

Driving is not only way to travel – think active!

Is too much emphasis placed on helping car drivers to speed up? Could more attention be devoted to the health benefits of walking and cycling? asks **Laura Laker**

PHYSICAL ACTIVITY RECOMMENDATIONS FROM THE CHIEF MEDICAL OFFICER

While it's recommended children and young people get at least 30 minutes of moderate-to-vigorous physical activity a day, adults should aim for 150 minutes across the week of moderately intensive activity, such as brisk walking or cycling, or 75 minutes of vigorous exercise, or a combination of the two. Older adults need 150 minutes of moderate intensity exercise per week, through daily activity.

We are in the middle of an inactivity crisis. Research suggests that in the UK, more than four-in-10 women (42%) and one-in-three men (34%) aren't getting the recommended levels of physical activity.

We are getting fatter and less healthy as a nation. An estimated one-in-four adults, and one-in-five children aged 10-11, are now obese.

Being overweight increases the risk of type 2 diabetes, heart disease, some cancers and psychological conditions such as depression.

Consequently, it is calculate that physical inactivity costs the UK £7.4 billion a year, including more than £0.9bn to the NHS.

According to the latest advice from the Chief Medical Officer, released in September, active travel, i.e. walking and cycling, is one of the simplest solutions to these problems.

"It is recommended that people are active every day... walking, wheeling or cycling for daily travel is often the easiest way to get physically active," the report says, adding: "Regular physical activity can

deliver cost savings for the health and care system and has wider social benefits for individuals and communities. These include increased productivity in the workplace, and active travel can reduce congestion and air pollution."

Promoting walking and cycling was also identified as one of the "seven best investments" to increase physical activity at population level by the *Toronto Charter for Physical Activity: A Global Call to Action*.

Meanwhile, the World Health Organisation

has set out its ambition to reduce physical inactivity by 10% by 2025 and by 15% by 2030 (www.who.int/ncds/prevention/physical-activity/global-action-plan-2018-2030/).

Research shows the greatest benefits of active travel are ones related to health. Arguably, it's not possible to tackle public health problems related to inactivity without a policy focusing on active travel.

A recent Commons Transport Select Committee report put it in broader terms, saying: "The economic, human and environmental costs of inactivity, climate change, air pollution and traffic congestion are huge. Active travel can help combat all of these and, as they become more pressing concerns, there is an increasingly compelling case for policymakers to give active travel the attention and funding that it has not historically received."

The report notes congestion alone cost the UK an estimated £7.9bn last year, or around £1,300 per driver. In congested areas, such as city centres, cycling can be quicker – and more predictable – than driving. In the most heavily congested areas it can even be quicker to walk.

While walking is already one of the main contributors to physical activity in the UK, accounting for 26-42% of all exercise, by contrast, just 5.7% of people cycle three or more times per week, and only 1% of children cycle to school.

Cycling could play a much greater role in health. The Propensity to Cycle Tool, which calculates the potential for everyday trips to be cycled, reveals that, with a comprehensive Dutch-quality cycling network, the UK could have comparative cycling rates. It found 18% of people would cycle to work, even allowing for our hillier landscape.

Experts argue the UK's poor performance in active travel is due to a combination of factors. The biggest is a lack of safe cycling infrastructure, underpinned by a chronic lack of consistent, long-term funding for active travel.

WHY INVEST IN ACTIVE TRAVEL?

Transport for London (TfL) notes in its *'Improving the Health of Londoners'* document that the health of the capital's population is inextricably linked to the quality of transport provided.

Walking and cycling, it says, mean "cleaner air, less noise, more connected neighbourhoods, less stress and fear and fewer road traffic injuries".

Sir Peter Hendy CBE, former transport commissioner for London, notes: "These issues are all connected. Other, less easily measurable, benefits of active travel include access to services and jobs, and stress reduction.

The evidence supporting the health ►



ABOUT THE AUTHOR

Laura Laker is a freelance journalist with 10 years' experience writing on cycling, active travel and, more recently, micromobility for national and specialist titles. She is also working with the University of Westminster's Active Travel Academy – a new mobility think tank.

Travel Academy – a new mobility think tank.



► benefits of regular physical activity, which has become more compelling in the past decade, includes reducing a person's chances of dying from any cause by 30%. More specifically, regular exercise reduces the risk of dementia, colon cancer and depression by 30%, type 2 diabetes by 40%, hip fractures by 68% and breast cancer by 20%.

