

Briefing note for the Welsh Assembly Economy, Infrastructure and Skills Committee inquiry into the State of Roads in Wales ~ Campaign for Better Transport

June 2018

Campaign for Better Transport is a leading charity and environmental campaign group that promotes sustainable transport policies. Our vision is a country where communities have affordable transport that improves quality of life and protects the environment. We conduct research, develop policy, share best practice, lead campaigns and work with allies in support of these aims. We welcome the opportunity to contribute to the Committee's inquiry into the state of roads in Wales.

This briefing note presents evidence on priorities, impacts and trends in road investment to inform the Committee's deliberations. In summary, we argue that there is an urgent need for significant investment in road maintenance; that this should be part of a comprehensive programme of environmental, safety and integration improvements; and that this approach would be a better investment than building new roads.

The state of road maintenance

There is a well-documented crisis in the state of road maintenance across many parts of the UK road network, as reported in the Asphalt Industry Alliance's annual ALARM survey of local authorities across England and Wales.



More than
24,000
miles of local road
need repairing in
the next year

ALARM 2018 © Asphalt Industry Alliance



A one-time catch-up
would take
14 years
to complete
and cost **£9.31bn**

ALARM 2018 © Asphalt Industry Alliance

The 2018 reports an estimated £9.31 billion catch-up cost including £27.4 million for Wales, where 17 per cent of the road network is reported as being in a poor state of repair, and each road is resurfaced on average once every 71 years.¹ In Wales, an average local authority budget share of 3.5 per cent goes on road maintenance: about one in three reports a budget increase, with a total increase in spend to £8.1 million from £6.9 million. There is an average shortfall of £3.1 million per council of the budget needed to maintain acceptable standards of repair.

Potholes also come at a cost to road users in terms of safety and expense. The AA reports that the number of pothole claims received during the first 4 months of 2018 is more than for the whole of 2017 and, UK-wide, reflects a cost to motorists of £1 million a month.²

Research by Transport Focus³ confirms that road user priorities are safety, reliable journey times (supported by better information), and road surface maintenance, while the RAC annual survey found that motorists were concerned about maintenance of street lights and barriers as well as potholes.⁴

¹ Asphalt Industry Alliance: Annual Local Authority Road Maintenance Survey 2018

² The AA: Road pothole epidemic a national disgrace (May 2018)

A more sustainable approach

The ALARM survey reports that nearly two thirds (63 per cent) of Welsh local authority highways maintenance budgets go on carriageway repairs and a quarter (25 per cent) on reactive surface maintenance. This leaves little or no funding for wider road maintenance and enhancement, yet major sums are committed for building new roads or providing further capacity increases, which will add to the future maintenance bill.

There is a real opportunity for the Welsh Government to refocus its roads investment programme and consolidate the network, prioritising maintenance, safety, environmental enhancements and resilience.

A more comprehensive maintenance programme could usefully go beyond traditional repair and resurfacing, to deliver a 'green retrofit', that is a programme of environmental enhancements that would make the road network better integrated, more attractive for the full range of road users and more resilient for the future.

Working with other NGOs, we have developed an approach to road investment based on four elements:

- Fix it first: improve the current network, including green retrofit, with new road capacity a last resort
- Integrated approach: corridor planning, join up with other modes and other networks
- Environmental leadership: a system-wide focus on low carbon future, air quality, biodiversity
- Committing the necessary resources to deliver greener roads.⁵

Our most recent report – 'Roads and the Environment' - draws on international best practice to explore the potential of greener road management to enhance the road user experience, deliver a more resilient network and reduce the adverse environmental impact of major roads.⁶

Green infrastructure brings not only environmental benefits, but also long term cost savings and resilience benefits. Traditional maintenance regimes, for example of verges, may be highly damaging to the roadside environment without in practice being more cost effective in the long term. Features such as sustainable drainage, tree barriers and natural stone walls, require less maintenance than man-made structures, and make a positive contribution to key Government targets on air quality, CO2 reduction, and biodiversity.

Case study: using recycled materials in road resurfacing (I)

Street works contractors Kier and Clancy Docwra have piloted use of the Roadmender onsite asphalt mixing machine. The use of this new technology enables hot mixing of asphalt on site, removing the need to travel to offsite plant, with reduced environmental impact and cost savings. The same machine can also recycle the old road surface, mixing it with rubber and bitumen to serve as the underlay for the resurfaced road.

Case study: using recycled materials in road resurfacing (II)

In the Netherlands, the standard road surfacing is open-graded asphalt friction course (OGFC), which is porous and water permeable but requires higher volumes of bitumen to bind the aggregate. A new project in Friesland, developed in partnership with the University of Utrecht, is retrieving cellulose from waste paper in the drainage system. The material is sterilised, bleached and dried, and then used in combination with bitumen to provide a cost effective OGFC product.

