



transportation professional



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CIHT Annual Conference 2018

Highways: Change, innovation and the future

Thursday 8 March Park Plaza Victoria London SW1V 1EQ

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- **Elliot Shaw, executive director of strategy and planning, Highways England**, who will explain its approach to the next investment period on the strategic road network
- **Dave Wright, executive director for highways at Kier** will share his experience from the company's perspective as a leading Gold Corporate Partner
- **Dana Skelley OBE, director of strategy and operational excellence at Skanska Civil Engineering** will draw on her experience looking at future challenges for the industry

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Transportation Professional,
BBA, 7 Linden Close, Tunbridge Wells,
Kent TN4 8HH T: 01892 524468

Editor:
Mike Walter 01892 553148
mike@transportation-mag.com

News Editor:
Steve Dale 01892 553146
steve@transportation-mag.com

Consultant Editor:
Nick Barrett 01892 524468
nick@barrett-byrd.com

Production:
Alastair Lloyd 01892 553145
alastair@transportation-mag.com

Andrew Pilcher 01892 553147
andrew@transportation-mag.com

Commercial Director:
Fawad Minhas 01892 553149
fawad@transportation-mag.com

Sales Executive:
Kirsty Barrett 01892 524468
kirsty@transportation-mag.com



**Proprietor: The Chartered Institution of
Highways & Transportation, 119 Britannia
Walk, London N1 7JE T: 0207 336 1555
info@ciht.org.uk, ciht.org.uk, @CIHTUK**

TP Editorial Panel: Nick Boyle, John Amos,
Peter Dickinson, Jo Field, Billy McCoubrey,
Chris Menzies, John Paterson,
Joanna Sammons, Paul Unwin



Publisher: Barrett, Byrd Associates, 7 Linden
Close, Tunbridge Wells, Kent TN4 8HH
T: 01892 524455, barrett-byrd.com

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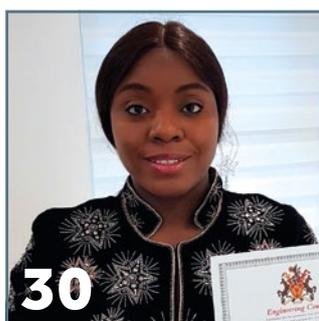
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This issue's cover: Seven construction professionals stand on a bridge over the M25, close to where – 35 years ago – they helped to build the Thorney Interchange with the M4 (see page 12).
From left: Peter Jefferies, Richard Deacon, Mick Rance, Hugh Woods, Ian Clarke, Jim Moore and Diane Novis

COVER IMAGE: SCOTT RAMSEY PHOTOGRAPHY



Channel bridge proposal falls short

Foreign Secretary Boris Johnson's suggestion of a cross Channel bridge linking England with France is technically feasible, transport infrastructure commentators have said, and could help grow the UK economy. But is another fixed link needed, would it be worth the £50Bn plus price and should it be a bridge?

Economics professor Roger Vickerman from the University of Kent warned it is unlikely that the private sector "would be as willing as in the heady days of global liquidity in the 1980s to consider bankrolling the project, without significant public sector guarantees".

Professor Vickerman – who studied the economic impact of the Channel Tunnel and currently serves as an economics advisor to High Speed 2 – added that there remains significant capacity on both of the Channel Tunnel's rail and road vehicle shuttle services to meet expected demand for the foreseeable future.

Transport consultant Peter Brett Associates' chairman Keith Mitchell FCIHT said three main issues would need to be addressed before taking the plan forward.

He asked what a bridge would aim to achieve for the UK when spending priorities are focussed elsewhere and what function would the bridge perform in the context of major technological and behavioural change? And what are the knock on implications for the South East's transport connections to the rest of the UK and Europe?

"There are so many questions," he added. "But there is little evidence of strategic thinking."



↑ Professor Roger Vickerman



← Could England and France be linked by a bridge similar to the Oresund crossing between Sweden and Denmark?

MAX TOPCHII – SHUTTERSTOCK

Accountancy firm KPMG's transport director Jon Turton said that while a bridge across the Channel is certainly possible, it must not take precedence over other less grand schemes.

"The UK spends significantly less on transport infrastructure relative to other G7 nations and there are a million other projects that must take priority to fix our internal networks and support our economy," he said.

"A bridge to France may be delightful one day, but before then I would like to be able to get across the Pennines on a train with room to sit down and work in a sensible, reliable time and for a fair price – none of which I can do today."

Civil Engineering Contractors' Association chief executive Alasdair Reisner commented that all great projects start as an idea that might, at first glance, appear unrealistic. "As such there is nothing wrong with putting forward even the most radical ideas for views from the public and wider industry," he said.

"However, we would hope that at a time of tight constraints on public spending any development funding for future

infrastructure projects is directed to those with wide support and an outline business case that stands up to robust scrutiny."

Structures specialist Alan Simpson speculated that a suspension bridge would be the preferred form of crossing, with two islands built out in the Channel either side of the shipping lane, from which traffic would be diverted into a tunnel.

"In theory you could have a bridge that passes over the top of the shipping lane," he said. "But there is a risk of it being hit by ships, especially when visibility is poor."

Institution of Structural Engineers' past president Ian Firth agreed that one of the biggest challenges to bridging the Channel is the risk of collision from ships. "But modern technologies are making this easier to prevent all the time," he explained.

"There are many long sea crossings around the world, so I don't consider this (idea) to be particularly more difficult than those."

Channel Tunnel operator Eurotunnel welcomed the discussion about a bridge and said it already has the option of being involved in construction of a second fixed

Celtic crossing suggested by architect



↑ Two possible routes for a fixed link between Scotland and Northern Ireland

Aside from a bridge across to France, why not a fixed link between Scotland and Northern Ireland, suggests Stirling based architect Alan Dunlop. He says a crossing could feasibly be built between Stranraer and Bangor, combining a bridge with a tunnel, at a cost of around £20Bn.

But a 300m deep sea trench known as Beaufort's Dyke containing munitions dumped after the War would present a major obstacle to overcome.

A second, shorter crossing is another option, he suggests, between the Mull of Kintyre and the Antrim coast. But significant road upgrades would



↑ Professor Alan Dunlop

be necessary east towards Glasgow to support such a scheme, he added.

"A crossing between Scotland and Northern Ireland would be nowhere near as environmentally challenging as between England and France and there

would be less shipping to contend with," he said.

"We have really capable engineers and architects in the UK, so building a bridge to Northern Ireland is not an insurmountable challenge. It would also help to address the country's economic imbalance."

link to France, as part of its concession agreement for operating the tunnel. There is still capacity for further use of the Channel Tunnel, said spokesman John Keefe, "but depending on the speed of traffic growth and economic growth it is conceivable that additional capacity will be needed in the next few decades".

Talk of a bridge, he added, is a "real validation of the importance of fixed links" which carry millions of people and billions of pounds worth of trade between the two countries. But he warned that the scale of the undertaking would be vast and could take "considerable time before becoming a reality".

Consultant Ramboll's executive director for transport Dan Harvey commented: "A bridge is feasible, but is it needed? That is debatable. I'm not



↑ Dan Harvey

sure the economic case would stack up.

"If we had a spare few billions of pounds to spend on infrastructure, there are a lot of other options such as extending High Speed 2 north, increasing airport capacity, energy resilience or a crossing to Northern Ireland.

"I know a bridge to France gets the headlines, but if you wanted another crossing why wouldn't it be another tunnel?"

The Freight Transport Association said it is worth thinking about "radical infrastructure projects that take decades to deliver" but this should not be a substitute for addressing issues faced by the sector today. "Making sure that existing links like Dover and the Channel Tunnel can continue to function once we have left the EU is what we need now from Government," said head of policy Christopher Snelling.

Road Haulage Association chief executive Richard Burnett described the costs and practical implications of a bridge as enormous. "We are better off spending smaller amounts of money on improving our crumbling roads and opening more lorry parks," he said. **MW**

Metropolitan Line extension shelved

Watford's Mayor Dorothy Thornhill will not give up on efforts to bring a proposed extension of the Metropolitan Line to Watford Junction station, despite the London Mayor pulling his support for the scheme.

Responsibility for the project was taken on by Transport for London from Hertfordshire County Council in 2015, and estimated costs have risen significantly over the last year from £284M to £357M.

It is understood that the Ministry of Housing, Communities & Local Government and the Department for Transport have offered the additional £73.4M of funding needed.

But this had been rejected by London's Mayor Sadiq Khan, who believes the extension will expose the capital's taxpayers to millions of pounds worth of risk for a transport link benefitting those outside London.

Nevertheless, Dorothy Thornhill remains optimistic. "This is certainly not the end of the line for the Metropolitan extension," she said.



↑ Dorothy Thornhill

"It's premature to say the scheme is dead and if it is purely about the cost risk we need to find a solution.

"Not having the extension will cost us jobs and new investment, so there is no way I am giving this up without a fight. I am confident there is still a deal to be done."

The scheme could support significant new housing growth and unlock employment opportunities. If delivered, the extension would serve new stations at Cassio Bridge and Watford Vicarage Road, an Overground station at Watford High Street and the Overground /



↑ Watford tube station ED WEBSTER - FLICKR

West Coast Mainline interchange at Watford Junction. The existing Metropolitan Line station at Watford would close.

Transport Secretary Chris Grayling said he was disappointed that the Mayor "has effectively abandoned the scheme" because of his unwillingness to guarantee further support for the project. "Transport for London has now asked us for a blank cheque to cover any future cost increases," he added. "We cannot accept open ended risk to taxpayers."

A spokesman for Sadiq Khan said that the former Mayor Boris Johnson had previously committed £49M of London taxpayers' money to delivering the project, agreeing that TfL would take the risk of any additional costs.

He added: "The Mayor and TfL have proposed several pragmatic solutions, including TfL having access to development proceeds to cover these additional costs. Without a pragmatic approach from the Government, the scheme cannot progress with such a huge financial risk to London taxpayers."

TfL said it remains open to assisting the DfT in finding alternative schemes that may be more affordable, including a potential bus rapid transit project. **SD**



Heathrow details M25 tunnel plan

Proposals to realign part of the M25 to accommodate a third runway at Heathrow have been put forward by airport bosses.

They suggest repositioning the motorway around 150m to the west between junctions 14 and 15 and placing the road into a tunnel.

Arcadis' UK transportation business director Dr Colin Black said: "We sometimes get nervous of tunnels in the UK and how they operate, but many European cities place urban motorways in tunnels.

"Doing so also provides a means of controlling noise and air pollution, reducing intrusion and improving the surrounding environment."

He added that a tunnel would need to be futureproofed to accommodate expected developments in mobility, such as connected vehicles.

Construction law firm Beale's partner Will Buckby commented that realigning part of the M25 will bring into play many complex legal issues, especially since the motorway is operated and maintained through a privately financed DBFO contract.

He added: "Moving a motorway on its own is a massive infrastructure project and building a tunnel for a motorway makes the challenge even greater. But doing all that and building a runway over the top will make this a huge scheme."



KNIGHT ARCHITECTS

Ely viaduct to span the Great Ouse

Construction of a 500m long viaduct over the River Great Ouse in Cambridgeshire is starting to take shape as part of a new 1.7km greenfield bypass being built to the south of Ely.

The £36M project will divert traffic away from central Ely, where a railway level crossing currently causes frequent congestion and a low headroom bridge is often struck by heavy goods vehicles, with 18 incidents last year.

Work is progressing well on the project's centrepiece – its architect designed viaduct,

explained consultant WYG's head of highways Richard Brown MCIHT. The firm is the project manager and supervisor for the scheme on behalf of Cambridgeshire County Council. VolkerFitzpatrick is the principal contractor and Knight Architects is behind the design.

A series of slender 'V' shaped reinforced concrete piers are currently being built to support the structure's main spans. "A key upcoming milestone will be the lifting of steelwork into place for the viaduct's steel

composite deck," added Richard Brown.

The structure will also feature a uniquely designed walkway (pictured) to give access across the river for pedestrians and provide a viewing point for the nearby cathedral.

Elsewhere on the bypass, earthworks are largely complete with a significant proportion of paving also finished. Work is also continuing nearby to deliver a bridge over a busy rail freight line. Completion of the scheme is expected later this year.



INSPIRING THE FUTURE: Crossrail engineers chat with students from St Martin in the Fields High School for Girls at an event at Farringdon station, organised to mark the start of the 'Year of Engineering' celebrations.

Transport Minister Nusrat Ghani spoke about the exciting career opportunities the sector and major projects can offer the next generation. The campaign aims to help tackle the 20,000 shortfall in engineering graduates every year and to promote the sector to girls and people from ethnic minority backgrounds.

Crossrail chairman Sir Terry Morgan described the Year of Engineering as "a fantastic opportunity to inspire others to take a fresh look at engineering and show the range of opportunities there are for training and jobs in this sector".

Skills Minister Anne Milton added: "I want to see everyone – whatever their background and wherever they live – to have a chance to get a rewarding career or job in engineering whether they come via a technical or academic route."

Contracts

BALFOUR BEATTY has been selected by Wokingham Borough Council to deliver a £124M programme of major highways works including nine key road schemes.

BAM NUTTALL and **MORGAN SINDALL** – working in a JV – have won two contracts worth a total of £322M to deliver smart motorway upgrades on stretches of the M62 and M27.

GALLIFORD TRY has taken over work on the Lincoln Eastern Bypass while Lincolnshire County Council seeks a new main contractor to replace the collapsed Carillion. **HIGHWAYS ENGLAND** is making available £8.7Bn of road construction work to be procured through its new Regional Delivery Partnership contract. **SIEMENS** has won a multi-million pound contract to supply and install new 'ETCS' in-cab signalling equipment on 745 freight engines.

CIHT 100

Do you think Government should commit to a national road pricing scheme to reduce traffic congestion?

YES 74%

Hitting motorists in the pocket should help to encourage behavioural change. The more you use the roads, the more you should pay.