Cycling and walking also benefit mental health by improving sleep quality and a general sense of wellbeing.

Studies have also found when people cycle or walk for transport it tends to be in addition to existing exercise. However, the greatest health benefits of active travel are conferred on those who are sedentary. Public transport is considered more 'active' than driving as people tend to need to walk to or from a transport stop at either end of their trip. However, switching to cycling or walking has greater benefits.

Jenny Mindell, professor of public health at UCL (University College London) and editor-in-chief of the *Journal of Transport and Health*, says the benefit of physical activity is one to two orders of magnitude more than the adverse effects of being exposed to air pollution.

**1.6
bn**

cycling trips per year is goal of the UK Government

Interestingly, aside from a few pockets of good practice, all of this knowledge hasn't translated to transport policy.

Part of the problem is the methodology used to measure the benefits of infrastructure projects – the types of calculations used to justify investments in road, rail and active travel. Decisions on how much resource to allocate to each tend to be skewed towards road investment for private car travel.

Mindell says the issue centres on the way different road users' time is valued – with the assumption drivers' time is most valuable.

That means modelling tools such as the Government's Transport Analysis Guidance (TAG, previously Webtag), have traditionally translated a delay at the traffic lights for drivers as a financial cost, yet the same delay for pedestrians and cyclists is, in effect, free.

"The official reason being it's good for them," says Mindell. "It's good for their health, they're having a good time. The unofficial reason being, 'losers cycle and winners drive'. That certainly has been the underlying thought in the past."

Mindell is among those who question this.

"Why is my time valuable if I'm sitting in a car waiting and not valuable if I'm trying to walk somewhere? I'm not injuring people and I'm benefiting myself and the NHS," she says.

While thinking is changing, it still influences how drivers are prioritised over other road users. Indeed, Mindell says, the TAG tool is now being updated to estimate the health benefits of walking and cycling uptake.

This is fairly rare in traffic modelling, which is still largely focused on the time savings for drivers, while the costs and benefits to society are much farther reaching – arguably affecting every sector.

Megan Sharkey, urban transport scholar at the University of Westminster, agrees. "No one has figured out the cost-benefit problem yet of the society-wide benefits and disbenefits of transport," she says.

"Nobody has really figured it out for cars and trains, either. We just accept those."

Sharkey believes the current weighting is topsy turvy – and one could argue train commuters' time is most valuable because of the potential for commuters to work while travelling.

"It's interesting how the TAG tool values cars much higher than other modes. But when you include the externalities, their value is lower and the cost to society higher. This is a problem with infrastructure funding in general."

In a bid to prove the wider benefits at local level, Sharkey produced a detailed report on the various returns for building a coherent cycle network in the Australian city of Newcastle, New South Wales.

In research for the CycleSafe Network Active Travel Infrastructure Project, Sharkey and colleagues calculated the benefits per kilometre of a coherent cycle network on health, reduced congestion and wear on the roads, noise and air pollution, greenhouse gas emissions and water pollution from road runoff, among other factors.

The infrastructure benefits were "through the roof", says Sharkey.

Her research found that if just 5% of the catchment area's population (14,634 people) cycled regularly for everyday trips, the annual savings across society would amount to Aus\$306,365,622 (£161,833,044). Investment in the cycle network required to achieve that would be repaid in just six months.

Sharkey argues it's hard, if not impossible, to improve population-level health without making active travel safe, easy and attractive. She notes the greatest health benefits for active travel, as with exercise in general, is for those who are inactive.

"Active travel solutions fit this problem well, as everyone needs local travel, but not everyone is motivated to be physically active for their health," her report says.

"We argued that unless (the Government) started thinking about transport and land use, we weren't going to achieve health targets," she says.

Those included obesity reductions and improvements to children's health.

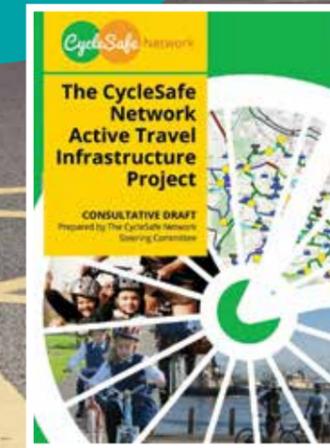
In Hounslow, west London, Dr Rachel Aldred, reader in transport at the University of Westminster, used the TAG tool (the one which includes the benefits of increased walking and cycling) to calculate health and economic benefits from a neighbourhood filtering scheme – a road 'closure' that permitted cycling and walking trips but not through motor traffic, using a simple barrier at the end of a residential road – in this case, Church Street. Residents were ►

It's interesting how the WebTAG tool values cars much higher than other modes. But when you include the externalities their value is lower and the cost to society higher. This is a problem with infrastructure funding in general.

