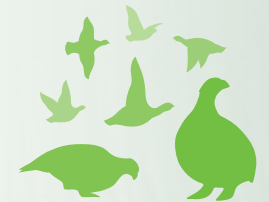


Icelandic Road 1, "The Ring Road", with Lómagnúpur towering in the background



The ROADEX Projects 1998–2012

Advancing the management and maintenance of low volume roads across the Northern Periphery



ROADEX
Implementing Accessibility

Project Calendar for 2012

The ROADEX Projects 1998-2012

Advancing the management and maintenance of low volume roads across the Northern Periphery.

ROADEX is a technical co-operation across northern Europe that shares road related information and research. The project was started in 1998 as a 3 year pilot co-operation between the districts of Finland Lapland, Troms County of Norway, the Northern Region of Sweden and The Highland Council of Scotland. This was followed and extended with a second project, "ROADEX II", from 2002 to 2005, a third, "ROADEX III" from 2006 to 2007 and a fourth, "ROADEX Implementing Accessibility" from 2009 to 2012.



The Legacy

Twelve years of ROADEX sharing and research have produced a wealth of material on the maintenance and management of low volume roads, and all can be accessed on the ROADEX website www.roadex.org in a lasting legacy of the ROADEX project. This includes drainage guidelines, design methodologies for designing roads against permanent deformation, the environmental considerations of roadworks, roads on peat, forest roads construction and maintenance, road condition management, road friendly vehicles and tyre pressure control, the widening of roads, climate change adaptation measures, driver vibration & health, road policies, structural innovations and others. The ROADEX Partners invite you to visit the website and see what has been done.

The Northern Periphery Area and ROADEX Partners

Over those 12 year new partners from road administrations, forestry organisations and associated industries across the European Northern Periphery joined the original Partners to share in the co-operation. The present Partners in the "ROADEX IV" project are The Highland Council, Forestry Commission Scotland and the Western Isles Council from Scotland, The Northern Region of The Norwegian Public Roads Administration, The Northern Region of The Swedish Transport Administration and the Swedish Forest Agency, The Centre of Economic Development, Transport and the Environment of Finland, The Government of Greenland, The Icelandic Public Roads Administration, and The National Roads Authority and The Department of Transport of Ireland.





ROADEX Reports

Current ROADEX IV activities to be reported in 2012 include:

- Drainage Maintenance
- Effects of tyre pressure control
- Forest road policies
- Rutting, from theory to practice
- Roads on peat

- Vibration and health
- Climate change adaptation
- Road widening
- Vehicle and human vibration due to road condition

- Managing Rutting in Low Volume Roads
- Treatment of Moisture Susceptible Materials
- Design and Repair of Roads Suffering Spring Thaw Weakening
- Managing Peat Related Problems on Low Volume Roads
- Managing Drainage on Low Volume Roads
- Socio-economic Impacts of Road Conditions on Low Volume Roads
- Environmental Guidelines & Checklist
- Monitoring Low Volume Roads

- Drainage guidelines
- Tyre pressure control on timber haulage vehicles
- Understanding low volume pavement response to heavy traffic loading
- Health issues raised by poorly maintained road networks
- Road condition management policies, tests and development of proposals
- Policies for forest roads – some proposals
- ROADEX III Case Study in Greenland

- User Perspective to ROADEX II Test Areas' Road Network Service Level
- Permanent deformation
- Material Treatment
- Managing spring thaw weakening on low volume roads
- Socio-economic impacts of road conditions on low volume roads
- Drainage on low traffic volume roads

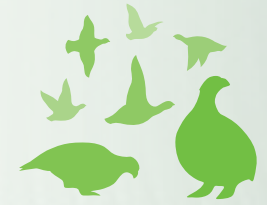
- Dealing with bearing capacity problems on low volume roads constructed on peat
- Environmental guidelines
- Environmental guidelines, pocket book
- Road management policies for low volume roads – some proposals
- Structural Innovations
- Monitoring, communication and information systems & tools for focusing actions

- Road Condition Management in the Northern Periphery
- Road Condition Management of Low Traffic Volume Roads in the Northern Periphery
- Generation of 'Snow Smoke' behind Heavy Vehicles

- Winter Maintenance Practice in the Northern Periphery
- Winter maintenance – extended Summary and Conclusions

ROADEX drainage guidelines

Road structures perform better and last longer, when they are kept dry. The new ROADEX guidelines set out simple procedures on how to identify and improve poorly drained low volume road sections. These have already produced measurable improvements and increased lifetimes on roads in the Partner areas.



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A drainage survey on the N56 national road, CoDonegal, Ireland, with Mount Errigal in the background

JANUARY 2012

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DECEMBER 2011

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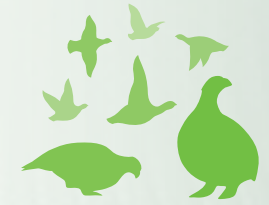
FEBRUARY 2012

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ROADEX design against permanent deformation

The new ROADEX design method for the design of low volume roads against rutting uses simple, low cost techniques to measure and assess local ground conditions. The method has been specially prepared for use in local district offices where sophisticated equipment is not always available.



ROADEX
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Mode 2 rutting on a paved road on Senja Island, Norway

FEBRUARY 2012

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JANUARY 2012

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MARCH 2012

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The ROADDEX pavement stress and strain calculation demo

ROADEX environmental guidelines

Protection of the environment is a growing issue for all and the ROADEX Partners take their responsibilities seriously in their road works. The new ROADEX Environmental Guidelines and elearning package give guidance on the environmental issues of roadworks with examples of good practice.



