The Coastal Highway Route E39: Benefits for freight transport

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The case in brief
The scope of the project is to improve a stretch of the existing E39 highway between the cities of Kristiansand and Trondheim in Norway, a route that is 1100 kilometres long. Today, the route has seven ferry crossings, the NPRA is considering replacing some of these fjord crossings with alternative structures (i.e. tunnels or bridges) to reduce the travel time along the western coast of Norway. A reduction in distance, travel time and disruptions will improve conditions for freight transport on this route. Driving costs and time costs will be reduced, whereas toll costs will increase temporarily in the toll period. All in all, the cost level for heavy vehicles will be lower with a continuous E39 than it is today. When the toll periods for the entire route expire, the costs for heavy vehicles will be significantly reduced compared with today’s level.

Assumptions
The examples in this sheet are based on generalised costs for heavy vehicles today and in the future. The examples are based on a number of assumptions, and the cost information here is variable in accordance with the Autopass regulations.

The toll rate for heavy vehicles has been entered for the category of 17-19 metres and 2x the rate for light vehicles in the example. We have assumed a speed limit of 80 km/hour for heavy vehicles along the entire route.

Time costs for heavy vehicles comprise, in addition to the cost of wages to driver and assistant, time-dependent operation costs in terms of administration and garaging as well as a time-dependent share of capital costs and taxes. Time-dependent costs accumulate both when the vehicle is in motion and at a standstill.

Distance-dependent vehicle costs comprise fuels, oil, tyres, repairs and maintenance as well as distance-dependent depreciation. The size of the various cost components vary with different types of vehicles. Fuel consumption for the different vehicle categories is calculated as a function of speed, curvature and gradient. All heavy vehicles are assumed to run on diesel. Other vehicle costs are calculated per kilometre based on distance driven.

Sources:
Development strategy for an improved and continuous E39 Coastal Highway Route - NPRA
NPRA Manual V712 - Konsekvensanalysen (Impact assessments)
Photo: Knut Opeide/NPRA

More information: vegvesen.no/ferfjerie39
Examples of general cost for freight transport in the future: Kristiansand-Trondheim and Stavanger-Bergen

Assumptions: Average cost is NOK 3 per kilometre. The cost of heavy vehicles is adjusted in accordance to today's ferry prices (Autopass regulative) class A7.

Kjørekostnad = driving costs
Tidskostnad = time costs
Bompengar = road tolls

More information: vegvesen.no/ferjefrie39