Megan Sharkey, urban transport scholar, University of Westminster

► Research for the CycleSafe Network Active Travel Infrastructure Project showed benefits that 'went through the roof'

▼ 'Losers cycle and winners drive': the unofficial reason why planners put motorists first?





The Government has not been ambitious enough. It has not shown leadership or championed active travel and has failed to find the money needed to make a real difference to levels of walking and cycling

Lilian Greenwood, chair of the Commons Transport Committee

► able to drive in and out, but not through.

Prior to the trial, approximately 500 cyclists and 850 pedestrians used the street per day, along with around 3,500 motor vehicle drivers avoiding congestion on a nearby main road.

Researchers surveyed people walking and cycling after the trial closure. Most respondents said the street was 'much better' since the changes; 28% said they were walking more frequently through Church Street due to the closure and 32% said they were cycling more. Council counts found increases in cyclists (19%) and pedestrians (39%), while 13% of respondents said they wouldn't have walked or cycled through the street before and 24% said they didn't know if they would have done.

Overall, researchers calculated the changes generated 102 new pedestrian trips and 29 cycling trips daily. Using the TAG appraisal framework they calculated a health benefit of £530,171, which is 50 times higher than the cost of the physical infrastructure which was approximately £10,000. Although some bus journey times increased – and others decreased – and contrary to public perceptions traffic on the main road had gotten worse, air pollution monitors showed a NO₂ reduction higher than the borough average.

NATIONAL PICTURE

At a national level, the UK Government has set a target to double cycling to 1.6 billion trips per year, but is not set to meet that target until just before the 23rd century. Its Cycling and Walking Investment Strategy has been criticised for lacking sufficient investment or strategy.

The Commons Transport Committee recently reviewed the Government's cycling and walking policies, taking evidence from campaigners, experts and local councils.

As the committee found, "funding for active travel is too piecemeal and complex, and the Government has not given local authorities the certainty they need to prioritise active travel and make long-term funding commitments".

Its chair, Lilian Greenwood, notes: "The overwhelming message from all the evidence we received is that the Government has not been ambitious enough.

"It has not shown leadership or championed active travel and has failed to find the money needed to make a real difference to levels of walking and cycling."

Greenwood adds the Government's stated £2bn spend on active travel from 2016 to 2021 is just £400m per year, or around 1.5% of transport spending in England.

She contends that active travel needs 5%

▲ Cyclists using the segregated Cycle Superhighway at Kennington Oval in south London.

1.5%
of transport spending in England goes on active travel

of transport funding, rising to 10% by 2024.

The report notes: "The absence of ring-fenced or dedicated funding for active travel means there is no guarantee the £2bn the Government has estimated will be spent on active travel this Parliament will actually be spent on increasing levels of walking and cycling."

EVIDENCE DOESN'T TRANSLATE TO POLICY CHANGE

Aldred puts it bluntly. "Evidence doesn't drive policy. The economic benefits, they aren't financial, they aren't money in someone's pocket, they aren't money in an organisation's pocket.

"When you calculate the health benefits of active travel, that is the value of people living longer which is obviously a good thing, but it's not money going into the Department for Transport, or Treasury or the NHS."

One of the country's biggest infrastructure projects, High Speed Rail 2 or HS2, was intended to include a project linking a network of cycleways within a three-mile radius of the length of the rail line with bridge and tunnel access across the line itself. This would connect communities

that would otherwise be connected to one another only by busy main roads on newly-built bridges and tunnels.

A business case report, released much later via freedom of information request, revealed the cycleway would have reaped returns up to five times greater than the rail project itself – of between £3 and £8 per £1 spent. These returns came in the form of health benefits, injury reduction and tourism – but the public health benefits were by far the greatest rewards, by enabling local communities to cycle and walk for short trips, rather than having to drive.

Unfortunately for communities in and around the rail line, this report was finally released after HS2 Ltd had said they wouldn't be funding the cycleway after all.