NO 26%

National road pricing will lead to political unrest. It will be very expensive to install and operate all of the necessary technology.

To join the CIHT 100 panel please email mike@transportation-mag.com This question can be responded to at ciht.org.uk Also, see page 8.

Bus study to find reasons for falling use

Senior academics are about to begin exploring the reasons behind England's continued decline in bus use, in an effort to help Government improve its policy making around public transport.

A 12 month study will begin at Easter, led by the Independent Transport Commission research charity and supported by a donation from the Rees Jeffreys Road Fund.

"Our aim is to understand the factors that are driving the decline," explains the Commission's director Dr Matthew Niblett. "We hope our research study will be useful to policy makers and bus operators and will indicate what is causing the falling patronage."

In a recent study into land based travel patterns in England the Commission found that overall bus use outside London has been falling steadily for several years. Within London bus use grew very strongly until 2015, when the capital too started to see falls in passenger numbers. "We are keen to find out what is behind these trends," Dr Niblett says.



↑ Dr Matthew Niblett

"There have been some suggestions that the falls in bus use across the country are down to increasing levels of traffic congestion. While this may be part of the story, we cannot believe it is the whole explanation," he adds. "Declines in bus

use have also been seen in areas where there has been very little increase in congestion, and in some cities ridership has gone up even though congestion has not fallen."

He cites Reading and Brighton as two cities where bus use has been growing over the last five years, despite increasing levels of motor traffic. Whereas in Newcastle upon Tyne, bus



← Passengers may be put off bus use by reduced service frequency

ALASTAIR LLOYD

use has fallen. "We are not seeing an even pattern throughout the country, which is something we need to explore further."

The Commission's study will analyse existing data on bus patronage taken from the National Travel Survey, labour force surveys and bus operator records and may ask questions of passengers.

"We will be looking to understand the reasons why people are using buses and why they are not," Dr Niblett adds. "Falling use could be down to infrequent service patterns or the attitudes of passengers. If someone last travelled by bus when at school and did not enjoy the experience they might not want to use a bus again."

He adds that some measures to increase patronage will be within a bus operator's control such as fares, routes, service frequency and the design of vehicles. But wider issues need exploring too such as housing policy, the availability of parking – and even changing shopping behaviours. In 2010 each person took an average of 19 shopping trips by local bus a year, but by 2016 the number fell to 13; which may have contributed to reduced bus use overall.

The study is also likely to consider impact of personalised on-demand ride sharing services on buses and how different age groups may favour certain modes of travel over others.

The research team will be chaired by a steering group led by ITC commissioner Professor Peter Jones of University College London as well as Tony Depledge of the Rees Jeffreys Road Fund, Professor Peter White of Westminster University and Kris Beuret of consultant Social Research Associates.

More generally, Matthew Niblett says that 2018 promises to be a fascinating year for transport in the UK. "Major decisions are looming regarding infrastructure building and new technologies continue to reshape our transport systems," he says.

Rees Jeffreys Road Fund chair David Hutchinson says the ITC's bus study "is a really good opportunity" to better understand why bus use is declining across the country.

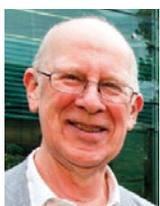
"Fewer buses can lead to difficulties in the way people access transport and have a real impact on how communities function, especially in villages and rural areas."

Also see page 10, 'My Project Proposal'.

CIHT buses guidance widely applauded

New guidelines published by CIHT look to put the provision of high quality bus services at the heart of planning for urban developments.

Practical advice aimed at promoting modal shift towards bus use through good spatial



↑ Tim Pharoah

planning and infrastructure design is included in the Institution's 'Buses in Urban Developments' document.

"The bus is often marginalised in new developments," said its principal author Tim Pharoah FCiHT at a launch event in January. "Decisions are made about how to lay out a residential estate and then somebody has to figure out how to thread a bus through it afterwards – that is completely the wrong approach."

The guidelines recommend that developments should be dense enough to support high frequency bus services that compete with the private car. The layout of streets and footpaths should allow efficient bus

operation and provide attractive walking routes to bus stops, it adds.

Bus operator Stagecoach's head of strategic development and the built environment Nick Small praised the guidance and said it "will steer developers and policy makers towards better site choices that can be served effectively by buses".

Swindon Borough Council's strategic allocations transport manager Robert Rossiter added that the document "has the potential to set a 'black and white' standard for the provision of bus infrastructure"



↑ Lynda Addison

that will become the new norm.

CIHT's sustainable transport panel chair Lynda Addison FCiHT said the

document's cross-sector support will give it "status and power" and highlighted the importance of collaboration. She called for efforts to now turn to disseminating the guidance and promoting the benefits of high quality bus services.

'Buses in Urban Developments' is available online at ciht.org.uk/stue

Do you think Government should commit to a national road pricing scheme to reduce traffic congestion?

Yes



Dave Beddell MCIHT
Europe sector leader,
highways
AECOM

Variable time of day network pricing is widely used by telephone, gas and electric utilities to spread demand and ensure continuity of service.

Why shouldn't the same principles apply to our road network?

The success of non-fiscal demand management measures is limited by the induced demand effect and any road space made free is quickly taken up by other drivers. Therefore this can often have the effect

of simply moving congestion to other areas of the network.

But the success of fiscal demand management schemes – such as congestion charging in London and Stockholm – demonstrate that road pricing is not only the most efficient and sustainable method of managing demand but is also the most equitable method of doing so.

Extending congestion pricing across the whole national road network will help to reduce road congestion while directly transitioning the costs of driving to those using the roads.

Nobody likes to pay service fees, but it is the fairest and most efficient mechanism to impose costs on those using the service.

There is also a massive opportunity here to integrate the increased digitalisation of the transport network to design and deliver a cost effective national road network

pricing scheme. The increased connectivity and harmonisation of intelligent transport systems is being driven by the deployment of connected and autonomous vehicles, co-operative mobility, 'Mobility as a Service' and Connected ITS.

Digitalisation of the transport network is a subset of the wider 'Internet of things' phenomenon.

This provides a toolset to deliver many transport policy objectives aimed at improving road safety, reducing congestion, optimising transport efficiency, enhancing mobility, improving journey times and experience and reducing energy use and environmental impacts, as well as supporting economic development.

Overall, a national road pricing scheme could be implemented to relieve congestion and also deliver on multiple transport objectives that provide substantial socio-economic benefits.

No



Dr Behrooz Saghafi MCIHT
Technical director
DAFco (pavement
specialist)

While I am not a transport economist, I have been particularly interested in tracking how different schemes to mitigate traffic congestion have worked for people of various countries.

As far as I can see, tolls and surcharges have never improved the situation significantly or been worth the pressure inflicted on society.

I often travel around Manchester using public transport, my own car and bicycle and believe that the UK Government must focus on providing and expanding frequent, accessible, timely and fairly priced public transport, rather than introducing road pricing.

Implementing tolls and surcharges have never put the rich off their cars, but do have an impact on the majority of people.

More wealthy people will not mind throwing money into toll buckets every morning, unlike those on more modest salaries.

Governments have unconsciously trained people to think about economics when it comes to transport. Experience from other countries shows that the only logical approach to reducing congestion and

which makes good sense to people, is to introduce tangible enhancements to public transport systems.

As a recent example the people of the Iranian capital of Tehran, a hugely congested city, have welcomed new metro and bus rapid transit schemes. But many people were not so supportive of recent increases in fuel prices.

Americans also oppose road tolls, believing they are already contributing sufficiently to a handful of road related taxes.

Developed public transport systems will automatically encourage people to manage a preferred 'mix and match' of using their own car and public transport.

Whereas road pricing schemes will just work towards widening the social fissure that already exists between rich and poor.

Catherine Hallett MCIHT



Job title – Development and sponsorship director for Highways England's regional improvements programme.

Terms of reference – To focus on the best outcomes for the customer and to help ensure project teams have the resources and authority they need to deliver the improvement schemes.

Suitability for the job – A passion for the role and a belief that every decision we make affects people's quality of life. Plus over 20 years of designing, delivering and sponsoring highway schemes.

Where based – In theory, I'm based in Guildford but I'm always travelling around our six regional offices.

Transport to work – I take the train, which people often think is strange for someone working for the company that is responsible for England's strategic roads. But trains give you uninterrupted thinking time.

Top of in-tray – Value for money, in the broadest sense. Making sure we are doing the right thing at the right cost, not just financially but economically and environmentally. It is a daily balancing act.

Best aspect of job – The skills and passion of our delivery teams, the amazing breadth of local knowledge and knowing that we can make a real difference for our customers.

Worst aspect – Not being able to deliver everything we would like. There are always compromises, and that is a tremendous responsibility for the teams to get it right.

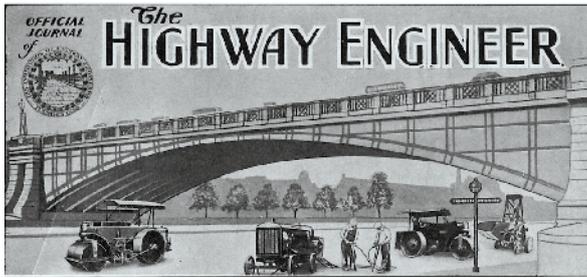
What is the most important transport issue today? After safety it is the environment. In particular, how can we support growth and access to jobs and services while improving the environment and protecting communities. It's a challenge the whole transportation industry needs to collaborate far more on.

How do you relax? Reading and listening to music. Anything that lets me escape into another world.

What car is in your garage?

A vintage TR4A that runs like a dream.

Ambition – To see the sun rise at Machu Picchu.



The Highway Engineer was the first journal of the Institution of Highway Engineers. It was followed in later years by *Highways & Transportation* magazine and *Transportation Professional*. Here are extracts of stories published in the journals 10, 25, 50 and 75 years ago.

10 years ago

Dismay has been voiced by transport campaigners in the South West after the Government abandoned plans to bypass Stonehenge on the route of the A303. Transport Minister Tom Harris said escalating costs associated with developing a 2.1km bored tunnel beneath the site made the project unfeasible.

"We are extremely disappointed by this decision," said the South West of England Regional Development Agency chief executive Jane Henderson. "The A303 is widely regarded as a key strategic route with huge significance for the regional economy." Earlier plans to build a bypass to the north or south of Stonehenge were discounted on environmental grounds.

25 years ago

Calls have been made for the construction of a Southern Counties Expressway, made up of a route from Dover along the south coast to Southampton, north along an upgraded A34 to Oxford and then eastwards via Aylesbury to the east coast ports.

The motorway standard route would provide an alternative to the M25 and the concept is designed to cater for the ever growing European dimension of the UK's trading, a new CBI report on transport infrastructure says. "The competitiveness of businesses in the south of England is severely affected by the inadequacies of the infrastructure," said the report's working party chairman Neil Ashley.

50 years ago

Changes made to road conditions should be accompanied by before and after studies, to find out what effect they have on accidents, wrote J Leeming. This applies to physical changes such as a widening, or a legal one such as the posting of a speed limit.

We also have to convince the public as well as Ministers that measures have been successful, or otherwise. "Since most minds are very firmly closed on the subject," he said, "we have to hammer them open, and for this we need overwhelming evidence".

75 years ago

There is an urgent need to adopt the metric system for measuring length, area, volume and weight and the Institution has approached the Board of Trade to add weight to the argument. It also points out that the change should be made at the end of the present hostilities.

"We have suffered the inconvenience of an out of date system of measurement for many generations," the article said. "Action needs to be taken by the proper authority to end it. It also rests with every man and woman in the country and every intelligent school boy and girl, to insist that they will put up with the imperial system no longer."



End of Carillion

Carillion's collapse might just be the construction industry's Lehman Brothers moment, one senior former employee of the contracting giant told me in reference to the investment bank's demise in 2008 which sparked the financial crisis.

"It was an accident waiting to happen and I will be very surprised if we don't see further construction companies go the same way," he remarked. "Contractors have got into trouble before and been bought up by others, but a total collapse is unprecedented."

Contractors who until last month were in joint venture with Carillion have had to take up the slack on several major infrastructure projects and – despite assurances that work will continue as planned – will be fearful of the additional risk.

But it is the sub contractors who face a particularly uncertain time. Some caught out by the collapse could see big losses.

And then there is the issue of retentions, whereby a percentage of payments are withheld until work is certified to be free of defects. Carillion is said to have held £800M in retentions when it went into liquidation. Three trade bodies have since issued a joint statement calling on Government to abolish the practice within seven years, to help smaller companies that operate on very tight margins.

Directors who oversaw Carillion's demise have questions to answer, but so too does Government which continued to sign off large contracts to the company after a profits warning was issued last summer. And in a fresh twist, KPMG is to be investigated by the Financial Reporting Council over its audit of the company's statements since 2014.

As this sorry saga has taught us, no firm is too big to fail. The construction sector will be eager to hear what changes will be made to ensure there is no repeat of the circumstances which led to the end of Carillion.

Aim high with complaints

"Excuse me sir, this area is reserved for first class passengers," ventured a train guard checking tickets on a busy service into London the other week. "But there is nowhere to sit in second class" came the reply, setting in motion a 15 minute confrontation between a disgruntled and increasingly animated customer and the official sticking to the rules and justifying the train company's position.

Several of us listening in from the vestibule murmured in agreement with the passenger. He was right, surely, because this morning's train was one carriage short and all second class seats were taken. But as the argument wore on and the guard repeatedly pointed out that she was just doing her job, my sympathies switched. Someone finally intervened and told the passenger to complain directly to the train company instead.

I reflected later on the way travellers – not just on trains, but on the roads too – interact with those on the front line, including construction workers and parking attendants. Is it ever acceptable to issue more than a sarcastic riposte to a situation, and to direct not just frustration but anger to those on the front line? No; they are just doing their jobs and deserve more respect.

Far more polite – and more effective – is to post a complaint to head office via twitter, containing several relevant hashtags. Power to influence change is literally in your hands.

