



PHOTOS ISTOCK, MATT HODGES, RON POVAL, TOM CHANGE, MIKE DODD

ROADS TO RUIN

Unless our potholes are properly fixed, next summer's Olympic road race could have echoes of Paris-Roubaix's pavé. CTC Campaigns and Policy Coordinator **Chris Peck** explains why UK roads are so bad

Occasionally when cycling in France you will come across a road sign that says 'Chausée déformée', followed by a section of road that is perhaps a bit on the bumpy side or contains the occasional pothole. I've always found this sign hilarious. If the standards used in France were adopted in Britain, there would be many roads where this sign would have to be erected every few hundred metres over their entire length. The old saying goes: 'You can tell how an economy is doing by the state of its roads.' By that reckoning, parts of Britain are in serious trouble.

When the routes for the 2012 Olympic

cycle races were announced to run through London and Surrey, I was delighted, thinking that at the very least a few of the battered roads would be resurfaced. Indeed, in the hours before the 'test event' in August this year, considerable emergency road repair took place. But the routes are still far from perfect and I was told, worryingly: 'The quality of the road surface does not need to be perfect and Surrey County Council will maintain the Olympic cycling routes to a similar standard expected of our highways.'

A ROUGH RIDE

If the current state of the roads is the 'standard to be expected', Olympian cyclists

venturing to London next year better dig out their Paris-Roubaix bikes and start popping the ibuprofen in readiness. Thousands of cyclists have taken part in sportives and other events on or near the Olympic route, and many more will take to the Surrey hills next year in the run-up to the Games. From my experience of these roads in their current state, I couldn't recommend the use of narrow tyres or fragile racing rims.

For event organisers without the benefit of international scrutiny or millions of pounds dependent on the event, the dire state of road maintenance is more of a headache. Due to the recent rapid deterioration of roads, Graham Temple, the organiser of

Near left and right
Potholes refilled in a slapdash, piecemeal fashion often reform in the same place. Deep, hidden potholes can stop even tandems dead



Tandem photos by Matt Hodges



“DEFECTS NOW HAVE TO BE 40MM DEEP BEFORE ACTION IS TAKEN. IT WAS 25MM IN THE PAST”

CTC's Challenge Ride Series, had to invest in signs for his routes warning riders of loose gravel and other hazards. But, as he says, 'If I signed every patch of gravel I'd need another team of drivers just to assist with that.'

In a recent major survey of residents of English councils, Surrey's roads were rated worst, after Buckinghamshire, with satisfaction running at just 22% – far below most of the other issues surveyed.

Nationally, satisfaction with road surface conditions has crumbled from 46% to 33% over the last four years. It's fallen further than anything else that local authorities are responsible for, except winter gritting.

THE HOLE TRUTH

Why are our roads so poor for cycling when compared with those of our European counterparts?

Blame has been pinned on recent harsh winters and the periods of very cold weather and heavy snow that had become rare in many parts of the country. Given that our European neighbours had the same (or worse) winters, it seems more likely that the weather simply exposed an inherent

weakness in our roads.

Over half of all local authority highway spending goes on road maintenance, amounting to an eye-watering £2.3bn in England alone last year. The Audit Commission found that although spending in cash terms has risen by 73% since 2000, inflation in the industry (mainly due to the soaring cost of raw materials) has outpaced this – meaning that there has been no real increase in purchasing power. Yet volumes of traffic and vehicle weight have both grown, increasing road damage.

One concern expressed by some figures in the road maintenance industry has been that with reduced resources, councils have been spending more and more on expensive emergency repairs rather than longer term maintenance, resulting in a downward spiral of neglect and expensive, remedial repair. This has occurred despite some local authorities changing the definition of 'pothole'. Defects now have to be 40mm deep before action is taken, compared with a much tougher 25mm that was used in some places until recently.

Councils are currently supposed to fix >

FILL THAT HOLE

For decades CTC distributed 'pothole report cards' to members and forwarded the returns to council officials. That process was eased with the creation of the fillthathole.org.uk website five years ago. All you need do now is log the location of a road defect on the map, fill in a few details, and CTC sends it on to the local authority responsible.

Since 2006, more than 60,000 reports have been recorded – over 20,000 in the last year alone. CTC's iPhone app has given people the chance to locate, photograph and log a pothole while out cycling.

CTC's role in this area has caught the attention of local authorities, some of whom have enthusiastically welcomed the contribution. In 2011, CTC ran a competition between local authorities to establish which was the fastest at responding to reports and which local authorities were deemed the best at fixing hazards by the sites' users. Cheshire West and Chester Council scooped the main prize for speed of response. More at fillthathole.org.uk



FEATURE
Fill That Hole



“82% OF CYCLE MILEAGE IS DONE ON MINOR ROADS, WHICH ARE INSPECTED ONCE A YEAR OR LESS”



Above: by Ron Povall

› dangerous hazards within 24 hours. Some local authority engineers suggest it would be more cost effective waiting for a high quality permanent solution rather than a temporary dump of asphalt. This may mean potholes lying unfixed for longer, which increases the council's liability if injury or damage to property occurs – and people cycling are more likely to suffer from potholes than those in cars.