Phil Jones, one of the report's authors, described the benefit-to-cost ratios (BCRs) of cycling infrastructure projects of a different order of magnitude to many other infrastructure projects. Some cycling projects return up to 30 times the initial investment, he notes.

"Cycling project BCRs are almost embarrassingly large, so those producing them end up trying to find ways of making them smaller," says Jones.

It's not just absolute numbers that make cycling such a good investment, however.

Jones adds: "Cycling and walking schemes cost relatively little compared with

major highways and railways, and create significant benefits, particularly in terms of public health.

"When a fairly simple road scheme costs £20m, you have to have a huge benefit for that £20m investment; whereas you can do a Mini Holland (a local cycling and walking scheme), which is good value for money because it's cheap. The engineering is cheap and simple. You don't need massive benefits to achieve a big BCR for cycling projects."

In terms of access to jobs and housing, Aldred notes there is a "lack of evidence around that, in my view". However, she points out, "for most jobs if you can't travel, you can't do the job".

SEPARATING WALKING AND CYCLING

Mindell says: "Walking and cycling tend to be lumped together. However, the benefits are different."

The barriers to walking and cycling are also different, she adds – and far more people walk than cycle.

According to a Public Health England review of evidence, there is not as much research on the benefits of cycling as walking because many countries have lower cycling rates.

However, it notes there is evidence of the physical benefits of moderate-to-vigorous activity, which cycling falls under. Meeting the recommended 150 minutes of physi-

cal activity a week is associated with a 10% reduction in all-cause mortality compared with no cycling.

There is little specific evidence on the benefits of walking or cycling for people with disabilities. However, according to the Office for National Statistics (ONS), a significant proportion of people in England and Wales – one in five – has a disability. Disabled people are twice as likely as those without disabilities to be inactive, and are more likely to rely on motor vehicles to get around – and, as the benefits of activity are greatest for those who are inactive, there are potentially significant health benefits of helping people with disabilities to engage in active travel.

Mindell says: "Most people can walk, but not everyone, and some of those with disabilities can find cycling easier than walking."

According to research from disabled cycling charity Wheels for Wellbeing, cycling is easier than walking for three-quarters of disabled cyclists. In other words, cycles act as a mobility aid for many disabled riders, enabling them to be fit and active where otherwise they might not be able to.

Isabelle Clement, director of Wheels for Wellbeing, says: "For cycling to become truly a default mode of transport for the general population, we need to start by making it accessible to the people the furthest away from cycling."

Contrary to assumptions, including ►►



► among disabled people, 12% of the disabled cycle regularly or occasionally, according to research by TfL, compared with 17% of non-disabled people.

Infrastructure is even more important for disabled people. Clement says many issues that impact the disabled also affect those who use cargo bikes to transport children or carry goods for their business – including being unable to lift a cycle up a set of stairs, or dismount and push.

Non-standard cycles also tend to be heavier, wider, longer and more expensive, taking up more space and needing more secure storage.

People with disabilities can benefit from active travel and, as disabled people tend to have poorer health, less access to services and tend to be more socially isolated than the able-bodied population, there could arguably be greater benefits to cycling.

Helping disabled people to cycle, whether on a regular bicycle, an ebike or a non-standard cycle, could potentially reap enormous health rewards.

The Chief Medical Officer notes myths around exercise being inherently harmful for disabled people should be dispelled, as evidence does not back this up.

For older people, one of the barriers to walking is that crossings assume a walking speed of 1.2 metres per second (m/s). A 2012 study found three-quarters of people

12%

of disabled people cycle regularly or occasionally

over 65 (76% of men and 85% of women) couldn't cross in time at that speed.

The average walking speed for men was 0.9m/s and for women 0.8m/s. Younger children also cross at slower speeds, notes walking charity Living Streets.

This makes crossing the road a barrier for portions of the UK population and can prevent people achieving the levels of physical activity in younger and older age that they need.

The DfT has mandated that new crossings need to allow for this slower walking speed and have either a countdown display or a camera to detect pedestrians on the crossing. If there are still people crossing the traffic will be held on red. Existing crossing timings won't be changed, however.

INJURY AND DEPRIVATION

The World Health Organisation notes "road traffic injuries cause considerable economic losses to individuals, their families and to nations as a whole". It estimates road injuries cost most countries around 3% of their gross domestic product, with more than half of those deaths among vulnerable road users such as pedestrians, cyclists and motorcyclists.