Mike Walter, Editor



Transportation Professional welcomes letters from readers on all subjects raised by the magazine and about any other transportation issue. Please keep your letters brief and include your CIHT designation, if applicable. The Editor reserves the right to condense.

Address your letters to: mike@transportation-mag.com or write to: The Editor, Transportation Professional, 7 Linden Close, Tunbridge Wells, Kent TN4 8HH or use Twitter: @CIHTUK

Green waves were a good thing in Germany

It was good to read that British planners have finally come round to the view that 'green waves' minimise stop and go and thereby minimise emissions. (*TP Innovation special*, November / December 2017, page 4).

When I was a young researcher in Germany in the early 1980s all my work focussed on optimising traffic signal control. I looked at switching traffic signals off at times of low traffic volume, comparing different methods of traffic dependent control, optimising control for reducing congestion, using traffic lights to prioritise buses and finally developing new methods for signal control optimisation.

I became aware of TRANSYT (a traffic control tool), managed to get hold of it and tried it out. But guess what: my green waves beat TRANSYT's optimised programs every single time!



← Allowing more traffic to pass a green signal is said to reduce pollution

Not only do green waves work, but German drivers expect them to work. Therefore you won't observe 'Brands Hatch' racing as mentioned in your article. Instead drivers, expecting to get green at the next light when they stick to 50 km/h, will gently accelerate in the knowledge that this will

mean they will not have to brake again at the next traffic light and thereby minimise their emissions.

Christiane Bielefeldt FCIHT
 Professor Emeritus of Strategic Transport Management, Edinburgh Napier University
christiane.bielefeldt@gmail.com

National bus website may help passengers



→ A central database of information could help to encourage bus use

HANS CHRISTIANSSON – SHUTTERSTOCK



My idea for a transport project to benefit the country is a national bus website. The website would contain information about every bus service in the UK and be presented in a consistent way regardless of operator, just like the National Rail website does for trains.

It would serve as a central place to go to get information on bus routes, basic fares, accepted payment methods, journey times, departure and arrival times as well as bus stop names and locations.

I believe a national bus website would lead to an increase in bus travel, because the current uncertainty – particularly with regards to fares –

puts some people off using this mode of travel.

The central database of service information behind the website would also be used by app developers and industry professionals. If kept up to date, including service alterations and diversions, this could be a valuable asset for all.

Gregory Webster MCIHT
 Senior consultant

Do you have an idea for a new transport infrastructure scheme that you think would make a big difference, either to local communities or the prosperity of the nation? Email your suggestions to mike@transportation-mag.com

Thoughts on reopening branch lines

I offer my reaction to the article 'Lost railway lines set for restoration' (*TP* January issue, page 4). Plans to reopen Uckfield to Lewes is not news to me; the Uckfield line was amputated when I was 18 months old and I have lived beside the stump since.

Alas, the local authorities were instrumental to its closure. The last local authority commissioned study in 2008 served only to tighten further the coffin screws!

To succeed, the campaigners' position ought to be unanimous: entrust projects to private finance.

Dave Hubbard MCIHT
hubbarddave@rocketmail.com



↑ Trains on the former East Sussex route
 JOHN WENHAM

Autonomous car vision requires large local road investment

One of the greatest challenges to taking forward developments in vehicle autonomy and meeting the Government's ambitions to have fully self-driving cars on UK roads by 2021 is the UK's network of underinvested local authority maintained roads.

A funded, effective and, crucially, well maintained infrastructure is at the core of the UK's economy, and with more than 200 local authorities – each with different pressures and squeezed budgets – self-driving cars on anything but strategic roads looks like a distant dream.

What is needed is a simple, reliable formula for roadmarkings: 150mm wide, at 150mcd (the measure for retroreflectivity), with 35mcd visibility on wet nights.

A joint Euro NCAP and EuroRAP report titled 'Roads that Cars can Read', pointed out that 'Vehicles like drivers cannot function well if basic road



markings and signs are non-existent, non-compliant with international conventions, worn out, obscured, inconsistent or confusing.

'Well maintained lines conversely reduce accidents and increase mobility particularly for older drivers maintaining social bonds: surely this is win-win.'

Monitoring and maintaining road markings is a vital part of well managed roads. Right now, we face the rigours of winter damage, and road users' priorities are potholes and worn markings. Only when we have roads that cars can read, reliably, can we truly have a high level of vehicle autonomy.

Paul Aldridge

Chairman, Road Safety Markings Association

Unit 35, Corringham Road
Industrial Estate, Gainsborough
Lincolnshire DN21 1QB



← Julie Rand shows the minimum distance cyclists should keep from parked vehicles, to protect themselves from 'car dooring'

Staying cycle safe by being assertive

Motorists who share the road with cyclist Julie Rand are unlikely to be in any doubt that she is there or her intended direction of travel.

The bicycle instructor from charity Cycling UK is comfortable with adopting a dominant position on the highway to make herself more visible to others, better able to spot and avoid hazards and safe from the opening of car doors.

Before we met, I had considered myself to be an assured and confident cyclist. But since watching how Julie negotiates busy streets through the suburbs of Guildford, I now question whether my faith in my own abilities was justified.

Take overtaking, for instance. Many cyclists who pull out to go around a line of parked vehicles will return to the kerbside as soon as they can, even if this means repeating the pulling out right / returning left manoeuvre several times in short order. That's certainly what I always do.

But not Julie. She will hold her overtaking position towards the centre of the road for as long as is necessary until there are no more parked cars. And she leaves more room than many cyclists between herself and the stationary vehicles, mindful of the risks posed by a car door opening suddenly and to prevent approaching motorists from trying to squeeze past her.

"You have to be bold and claim the road space, rather than passive and keeping out of the way," Julie says. "I like to make myself as visible as possible and use my positioning to communicate my intentions with other road users. As a cyclist

I am the most vulnerable person on the road so I have to create the best conditions for myself; not worry about drivers having to wait for a few seconds to pass."

I ask Julie if she senses any frustration from motorists when riding in an assertive manner. "Some drivers don't like it," she admits. "But I do feel much safer." Julie claims that most drivers would prefer that cyclists "signal clearly and take up a good road position, rather than weave all over the place".

Being further out into the road also allows the cyclist a better view of vehicles pulling out of side streets, she says. And when cycling along an empty street, Julie will not ride too close to the kerb to avoid slippery drain covers and debris in the gully.

We pause in a quiet residential street on the approach to a sharp left hand bend. Julie positions herself around a metre from the kerb where most cyclists, she says, would choose to ride. She asks me to describe how far we can see around a house on the corner; which admittedly is not far. Julie then moves towards the centre of the road and this time is afforded a much better view.

Later at a signalised crossroads Julie positions herself confidently in the centre of her lane to ride straight across. "There was no doubt to any motorist which way I was heading," she explains.

Back in London that evening I hire a Boris Bike and try out some of the techniques demonstrated earlier. Riding up Northumberland Avenue in a more dominant position felt good, until I was beeped at by a taxi driver. **MW**

● Cycling UK is calling for the Highway Code to provide improved guidance for motorists when overtaking cyclists. Drivers are currently advised to "give plenty of room" to other road users including cyclists. The charity wants greater clarity on the size of gap motorists should leave when passing.

It also encourages drivers and their passengers to 'Dutch reach' when opening the door by using the hand furthest away; forcing you to turn and look properly before getting out. Five cyclists were killed and 2000 injured in Britain over a recent four year period by the opening of doors.



Over 200,000t of flexible asphalt pavement was laid throughout the Thorney Interchange



Transport Minister Lynda Chalker cuts the first turf on the Poyle contract

Motorway team reunites to share memories from site

Work started 35 years ago on one of the most expensive and complex motorway projects of its day: a four level interchange between the M4 and M25. Mike Walter speaks to key people responsible for the scheme.

How fascinating it must have been for airline pilots of the 1980s to have looked out and seen the motorway network gradually evolve beneath them – and especially here,” remarks engineer Peter Jefferies who was among the principal figures responsible for building the eye catching Thorney Interchange (often referred to back then as ‘Poyle’) that took shape in the vicinity of Heathrow airport.

Construction of the four level highway structure – linking the M4 with the soon to be complete London Orbital – began nearly 35 years ago, in spring 1983. To mark the occasion TP invited a group of engineers, designers and construction professionals whose careers were shaped by the motorway project to meet up close to the junction to share their memories.

They recalled how two viaducts were built to carry connecting roads

over the top of the new M25, which in turn crosses the existing M4, under which passes two further feeder roads.

And they remembered too how, in a change from the original design, structures were formed using composite steel box girders rather than post tensioned concrete. Steel components were fabricated off site and delivered from Darlington to provide greater programme security in what was a tight 36 month contractual period.

There were also former gravel pits on the line of the new interchange that were filled with uncompacted landfill up to a depth of 5m and had to be dewatered and treated with a dynamic compaction technique. Other pits had to be pumped clear of water to gain access to material that could be used as fill.

Not everything on the project ran to plan: unexpected ground movement caused several bridge columns to the



“We were very fortunate on this job, there was plenty of space and no neighbours.”

Peter Jefferies



“The general philosophy was to build to accommodate future traffic growth.”

Diane Novis

south of the M4 to shift sideways shortly after they were built, leading to their reconstruction (see panel, overleaf). But looking back, members of the project team agree that the scheme was a very successful addition to the motorway network and they are proud of what was achieved.

“We were very fortunate on this job, for a number of reasons,” adds Peter Jefferies, who was project director for the Cementation / Costain contracting team. “There was plenty of space available for the permanent works and there were no neighbours close by to object to our activities or the smell of water being pumped into temporary lagoons as we dewatered the land.

“But there was so much water that the lagoons had to be extended,” he remembers. “This was vital because the dynamic compaction had to proceed without disruption, so that part of the M4 could be diverted to allow the interchange to be built.”

The dynamic compaction process involved dewatering landfill and covering its surface with a granular blanket, before several cranes dropped 15t weights numerous times to consolidate the fill beneath. The old landfill contained all manner of refuse,

from domestic and commercial waste to oil drums.

Richard Deacon, the resident engineer with Atkins at the time, says that ground conditions varied significantly across different areas of the site. "In one area were the backfilled gravel pits that contained a range of the most inconsistent materials you could imagine. But in other areas and below the landfill was London Clay, one of the most consistent materials you could use for constructing embankments."

Another issue was an infrequently used single track railway which passed beneath the M4 at the point where the motorway interchange would be built. A deal was done with British Rail to take temporary possession of the line, so that bridge structures could be built swiftly and construction traffic carrying excavated material could gain access to site through a rail tunnel.

Thorney Interchange features a total of 17 structures over a 36ha site. Bridges include a 229m long twin deck viaduct that carries the M25 and two high level viaducts of 264m and 182m in length. Connecting roads measure a total of 8km and 215,000t of flexible asphalt pavement was laid. Foundation piles for the structures number 340 and extend to an average depth of 27m.

Mick Rance, who was the highway design team leader for the project at the South East Road Construction Unit, says the free flow Thorney Interchange was inspired by England's first four level motorway interchange at Almondsbury near Bristol. A three level structure was considered at Thorney, but rejected after a cost / benefit analysis of different options was carried out using a Department of Transport computer program known as COBA.

"The program showed the benefit to cost ratio was significantly more positive with a four level interchange,"



← Members of the project team (and James Irwin, standing, centre) look over old photographs

SCOTT RAMSEY PHOTOGRAPHY



"Below the landfill was London Clay, one of the most consistent materials you could use."

Richard Deacon

he says, largely because the right turns between the M25 and M4 were so much shorter with a four level design.

Mick also remembers working alongside a landscape architect who designed the landscape fill by adding Plasticine to a model produced for public consultation. The material was then weighed to give the landscape fill volume for the tender documents. "How much more fun it was to be a designer back then," he quips.

Jim Moore FCIHT, who was a project manager at the South East Road Construction Unit, looked after six contracts on the M25 including the interchange. "This large complex contract was superbly managed and run by the contractor and ended up finishing six months ahead of schedule," he says. "The interchange has a lovely geometry and the free flow design works beautifully."

Hugh Woods, then a graduate engineer with the Road Construction Unit's Surrey sub unit, says that several carriageways were designed to accommodate a future changed layout, and remembers using new computer software known as MOSS which introduced the concept of a 3D model from which drawings and quantities

could be derived. It was, he describes, a "breath of fresh air".

But all of the program's commands had to be prepared on 'punch cards' in his Guildford office and transmitted to a bureau in London, with progress plots arriving by post around once a month. "The model of the interchange had to exist in my head because we had no graphic monitors back then," recalls Hugh. "I couldn't imagine anyone doing that now."

Later on site he remembers the process of setting out, which featured "a forest of batter rails, profile boards and pavement pin points" and seeing "enormous motor scrapers and earth moving trucks thundering by".

Ian Clarke, a resident engineer on site, also remembers a very busy site. "There was a phenomenal amount of muck that had to be shifted, just at the same time as engineers were placing the bridge beams," he says.

"The earthmoving contractors were belting around from sunrise to sundown and making a lot of money."

"I look back at the job now and realise how much easier this interchange and the M25 have made getting around. And there is something very pleasing about driving over the high level bridge at Thorney, which affords a fantastic view," he adds.

Diane Novis, a former graduate engineer with the South East RCU, adds: "The general philosophy was to build to accommodate future traffic growth. I remember designing a farm access bridge nearby with a span sufficient to accommodate the extra lanes when the motorway was widened." Looking back now, she adds that congestion does not seem to be >



↑ Diversions for traffic (shown in red) around the site

COURTESY OF THE FTA

↓ A photograph of a model of the interchange



Thorney Interchange M25 – M4 (part of the M25 Poyle to M4 contract)

Tender value: £44.1M
Start of works: April 1983
Completion: December 1985
Client: Department of Transport
Main contractor: Cementation / Costain joint venture
Engineer: WS Atkins

Foundation piles move sideways in problem ground

Dimensions were checked on the substructures constructed for the viaducts at the Thorney Interchange, before final fabrication of the steelwork superstructure took place. But some dimensions were found to be up to 150mm out from the design.

