 October 2008
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**DHV B.V.**

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## **APPENDIX 1    PRESENTATIONS**

1. Welcome and introduction to the visit and topic
2. Planning and mitigation measures
3. Pine martens accidents with road traffic
4. Introduction A12 construction works
5. Asset Management
6. Accidents with large animals on roads