



Coastal Highway Route E39 – Extreme structures along the coast of Norway

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Abstract

Norway's Coastal Highway Route E39 is part of the European trunk road network. The route runs along the western coast of Norway, from Kristiansand in the south to Trondheim in central Norway, a distance of almost 1100 km. The Coastal Highway Route E39 was suggested by the Ministry of Transport and Communication as early as in 2009, and the intension of making the E39 Route ferry-free within 20 years, was established in the National Transport Plan of 2014-2023. Since then the concept of a ferry-free road have been well established amongst politicians and people living on the West Coast of Norway. This paper will give an introduction to the special session on the Bjørnafjord crossing on the west-coast of Norway. It will give background and insight into the total of the Coastal Highway Route E39 Programme.

Keywords: Bridge, Tunnels, Materials, research, PhD-work,

1 Economics

From traditional methods, we can see a positive and good impact on society along the E39, especially in the dense populated areas. The program is investigating the potential for trade and industry, regional employment and settlement patterns when eliminating all ferries along the western corridor (E39). The programme also look at wider impacts of such a huge change in travel-patterns, and aim to develop new methods for impact assessments. Early 2016 a Conference was held in Oslo, summarizing all the different investigations done on this topic. 12 reports are made, and are to be found on www.vegvesen.no/FerryFreeE39.

2 The Technology

Further, this project will explore the technology needed for crossing the remaining fjords. We see that the technology needed excess the current knowledge, and we aim to take todays knowledge and combine it in new and more extreme ways, to take us into tomorrow's crossings of up to 5 km in length.

In 2009, a group of specialists was gathered in Stavanger, and the creation of "The Fjord crossing-group" was a fact. These people are still the core competence of the NPRA, and lead the development of the concepts we have chosen to explore. The concepts of the Bjørnafjord-crossing will be presented in this 'special session' at the IABSE 2016. Submerged Floating bridge (tunnel), Multi-span Suspension bridge on floating TLP foundations (Tension-leg-platforms) and a floating