According to Government statistics,

each death has a 'human cost' of more than £1.1m, and each serious injury £155,226, plus the emotional cost of losing a loved one and, in the case of injuries, the economic costs of being unable to work during recovery or rehabilitation.

The younger the person killed or injured, the greater the loss of economic contribution to society and, potentially, the longer the cost of lifelong mitigation of more serious injuries.

In the UK, around 1,700 people a year die on the roads, with speed a factor in close to a quarter (24%) of fatal collisions.

Research from New York City found protected bicycle lanes on 8th and 9th Avenues in Manhattan reduced injuries to all street users of between 35-58%. Neighbourhood traffic-calming reduced speed on average by 30%, while reducing crashes involving pedestrians by 67%.

Access to transport is unequal across society, as is road danger. There is little evidence of the benefits of active travel for people living in different levels of deprivation.

However, Sustrans Scotland analysed road casualty data across areas with different levels of deprivation and found children in the 20% most deprived areas are more than three times as likely to be involved in a collision than those living in the 20% most affluent areas.

Mindell explains: "More deprived people tend to live in places with more traffic. Children in deprived areas are more likely to walk, which is better for their physical activ-

ity, but exposes them to greater risk from drivers. If you're in a family where income is low and everybody needs to work and perhaps at antisocial hours, children may be unescorted."

By contrast, she says, children from more affluent families are driven more, ironically exacerbating the danger to others.

Improving conditions for walking and cycling could help reduce the burden of injury and death on communities, particularly poor ones.

Promoting active travel by restricting through traffic has social benefits for neighbourhoods. Donald Appleyard's groundbreaking research from San Francisco in the 1970s found people who lived on quiet streets had three times as many social

connections as those living on streets with heavy traffic.

A 2011 study in Bristol confirmed this in a modern UK context. Those living on a street of 140 motor vehicle movements per day had 5.35 friends and 6.1 acquaintances, whereas on a street with 8,420 or 21,130 vehicle movements a day, residents had one or two friends and 2.8-3.65 acquaintances. Qualitatively, there was a far greater sense of community on the quieter streets.

Some would argue Appleyard helped change thinking around streets, namely that their sole value was not in the financial benefits reaped from permitting unchecked motor traffic through them, but the social benefits and improvements to quality of life of liveable streets.

▼ A Bristol study showed that those who live on quiet streets are more likely to form friendships

As Mindell puts it: "Even just saying hello to someone as you go past... is good for people's mental health and encourages people to walk and make streets feel safer; it's a virtuous circle."

In terms of active travel, qualitative research shows people value the well-being benefits of walking and cycling.

Aldred says: "For many, cycling to work is a space between home and work. If you have a lot of stress at home and at work, it's a space between."

THE SOLUTIONS

For cycling, the solution is infrastructure. Changing how road users' time is valued is the start of a shift in how roads are designed.

But, as Aldred puts it: "The evidence suggests if you're doing infrastructure, you need to put in place some softer measures too. Just telling people cycling is great isn't necessarily effective if the experience is horrible, but if you have just put in a cycle route it might be a good idea to say 'here's the route, this is how you get there, here is a loan for a cycle.'"

Another solution is tackling speed limits. Mindell adds: "I think a 20mph speed limit would help, but we need more research."

She says while there is evidence that earlier 20mph interventions, in which slower speeds were designed into the streets, have been effective, there is little evidence on more recent area-wide 20mph speed limits, with little more intervention than 20mph signposts.

Cycle training can also be helpful. Giving support to workplaces along cycle routes, meanwhile, such as grants to businesses for bike parking and showers, can help get companies on board and make it attractive to employees.

Current employee transport incentives to are greatest for those who drive. Says Aldred: "In terms of rebates, the tax system is set up to give people more money than it costs them to drive."

The reason it's so high, she says, is because in the 1970s when there was a limit on pay rises it was "a way to give workers a pay rise that wasn't a pay rise".

"It allowed businesses to increase the incentives for mileage," says Aldred. "For business travel, even if you get something back for cycling, you receive a lot less."

Aldred suggests incentives for cycling as a possible solution, financially incentivising people to cycle but also sending a message: "This is something good to do, we are willing to pay someone for it." **ST**



Children in deprived areas are more likely to walk, which is better for their physical activity, but exposes them to greater risk from drivers

Jenny Mindell,
professor of public health at UCL

TURN OVER
FOR THE PEER
REVIEWS

