

How Transportation Impacts Our Health

What the Research Says About the Relationship Between Health and Transit Use and Access

Chronic Disease

The type of transportation you use impacts your health, including obesity and high blood pressure

One study found that **people who drive to work are fatter and less healthy** than people who get to work by public transit or any other means. Women non-drivers had a BMI .7 points lower and weighed more than five pounds less than women who drove to work, and men non-drivers had a BMI 1 point lower and weighed nearly seven pounds less than men who drove to work.¹

Another study found that those who relied on public transportation every day were **44% less likely to be overweight, 34% less likely to have type 2 diabetes, and 27% less likely to have high blood pressure**. Researchers believe it's because people taking a bus or train to work may walk farther to and from the station than those biking, walking and, especially, driving.²

One study found that commuting by public transportation instead of by car increased energy expenditures equivalent to the **loss of one pound of body fat per six weeks**.³

A study of light rail in Charlotte, NC suggests that increasing the public's use of light rail could provide improvements in health outcomes for individuals. Commuting by light rail is associated with an **average -1.18 reduction in Body Mass Index** and an **81% reduced odds of becoming obese** over time.⁴

Walking to transit helps people meet their **daily recommended physical activity**. People who walk to transit in large urban areas with a rail system are **72% more likely to transit walk 30 minutes or more per day** than those without a rail system.⁵

1 Flint et al. Associations between active commuting, body fat, and body mass index: population based, cross sectional study in the United Kingdom British Medical Journal 2014; 349.
2 Tsuji et al. Taking public transportation instead of driving linked with better health. American Heart Association Meeting Report Abstract 15214 (Poster S 2034, Hall A2).
3 Morabia A, Mirer FE, Amstislavski TM, Eisl HM, Werbe-Fuentes J, Gorczynski J, Goranson C, Wolf MS, Markowitz SB. Potential Health Impact of Switching From Car to Public Transportation When Commuting to Work. American Journal of Public Health; 100(12): 2388-2391.
4 MacDonald et al. The Effect of Light Rail Transit on Body Mass Index and Physical Activity. Am J Prev Med. 2010 Aug; 39(2): 105-112.
5 Freeland AL, Banerjee SN, Dannenberg AL, Wendel AM. Walking associated with public transit: moving toward increased physical activity in the United States. Am J Public Health. 2013 Mar;103(3):536-542.

Access to Transit

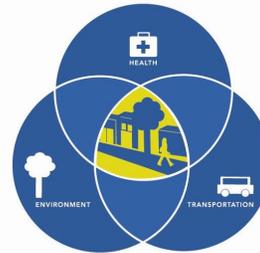
Better access to transit increases the likelihood of transit use

If you live near a bus stop then you are **more likely to use transit**, which provides support for the transit industry's standard of providing transit stops within 1/4 mile of most residents.¹

Building new rail lines in urban areas can **increase ridership** in cities where many people commute to the central business district by car. This can significantly **reduce trip time** for commuters and other travelers.²

Light rail in Los Angeles is associated with large **reductions in vehicle miles travelled, some increase in rail transit ridership, increases in physical activity, and large reductions in greenhouse gas emissions** among households living within 1/2 mile of a station.³

Residence near public transportation is a key factor that **increases the likelihood of returning to work** after being on welfare.⁴



1 Ewing R, Cervero R. Travel and the built environment: a meta-analysis. Journal of the American Planning Association 2010;76(3):1-30.
2 Baum-Snow N, Kahn ME. Effects of urban rail transit expansions: Evidence from sixteen cities, 1970-2000. Brookings-Wharton Papers on Urban Affairs. 2005;(6):147.
3 Boarnet MG, Hong A, Lee J, et al. The exposition light rail line study: A before-and-after study of the impact of new light rail transit service. University of Southern California. 2013.
4 Cervero R, Sandoval O, Landis J. Transportation as a stimulus of welfare-to-work: private versus public mobility. Journal of Planning Education and Research 2002;22(1):50-63.
Graphic: American Public Health Association

Environment

Reducing exposure to air pollution leads to improvements in life expectancy¹

For every passenger mile traveled, **public transportation uses half the fuel** and produces only **a fraction of the harmful pollution** as private vehicles: only 5 percent as much carbon monoxide, less than 8 percent as many volatile organic compounds, and nearly half as much carbon dioxide and nitrogen oxides.²

Safety

Public transit is the safest form of transit

Passenger fatalities per billion passenger miles:³

Bus	0.11
Subway/Light Rail	0.24
Commuter Rail	0.43
Cars/light trucks	7.28

Commute Time

Long commutes are harmful to our physical and mental health

Longer commutes are associated with:^{4 5}

- Reduced physical activity
- Increased body mass index
- Higher blood pressure
- Lower levels of life satisfaction
- Increased sense of pressure

1 Pope CA, Ezzati M, Dockery D. Fine-particulate air pollution and life expectancy in the United States. New England Journal of Medicine 2009;360(4):376-386.
2 Shapiro RJ, Hassett KA, Arnold FS. Conserving energy and preserving the environment: the role of public transportation. American Public Transportation Association; 2002.
3 Litman T, Fitzroy S. Safe travels: evaluating mobility management traffic safety impacts. Victoria Transport Policy Institute 2013.
4 Hoehner C, Barlow C, Allen P, Schooman M. Commuting distance, cardiorespiratory fitness, and metabolic risk. American Journal of Preventive Medicine 2012;42(6):571-578.
5 Hilbrecht et al. Highway to health? Commute time and well-being among Canadian adults. World Leisure Journal, Volume 56, Issue 2, 2014.