Switching from Car to Bicycling or Walking: How Large Are the Benefits?

Active transport offers an effective antidote for the harmful health effects of a sedentary lifestyle. The benefits of active transport have been evaluated by the TAPAS project, a multinational research project from 2008 to 2012, coordinated by CREAL (Centre for Research in Environmental Epidemiology), Barcelona.

Among the health effects the most important and best established is a gain in healthy life expectancy (LE). We have therefore calculated changes in LE due to the most important effects:

for all people

- health benefit due to reduced pollution

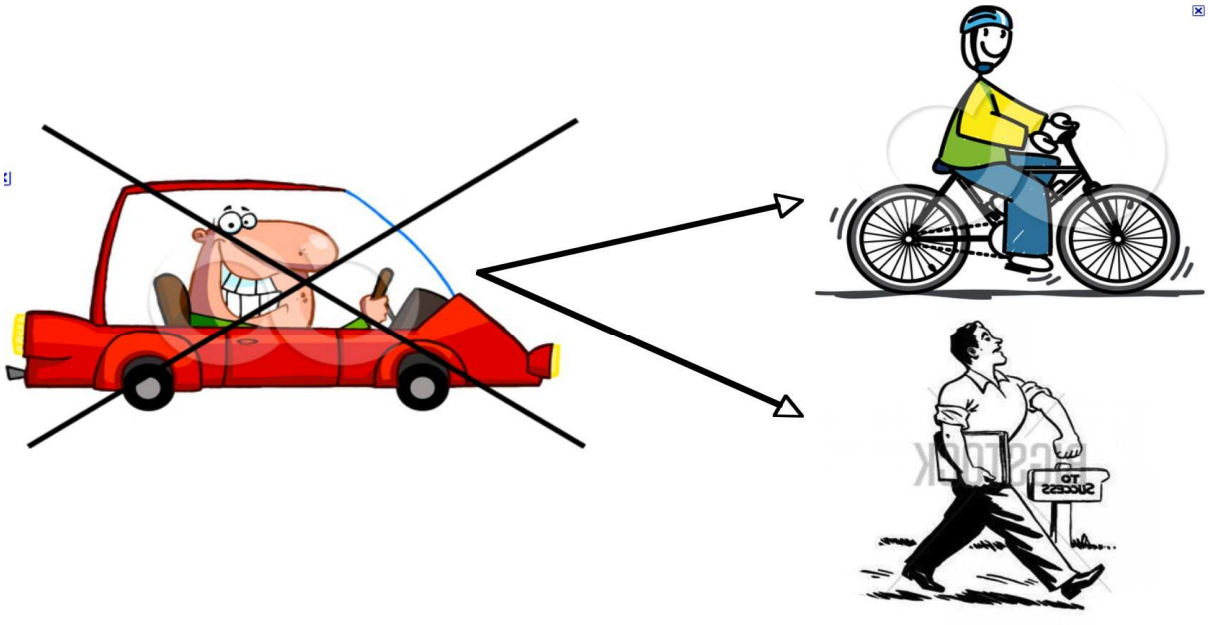
for the individuals who make the switch

- health benefit of the physical activity,
- change in air pollution exposure,
- change in accidents.

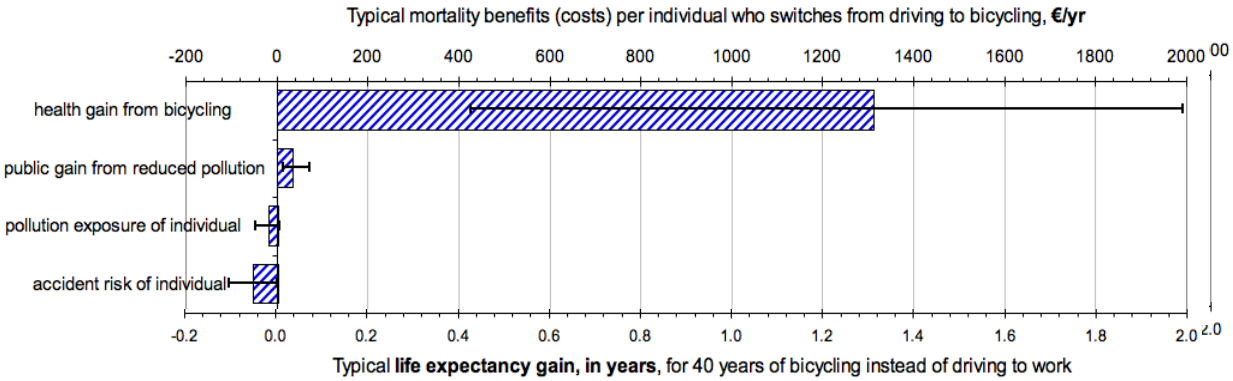
We have calculated these changes per individual driver who switches to active transport, for typical scenarios:

a) Use bicycle instead of car for commuting to work 5days/week, 46 weeks/yr, distance 5 km one way

b) Walk instead of driving for commuting to work 5days/week, 46 weeks/yr, distance 2.5 km one way