"We were expecting some of the approach embankments to settle vertically because they had been constructed over landfill which was almost bound to consolidate further," recalls Richard Deacon.

"But what was not expected was the extent of horizontal ground movement, which in places caused some of the piles of the substructure to distort from the vertical."

The affected piles were cored to

allow instrumentation and cameras to assess the extent of the problem, which revealed cracking and water ingress in several piles beneath some of the substructures.

A number of piers had to be demolished and rebuilt with new 'under reamed' foundation piles installed, incorporating a 75mm annulus around the pile where it passed through soft ground.

This was to increase the end bearing capacity of the piles and accommodate any subsequent horizontal movement.

Despite the setback, graduate engineer Diane Novis remembers that the project team pulled together to correct the issue.

"Everyone was working to sort the problem, rather than to point the



Several piers had to be demolished and rebuilt

finger," she says. "This was in the days before 'collaboration' was the norm. Thorney Interchange was a

high profile project which had faced criticism, so we had to resolve the problem quickly."

> as much of a problem at the interchange, compared with elsewhere on the M25.

In the early 1980s the M4 was one of the busiest stretches of road in the country, used by around 80,000 vehicles a day. Traffic on the motorway had to be diverted before construction of the Thorney Interchange structures could begin in earnest, starting with the M4's eastbound carriageway.

Richard Deacon recalls that he was very impressed with how the police introduced a diversion which made use of large lengths of new slip roads.

"The police had two cars which drove side by side to slow down and eventually stop the traffic in all three lanes. They told motorists immediately behind them to 'follow us'. All the eastbound traffic followed them and the diversion worked, but I remember having a sleepless night before thinking this could all go horribly wrong."

Around the table, there is a consensus among the group that if the interchange was to be built today the approach would be very different. "Back then you could make decisions much more quickly," comments one.

Another remarks: "The whole culture has changed: it used to be that 'Government knows best', but today they have to be far more accountable."

Listening to the project team's recollections is James Irwin MCIHT of Connect Plus Services, which today is responsible for operating and maintaining the M25. "The industry certainly has changed and there are more environmental considerations now for jobs of this size," he says.

"There may have been very few stakeholders to liaise with 35 years ago, but now the area around the junction is so densely populated. Projects of that scale would require much longer lead in times today."

Site safety advances noted by group

Brightly coloured workwear has long been mandatory on road construction sites. But it was very different for those building the Thorney Interchange in the early 1980s.

"We were issued with dark blue waterproof jackets and white site helmets; it was a few years before fluorescent yellow jackets were the norm," remembers Hugh Woods, a graduate engineer on site.

He adds: "In those days site access roads often doubled as haul roads. Some of us had to walk and that meant keeping a good eye out for your own safety when large vehicles came past."

It is not just above ground where approaches to safety have improved. During construction of 'under reamed' bored foundation piles for bridges south of the M4 it was the job of one operative to go down 30m in a cage to shovel earth displaced by a rig's auger into a bucket. A clerk of works would have to enter the ground too to check on progress.

Fortunately no one was killed building the Thorney Interchange. But at the time it had been noted that – statistically speaking – two people were expected to lose their lives.

"That is not to say that two deaths would have been acceptable," explains the project's director Peter Jefferies. "But that number illustrates that there was more risk on motorway sites compared to today."

James Irwin of Connect Plus Services agrees. "Our mindset today has totally changed," he says. "Now you don't go into a job thinking there is a possibility of two people being killed."



← Transport Secretary Nicholas Ridley opens the interchange
AERO INDUSTRIAL PHOTOGRAPHIC



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Fond reflections on a Golden anniversary for road building

Fifty years ago the development of England's major highways began to be co-ordinated by the Road Construction Units. Former Midland RCU group engineer John Carrington FCIHT looks back.

Very few motorways existed in the mid 1960s other than the Ross Spur, sections of the M6 and the M1 – which ran as far as Crick in Northamptonshire where it ended in a field. The rest were a few isolated schemes and there was only a vague sense of a forward programme.

Motorways needed promoting, but so too did a large number of inter connecting online improvements and trunk road bypasses to relieve traffic – and especially a growing number of heavy goods vehicles – from towns and villages.

Motorways and trunk roads had previously been the responsibility of the Ministry of Transport with the planning, design and supervision of projects carried out largely by county councils, as agents of the Ministry. Consulting engineers were also used for large cross border schemes.

In 1966 the Government realised that a radical approach to the planning of major road schemes was necessary and there was a growing political will to improve and extend the country's antiquated network.

Around this time there was a general shortage of experienced highway and civil engineers, resulting in disrupted programmes and competition among counties for staff.

It was decided that resources must be grouped into larger units, each with substantial and steady programmes of work, under direct Ministry control. This formed the basis for creating Road Construction Units (RCUs) in partnership with county councils.

The man credited with masterminding the RCUs was Sir William Harris, an eminent civil engineer and director general for highways at the Ministry of Transport.

He recognised that the planning, design and supervision of highway



"Road Construction Units were instrumental in providing a much improved network."

John Carrington



↑ Completion of the M4 into south Wales was among the achievements of the Road Construction Units HIGHWAYS ENGLAND

schemes was predominately an engineering task and proposed the creation of six units covering the whole of England. Each would be staffed by Ministry and county council engineering and supportive staff and the director of each unit would be a civil servant.

Each unit would have up to three sub units, responsible for the detailed design of around three quarters of the major road programme. The other quarter was to be carried out by consultants under the control of the unit director.

By the middle of 1968 all six units and 16 sub units were up and running. By 1974 there were 225 civil servants and 2692 local government officers employed by the RCUs. These figures remained fairly static until 1987 when the Department of Transport decided to disband the RCUs, a process that was completed the following year.

Units were merged with enlarged regional offices and the sub units were sold off to various consulting engineers.

The decision to disband the RCUs was generally concluded to be



↑ Sir William Harris, who helped set up the Road Construction Units PORTRAIT BY RON BRIDLE

premature as the programme of major works on motorways and trunk road bypasses was nowhere near complete and many large schemes were in an advanced stage of preparation. The impetus was lost and the political will to complete the programme had disappeared.

In the 20 years of the RCUs the motorway network grew by around 80% to around 5100km, with hundreds of trunk road bypasses and online upgrades built.

Major achievements included completion of the M25, the M40 from London to Birmingham, the M5 towards Exeter and the M4 into south Wales. It also became possible to drive from London to the Scottish border continuously via the M1 and M6.

Not every scheme went according to plan however. The final length of motorway to be built in England – the Birmingham Northern Relief Road – started life as an RCU project.

It had been proceeding on target when the Government decided to offer the project to the private sector as a Design Build Finance and Operate scheme. The road eventually opened >



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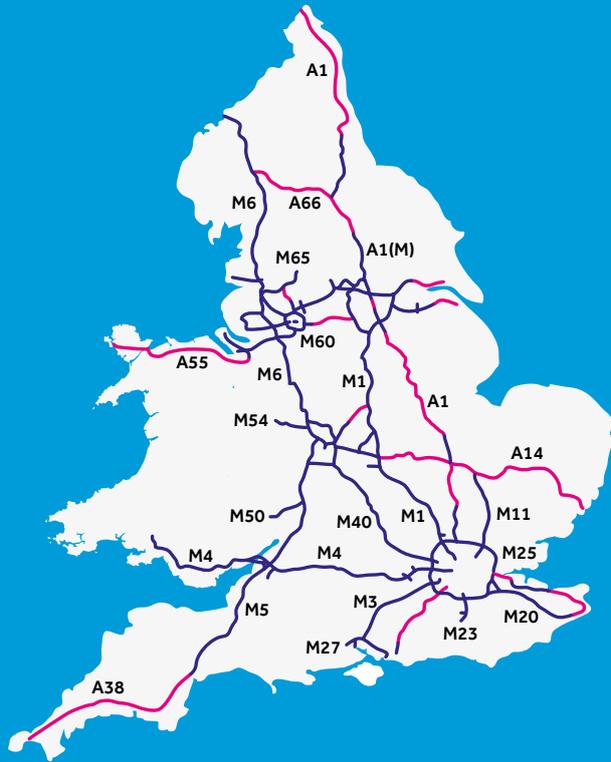
Legal Requirements for Highway Authorities for Maintenance, Drainage, Law & Traffic Management

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Motorways and major trunk roads (as of 2008)



> in 2003, 10 years late, and had become the M6 Toll road. The 20 year life of the RCUs may seem a long time, but when you consider that a major motorway scheme could take 16 years from inception to completion, it was not so long. Major motorway and trunk road projects had several hurdles to pass during its preparation stage.

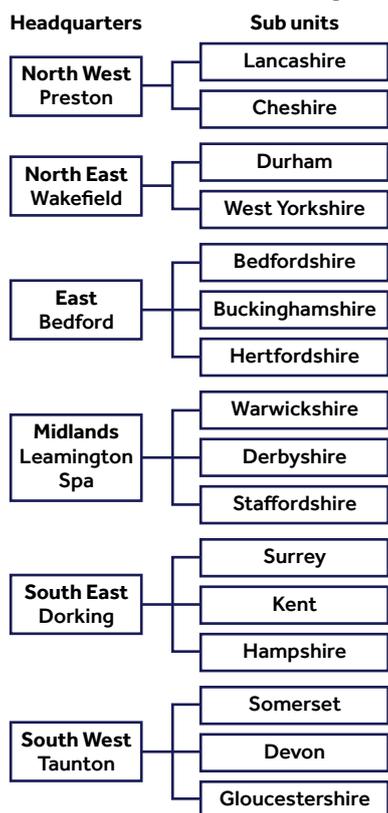
Statutory objections, moratoria, changes in Ministers and Government, the intricacies of the legal system and the rise of the environmental lobby all had to be considered. One motorway project even went through five public inquiries and one public hearing.

The RCUs were an undoubted success and were instrumental in providing England with a much improved network of modern roads. What contributed to this success? Enhanced salaries offered to senior managers helped attract the best engineers, and there was excellent co-operation between the Department of Transport and counties.

But the single most significant factor originated from Sir William Harris's foresight, when he decided

that processes should be engineer lead. As a result the RCU directors had considerable powers, enabling decisions to be made quickly.

Road Construction Units in England



Fifty years of change: a view from site

Highway construction has come a long way in the last half century. Darryl Foxwell MCIHT, whose career began in 1968, looks back at some memorable moments from his early career.



↑ Working practices have come a long way in road building

ROBIN SOPER

"When I started out as a graduate engineer the basic wage was poor, but if you were willing to work hard you got lodge and mobility allowances – both tax free. Pins, pegs and profiles dominated my early days of work.

"I had bought myself a caravan, lived on site and was always ready to move with 24 hours' notice. By the end of 1974 I had saved enough money to put a deposit down on a house.

"I worked 52 and a half hours a week on site, including 8am until 4pm on Sundays. Night work was virtually unknown and annual leave was two weeks plus Bank Holidays.

"The progression up the career ladder was varied, depending on your abilities and in my case I started as a setting out engineer, moving on to become a materials engineer, then



↑ Darryl Foxwell

section engineer, followed by site agent. We were encouraged to take on additional roles such as first aider, safety engineer or measurement engineer.

"Looking back, I am very pleased to see that site safety has improved immeasurably since the late sixties. Site machines, for instance, no longer run on a road without flashing yellow lights and engineers are better protected from passing traffic.

"The manner in which complications on site were resolved are also very different to how they would be handled today. They certainly were for me. I remember working as a section and setting out engineer on a major bypass when I found out that an overbridge already built by another company was one metre out of position. While setting out the road underneath I used ranging poles, steel pins and common sense to set a curve by eye – and it worked!

"At around the same time the country was in a period of transition regarding measurements of length. I had to set out the 'three, two, one' signs at interchanges – but no one knew if the design was to be metric or imperial. So I made a decision to pace it by foot. I didn't receive any complaints! That certainly would not happen today."

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Warm mix message hits home



↑ Uptake of warm mix on the UK's local and strategic road networks looks set to increase from this year

Improving the durability of highways while achieving sustainable outcomes is a key priority for the materials and surfacing industry. Steve Dale investigates new sector developments.

This could be the year that warm mix asphalt finally takes off in the UK, with Highways England shortly due to approve a specification for this more sustainable method of laying road materials.

Warm mix asphalts are produced and applied at temperatures up to 40°C lower than conventional hot mixes, using less energy and improving efficiency and safety on site.

The concept has been around for the better part of the last century. But uptake in the UK has not been significant to date, despite warm mix now accounting for a third of asphalt production in the USA and its use starting to increase across continental Europe.

However efforts by the industry to promote the advantages of using warm mix in the UK now appear to be paying off.

"There is a strong evidence base to prove that warm mix is viable and delivers similar performance to that normally specified," says asphalt director of the Mineral Products Association and spokesman



"Mixing at lower temperatures can contribute to sustainability and climate change objectives."

Malcolm Simms

for the Asphalt Industry Alliance, Malcolm Simms.

He adds that it is incumbent upon the industry to keep clients up to date with emerging opportunities and instil confidence that they are getting a quality product.

"We are a relatively energy intensive industry, so mixing materials at lower temperatures can contribute towards wider sustainability and climate change objectives," he explains.

He also argues that, because using warm mix means the bitumen is "younger and fresher" when it goes down, it may actually offer increased durability over traditional hot mixes.

Some local highways authorities are now beginning to deploy warm mix asphalt on parts of their networks. But its use on strategic roads – where it represents a departure from standard – has so far been much more limited.

"Authorities working with local suppliers may be more willing to trial innovations to gain the potential benefits in light of their stretched budgets and where there may be an element of risk sharing," speculates Malcolm.

He adds that local highway authority trials, combined with experience from overseas, have helped to build the evidence of performance for the wider use of warm mix asphalt in the UK.

"Highways England has traditionally been more risk averse to large scale trials and generic application," he says.

