

# MORE HASTE,



Haring to work on a road bike should be faster than commuting steadily on a hybrid or tourer. But is it, door to desk? **Chris Juden** weighs the evidence



# LESS SPEED?

PHOTOS ISTOCK, CTC & J GROVES

**Y**ou don't see much lycra in the Dutch or Danish rush hour. One reason for that is people tend to live close to their work in those countries, and it'll take longer to change clothes than any time that might be saved by sweating the pace over such a short distance.

That seems to hold true for commutes of up to about half an hour, i.e. 5 or 6 miles. The average British commute is 8.7 miles, the second longest in Europe, and the assumption is that you need a fast bike for a long commute. But it ain't necessarily so.

When CTC moved to a new office, twice as far from my home (chosen to be just right for cycling to work!), I thought it would make sense to change commuting mode

from no-sweat pootling and join the hell-for-leather lycra brigade. I found that on a fast bike, given the hills and traffic, I could generally do it in 45 minutes. I then spent 15 minutes getting showered and changed. One hour total: the same time as pootling on my usual commuting bike, which was more comfortable and safer, with less stress and no clothing logistics. So even over 12 miles, fast was not faster for me, and nowhere near as pleasant!

#### RACER VERSUS TOURER

The Christmas 2010 edition of the British Medical Journal published a lighthearted but rigorous study by Dr Jeremy Groves of the difference that a new, 4kg lighter carbon-



**FEATURE**  
Commuting  
compared



**Left** Dr Jeremy Groves and his two bikes: carbon racer and steel tourer  
**Below** Commuting Danish style: leisurely, in normal clothes, minimising bike-to-desk time



**“DR GROVES’ CONCLUSION: THE RACER MADE PRACTICALLY NO DIFFERENCE. CYCLING’S TWITTERATI TWEETED THEIR DISBELIEF”**

frame racing bike made to his 13½ mile commute, compared to the old steel touring bike he’d been using. His conclusion – that it made practically no difference – really put a cat among the racing pigeons! Cycling’s twitterati tweeted their disbelief and message boards buzzed with indignation.

Dr Groves’ 27-mile round-trip, between home and Chesterfield Royal, involves 843m of climbing, but unlike many commutes is almost non-stop. So weight should have counted for something, but quicker acceleration would not have helped much. From the photo (which was in the report that you can still read here: [bmj.com/content/341/bmj.c6801.full.pdf](http://bmj.com/content/341/bmj.c6801.full.pdf)) the two bikes appear to provide a very similar riding position, and it can be seen that the tourer had mudguards. So not only was it heavier, it also caught more wind!

It appears to have fatter tyres too, and Dr Groves says (twice in his report) that it was more comfortable, so I emailed Jeremy. He confirmed that the tourer has 32mm Schwalbe Marathon tyres, versus the racer

on 25mm Marathon Plus. I put this additional information into a thread I’d set running on the CTC Forum (t=45056, so just type ‘ctc forum 45056’ into a search engine) and watched the theories rush in. For what it’s worth, I think that comfort and tyres are the key.

**BUMP LOSSES**

The discomfort that comes from hard tyres on bad roads is associated with shaking of the rider’s body, which contains fluids and other viscous tissues. When viscous materials deform they absorb energy, becoming slightly warmer, and this energy will be subtracted from the kinetic energy of the bicycle. In other words: shaking a bike makes the rider hot and bothered and the bike go slower!

For a demonstration of this, stray onto one of those concrete rumble strip road edgings. The bike slows immediately and if you stick it long enough you will get hot.

Bump losses is not a well researched area. All that Cycling Science has on this is some

work by the US Army Tank-Automotive Center, which measured the power consumption and human consequence of sitting a soldier on a vibrating seat. They found a good correlation between energy and discomfort across a whole spectrum of amplitudes and frequencies. For bump amplitudes of around 1mm and frequencies around 10Hz – which seem reasonable numbers for a bike with hard tyres on a rough road – they measured bump losses of about 25W. So there seems to be plenty of scope to save a few watts by the use of more comfortable tyres.

**MORE ABOUT TYRES**

Paradoxically, wider tyres have less drag than narrow, even on a smooth surface – if they are identically constructed and inflated to the same pressure. The reason they usually don’t is that, like for like, a wider tyre can’t stand as much pressure. Wider tyres also tend to be differently constructed, with puncture-resisting layers that increase drag.

In Jeremy Groves’ case, however, it’s

the racer's narrow tyres that have extra puncture-resisting layers. It didn't come with those tyres, but he'd fitted them after a spectacular failure of the 'paper thin' originals. The racer may well have been faster on its original tyres, but if they are not tough enough for the job... It begs the question: what is the benefit of a racing bike if its narrow tyres need such heavy reinforcement to withstand the daily grind, that they roll no better than a touring bike's somewhat broader rubber?

It takes me back to the 1990s when we were told to forsake the flimsy narrow wheels of our traditional bikes, that the cratered mean streets of the city called for a rough, tough mountain bike! The marketing worked and millions bought MTBs. Now they're being sold racers on speed. Are today's streets any better?

Some respondents to my forum thread opined that Dr Groves was accustomed to going a certain speed and consumed the

benefit of a lighter bike by riding a bit less hard. I can relate to that. I daresay I could have worked harder on my audax bike and really ought to have got under 40 minutes for 12 miles. But I didn't want that enough. I wasn't enjoying the pain. And when I met traffic, it felt too risky.

I'm not a racer and never have been. I'll work hard up a hill for the view and because more effort on a hill really does get you up it that much quicker. But pedalling downhill is a waste of energy. Wind resistance rises exponentially, so when you're going fast already it costs a huge effort to go a teeny bit faster. On flat roads too, I get to a speed and think – what the heck, this will do!

#### EACH TO THEIR OWN

Racers clearly get a much bigger kick out of speed than I do. I guess they want the same kick on the way to work, so they go out to get it. They do not count the time to shower and change, since they don't enjoy

riding slowly and will raise a sweat anyway. Someone for whom cycling is always a sport, including when it's transport, is always going to use a sporty bike – with the least possible concessions to practicality.

Mountain bikers likewise get their thrills from a particular sort of riding and find routes to work that include as much of it as they can. Even when roads are the only way to go, they want to be on the machine that feeds their passion – or something like it.

That's how it is with cycling enthusiasts. There are a lot of reasons to be enthusiastic about cycling and different ones appeal to each of us. These differences affect our choice of bike, and not only when we are doing our favourite kind of cycling.

So before you take advice from an experienced cyclist about which kind of bike to buy for the journey to work, make sure that his (or her) kind of cycling is your kind of cycling – or something that at least sounds like your idea of fun. ☺

“RIDING ON HARD TYRES ON BAD ROADS SHAKES THE BODY... MAKING YOU HOT AND BOTHERED AND THE BIKE SLOWER”



**Above and right**  
Commuting UK-style:  
on a sporty road bike,  
with a backpack,  
changing clothes  
on arrival at work.  
Door to desk, it's not  
necessarily faster