

New evidence for the role of transportation in health



Periodically, claims are made that excessive energy intake is the overwhelming cause of the obesity epidemic.^{1,2} Yet these claims discount substantial evidence about the favourable effects of physical activity on obesity prevention, maintenance of weight loss, body fat, and fat distribution, and about the major health benefits of physical activity that are independent of weight status.³ For decades, physical activity research focused almost exclusively on the sports, leisure, and recreation domain, with a minor emphasis on occupational activity. Although walking for transportation has been a daily source of physical activity throughout human history, this domain was all but ignored in physical activity research until recently. This neglect might have been due to the near absence of walking and cycling for transportation in many countries, as a result of transportation policies that have explicitly promoted motorised travel by automobile.

Ellen Flint and colleagues' longitudinal study⁴ on the use of active or public transport versus cars to commute to work, published in *The Lancet Public Health*, is a major advance in understanding the contribution of all modes of physical activity to obesity and other health outcomes. This study defined active commuting as walking and cycling, which were grouped together with public transport and compared with car commuting. As reviewed in the Article, several previous studies, including two prospective studies, have shown associations between active transport and weight status. An important strength of Flint and colleagues' study was the use of objectively measured body-mass index (BMI), which is preferred to self-reported BMI—a measure that is prevalent in the existing literature. With a sample of almost 6000 adults aged 40–69 years, the authors were able to examine the relation between changes in commuting mode and changes in BMI over 4 years. The main findings were that people who changed from active or public commuting to car commuting had a relative increase in BMI of 0.3 kg/m², and those who changed from car commuting to active or public commuting had a relative decrease in BMI of 0.3 kg/m². These results were almost identical to a previous study⁵ that used self-reported BMI, strengthening confidence in the results.

These 4-year changes in BMI, although statistically significant, seem small, so consideration of why the findings are likely to be underestimated is important. First, commuting to work is only one part of an individual's total transport behaviour. Because the work commute is usually the longest trip of the day, people do not usually walk or cycle to work. Walking or cycling for transport mostly occurs within neighbourhoods, for shopping, dining, or visiting friends.⁶ Thus, Flint and colleagues' study⁴ did not reflect the full potential impact of transport behaviour on BMI. Second, as emphasised in the Article,⁴ almost all the changes in commuting mode were between cars and public transport. Although public transport is definitely an active mode of commuting, it is not as active as walking or cycling. Third, we do not know at what timepoint within the 4 years the change in commuting mode occurred. Thus, the duration of exposure to the new mode is unknown, and should not be assumed to be 4 years.

An important and sobering finding was the tiny net increase in the prevalence of walking and cycling: 44 people switched from driving to walking or cycling, and 33 switched to driving, for a net gain of only 11 active commuters among almost 6000 people over 4 years. This finding suggests that not much progress has been made in the promotion of active commuting.

The Lancet Series on Urban Design, Transport, and Health puts these findings in a broader context. Global trends in city planning and urban design, especially during the last half of the 20th century, favoured lower density and single-use developments that separated people's residences from daily destinations for shopping, work, and school. Even stronger trends prioritised motorised transport over all other modes and created automobile dependence in many cities. An extensive body of literature documents the negative health effects of automobile-oriented built environments on non-communicable diseases, traffic-related injuries, respiratory diseases from pollution, stress, noise, and other outcomes.⁷ Unhealthy built environments are the result of public policies and public investments, but the initial rationales for these policies are now undermined by evidence of negative

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health effects. Systems modelling has shown that changing land-use practices, transportation goals, and infrastructure to increase active transport would create gains in multiple health outcomes in six diverse global cities.⁸ An encouraging finding is that cities are showing commitment to prioritising active transport over driving to achieve health, environmental sustainability, and economic development goals,⁹ but not enough cities are taking these actions.

The evidence from Flint and colleagues' study⁴—ie, that active and public transport contribute to improvements in BMI—provides further support for public health and medical professionals to advocate for healthier city design and transportation policies. Advocacy needs to be accompanied by ongoing collaboration and cross-sectoral efforts to ensure that health-promoting land use and transport policies are adopted, funded, implemented, and ideally, assessed. Active transport might be the best indicator of progress toward the goal of healthy cities worldwide.

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