

## Study: Adults take their physical activity on the road

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New public health research by a Purdue University professor could help shed light on how the environment can influence physical activity, especially when it comes to where people live.

"We are not just measuring [physical activity](#), but we are linking it to a location using small activity monitors and [global positioning system](#) devices," said Philip J. Troped, an assistant professor of health and kinesiology. "A better understanding of how neighborhood environments influence people's behaviors could help us to get more people to be physically active and healthy."

For example, a better understanding of where physical activity occurs and the characteristics of those areas could be used to develop more tailored intervention programs or messages to encourage physical activity at those locations, as well as to shape policy for [urban planning](#) and transportation systems.

"Research has shown that there is a positive relationship between characteristics of neighborhood-built environments and physical activity, but one of the limitations is that the data have been collected with devices that only measure activity, so assumptions are made that physical activity is mostly happening around where people live - and that may not be the case," he said.

Such built environments are humanmade and can reflect urban planning features such as how neighborhoods are designed, convenience of trails

and parks, width of sidewalks, and the connectivity of transportation routes.

Troped and his research team found that most of the moderate to vigorous physical activity people participated in took place outside a 1-kilometer buffer zone around their home.

When moderate to vigorous physical activity occurred within 1 kilometer of a person's home, the buffer zone had a higher density of residential housing, more connected streets and a greater mix of residential and commercial land uses, which can allow people to walk to destinations such as stores.

"In future studies using GPS and activity monitors, we will try to move away from a focus on the area where people live to try to better understand the range of locations, near and far from home, where people are active and the characteristics of those environments," Troped said.

The research team fitted 148 people, ages 19-78, with activity monitors and GPS devices for four days - two weekdays and two weekend days - in the Boston metropolitan area. The activity monitors, also known as accelerometers, record the intensity of activity each minute during a person's waking hours. As the intensity for each minute increases, such as from walking to running, the activity count for each minute increases. If a person is sitting in a car or just fidgeting, then a low level of activity is reported. The global positioning systems device was worn whenever the individual was outdoors or leaving the home.

The findings were published in April's *American Journal of Preventive Medicine*.

"We are really just scratching the surface on this type of research, but it's a start," Troped said. "More work needs to be done to identify areas

where people are physically active and better understand the qualities of those areas that attract people to them. We also need to learn how this might differ by age and racial and ethnic background so we can use this information to develop interventions for different audiences."

Provided by Purdue University

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