This paper investigates the environmental consequences of the Danish grocery distribution, covering the development from the 1950s to the present. The large-scale introduction of the automobile took place during this period and this played a vital role in the shaping of the development. Hence, the paper serves as a case study of the introduction of the motor vehicle in Denmark. Both the supply of goods to the retail outlets (the wholesale side) and the shopping transport are covered. The period covered has seen both a profound restructuring of the grocery sector structure (incl. a reduction of the retail shops by some 60%) and a complete change in shopping patterns. The transport demand for grocery shopping has grown 3.8 times, while freight transport of groceries has tripled. Fuel consumption and CO2-emissions are about 2.5 times higher today compared to 1960, whereas NOx-emissions are 3.6 times higher. Other emissions show similar increases.