

# TRANSPORTATION, AIR POLLUTION, AND PHYSICAL ACTIVITY (TAPAS), A SIX-CITY INTEGRATED HEALTH RISK ASSESSMENT PROGRAM OF ACTIVE TRAVEL POLICIES: COPENHAGEN CASE STUDY

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**Background and Aims:** Within the TAPAS research program, quantitative assessments are developed for six case study cities in Europe, linking determinants of active travel to potential co-benefits and co-risks of modal shifts from motorized to non-motorized modes of travel. We describe here the Copenhagen case study.

**Methods:** We identified local sources of information from government agencies and municipalities describing active travel and environmental conditions. We selected policies of local and international interest, with quantifiable or demonstrated effectiveness. We reviewed local municipality and national governmental publically available data and documents on respective websites and met individually with elected officials and other stakeholders. We are also conducting epidemiological study generating new data to help fill research gaps in current framework.

**Results:** Copenhagen, capital of Denmark, has 620.000 inhabitants. With 37% of Copenhagen inhabitants commuting by bike (28% by bus or train, 31% by car, 5% on foot) and 383km of bike lanes, Copenhagen is proud to be one of the most biking-friendly cities in TAPAS, and in Europe. Copenhagen is still working hard to improve its biking statistics, by improving biking infrastructure, establishing green biking lanes (40km currently, goal 110km) and improving safety. In 2008, 121 cyclists were seriously injured and 5 died, which is a half of the numbers from 1996. Copenhagen air pollution levels have been decreasing in a last decade, with  $21 \mu\text{g}/\text{m}^3 \text{PM}_{10}$ ,  $13 \mu\text{g}/\text{m}^3 \text{PM}_{2.5}$ , and  $20 \mu\text{g}/\text{m}^3 \text{NO}_2$  average annual concentrations in 2008, but street levels for  $\text{NO}_2$  still exceed the limit values. About 38% of Copenhagen inhabitants are active less than recommended 30 minutes per day, and 37% are overweight. Relevant policies we are considering for assessment include 1) Congestion charging and 2) Regulation of Parking Fees.

**Conclusion:** Copenhagen with its high and increasing biking rates, but also increasing number of cars, is an interesting case for assessing potentials to increase physical activity while addressing challenging environmental conditions to mitigate risks.