

Traffic speeds under 20 mph best for encouraging cycling to work

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A study of nearly 35,000 routes to work revealed that people were most likely to choose to cycle when traffic speeds along their route were under 20mph—providing evidence to debates about speed limits in urban areas.

Although roads with a high volume of [traffic](#) also dissuade [cycling](#), the study by researchers at the University of Surrey found that traffic speed is the greater issue, particularly for women, who are already under-represented in cycling.

The research team also found that [cycle paths](#) encourage higher levels of cycling, but their effectiveness depends on local traffic conditions. The team's findings, which looked at routes to work in Surrey, UK, could help local authorities identify where best to separate cycle and motor vehicle routes to encourage more cycling.

Routes crossing busy roads also deter potential cyclists. Results showed that commuters are less likely to cycle if their route to work crosses roads

with traffic that is both fast-moving and high volume. Surprisingly, the proportion of heavy goods vehicles on roads or at junctions showed little impact on commuters' willingness to cycle.

The study, published in the *International Journal of Sustainable Transportation*, analyzed traffic data for all roads and cycle routes in Surrey to look at how different vehicle speeds, volumes, the proportion of heavy goods vehicles (HGVs), and the amount of cycling infrastructure along the shortest route to work corresponded with the proportion of commuters choosing to cycle. It also considered distance, hilliness and the effect of traffic crossing the [route](#) at junctions. In total it examined nearly 35,000 routes to work for 172,000 commuters living in Surrey and who lived between two and five kilometers from work—a distance that should be cyclable for many.

Demand for bikes surged during COVID-19 lockdowns, and councils have rushed to install temporary cycle lanes as more people take up walking and cycling. If the UK is to achieve its target of reducing carbon emissions, it will be important for councils to maintain this increased interest. The Surrey research helps town planners identify what interventions would be most effective and where they should be placed.

The University of Surrey's Dr. Susan Hughes, who develops and applies computer models relating to the science of the environment, said: "Cutting speeds may be unpopular with drivers, but our research shows it does encourage people onto their bikes. It's a change which, if implemented strategically, may encourage more people to cycle, with the added benefit on people's health from reduced carbon emissions. Hence, there are opportunities to make towns more attractive to cyclists."

Dr. Nick Grudgings, the lead author, said: "Our findings can help [local authorities](#) make the best

decisions about where to invest in cycling infrastructure. More cycling doesn't just mean towns and cities are reducing their CO₂ emissions, it also means commuters are keeping active and reducing their risk of heart disease, depression and premature mortality."

More information: Nick Grudgings et al, What aspects of traffic intensity most influence cycling mode choice? A study of commuting in Surrey, UK, *International Journal of Sustainable Transportation* (2021). DOI: [10.1080/15568318.2021.1999539](https://doi.org/10.1080/15568318.2021.1999539)

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