Case study: sustainable road verge management

Lincolnshire Wildlife Trust has been working with Highways England and partners on sustainable road verges these support biodiversity by providing connected habitats with new planting and natural drainage ditches. As part of the project, Peakhill Associates has investigated the potential to undertake biomass harvesting from the motorway verges to supply local anaerobic digestion facilities for electricity generation. Using the products of good verge and roadside woodland maintenance to sell on as feedstock for biomass is a positive example of the circular economy.

Case study: sustainable drainage, Lancaster, Pennsylvania

The city of Lancaster in Pennsylvania adopted a green infrastructure approach, using sustainable drainage, to manage greywater and storm water. This delivers energy and carbon emissions savings from reduced

³ Transport Focus: Road users' priorities for the Road Investment Strategy, 2020-25 (2017)

⁴ RAC: Annual report on motoring 2017

⁵ Campaign for Better Transport: Rising to the Challenge (2017)

⁶ Campaign for Better Transport: Roads and the Environment (2018)

volumes entering the sewer system. The project is estimated to have reduced infrastructure capital costs by \$120 million and to reduce water pumping and treatment costs by \$661,000 per year. These benefits exceeded the costs of implementing green infrastructure, which were estimated at around \$51.6 million if integrated into planned improvement projects or up to \$94.5 million if implemented as standalone projects.⁷

Based on these positive examples, we recommend looking to all road maintenance projects to deliver environmental enhancements, making more use of green infrastructure, and reviewing contracts and specifications to embed a greener approach in business as usual. These approaches can be underpinned by using methods such as Natural Capital Accounting, payments for ecosystems services or resource rental, in cost-benefit analysis; and by including environmental quality in state of the network reports, scheme prioritisation and performance metrics.

A comprehensive approach to maintenance would improve safety and provision for all road users. Highways England has ring-fenced £250 million over five years for cycling, safety and integration, including cycle lanes, improved crossings, and bus provision. Dedicated bus lanes can reduce bus travel times by 7 to 9 minutes along a 10km high traffic route, and also improve their reliability. Buses play a vital role in reducing congestion: every three buses replace approximately 200 cars on the road: therefore investing in bus provision where appropriate as part of network maintenance will benefit all road users.

The World Health Organisation has highlighted the need for a cross-government approach to tackling the global health crisis caused by growing physical inactivity.⁸ Road improvements can play an important role. Investing in dedicated active travel (walking and cycling) routes across the network where these are lacking (for example across the A55 Britannia Bridge or along the A487 corridor) would help deliver the aims of the Active Travel (Wales) Act 2013 and would help reduce future road maintenance costs by enabling the shift to lower impact modes.

Improving existing roads should be a greater priority than building new road capacity

Reallocating resources from new road building to existing road maintenance would be a prudent investment. A very large proportion of future transport spend is still being allocated to building new roads. The proposed £1.4 billion M4 relief road remains highly controversial given its serious impact on the Gwent Levels, as is the proposed Cardiff Airport link road (c £81 million).

Other major road schemes such as the new A55 link road (c £200 million), the Caernarfon bypass (c £135 million) and the third Menai Crossing (c £200 million) are extremely costly compared to the budgets available for maintenance and make little or no provision for active travel, while the dualling of the A465 Heads of the Valley road has already gone significantly over budget.

The supposed benefits of new roads are often over-stated, while the adverse environmental impacts are significant. New roads add more traffic to the network, which will put more pressure on roads which are already congested or close to capacity. Not only does major road building take resources from current road maintenance and enhancement, it also adds to the asset that will need future maintenance.

A recent analysis of over 80 road schemes found they have not cut congestion: instead, traffic showed increases of up to 47% over 20 years. The environmental impacts included loss of ancient woodland, destruction of wildlife habitats and damage to the landscape. Nor had the promised economic benefits from new roads been delivered: of twenty-five road schemes that had been justified on the basis that they would benefit the local economy, only five had any direct evidence of economic effects, and even then there was no evidence the road was responsible for anything more than moving economic activity from elsewhere.⁹

It is a similar picture globally. An evidence review of around 2,300 evaluations of the local economic impact of transport projects from the UK and other OECD countries found only 17 robust studies of the effect of road schemes on the local economy. The main finding was that a majority of evaluations showed no (or at best mixed) effects on employment.¹⁰ The local authority area with the lowest GVA in the UK is Anglesey, despite

⁷ EPA: The Economic Benefits of Green Infrastructure: A Case Study of Lancaster, PA (2014)