However the strategic road network operator has now confirmed that it is shortly to incorporate a specification for warm mix asphalt into its Specification for Highways Works, subject to regulatory procedural clearance.

The company says it recognises the material's potential carbon savings and durability benefits and adds that mixing at lower temperatures will mean that the materials cool quicker, allowing greater productivity and roads to be re-opened to live traffic sooner.

Warm mix asphalt also creates fewer fumes than hot mix, bringing health and safety benefits to road surfacing teams and creating cooler, more pleasant working conditions. >

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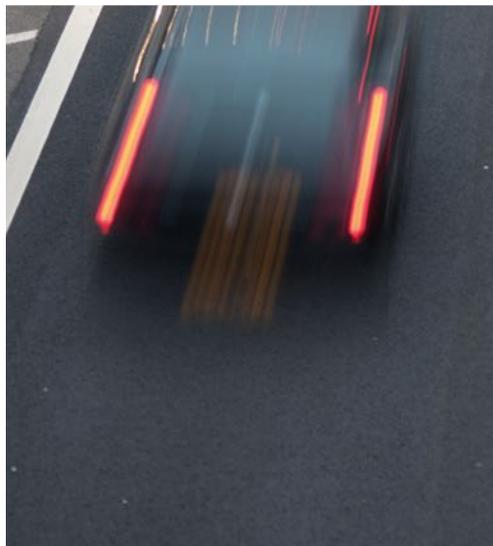
CompoGridseal offers the longest extension in pavement life. Depending on the circumstances Sealoflex SC4 is sprayed between 2-2.5 kgs per sqm with a specialist spraytanker using a spray bar heated by circulating thermic oil. CompoGrid is then installed.

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> "Health and safety is our number one priority as an industry," emphasises Malcolm Simms. "We can develop all the best products in the world, but if we can't deliver them safely then we are wasting our time."

He says that the benefit of Highways England's specification will be to enable and encourage warm mix asphalt's more general use, with carbon and efficiency savings more likely to be achieved when these materials are produced more routinely.

Following the introduction of the specification later this year, the Mineral Products Association is considering setting some "hard, rational targets" for annual volumes of warm mix production in the UK.

Warm mix is currently estimated to represent less than 1% of UK asphalt production. "We would like to see that rise further towards millions of tonnes a year," says Malcolm Simms.



↑ Warm mix may offer greater durability

Call to boost climate change focus

Highway materials firms should seek to better understand the behaviour of asphalt and its constituent ingredients in order to improve the resilience of roads to climate change.

So say specialists from FM Conway, who explain that climate change in the UK is expected to lead to increased levels of rainfall in the short to medium term rather than higher temperatures.



↑ David Smith

This will necessitate the use of denser road materials that are more resilient to moisture, making the need to strengthen the bond between aggregate and bitumen a priority, the company's development director David Smith explains.

"Bitumen is a complicated material comprising hundreds of hydrocarbons in each sample," he says. "We need to understand that combination in detail to get a grasp on how it will perform under increased rainfall."

Dr Helen Bailey of The Driven Company Associates – a consultant to the highway firm – adds that by investing more in understanding the behaviour of materials, the industry can improve their 'predictability' and more intelligently modify their properties to meet clients' design life expectations.

One way to boost this understanding is to collate and analyse data on pavement performance much more efficiently, explains David Smith. "We as an industry don't currently collect sufficient



↑ Roads will need to much better resist moisture

information while laying pavements," he says, adding that there is an opportunity to correlate the theoretical properties of a material, as designed, with the way it was installed in situ to understand why pavements perform as they do.



↑ Dr Helen Bailey

"We are good at investigating failures but not so good at understanding why things have gone well," adds Dr Bailey. "We need to look at that too."

David Smith also encourages highways clients to look at introducing 'performance based' specifications for materials to inspire innovation. Current specifications, he says, tend to be very prescriptive and "don't necessarily encourage the industry to further its understanding when it comes to thinking about the impact of climate change".

Texas test tackles surface cracking

Challenges around reflective cracking on roads where asphalt surfacing is laid over concrete have led bitumen provider Total to bring an innovative American testing method to the UK.

This 'Texas Overlay Test', introduced by the company last year, allows the performance of asphalt overlays to be measured and compared in controlled laboratory conditions.

The UK's highways network contains thousands of kilometres of concrete pavement,

with concrete bridges and other structures also prevalent across the country. Typically, a thin asphalt surface course is laid over the concrete to improve ride quality and reduce noise.

But such installations are prone to failure and it is hoped that the Texas Overlay Test will help to provide insight leading to the production of more resilient materials.

Total Bitumen's technical manager Gary Schofield explains: "The test simulates thermal

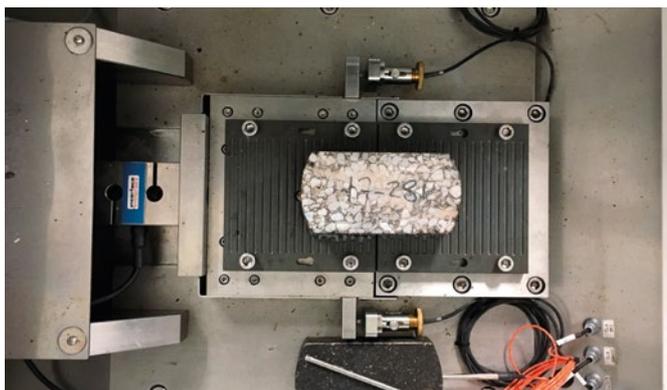
expansion and contraction of a jointed concrete underlay under different weather conditions. It accelerates this process to demonstrate a material's long term resistance to cracking.

It works by fixing asphalt samples to two base plates which – once the equipment is conditioned to the desired temperature – open and close the gap between them in 10 second cycles. Sensors measure how much force is required for the apparatus to make these cyclical movements.

The test is completed when either 1000 cycles have been made, or the force needed to complete the cycle has reduced by 93% since the start of the process – indicating a total failure of the material. Finally the sample is studied for cracks and the result recorded.

Gary Schofield says that, in tests so far at 10°C, asphalt samples using basic bitumens have been found to fail quickly. "But with more highly modified products you can go the full 1000 cycles," he says.

He adds that the test is expected to serve as a useful asset management tool for clients when predicting the service life and deterioration rate of road materials under different conditions.



→ Resilience of asphalt to underlying contractions and expansions is tested

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↑ Motorised vehicles are seldom seen travelling through the historic centre of Ghent JERROEN WILLEMS

No way through for motorists in Ghent

Through traffic has been banished from the centre of Belgium's third largest city in an effort to relieve congestion. Could such a radical measure work in the UK?

First time visitors to the medieval city of Ghent cannot fail to notice the impressive Gothic architecture of several imposing buildings such as Saint Bavo Cathedral and Saint Nicholas' Church. But something else, not so obvious at first glance, marks this place out from most other cities: there is next to no traffic throughout much of the centre.

It is nearly a year since the City of Ghent authority introduced a 'Circulation Plan' which makes it very difficult, if not impossible, to drive through the city from one side to the other. Ghent has been divided into six districts that surround the historic centre and are collectively circled by a ring road, 11km in circumference.

Motorists are free to enter any of the six districts from the ring road and leave the same way, but are generally not permitted to drive from one district to another unless they have special

dispensation. Thirty two cameras track vehicles passing between districts, with a €55 fine levied at motorists without authority to do so.

Restricting movement across the city is aimed at preventing longer distance traffic from entering and congesting Ghent, but it seems also to have dramatically reduced shorter journeys by vehicles inside the conurbation. Transfer between two districts has also been made harder following the introduction of several 'cuts' to key routes, prohibiting all motorised traffic from passing.

"Before the Circulation Plan was introduced, around 40% of the traffic in Ghent was not heading to a destination in the city; now those vehicles have gone," says the city's mobility director Frank Vanden Bulcke. "We have also found that cutting the city up into 'pizza slices' has removed a lot of local traffic and there is better accessibility

for vehicles which have an end point within Ghent."

He adds that the plan has helped public transport to circulate more freely and claims there are now almost no traffic jams in the city centre. "Keeping private vehicles out of the centre helps to keep the city alive; our goal is to make Ghent more accessible, sustainable and liveable. The car is no longer the preferred mode of transportation in the city."

Additional changes recently implemented include increasing the size of the city's pedestrian only areas from 35ha to 51ha, reducing speed limits across the city to 30km/h and increasing the price of parking a vehicle on the street or in an underground car park by a factor of at least two.

An extra 2400 extra parking spaces have been created outside of the city, with a dedicated shuttle bus providing access to the centre. And an electric people mover known as a Wandlebus provides free travel within the larger pedestrian only zones to frail persons or those with young children.

Cycle infrastructure has also been improved, with more dedicated routes created. Journeys by bike currently account for around 30% of all movements, and the city authority aims to increase this figure to 35% by 2030. >



"Keeping private vehicles out of the centre keeps the city alive."

Frank Vanden Bulcke



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The Department of Civil Engineering at Liverpool John Moores University in association with RSTA and Colas Ltd is hosting its 17th Annual International Conference addressing: Pavement Engineering, Asphalt Technology and Infrastructure.

Conference Scope:

The scope includes; pavement design, aggregate and asphalt materials, improvements in paving technology, data collection and pavement inventory management, highway asset management, recycling initiatives, infrastructure and road maintenance. The conference will be of interest to; infrastructure clients, specifiers, designers, local highway authorities, airport operators, consultants, materials suppliers, construction companies, contractors and educational institutions.

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For more information please visit our website:

<https://www.ljmu.ac.uk/asphalt-pavement-conference>
or contact the Conference Director Professor Hassan Al Nageim,
Email: h.k.alnageim@ljmu.ac.uk and Aaraf Al Kouzaay,
Email: aarafkouzaay@yahoo.com, Tel: +44 (0) 151 231 2811.

Publications:

The papers will be reviewed by the conference Scientific and Technical Board and published in the Conference Proceedings. Selected papers will also be refereed and published in a special issue of the International Journal of Pavement Engineering and Asphalt Technology, ISSN 1464-8164.

Key note speakers

1. **Paul Philips, PTS Ltd, UK** – The New Highway Authorities Product Approval Scheme
2. **James Wallis, XAIS Ltd, UK** – Best Practice in Highway Asset Management
3. **Howard Robinson, RSTA, UK** – The New British Standard PD6689 for Surface Dressings and Microsurfacings
4. **Phil Sabin, Aggregate Industries, UK** – Latest Developments in Asphalt Technology including Trials Performance
5. **Rick Ashton, Total Bitumen, UK** – Polymer Modified Bitumen Past Present and Future
6. **John Richardson, Colas Ltd, UK** – Importance of bitumen emulsion spray for pavement performance
7. **Tony Parry, NTEC, UK** – Smart Phones and Pavements
8. **Paul Sanders, Highways England, UK, UK** – The new Specification Clause 936 for Pavements reinforced with Geosynthetics and Steel Meshes
9. **Gavin Jones, BSI, UK** – Demystifying Standardisation and Product Standards

The full preliminary conference programme will be advertised after receiving the abstracts from potential authors.

Registration Fees:

Speaker = **£275** (2 day), **£200** (1 day) and Delegate = **£290** (2 day), **£200** (1 day)

*additional speaker/delegate from the same organisation = **£200** (2 day), **£150** (1 day)

Exhibitor = **£300** (2 day) and additional member with the main exhibitor = **£100**

Early bird registration fees before 10th February 2018 are offered at a **10% discounted rate** and RSTA, CIHT, IAT, IHE, ICE members will benefit from a reduced registration fee of **15%**.

Registration online: <http://buyonline.ljmu.ac.uk/conferences-and-events/ljmu/conferences/pavement-conference-2018>

For more information, list of accepted abstracts and preliminary conference programme, please visit conference website:

<https://www.ljmu.ac.uk/asphalt-pavement-conference/>

Venue: Sensorcity, 31 Russell Street, Liverpool, L3 5LJ, www.sensorcity.co.uk

Key Dates Submission of abstract: 20 January 2018 Submission of full paper: 30 January 2018



**THE CHARTERED INSTITUTION OF HIGHWAYS & TRANSPORTATION
EXTRAORDINARY GENERAL MEETING**

CIHT is looking to secure Chartered status for the **Transport Planning Professional (TPP)** qualification. This status would raise the profile of the transport planning profession and encourage more transport planners to apply for the award.

Trustees are calling an **Extraordinary General Meeting (EGM)** on 14 March 2018 to seek a resolution from members for the necessary amendments to our Charter.

If an agreement is reached at the EGM, then a petition for these amendments will subsequently be submitted to the Privy Council.

This EGM is for CIHT members only, please confirm your attendance beforehand to Jenny Tyler e: jenny.tyler@ciht.org.uk or t: +44(0)20 7336 1557.

NOTICE IS HEREBY GIVEN that an **EXTRAORDINARY GENERAL MEETING** of the Chartered Institution of Highways & Transportation will be held at 119 Britannia Walk on Wednesday 14 March 2018 at 16:00hrs.

AGENDA

1. To receive the report from the Trustees, and seek agreement, on proposed changes to CIHT's Charter in relation to the introduction of a Chartered title for the TPP qualification
2. To transact any other business

Notes

1. The Trustees report on the proposed changes to CIHT's Charter will be available online from 28 February 2018. Hard copies will be available on request from this date. If you would like to receive a copy please email the Governance Team at governance@ciht.org.uk

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By Order of the Board
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Sue Percy
Chief Executive
February 2018**

Awards 2018

Have you been involved in a successful highways or transportation scheme?

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Awards submission entries welcome from 3 January 2018.



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Entries open at:
www.ciht.org.uk/awards2018

Evolution of radical city thinking

Ghent may only have 259,000 inhabitants but in the 14th Century was one of the largest cities in Europe. With industrialisation 500 years later the city became a centre for the cotton industry.

As the city evolved, the population spread out over a wide area and today its ring road encompasses a notably large area for the size of conurbation.

