Korte ture i bil - Kan bilister ændre adfærd til gang eller cykling

It is often discussed how two-wheelers and walking could take over some of the short trips by car. To make this discussion more actual DTU Transport has used the Danish National Travel Survey (TU) to analyse the potential for a shift from cars to cycling and walking. In Denmark a relatively large share (about 20 %) of the round tours below 22 km (from home and back to home) is driven on a bicycle and additional 22 % is done by foot. In all 23 % of the short tour kilometres is today done by cycling and walking corresponding to 4 % of all daily kilometres. In central Copenhagen it is indeed 43 %. Still, a lot (about 60 %) of these tours are made by car and here might be a big potential for shift-ing from car to bicycle or walking. By a simple calculation it is found that 27 % of the actual car kilometres as driver on short round tours could be shifted to cycling and walking if families with one car and holding two or more driving licenses were cycling and walking as much as those with no car, and those with as many cars as driving licenses as cars were walking and cycling as much as those with more licenses than cars. It is a share of 4 % of all daily car kilometres. This is seen as the absolute maximum potential for mode shift. Approxi-mately 90 % would shift to bicycles and only 10 % to walking. In practise it will never be possible to shift so much to bicycle or walking because of the extra time and physical effort needed and the need for carrying goods or people. But still a considerable amount of trips may be transferred if the necessary political ef-fort is made. The paper analyzes the determining factors for mode choice by using a logit model on round tours shorter than 22 km. The potential for mode shift as a result of political means is further assessed. The analyses are based on 43,000 round tours during the period 1998-2003 from TU containing extensive information on travels in Denmark. Only persons with driving li-cense and above 18 year are included in the model as they are the only who have a relevant mode choise. The logit model includes socio-economic data, car ownership and license holding of the family, mode dependent travel time, outdoor temperatures, wind speed, rainfall, topography, daylight, parking facilities, trip purpose and cam-paigns as independent variables. Travel time is in turn dependent on mode and dis-tance, the time of day and the locus of the trip reflecting rush hours and congestion. The socio-economic data includes age, gender, family size, children of different age, income and position. Travel costs could not be included because of the high correlation with the travel time. Among other variables missing in the analyses are the access to bicycles and bicycle lanes, physical condition and road conditions. Furthermore, public transport is not in-cluded since it is often not an alternative on short trips and because of the lack of de-tailed national information on the availability and service level. The most significant factors in the mode choice turn out to be car ownership, gender, travel time, topography and outdoor temperatures. But also travel purposes are impor-tant – especially escorting and shopping tends to increase the share of car driving. It is often claimed that the extensive bicycling in The Netherlands and Denmark is due to the topography. This study confirms the significant influence of the topography. The share of bicycles on short trips is halved from 25 % to 12 % when shifting from a totally flat area to one of the most hilly cities in Denmark, Vejle. Here, change in altitude on all short trips in mean is 35 meter. The temperature is the only strongly significant weather component, and it has impact mainly on bicycling. Summer temperatures of 20°C increase the bicycle share to above 24 % as compared to less than 17 % in the winter when the temperature is around 0°C. Wind and rainfall also seem to affect bicycling negatively, but not significantly. Women are cetens paribus less inclined to drive the car and more inclined to sit as a passenger. But they also have a tendency to walk and cycle more trips than men, but only in daylight. At night the opposite is true. The effects of possible policy instruments intending to shift short car trips to cycling or walking are estimated using model simulations. These instruments include a 25 % higher travel time by cars, 10 % lower travel time by bicycle and fewer or more exper-sive parking lots combined with an extensive policy for promoting bicycling. The ef-fects of all policies combined in an extensive cycle friendly policy could be a reduction of the car kilometres on short round tours up to 16 % or 2 - 2.5 % of all car kilometres. Short commuting round tours by car can be reduced 39 %, whereas recreational tours can only be reduced 6.5 %. Shopping tours by car might be reduced 13 %. The figures might be a bit lower when taking into account the error from leaving out public trans-port from the model. This extensive cycling friendly policy will have greater effects in cities, up to 8 % re-duction of the car traffic in the Municipality of Copenhagen and 5-6 % in the rest of the Danish cities. Further it will reduce the risk of death with 2 % for all adults and 5-7 % for the workforce. CO2 emissions will only be reduced 2 - 2½ % equal to the reduction in car kilometres. To conclude, a bicycle friendly policy cannot make passenger travel sustainable. But it could be one of many necessary initiatives.