⁸ WHO: More active people for a healthier world The global action plan on physical activity 2018 – 2030 (2018)

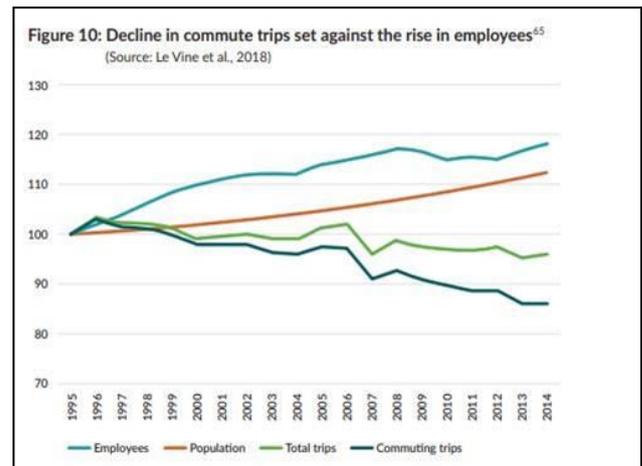
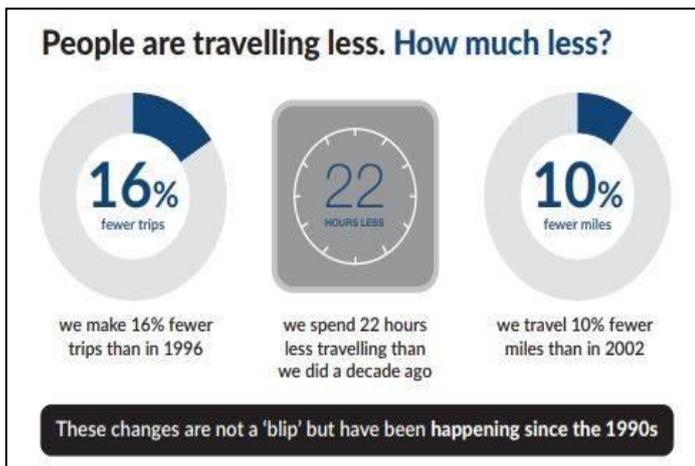
⁹ Sloman L, Hopkinson L and Taylor I: The Impact of Road Projects in England, TfQL report for CPRE (2017)

¹⁰ What Works Centre for Local Economic Growth: Evidence Review 7 Transport (July 2015)

the A55 dual carriageway having been built from Llanfair PG to Holyhead on the premise that it would boost Anglesey's economy.

Public policy and trends in travel demand further strengthen the case for reallocating funds from new road building towards improvement of existing roads. The Welsh Government has committed to achieve at least a 40 per cent reduction in greenhouse gas emissions by 2020 from a 1990 baseline: transport accounts for around 14 per cent of greenhouse gas emissions in Wales. The Welsh Climate Change Strategy commits to "supporting transport investment which encourages a shift to low carbon modes of transport", and to reducing the need to travel.¹¹

The Commission for Travel Demand recently reported on a consistent long-term decline in time spent and distance covered in travel: while there has been a growth in employment, there is a decline in commuting trips.¹²



There is a decline among young adults in take-up and use of driving licences. The number of young people with a driving licence peaked in 1992-94 at 48 per cent of 17 to 20-year-olds: by 2014 only 29 per cent of that age group had a licence. Among people aged 21 to 29, the number of licence holders dropped from 75 per cent to 63 per cent over the same period. There has also been a 10 per cent fall in the number of 17 to 29-year-olds driving a car in a typical week, from 46 per cent 1995-99 to 37 per cent 2010-2014.¹³

The growth in electric vehicles (EVs) will also have an impact, with a ban on new diesel and petrol sales by 2040. EVs are low noise and zero emission at tailpipe, removing many of the arguments for bypasses to address pollution. However EVs require a comprehensive accessible and robust charging network, which will also require investment in retrofitting existing roads.

In summary, a broad programme of maintenance, renewal and environmental enhancements, funded by switching resources from new road building, represents the best sustainable investment in Wales' road network.

Bridget Fox
Campaign for Better Transport

Campaign for Better Transport's vision is a country where communities have affordable transport that improves quality of life and protects the environment. Achieving our vision requires substantial changes to UK transport policy which we aim to achieve by providing well-researched, practical solutions that gain support from both decision-makers and the public.

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¹¹ Welsh Government Climate Change Strategy, 2010

¹² Prof. Greg Marsden et al, University of Leeds "All Change? The future of travel demand and the implications for policy and planning" (May 2018)

¹³ Kiron Chatterjee et al, UWE/University of Oxford "Young People's Travel – What's Changed and Why? Review and Analysis" (Feb 2018)