Twenty years ago Ghent introduced a pedestrian zone, banning through traffic from the historic centre. "It was a huge success, despite some shopkeepers not agreeing at the beginning," says the city's strategic mobility planner Jan Gheldof. "But a couple of years ago we noticed a problem with through traffic and the Mayor decided it was time for a rethink in terms of how traffic is regulated."

This rethink led to the introduction of Ghent's

Circulation Plan last April, when the city centre was divided into six sectors to manage traffic movement and the pedestrianised zones were doubled in size.

At one important intersection beside a canal in the city – previously popular with both cars and cyclists – access for private vehicles has now been banned. Up to 800 cars used to pass through the intersection each hour, but now as many as 1400 bikes an hour ride through the area every morning and evening. Red lines painted on the road remind approaching motorists that they are no longer allowed to pass that point.

Motorists who live in a pedestrianised area are permitted to drive to their homes. But some residents have started to display a sticker in their windscreens to deflect unwarranted criticism from other road users that they may

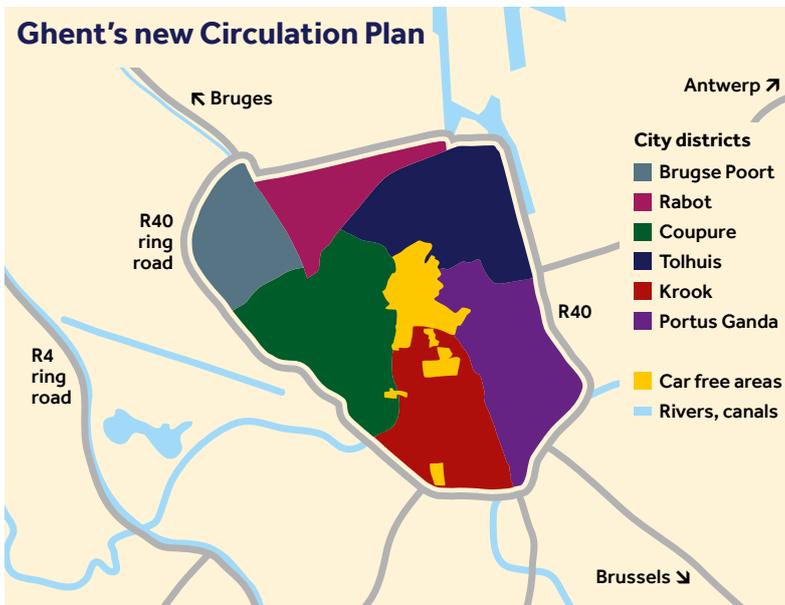


↑ Ghent champions tranquil living JERROEN WILLEMS

be breaking the rules when behind the wheel in a pedestrian zone.

Elsewhere in the city, junction priorities have changed to favour the movement of cycles over cars. Cycling through the city in December, TP noticed how easy it was to get around by bike. But cobbled streets in the centre were slippery in the rain and care had to be taken to avoid getting your front wheel lodged in one of many tram lines.

Ghent's new Circulation Plan



> Ghent's mobility team is confident that the Circulation Plan has notably reduced vehicle movements and claims also that bus patronage has risen by around 10% since last spring.

But it will not know for sure how successful it has been in cutting traffic until this April, when a set of data is published to mark the end of the plan's first year of implementation.

But while vehicle use within the central cordon is likely to have dropped, the city authority recognises also that some routes providing access to and from the ring road may have seen an increase in traffic.

Overall, the city is pleased with how the Circulation Plan has performed. But can a ban on vehicles travelling through an urban centre work only

for relatively small cities, like Ghent? Frank Vanden Bulcke does not think so. "Most of the things we are doing could be exported to little cities, but also to big cities too," he says.



↑ More than a third of journeys in the city are made by bike JERROEN WILLEMS

Could a circulation plan, like that seen in Ghent, work in large towns and cities in the UK?



Laura Peacock
Innovation manager
Oxfordshire County Council

This is a very interesting proposal. Whether something similar would work in Oxford requires more detailed consideration and technical work, not least an understanding of the impact on the Oxford 'Ring Road' which already carries large volumes of traffic and the A34 for a significant section.

We are actively exploring options for further demand management in Oxford city to stop general traffic moving through the centre. This includes consideration of a congestion charge and workplace parking levy, which would support and complement proposals for bus rapid transit, a step change in cycling and public realm and a city wide zero emission zone.

The Council is also collaborating with data aggregation and communication innovators to explore how we combine these new methods with demand management.



Tony Ciaburro FCIHT
Chief executive, SOCIETAL and former
Northamptonshire County Council director

Northampton's central area has evolved around an ancient street layout and is extremely sensitive to even the most minor incident or change in travel patterns.

We have what could once have been described as an 'Inner Ring Road' but decades of sporadic development has been such that it is now the key distributor road for most traffic entering or leaving the central area and the town.

It is already at capacity most of the time and is fed by a number of heavily congested radial routes. For many motorists there is very little opportunity to vary their routes.

Preventing traffic from travelling between local districts would have little effect on the central area congestion. However, radical solutions such as Ghent's are heading in the right direction and remind us that we have to be bold in our thinking.

Length of trips by mode and the decrease in walking

Rates of walking are down, but only for journeys shorter than one mile, according to Kit Mitchell FCIHT who looks back at travel trends over the last three decades.

Introduction

It is well documented that the amount people walk has reduced over the past 30 years, from 244 journeys per year in 1985/86 through to 198 in 2002 and to 184 in 2015. It is often believed that this is because people are using cars for journeys they previously made on foot. But that may only be partially correct, if at all.

The annual National Travel Survey from the Department for Transport provides good data on the numbers of journeys of different lengths made by different modes (walk, cycle, bus, car, train) and for different purposes.

Limited data goes back to 1972, with reasonably comprehensive data since 1995. Data was initially collected every three years and annually since 1988. There have been a number of breaks in the series and because of falling response rates, data has been weighted since 1995. And from 2013 the survey has only covered England instead of Great Britain.

Also, the 2016 National Travel Survey analysed the recording of short walks (50 yards to one mile) and has increased its estimated number of short walks. This paper, which is concerned with trends, will not use data for 2016. Despite these changes,



↑ Pedestrian movements for short journeys has fallen steadily since the mid 1980s

RAFAL OLKIS – SHUTTERSTOCK

the Survey gives a unique insight into how travel has changed since 1972.

In addition, this paper analyses the length of journeys to understand the change in the number of journeys made wholly on foot.

Journey numbers and modal split

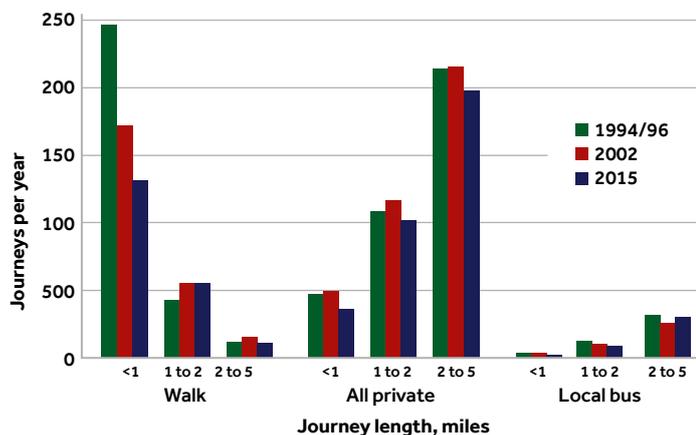
Figure 1 shows the number of journeys on foot, by private transport (as a driver or passenger) and by local bus, in length bands of under one mile, one to two miles and two to five miles.

This shows a reduction in the number of journeys on foot, but

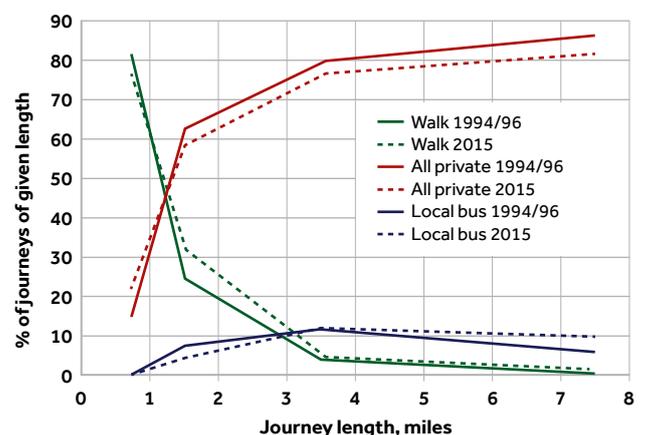
only for those journeys shorter than one mile.

The number of longer walk journeys over one mile has increased slightly. It also shows that short walk journeys have not become short car journeys, as the number of private journeys shorter than one mile has reduced.

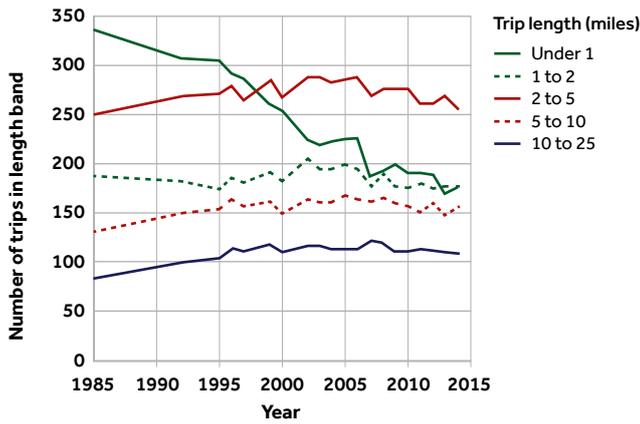
Figure 2 shows the modal shares of journeys of different lengths by foot, private transport and local bus. It is clear that these have not changed significantly between 1994/96 and 2015. For journeys shorter than one mile, 75% to 80% are made on foot.



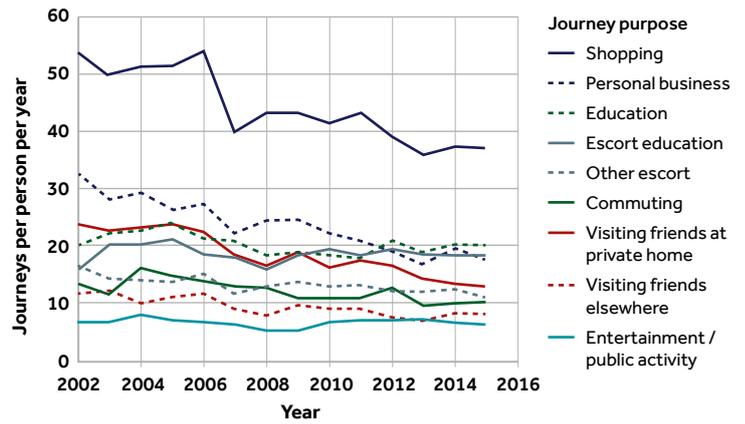
↑ Figure 1: The number of walk, bus and private transport journeys by length NATIONAL TRAVEL SURVEY



↑ Figure 2: Modal shares of journeys of up to eight miles long NATIONAL TRAVEL SURVEY



↑ Figure 3: Numbers of journeys by all modes in length bands
NATIONAL TRAVEL SURVEY



↑ Figure 4: The number of journeys per person per year shorter than one mile for various purposes
NATIONAL TRAVEL SURVEY SPECIAL TABULATION

Changes in journey patterns

As the share of short journeys made on foot, and the number of walk journeys longer than one mile, have not changed, the only explanation for the overall reduction in journeys on foot is that the number of journeys under one mile by any mode must have reduced.

Figure 3 shows that this is indeed the case. The number of journeys shorter than one mile has been falling steadily, from 335 in 1985/86 to 189 in 2015. The number between one and two miles has fluctuated between 174 and 204 journeys, and those between two and five miles rose from 250 to 290, and have now dropped back to 254 journeys.

The reduction in short walking journeys is because we are making fewer short journeys, not that we are no longer walking when we make a short journey.

One can speculate about the reasons for the reduction in the number of journeys shorter than one mile. One possibility is that there are fewer destinations within a mile. Another possible reason is that we are choosing to use a car to travel further to obtain a greater choice of destinations.

The Department for Transport has provided a table from the National Travel Survey showing the number of journeys shorter than one mile for different purposes since 2002.

Figure 4 shows these journey numbers for a variety of travel purposes. For some purposes such as education, escorting others to a place of education and for entertainment / public activity, the number of journeys per person per year has changed little since 2002.



Dr Kit Mitchell, Former chairman of the CIHT Transport Policy Board
Kit joined the Road Research Laboratory in 1970 and from 1982 was head of the then Transport & Roads Research Laboratory's Environment Division. He retired from the Transport Research Laboratory, as it was then called, in 1994.

For others such as shopping, personal business and visiting friends at home, there have been large reductions in the number of journeys. For a third group, which includes commuting and visiting friends not at their home, there has been a small reduction in the number of journeys.

The number of journeys shorter than one mile reduced, on average, from 224 in 2002 to 173 in 2015. Of this reduction of 51 journeys, 31 were for shopping or personal business, 11 for visiting friends at home, four for visiting friends elsewhere and four for commuting.

This suggests that the reduction in short journeys is mainly a result of reducing the use of local shops and services and of making fewer local social visits. Whether this is because the number of local shops, services and acquaintances has reduced, or that people are choosing to use a car to travel to more distant destinations, is not known.

Conclusion

The message is very clear. The reduction in walking is limited to journeys shorter than one mile. This reduction is because of an overall reduction in journeys under one mile, not due to short journeys switching from walk to car.

And 80% of the reduction in journeys shorter than one mile is due to reductions in the numbers of short journeys for shopping, personal business and visiting friends at home.

This clearly has implications for policies to increase walking which both the planning professionals and those in transport need to consider.

They are relevant to how as a society we plan 'neighbourhoods' and what sense of 'local community' we may wish to encourage.