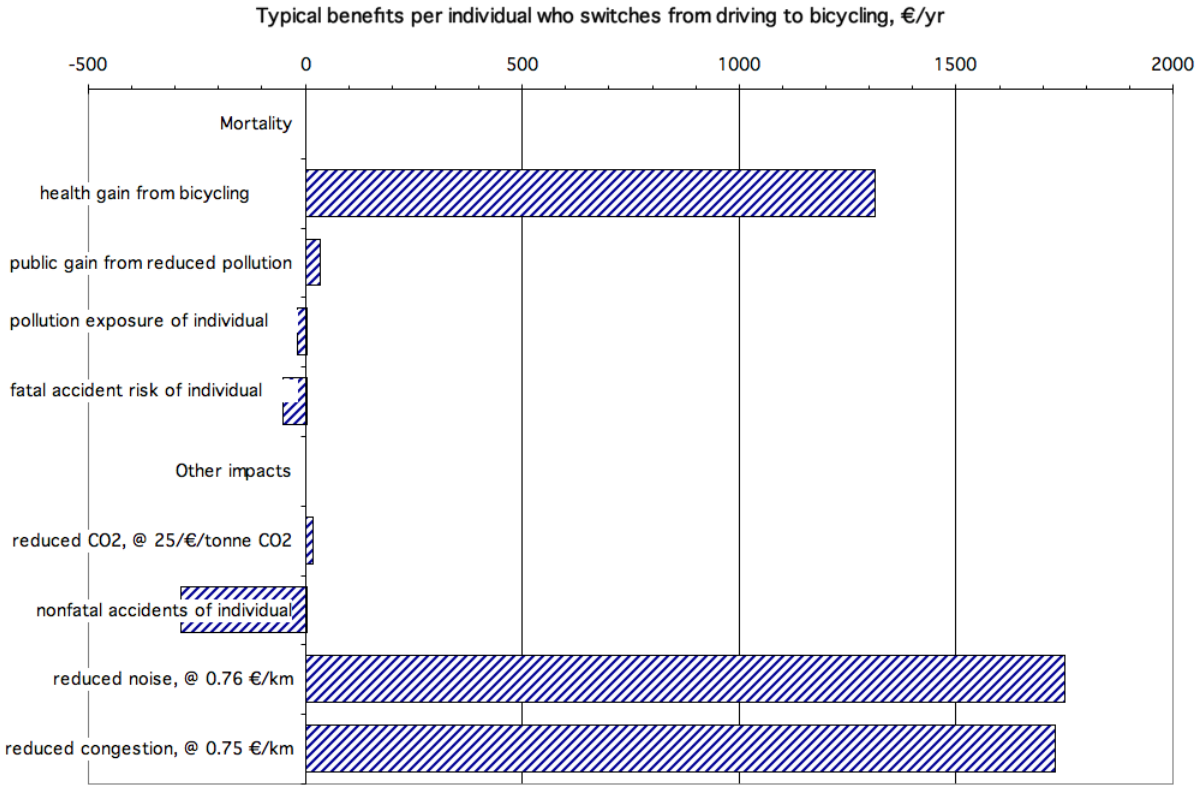


Results are shown as annual monetary values (top scale) and as LE change (bottom scale). Most important is the life expectancy gain due to physical activity, **1300 €/yr for bicycling**. Effects of pollution and accidents are much smaller.
The error bars indicate confidence intervals.



The results for the **walking** scenario are very similar.

Based on review of the literature we have also estimated the other effects that are likely to be important, especially reduced noise and congestion, for large cities in the EU.



This work, with full documentation of assumptions and calculations, has been published by Ari Rabl, Ecole des Mines de Paris, and Audrey de Nazelle, CREAL, Barcelona , in "Benefits of Shift from Car to Active Transport". Transport Policy, 19 (2012) 121–131.