

# Science for Environment Policy

## Urban design can promote walking: people physically active for up to 1.5 hours more per week in activity-friendly neighbourhoods

**People who live in the most 'activity-friendly' neighbourhoods do up to 1.5 hours more physical activity a week than those in the least supportive neighbourhoods.** This is according to a new international study which measured levels of exercise — mainly walking for recreation or transport — in relation to the urban environment across 14 diverse cities. The results show how urban design — such as parks and local amenities — can promote healthy lifestyles which also bring environmental benefits, such as better air quality, through reduced car use.

**Globally, physical inactivity is responsible for 5 million deaths per year through its effects on diseases such as diabetes, heart disease and some cancers<sup>1</sup>.** It is known that people who live in very 'walkable' neighbourhoods tend to be more physically active than those in less walkable areas. The [WHO](#) thus recommends improving the urban environment to support 'active transport' (walking and cycling) and recreation in its [Global Strategy on Diet, Physical Activity and Health](#).

This study further explores the link between the [urban environment](#) and exercise by providing objective data on activity levels in a diverse range of cities. Data were used from 6 822 participants in the study who wore accelerometers around their waist for 4–7 days. Accelerometers assess vertical movement of the body and mainly detect walking. Participants lived in one of 14 cities across 10 countries (Belgium, Brazil, Colombia, the Czech Republic, Denmark, China (Hong Kong), Mexico, New Zealand, the UK and the USA).

The researchers related activity levels to urban features which are thought to affect walkability found in a 0.5 km and a 1 km zone around each participant's home. Six features were considered: number of residential dwellings; number of street junctions (accessible to pedestrians); mixture of land use (indicating easy access to retail areas and public buildings); number of bus, rail or ferry stops/stations; distance to nearest public transport stop/station; and number of parks.

Average activity levels varied greatly by neighbourhood. Participants with the most activity-supportive environmental features within 1 km of their home did up to 89 minutes more physical activity a week, on average, than those in 1 km zones with the fewest activity-supportive features. For 0.5 km zones, the difference in activity levels was 68 minutes. On average, participants across all 14 cities did 37 minutes of physical activity per day. Baltimore, USA, had the lowest average rate of activity (29.2 minutes per day) and Wellington, New Zealand, had the highest (50.1 minutes per day).

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1. Lee, I.M., Shiroma E.J., Lobelo F., Puska P., Blair S.N., Katzmarzyk P.T. Effect of physical inactivity on major non-communicable diseases worldwide: an analysis of burden of disease and life expectancy. *Lancet* 2012; 380: 219–99.

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Three urban features were strongly associated with higher activity levels:

- **High residential density.** This is needed to support important components of a walkable neighbourhood, such as local shops and a frequent public transport service.
- **High density of public transport stops.** Interestingly, distance to the nearest transport stop was not associated with activity levels. Instead, the researchers suggest that a high number of transport options is more likely to meet residents' needs and thus increase the likelihood of walking to a stop. Good access to public transport is necessary for a less car-dependent lifestyle, they state.
- **Parks.** These are not just locations for recreation in themselves, but destinations that people choose to walk to.

Studies usually associate mixed [land use](#) with physical activity, but not in this case. However, the researchers say this may be due to limitations of their method; for example, they did not map unregistered shops, such as informal markets, which are common in middle-income countries. Street-junction density, which indicates connectivity, showed some influence on walking levels, but results on this feature were mixed.

Importantly, the links between built environment and physical activity were generally similar across all the cities. This suggests that improving urban design is a solution that applies everywhere.

The study recommends that decision makers in the public health, environmental, transport and park sectors work together to promote physical activity as way of cutting [air pollution](#) and [greenhouse gas emissions and energy usage](#), whilst achieving [health](#) benefits.