Acknowledgement

This article has been peer reviewed by the CIHT Sustainable Transport Panel.



→ Short trips for shopping have fallen sharply
ALICE-PHOTO - SHUTTERSTOCK

Members excel at professional review

Congratulations to all our members who successfully passed their professional reviews through CIHT at the end of last year.

The Institution offers routes to a number of qualifications including CEng, IEng, EngTech and – alongside the Transport Planning Society – the TPP qualification.

CIHT President Andreas Markides said: "Becoming professionally qualified is a major achievement for people in our sector and we are proud that so many members are choosing to do this through CIHT."

He added that becoming qualified demonstrates the successful candidate's knowledge, expertise and professional attitude that are highly valued by employers, colleagues and customers.

"Gaining this international



↑ Dr Precious Ikem CEng

recognition of competence and commitment gives our members greater influence within their own organisations and helps to raise professional standards across the wider industry," he said.

"I am delighted to have the opportunity to congratulate all of our newly qualified members on their fantastic achievement."

The next series of engineering professional review interviews in the UK will be held in June, followed by October. TPP interviews are held in May and November.

The first step for prospective candidates is to go through an initial assessment that determines the route they should take towards their chosen qualification.

For those taking the standard route, the process involves piecing together a comprehensive portfolio of evidence demonstrating key career experiences, before appearing in front of a panel of examiners for their interview. This comprises a presentation about a project the candidate has worked on followed by an extended discussion about their submission.

Jacobs senior transport consultant Dr Precious Ikem MCIHT – who recently became a Chartered Engineer – said: "Preparing for review is a lot of work and to be

successful you have to be motivated to put the effort in."

She highlighted the benefits of undertaking regular 'gap analysis' alongside a mentor to identify areas where the candidate needs to gain more experience. Professional development plans can then be put in place to fill these gaps.

It is also important for members to set professional qualification as a long term goal and to keep detailed records of their career experiences for use when collating their portfolio of evidence, she said.

Precious – who holds a PhD as well as Masters and Undergraduate degrees, and has made key contributions to projects including East West Rail – described her CEng qualification as "one of my greatest achievements". She said: "When I heard I had passed I was over the moon with excitement; this was a long term goal for me and something I had always dreamed of."

Dundee City Council's David Robertson MCIHT also achieved a professional qualification recently, passing his IEng review. Doing so was a prerequisite for securing his current job as an engineer in the council's design and property division infrastructure team.

David has worked in transport for over 20 years after joining the



↑ David Robertson IEng

profession from school, and spent just over a year pulling together his portfolio of evidence.

He praised his two sponsors – CIHT Scotland vice chair Ross Spiers and Dundee City Council's head of bridges and structures Gary Brady – for mentoring him through the process. "One of the most useful things for me was taking mock interviews, which really help to polish your presentation skills," he added.

Gary Brady congratulated David on his success, and said: "Mentoring is about providing guidance for people to manage and develop their own skills progression. As well as assisting the individual's development, this ultimately benefits the organisation."

For more information email: education@ciht.org.uk

Professional qualifications have recently been achieved by the following members:

Engineering Technician (EngTech)

- Shaun Ali, Amey

Chartered Engineer (CEng)

- Syed Akhter, Aberdeen City Council
- Kwasi Ntirakwa Amoah, Royal HaskoningDHV
- Sean Bermingham, Peter Brett Associates
- Sam Biney, Colas
- Oliver Brown, Amey
- Daren Carr, Arup
- Kenn Clark, Aberdeenshire Council
- Mark Cooper, CH2M

- Ruoyun Gao, Transport for London
- Tee Hoe Giam, Mott MacDonald
- Stuart Guthrie, WSP
- Iain Hamilton, Aecom
- Precious Nene Ikem, Jacobs
- Craig Maiden, Amey
- Deborah Makinde, Highways England
- Iain McKenzie, Welsh Government
- John Phillips, Arcadis
- Demetris Psyllides, Markides Associates
- Darren Salmons, Atkins
- Anthony Sewell, PTS International

- Janvi Shah, Atkins
- Aftab Sindh Talpur, Egis Rail (Riyadh Metro Transit Construction)
- Sonia Smith, Amey
- Brendan Weaver, WSP

Incorporated Engineer (IEng)

- Michael Birkett, WSP
- Sean Liam Clifford, Amey
- Ben Gray, Waterman Aspen
- Colin Grzybowski, Fairhurst
- James Heathcote, Atkins
- Paul McGeever, WSP
- Darren Mitchell, Scotland Transerv

- David Robertson, Dundee City Council
- Jodie Robins, Aecom
- Stephen Scott, Amey
- Robert Sheal, Atkins

Transport Planning Professional (TPP)

- Claire Carr, Sweco
- Billy Parr, TfL
- Eamon Scullion, Arup
- Rachel Thomas, Peter Brett Associates
- Donald Yell, Surrey County Council



tel: 0207 336 1555 twitter: @CIHTUK
email: info@ciht.org.uk web: ciht.org.uk

President:
Andreas Markides FCIHT

Chief Executive:
Sue Percy

These pages are edited by Steve Dale. To suggest stories for CIHT News email: steve@transportation-mag.com

Copy to be considered for publication in the next issue should be submitted by Friday 21 February.

Event makes the case for transport

Effective transport networks make a hugely positive contribution to society, a CIHT event in London heard in December. But more efforts are needed to understand and manage future disruptive trends to ensure that transport continues to deliver good outcomes for all.

Six presentations from specialists looking at developments in the sector were followed by a lively roundtable discussion involving 24 participants.

The most pressing disruptive issue to be debated was around autonomous cars. It was suggested that their introduction to cities could reduce both the need for parking and the overall number of vehicle miles travelled, especially if such vehicles were shared by multiple users.

But it was also argued that autonomous vehicles may make it less attractive to walk or cycle and could lead to problems in shared spaces. "You could imagine a

scenario in cities where a network grinds to a halt if cyclists and walkers know they can stop autonomous cars by pushing out in front of them," came one comment. "This might lead to a return to guard railing".

It was also said that opportunities to engage in activities other than driving in autonomous vehicles would represent a huge change to current thinking around transport planning. "Time savings would be worth less to people if they can use their time more productively," one participant said.

"They might be prepared for a journey to take longer if they can get work done or have a rest."

Prior to the discussion, the event heard from Professor Peter Jones of University College London who discussed findings from the EU backed 'Create' project to tackle urban congestion.

Lucy Saunders, a public health consultant with Transport for



↑ Potential benefits and drawbacks of driverless cars were debated NISSAN

London, discussed the Mayor's 'healthy streets' approach and explained that providing suitable shade and shelter on the street and reducing road traffic noise were important areas of current thinking.

Department for Transport's economic advisor John Nava gave an update on WebTAG used to appraise wider economic impacts of schemes and Transport for the North's Tim Foster talked about how transport networks are shaping people's decisions on where to live.

Highways England's Jeremy Clarke spoke about development of the second Road Investment Strategy and Cambridge Economic

Policy Associates' principal Ivan Viehoff discussed developments in transporting freight.

CIHT's director of technical affairs Andrew Hugill said: "CIHT sees at a wider level how making the case for economic growth requires making investments into transport. At the same time we see how transport can unlock other benefits, notably by improving peoples' health if support for walking and cycling is given."

● Log in to the CIHT members' area on the website to listen to the presentations: under the title 'conference presentations'. See also a recent CIHT Podcast on Making the Case for Transport.

Submissions invited for annual awards

Entries are now open for the CIHT Awards 2018 which are due to be presented in the ornate surroundings of London's De Vere Grand Connaught Rooms venue on Thursday 14 June.

The Awards celebrate excellence in the highways and transportation industry, rewarding the successes of those working in the sector and promoting examples of best practice to a wide industry audience.

Sponsors this year include Colas, Costain, Department for Transport, Ringway, Tarmac and WSP.

Submissions are being invited in 15 categories and will be welcomed until Friday 2 March, except in the case of the CIHT Inspirational Leadership Award which closes on Wednesday 11 April.

Visit the CIHT website to view judging criteria and details of how to submit entries in the following categories:



← The De Vere Grand Connaught Rooms will host this year's Awards ceremony

- CIHT / Tarmac Collaboration Award
- CIHT / Ringway Innovation Award
- CIHT Health & Safety at Work Award
- CIHT Major Projects Award
- CIHT / Colas Skills Award
- CIHT / Costain Sustainable Transport Award
- CIHT Inclusive Transportation Award
- CIHT Creating Better Places Award
- CIHT / Department for Transport Technology Award
- CIHT John Smart Road Safety Award
- CIHT Sustainability Award
- CIHT Asset Management Award
- CIHT Diversity & Inclusion Award
- CIHT Inspirational Leadership Award
- CIHT Young Professional Award

The event includes networking opportunities and a black tie dinner ahead of the main awards ceremony.

For general enquiries and booking email conferences@ciht.org.uk or to discuss sponsorship opportunities email daniel.isichei@ciht.org.uk

In brief

STREETS REVIEW:

Recommendations for Government and the industry on ways to improve the delivery of inclusive and accessible streets are featured in a new review published by the Institution. The document 'Creating Better Streets' is available to view at ciht.org.uk/stue

PRIZE STUDENTS: Congratulations to Masters graduates Sarah Betts and Jeffrey Howard of the University of Westminster who received CIHT Foundation dissertation prizes at their graduation ceremony in November. They received certificates and cheques for £125.

COUNCIL ELECTIONS: Members and Fellows keen to influence change within the industry are invited to put their names forward for the 2018 Council Elections by 23 February via mi-nomination.com/ciht For more details call 0207 336 1557 or email governance@ciht.org.uk

Welsh schemes celebrated at ceremony

Efforts to deliver a 1.2km elevated dual carriageway through Cardiff docks have been recognised by CIHT Cymru Wales, which named the A4232 Eastern Bay Link 'Transportation Project of the Year' in November.

The Welsh Government's £57M project opened in June, creating a new connection through the docks that reduces congestion in the city and improves access to employment sites. Also involved in the scheme were WSP, Parsons Brinkerhoff, Corderoy, TACP, Capita and the Dawnus/Ferrovia Agroman JV.

The Eastern Bay Link was one of several projects to be recognised at the CIHT Cymru Wales Awards Dinner, where winners received trophies from Chair Roddy Beynon and CIHT President Andreas Markides.

The award for Environmental Sustainability Project of the Year went to Swansea City Council and Alun Griffiths Contractors' Morfa Distributor Road scheme. As well as providing access to new development sites, the road opens access to the Tawe riverside and features environmental improvements.

Winner of the Gwreiddiau Cymru Wales Origins award was North Somerset Council's South Bristol link road, delivered by Alun Griffiths Contractors with Jacobs. The award celebrates schemes that demonstrate the excellence of the Welsh transportation sector outside of Wales.

An initiative of Gwynedd Council and YGC to encourage motorists to drive sensibly and respect school crossing patrol staff at Ysgol y Garnedd School received the Alun Griffiths Safety Award.

The Transportation Geotechnics Award went to the Welsh Government, YGC and Jones Bros for advance works on the A55 Abergwyngregyn to Tai'r Meibion upgrade in North Wales.

The judges also made two special merit awards to the Llangefni Link Road and Colwyn Bay Waterfront schemes.

A Certificate of Merit was presented to David Meller – who was North Wales branch treasurer for many years – for his dedication and commitment to the Institution and for mentoring individuals through their professional qualifications. He has been the Cymru Wales regional vice treasurer since 2015.



↑ Cardiff's Eastern Bay Link project completed last summer DAWNUS/FERROVIAL AGROMAN

Finally, Philippa Ivens of Arup won the Emerging Professional Award after she was named runner up in the Colas CIHT Presentation Award national final in London.

Guest speaker for the evening was Welsh rugby star Shane Williams who regaled the audience with stories of his time playing and also took the time to sign shirts and pictures for the guests.

The event was sponsored by Alun Griffiths Contractors, Corderoy, Jones Bros (Ruthin), Hogan Construction and CH2M.

Young professionals network sets objectives

Valuable contributions that young professionals can bring to CIHT and wider industry debates will be promoted through a new nationally focused group set up by the Institution.

The Young Professionals Network (YPN) was first announced in April last year and held its inaugural meeting at Britannia Walk in November, attracting over 25 members from across the country.

The aim of this initial meeting was to develop the terms of reference for the group, which have now been put into a draft vision document.

"We are seeking to build on the success of CIHT's Regional Young Professionals groups and start looking at nationally significant agendas that affect the Institution's younger members," commented the YPN's founding chair Ed Downer.

Topics of interest are likely to range from exploring the emerging role of technology in the industry, to tackling the skills agenda and

supporting members with career progression.

Ed – who is a principal transport planner with Mott MacDonald based in Leeds – added: "I see the Network as a forum for young professionals to engage with the big topics currently facing the sector. It is about energising our younger members and providing a focus for their ideas and feedback to be heard."

He also explained that the Network has set itself three core objectives beneath the headings 'Engage', 'Enable' and 'Empower'. The first – Engage – represents efforts to encourage younger people including members and non-members to attend and benefit from CIHT initiatives.

The second – Enable – is about providing younger members with opportunities to help organise and coordinate these initiatives, including key events such as a proposed YPN conference later this year.



↑ YPN Chair Ed Downer

And finally the third objective – Empower – will look to give young professionals a role and a voice in the governance and direction that CIHT takes as a learned society and membership group.

Involvement in the group will also provide an opportunity to network at a national level among a diverse range of other professionals in the early stages of their careers.

For more information contact regions@ciht.org.uk

Qatar discusses sustainability

CIHT's Qatar Group hosted two speakers from the Qatar Green Building Council in November to discuss the use of sustainable construction materials on projects.

Dr Cynthia Skelhorn explained how sustainability practices are moving to a 'circular economy' approach which reduces waste. This can be achieved by identifying where material which had previously gone to landfill can be recycled or reused on schemes.