An example of environmental good practice on the A859 road, Isle of Lewis, The Western Isles, Scotland

MARCH 2012

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27	28	29	1	2	3	4
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FEBRUARY 2012

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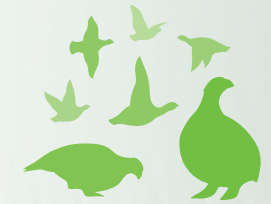
APRIL 2012

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ROADDEX guidance for roads on peat

Roads on peat are a common feature across the ROADDEX Partner areas and a wide range of knowledge exists in the Partners for dealing with roads on peat subgrades. ROADDEX has captured this experience in a series of reports, guidance documents and elearning packages that are available to all.



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Construction of a new floating road over peatland in south west Iceland

APRIL 2012

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MARCH 2012

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MAY 2012

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ROADEX on forest roads

ROADEX has been an innovator in cross-sharing technologies between public and forest road managers. New road survey techniques and design methods have been developed jointly and these have brought significant savings to forest road operations and forest management in general.



Using FWD on the "Timmerleden" forest road, west of Boden, northern Sweden

MAY 2012

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APRIL 2012

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JUNE 2012

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ROADEX improving the condition of low volume roads

The main aim of the ROADEX Project is to improve the condition of low volume roads across the Northern Periphery. This is being done through new management policies, road survey methods, reporting formats, focussed maintenance, cost-effective design, practical site guidelines, and monitoring of trends.



Surveying of a low volume road in Sisimiut, Greenland

JUNE 2012

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MAY 2012

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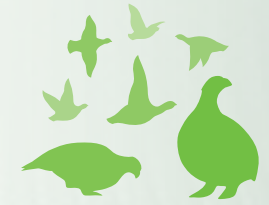
JULY 2012

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ROADEX advancing road friendly vehicles & tyre pressure control

ROADEX has been a pioneer in the testing and promoting of road friendly timber haulage vehicles and tyre pressure control to minimise damage to public and forest roads in the Northern Periphery. New software packages and demonstrations have been developed to give engineers the best tools to assess haulage options.



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Research trials of tyre pressure control on timber vehicles in Stynie Wood, northern Scotland

JULY 2012

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JUNE 2012

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AUGUST 2012

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ROADEX guidelines for widening of roads

Widening of roads is a major issue facing the ROADEX Partners with larger and heavier vehicles increasingly using the local low volume road networks. The new ROADEX good practice guidelines address this issue and give advice for cost effective widening of roads and improving weak road shoulders.



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Widening of county road 834 Bodø to
Festvåg at Valvikdalen, Norway

AUGUST 2012

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JULY 2012

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SEPTEMBER 2012

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ROADEx guidance on climate change adaptation

Climate change is happening and engineers across the globe are constantly adapting to the new circumstances as they have always done. The new ROADEx report supports this process by giving recommendations on good practice measures to meet the predicted effects of climate change on low volume roads.



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Storm damage on the public road network,
northern Sweden

SEPTEMBER 2012

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AUGUST 2012

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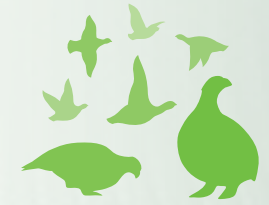
OCTOBER 2012

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ROADEX research into driver vibration & health

ROADEX research into road condition and driver vibration revealed that a strong relationship exists between poor road surfaces and the long term health of professional drivers. As a result of the research Partners are already taking measures to modify their construction and maintenance practices.



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Heavy transport on a potholed road in the Municipality of Simo, Lapland

OCTOBER 2012

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SEPTEMBER 2012

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NOVEMBER 2012

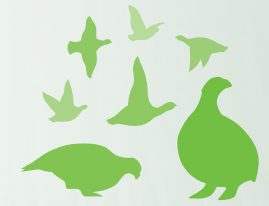
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ROADEX III Report "Health issues raised by poorly maintained road networks"

ROADEX low volume road benefits

ROADEX has developed new methods to quantify the socio-economic benefits of low volume roads. These consider not only road costs and road user costs but also the needs of local communities and industries. These give arguments for greater resources for lifeline roads in fragile areas.



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The A835 lifeline road at Elphin, north west Scotland

NOVEMBER 2012

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OCTOBER 2012

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DECEMBER 2012

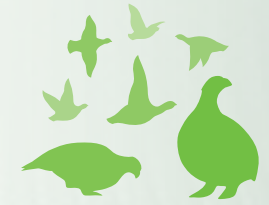
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ROADEX III Report "Socio-economic impacts of road conditions on low volume roads"

ROADEX risk analysis

ROADEX risk analysis for roads combines modern GPR, FWD, video and laser scanning techniques with integrated software packages to identify critical sections of roads requiring attention. Risk analysis was an early output of ROADEX and has already delivered real savings for Partners on their networks.



ROADEX
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A 3D GPR survey of a low volume road in winter in northern Finland

DECEMBER 2012

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NOVEMBER 2012

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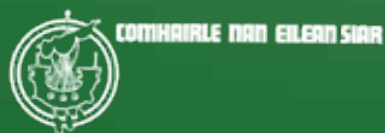
JANUARY 2013

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