Cyclists are also particularly disadvantaged because the types of roads we use the most have seen the greatest decline in maintenance standards. Only 37% of car mileage is done on minor roads, compared to 82% of cycle mileage, but major roads are deemed to be more important and have received higher priority in maintenance planning, leaving our lanes and cycle paths to crumble.

Minor roads or cycle paths are inspected once a year or less, compared with once a month on the busiest road networks. A defect that appears on a country lane could – if not reported using fillthathole.org.uk –

remain there for many months before the local authority even noticed it.

STUCK WITH THE TAR PITS

Repairs on minor roads are often literally slapdash. Uneven hand-laid reinstatements following utility works not only lead to potholes forming in the weakened road, but also bumpy, uncomfortable and dangerous surfaces for cycling. Incorrect laying of materials at the wrong time of year or at the wrong temperature can result in premature failure of the surface.

It gets even worse for off-carriageway routes. While some cycle paths are built and maintained to a high standard, a rather more common scenario is the narrow, undulating pavement conversion over which vegetation has steadily encroached. In places where cycling is treated as a high priority – for example, the Netherlands or Denmark – maintenance on cycle paths and roads used for cycling receives a higher standard of repair than the road network.

Professor John Parkin of London South

Bank University points out that although road engineers are accustomed to providing smooth surfaces for drivers, they often don't understand that smooth surfaces are more important for self-propelled cyclists. Rough or bumpy surfaces make cycling much harder – especially for those whose only suspension is 23mm tyres.

With the next pothole season getting underway, local authorities (and cyclists!) will be hoping that it won't be as cold and snowy as the last two winters. In 2010 the Government stumped up £100 million for emergency road repairs and this year they gave another £200 million. Next year, such largesse is unlikely. If we are ever to get back on top of the problem, a higher proportion of the billions spent each year needs to be on longer term maintenance, not on gangs roaming the road network with barrels of boiling bitumen and sacks of chippings.

HOW POTHOLES FORM

Roads deteriorate gradually over time – the surface gradually decays due to natural



Left: Mike Dodd. Below left: Tom Chance



Centre and above
Posing in a pothole on NCN Route 5 near Old Colwyn on the North Wales coast. Potholes affect bikes with narrow tyres (or small wheels) worse, but this chasm would trouble any bike

weathering and the aging process of bitumen, which becomes more brittle over time.

The passage of vehicles – particularly heavy vehicles – can lead to cracking, which then allows water into the road surface. In winter, repeated cycles of freezing and thawing of the water under the surface lead to expansion, heaving the surface up and enlarging the crack, allowing more water to enter. This cycle repeats, increasing the size of the hole.

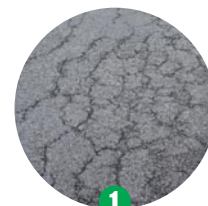
There are things that highway authorities can do to stop potholes forming:

- Inspect surfaces regularly. A good programme of inspection, augmented by individual reports using tools like fillthathole.org.uk, can help councils locate the priority areas for repair.
- Keep roads well drained. Clear ditches, culverts and drains regularly, and engineer roads to be clear of standing water. Flooded roads can erode the surface and allow water to enter through cracks.
- Ensure surfaces are watertight. Regular

maintenance can prolong the life of the road and ensure it remains watertight by sealing it with a thin layer of asphalt and chippings often described as ‘surface dressing’. Badly designed, however, this can make roads rougher.

- Minimise utility works and check quality of repair. Roadworks are often blamed for causing delays and congestion. They also lead to potholes forming as the opening of the road weakens the structure. Local authorities must also check up on the quality of the reinstated carriageway to ensure that the utility company’s contractor has done a decent job.
- Regularly resurface. All roads will fail eventually. It is often much more expensive to continually repair a failing road than to undertake a full resurfacing.
- Reduce traffic. The volume of traffic, particularly heavy vehicles, is the main cause of initial road surface failure. Restricting the use of large vehicles on minor roads can ensure that they stay in better condition for longer. 🌱

Pothole propagation



1

Surface cracks

› Cracking of the surface begins to allow water ingress. Water inside the road can now freeze, expanding and shifting the surface



2

Ravelling

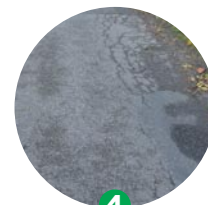
› Bits of the ‘wearing course’ removed after freeze thaw, exposing weaker base course



3

Foundation exposed

› Hole deepens to expose the foundation layer. Substantial repair is now required



4

Repair

› The highway authority in this case has repaired a long strip and filled one hole, but crazing remains – new holes will appear



5

Defects around reinstatements

› Cracking around a reinstated trench.



6

Reinstated trench collapses

› Potholes reappear around and in sections of reinstated road following utility works.