



Conférence Européenne
des Directeurs des Routes
Conference of European
Directors of Roads

ROADAPT

Roads for today, Adapted for tomorrow

Research project funded under the CEDR Transnational Road
Research Programme

CEDR Call 2012: Climate Change - Road owners adapting to Climate Change

CEDR Call 2012: Climate Change is a Transnational Road Research Programme organised by CEDR (Conference of European Directors of Roads). The funding partners for this programme are Denmark, Germany, Norway, Netherlands.

Details

Acronym:	ROADAPT
Start:	January 2013
End:	December 2014
Budget:	€645.5k
Co-ordinator:	Thomas Bles, Stichting Deltares, Netherlands
Contact:	Thomas.bles@deltares.nl
Partners:	SGI, Sweden Egis, France KNMI, Netherlands
PEB Project Manager:	Kees van Muiswinkel, Netherlands

Project summary

Infrastructure is the backbone of our society. Citizens, companies and governments have come to rely on and expect uninterrupted availability of the road network. In the same time it is generally understood that the world's climate is changing and that this will have significant effects on the road infrastructure (e.g. IPCC 2007, US National Research Council 2008). Since road infrastructure is vital to society, climate change calls for timely adaptation.

However there are great uncertainties involved in both the projections of future climate change and related socio-economic developments and estimating the consequences of these changes in transportation needs. In the meantime, there is a constant need for decisions and development of the road transport system. As stated in the CEDR 2012 Climate Change DoRN: "Road authorities need to evaluate the effect of Climate Change on the road network. [...] The prioritization of measures in order to maximize availability with reasonable costs is one of the most important tasks of the road owners".

This topic was also raised in the ERA-NET ROAD programme (2008) "Road owners getting to grips with climate change". RIMAROCC was one of the results of that call, providing a risk management based framework for decision support for road owners dealing with climate change. With Deltares, Swedish Geotechnical Institute and Egis, the main RIMAROCC partners continue to join forces, now completed with the Royal Netherlands Meteorological Institute. The ROADAPT project will provide integrated, more detailed and hands-on methods and tools to be used within the RIMAROCC framework in a transnational setting.

The issues of the identification and modelling of climate change effects regarding the TEN-T to provide a unified input database) and the development and application of risk-based vulnerability assessment of the TEN-T are very closely related. An integrated approach will greatly facilitate the consistency of methodological deliverables and the work of end users among road authorities. This project will explore the limits and residual lifetime of existing technology and identify tipping points and adaptation pathways.



Conférence Européenne
des Directeurs des Routes
Conference of European
Directors of Roads

Nine different work packages are identified in the project, together addressing all of the research objectives and specifically linked to one or more RIMAROCC steps. The aim is to provide methodologies and tools enabling tailored and consistent climate data information, a good communication between climate researchers and road authorities, a preliminary and fast quickscan for estimating the climate change related risks for roads, a socio economical impact analysis, a vulnerability assessment and an action plan for adaptation with specific input from possible adaptation techniques related to geotechnics and drainage, pavements and traffic management. With experts in the consortium acting in a matrix structure in the different work packages an integrated approach within all these topics is assured.

Workshops will help gaining deepened insight in user requirements and will provide state of the art methods and tools to the road authorities. Cases provide full scale examples on the integrated results of the study. The results of the research will further be disseminated in various ways, including a guideline by or for road authorities as an addition and fully integrated to the RIMAROCC framework, and a course aiming at an explanation on the relevance of taking climate change into account and an introduction to the methodology in the guideline.

All together, the ROADAPT consortium will extend the current basis to ensure that roads for today will be adapted for the future.