Non-sustainable transportation is a great part of the stress that human activities put on the environment. Road transportation constituted 74% of the total inland tonne-kilometres in the EU during 2009, to be compared to rail transportation at 15%. To reduce the environmental impact from the transport sector, and be able to promote the use of sustainable transport modes, it is important to gain an understanding of the factors influencing the choice of transportation mode. By case studies and a survey, four factors, viz costs, environmental impact, attitudes and risks, and their impact on the choice of mode of transportation, are studied in this thesis.