



## Good for the planet and good for our bodies: the case for active transportation

### CLINICAL QUESTION

How would adopting active transportation habits improve health for people and the planet?

---

### BOTTOM LINE

Using active forms of transportation may improve exercise capacity and health-related quality of life. Reducing trips taken by private vehicle can reduce greenhouse gas emissions.

### EVIDENCE

- A randomized controlled trial of 73 hospital employees over 12 months found a dose-response pattern of increased exercise capacity and health-related quality of life. (Schmied et al., 2020)
- A systematic review of sixteen studies concluded there are positive relationships between active commuting and certain measures of physical fitness. (Henriques-Neto et al., 2020)
- A prospective population-based study in the UK of 206,299 people over 5 years concluded that commuting by cycling was associated with a lower risk for CVD, cancer and all-cause mortality and commuting by walking was associated with a lower risk for CVD. (Celis-Morales et al., 2017)
- A systematic review of 6 studies including 555 participants found active commuting improved exercise capacity, blood pressure, cholesterol, HDL, and waist circumference. (Schäfer et al., 2020)
- A European study of 2000 people living in urban European cities estimated that one person making the switch of one trip daily from car driving to cycling for 200 days a year reduced carbon emissions by approximately 0.5 tonnes. (Brand et al., 2021)

### CONTEXT

- Active transportation is defined as the use of any human powered means to get from one place to another, including walking, bicycling, skating, skiing, or skateboarding.
- Physical inactivity is estimated to cause 9% of premature mortality. If inactivity was decreased by 25%, more than 1.3 million deaths worldwide could be averted annually. (Lee et al., 2012)

- 
- In Canada, it is estimated if all citizens engaged in 60 minutes of physical activity per day, 33% of all deaths related to coronary heart disease, 25% of deaths related to stroke and osteoporosis, 20% of deaths related to colon cancer, hypertension and type 2 diabetes, and 14% of deaths related to breast cancer could be prevented. (Warburton et al., 2007)
- The British Medical Association reports that patient and staff travel has the second largest carbon footprint in General Practice (after pharmaceutical prescribing). (British Medical Association, 2020)
- The transportation sector accounts for 27% of Canada's total greenhouse gas emissions, and approximately half of that total is attributed to passenger travel. (Natural Resources Canada, 2016)

## LIMITATIONS

Most, if not all, of the included studies were performed in Britain or Europe, where cycling and walking are more prevalent than in Canada, and thus results may not be generalizable to this country.

*(Not a formal Tools For Practice, but template used for formatting with permission.)*

## REFERENCES

- Brand, C., Götschi, T., Dons, E., Gerike, R., Anaya-Boig, E., Avila-Palencia, I., de Nazelle, A., Gascon, M., Gaupp-Berghausen, M., Iacorossi, F., Kahlmeier, S., Int Panis, L., Racioppi, F., Rojas-Rueda, D., Standaert, A., Stigell, E., Sulikova, S., Wegener, S., & Nieuwenhuijsen, M. J. (2021). The climate change mitigation impacts of active travel: Evidence from a longitudinal panel study in seven European cities. *Global Environmental Change*, 67, 102224. <https://doi.org/10.1016/j.gloenvcha.2021.102224>
- British Medical Association. (2020). Sustainable and environmentally friendly general practice: GPC England Policy Document. <https://www.bma.org.uk/media/2570/bma-sustainable-and-environmentally-friendly-general-practice-report-june-2020.pdf>
- Celis-Morales, C. A., Lyall, D. M., Welsh, P., Anderson, J., Steell, L., Guo, Y., Maldonado, R., Mackay, D. F., Pell, J. P., Sattar, N., & Gill, J. M. R. (2017). Association between active commuting and incident cardiovascular disease, cancer, and mortality: prospective cohort study. *BMJ (Clinical Research Ed.)*, 357, j1456. <https://doi.org/10.1136/bmj.j1456>
- Henriques-Neto, D., Peralta, M., Garradas, S., Pelegrini, A., Pinto, A. A., Sánchez-Miguel, P. A., & Marques, A. (2020). Active Commuting and Physical Fitness: A Systematic Review. *International Journal of Environmental Research and Public Health*, 17(8). <https://doi.org/10.3390/ijerph17082721>
- Lee, I.-M., Shiroma, E. J., Lobelo, F., Puska, P., Blair, S. N., Katzmarzyk, P. T., & Lancet Physical Activity Series Working Group. (2012). Effect of physical inactivity on major non-communicable diseases worldwide: an analysis of burden of disease and life expectancy. *Lancet (London, England)*, 380(9838), 219–229. [https://doi.org/10.1016/S0140-6736\(12\)61031-9](https://doi.org/10.1016/S0140-6736(12)61031-9)
- Schäfer, C., Mayr, B., Fernandez La Puente de Battre, M. D., Reich, B., Schmied, C., Loidl, M., Niederseer, D., & Niebauer, J. (2020). Health effects of active commuting to work: The available evidence before GISMO. *Scandinavian Journal of Medicine & Science in Sports*, 30 Suppl 1, 8–14. <https://doi.org/10.1111/sms.13685>
- Schmied, C., Loidl, M., Rossi, V., Fernandez La Puente de Battre, M. D., Reich, B., Niebauer, J., & Niederseer, D. (2020). Dose-response relationship of active commuting to work: Results of the GISMO study. *Scandinavian Journal of Medicine & Science in Sports*, 30(S1), 50–58. <https://doi.org/10.1111/sms.13631>
- Warburton, D., Katzmarzyk, P., Rhodes, R., & Shephard, R. (2007). Evidence-informed physical activity guidelines for Canadian Adults. *Applied Physiology, Nutrition and Metabolism*, 32(suppl. 2E), S16–S68.



**GREEN  
HEALTHCARE  
TOOLKIT**

EOPCN GREEN FOR HEALTH COMMITTEE

Grant funding for this initiative from NAAFMF  
(Northern Alberta Academic Family Medicine Fund)