For instance in Qatar research on recycled aggregates has led to some of these materials being reused in roads. It was also said that materials optimisation through the use of BIM modelling can reduce waste.

Next, Dr Alex Amato explained the need to take a 'life cycle' approach when looking at materials. Discussing case studies, he noted that the extraction, transportation, maintenance, recycling and disposal of a material must be considered to truly understand its impact.

CIHT Qatar is sponsored by AECOM, DCE, Egis, Fugro, PAF, Seero, TMS, and WSP.

National events – CIHT and others

For further event listings, visit ciht.org.uk/events

Priorities for transport infrastructure in Northern Ireland

20 February, Belfast

Including a discussion on priorities for long term investment in infrastructure post-Brexit.
policyforumforni.co.uk

MaaS Market – concept to delivery

20 – 21 February, London

Focusing on the rapid progress being made by Mobility as a Service projects across Europe.
maas-market.com

Asphalt, pavement engineering and infrastructure conference

21 – 22 February, Liverpool

Discussing developments in pavement design, materials and highway asset management and maintenance.
ljmu.ac.uk



↑ Materials science AECOM

Lighting for transport and infrastructure conference

22 February, London

Discover innovative lighting solutions for consideration on upcoming transport projects.
bit.ly/2ziR4fu

Developing England's road network

22 February, London

Priorities for the second Road Investment Strategy and a Major Road Network will be discussed.
weetf.co.uk

Sustainable Transport & Health

27 – 28 February, Portsmouth

Portsmouth City Council's innovative approach to transport and public health collaboration will be a focus.
conferences@landor.co.uk

Transport-led development in the North of England

6 March, Manchester

Examining opportunities to transform the Northern economy through the delivery of new and improved transport infrastructure.
waterfrontconferencecompany.com

Road safety conference

7 March, Coventry

An opportunity to explore and debate the question: can road safety, public health and air quality priorities support each other?
rospa.com

CIHT Annual Conference 2018

8 March, Park Plaza Victoria, London

Change, innovation and the future of highways will be the theme of this one day conference, which includes workshop sessions.
ciht.org.uk



↑ Rail electrification NETWORKRAIL

Next steps for funding regional projects

8 March, London

Focusing on the issues facing Local Enterprise Partnerships and the role of Combined Authorities.
westminsterforumprojects.co.uk

Accelerate Rail event

15 March, London

Bringing together key industry figures to contemplate the current state of the UK's rail sector.
marketforce.eu.com

The future of UK ports post-Brexit

27 March, London

Road and rail connectivity will be discussed as well as the various challenges posed by Brexit.
weetf.co.uk

Transforming Cities

13 April, Leicester

Leading policy makers, stakeholders and practitioners will share successful approaches to city regeneration.
bit.ly/2zccSJO

CIHT Region events

Don't forget, members can attend events in any region. Visit ciht.org.uk/events for full listings

South West

Annual Conference and dinner

22 February, Grand Hotel, Torbay Road, Torquay

The conference will focus on the CIHT President's theme 'Creating Better Places'.
donna.brodie@jacobs.com

London

Healthy streets – improving walkability

28 February, Arup, Fitzroy Street, London

Arup's Susan Claris will discuss how ambitions to increase sustainable travel can be achieved in the capital.
london.secretary@ciht.org.uk



↑ Susan Claris

North East and Cumbria

Young professionals presentation evening

14 March, Northern Stage, Newcastle, 5.30pm

This free event gives the Region's young members the chance to present to a professional audience.
ciht.org.uk

East Midlands

East Midland Gateway / A6 Kegworth Bypass

20 March, Yew Lodge Hotel, Packington Hill, Kegworth, 6pm

A look at a proposed freight interchange and associated road project.
eastmidlands@ciht.org.uk

London

Annual Dinner

20 March, The Lansdowne Club, Berkeley Square, London, 6.30pm

Guest speaker at this year's event will be London's walking and cycling commissioner Will Norman.
stelios.rodoulis@jacobs.com

International events

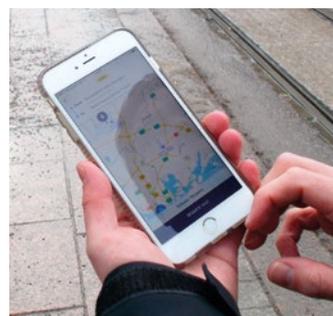
Intertraffic exhibition

20 – 23 March, Amsterdam

A chance to meet hundreds of exhibitors and discover the latest trends in infrastructure, traffic management and smart mobility.
intertraffic.com

Pavement preservation and recycling summit

26 – 28 March, Nice



↑ Digital transport

Focusing on the adaptation of roads and streets to future mobility and best practices in road maintenance.
pprs2018.com

A digital era for transport

16 – 19 April, Vienna

Exploring the impact of digital technologies and automated and low carbon vehicles on the sector.
traconference.eu



The following people have been elected to the CIHT from 8 August - 10 November 2017

- Fellow**
- Sonia Davidson-Grant
 - Lindsay McGregor
 - Daniel Ruiz
 - Chris Sheppard
 - Nick Tyler
 - Philip Moore
 - Nicola Morris
 - Marny Moruzzi
 - Kenneth O'Hara
 - Timothy Pharoah
 - David Prior
 - David Stones
 - Nicholas Taylor
 - Christopher Young
 - Yih Bing Eeh
 - Hassan ElGouhary
 - John Esuman-Gwira
 - George Fenish
 - Kowk Fai Fung
 - Maria-Rosa Gallego
 - Mario Gatti
 - Lance Hancox
 - Declan Haugh
 - Nick Howdle-Smith
 - Paul Jackson
 - Wael Jamous
 - Jasvinder Jawanda
 - Agnieszka Jezierska
 - Dylan Jones
 - Hannah Jones
 - Hermanus Joubert
 - Jwan Kamla
 - Mark Kelly
 - Lewis Kenworthy
 - Saima Khan
 - Kieran Kincaid
 - Benny Lee
 - Barry Lennie
 - Phillip Lewis
 - Bin Luo
 - Hasher Mahnavi
 - Ghulam Mirza
 - Hannah Moore
 - Jonathan Moore
 - Siobhan Murphy
 - Jim Naylor
 - Alan Oliver
 - Rachael Oliver
 - Craig Park
 - Ben Passmore
 - Chun Pau
 - Stephen Pilkington
 - Heather Plummer
 - Hazel Reid
 - Chris Riley
 - Emile Roberts
 - Sathananthan Saenthan
 - Shalini Sharma
 - Hannah Shewan-Friend
 - Kam Leong Siew
 - Dominic Smith
 - Ian Smith
 - Zoe Smith
 - Bruce Spencer-Knott
 - Dominik Stansby
 - Richard Storey
 - Craig Sutherland
 - Nathan Thomas
 - Ed Thompson
 - James Webb
 - Michael Welsh
 - Ian Wharton
 - Benjamin Whyman
 - Yuen Yi Wong
 - Arren Yates
 - Sui King Yu
 - Shahid Bhayat
 - Sasha Boland
 - Shamaka Chandramohan
 - Ryan Curry
 - Luis Diaz Gutierrez
 - Thomas Dove
 - Christopher Duncan
 - Ramon Espin Izquierdo
 - Diana Furtado
 - David Heard
 - Tom Holian
 - Naomi Malkin
 - Lewis McAuliffe
 - Matteo Novati
 - Samuel Oswald
 - David Pearce
 - Gaelle Samaha
 - Claire Staphenhill
 - James Stokes
 - Yan Sun
 - Tara Tanoz-Sargeant
 - Matthew James Gilliver
 - Jemma Gillman
 - James Goss
 - Sean Grant
 - Kieran Green
 - James Harris
 - Grace Honnor
 - Ashley Hughes
 - Matthew Jackson
 - Brooke Knight
 - Simon Knox
 - Hussein Lambert
 - Kyle Line
 - James Longley
 - Joe Lungley
 - Robert Magill
 - Izaak Makwana
 - Lewis Malin
 - Joshua Manning
 - Abigail Mason
 - Christan Maxwell
 - Olivia Meacham
 - Callum Newell
 - Zubair Novsarka
 - Jordan O'Loughlin
 - Jack Pope
 - David Powell
 - Barinedum Precious
 - Ben Rolph
 - Erin Ruddy
 - Alyssia Samra
 - Bobby Savage
 - Aaron Schofield
 - Freddie Seal
 - Jon Smith
 - Peter Still
 - Geordan Stout
 - Adam Szplit
 - Olivia Thomas
 - Joshua Tuckwell
 - Daniel Turner
 - Liam Winter
 - Megan Woodhouse
 - Bradley Youngman
- Transfer Member to Fellow**
- Ikenna Akubueze
 - Haydar Al-Rukabi
 - Olukayode Anibaba
 - Michael Barratt
 - Nicholas Bebb
 - Peter Caillard
 - Claire Carr
 - Richard Carr
 - John Dyer
 - Peter Foster
 - Julia Gilles
 - Andrew Hugill
 - Kamiran Ibrahim
 - Daniel Jackson
 - Phillip Jones
 - Matthew Lewis
 - Glenn Lyons
 - Andrew Mayo
 - Harold Alberto
 - Dennis Alima
 - Robert Amey
 - Kow Amissah-Koomson
 - Raphael Apriou
 - Richard Askew
 - Matthew Barber
 - Sophie Best
 - Nick Brennan
 - Alexandra Bulmer
 - Sean Clifford
 - Jamie Clift
 - Jodie Colclough
 - Martin Devitt
 - Tomas Dryburgh
 - Samuel Eaves
- Member**

Graduate

- Khaled Abeolenen
- Jodie Allan
- Calum Brown
- Jack Clarke-Williams
- Calum Davidson
- Rebecca Harrison
- Natacha Johnson
- Sara Lepidi
- Sarah McDonagh
- William David Moore
- Rosemary Ovenshehi
- Matthew Shuttleworth
- Dafydd Rhys Thomas
- Katie Todd
- Thomas Vidori
- Harriet Wingfield
- Andi Adams
- Joseph Adams
- Ellie Atkinson
- Muhammad Azizi Azizan
- Ryan Bajwa
- James Beaumont
- Stephen Bennett
- Jack Brett
- Krzysztof Broniszewski
- Sam Brown
- Liam Butler
- Euan Carlin
- Rahim Chowdhury
- Hamish Chudley
- Ella-Mae Clayton
- Scott Cooper
- Jonathan Cowdrey
- Matt Derrington
- Rory Doherty
- Dylan Drummond
- Jacob Flower
- Henry Fox
- Oliver Gallagher

Transfer Associate to Member

- Shaun Ali
- Christopher Clark
- Dexter David
- Max Deeble
- Melanie Dobson
- Samuel Fleming
- Sarah Hoad
- Alexandra Istrati
- Glen McAdam
- Laura Menendez Gonzalez
- Jamie-Joe Narborough
- Hannah Norman
- Alexander Thomas

Associate

- Stephanie Barton
- Ian Blackie
- Eleanor Bunn
- Rachel Nixon
- Davide Respini
- William Taylor

Transfer Graduate to Member

- Lindy Allembert-Louis
- Lawrence Amodoi Alongu

Transfer Student to Member

- Adnan Zameer
- Kerr Archibald
- Oliver Chau
- Andrew Yengo Diansangu
- Dorota Dys
- Mario George
- Sarah Jackson
- Clare Linton
- Lucy Nightingale
- Andrew Waters
- Alastair Weir
- Tsang Yik

Transfer Student to Graduate

- Tomas Bande Sanchez
- Callan Burchell
- Jimoh Ibrahim
- Adnan Zameer

Invitation to the Cymru Wales Region Annual Dinner

Friday 2 March 2018, Hilton Cardiff, 19.00

Dear Colleague,

I am delighted to invite you to this year's CIHT Annual Dinner in South Wales.

Meet with other CIHT members, colleagues, clients and like minded professionals at our principal event of the year in South Wales.

Date: Friday 2 March 2018
Time: 19:00 for 19:45 start
Venue: Hilton Cardiff, Kingsway, Cardiff CF10 3HH
Price: General - £85; Students/Retired/Unemployed - £45
Dress code: Black Tie
RSVP: Send replies to Claudia Currie by email to claudia.currie@gov.wales

If you've got any special dietary requirements please let Claudia know when you RSVP.

Sion Williams
Chair CIHT Cymru Wales Region

www.ciht.org.uk/wales

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CHAIRPERSON

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Time Commitment – 5 days per month

COMMISSIONERS

Remuneration - £300 per day plus reasonable expenses
Time Commitment – 2 days per month
Number of Appointments - 11

The Welsh Government has established a National Infrastructure Commission for Wales (NICfW) to support independent, better informed advice on a longer-term strategy of infrastructure investment, which enshrines the principles of the Well-being of Future Generations (Wales) Act 2015. The NICfW is a non-statutory, advisory body. Its remit is to focus on the economic and environmental infrastructure needs of Wales over 5 – 30 years.

For further details and to apply go to www.gov.wales/publicappointments

or for queries contact the Shared Service Helpdesk on **03000 255454**
or email sharedservicehelpdesk@gov.wales

The closing date for applications 25 February 2018



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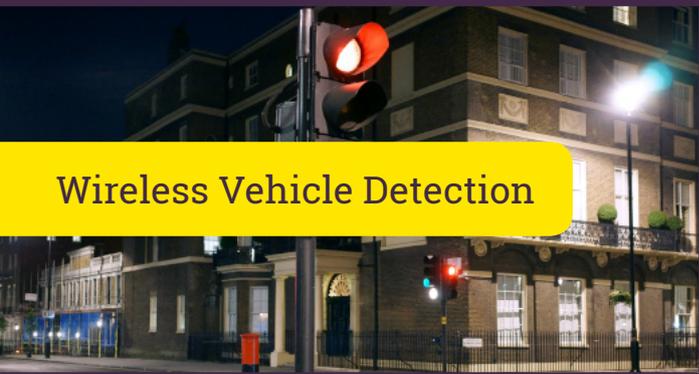
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