



transportation professional

A portrait of Martin Tugwell, CIHT President, smiling. He is wearing a dark suit, a white shirt, and a pink and white striped tie. The background is a blurred outdoor setting with green trees.

CIHT President Martin Tugwell: Future thinker

highway safety

Call for more
of a focus on
major roads
p4

streets vision

Comments invited
to help develop a
new framework
p10

road repairs

Flying in 3D
printed bitumen
using drones
p16

active travel

Edinburgh sets
out transformative
city plans
p20

Roundtables in 2019

roundtable discussion

Sector puts on a brave face as Brexit day approaches

Britain's imminent departure from the European Union has unsettled many business leaders responsible for the smooth flow of goods and people to and from the continent. But others working in transportation see an opportunity to drive forward with innovations and new ways of working.

Days after ports, road and investor confidence and difficulties recruiting staff were among the fears expressed about Brexit last month by several participants to a roundtable discussion hosted by Transportation Professional and CIHT. But there was also a sense of optimism in the room as others pointed out that while disruptive, the UK's exit from the European Union could help make Britain and its transportation sector more productive in the long run. "Brexit will produce more challenges than solutions but in the end will make us better at what we do, as we look to innovate and seek efficiencies," said Matt McQuinn, CIHT's highways managing director. John Dixon, CIHT's "whatever Brexit ends up looking like we must increase the social and economic return on infrastructure investments."

Emerging technology and a renewed spirit of collaboration could help smooth the transition, he added. One example is to invest in design for manufacturing and assembly and digital models that visualise a construction sequence helping to manage logistics and labour supply. "We now have a greater chance than ever to optimise how we work," John added. "We can either be back on the agenda and plan ahead. Let's not underestimate our ability to solve problems. Brexit is a change, but so is the internet and so too may be artificial intelligence and smart infrastructure. Staying relevant as an organisation depends on dealing with change."

Professor David Metz of University College London agreed that short-term difficulties in dealing with Brexit could be replaced with opportunities. "We should not be pessimistic about what may happen when the initial process is completed. Brexit is a disruptive force but we can rise to the challenge by rethinking how we go about business."

There has been a huge focus on Brexit's possible impact on goods and logistics, he added, but very little discussion around the effect on business services other than finance. Leaving the EU might, he said, "create opportunities for British service sector, aided by a strong academic community exporting know-how".

David also suggested the country may see a realignment in industry and services with more agricultural produce grown at home and greater numbers of cars currently produced for export sold to consumers in Britain. "Local" transportation business

roundtable discussion

Dover port warns of major disruption

Britain has highlighted an "absence of any resilience in Kent's road network," according to the Port of Dover's head of EU, Tim Beaton. "Major roads leading to the port are 'bottlenecked' every 25 years or so," he said. "It's not the approach to Dover" - it's all single carriageway roads with potholes, several roundabouts and traffic lights. "Usually every highway contractor to the port has been closed off. Tim claims, meaning hauliers have no places to stop, wash, eat and get some rest. He added that a major issue with Brexit is whether anything stands in the way of efficient ferry movements. "A substantial proportion of the UK's international trade goes through south east."

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TP is looking to host a series of roundtable debates throughout the year, bringing together senior figures from across the industry to discuss emerging mobility trends and issues that affect the sector and society as a whole.

Topics of interest include:

- Air quality interventions
- Asset management
- Mobility as a Service
- Skills and professional development
- Road safety
- Airport surface access

If your company would like to host a roundtable and see a write up published in a future issue of TP, contact Commercial Director Fawad Minhas on 01892 553149 or email fawad@transportation-mag.com

roundtable discussion

Skills strategies set out to prepare for future growth

Greater efforts are now needed to ensure the UK's infrastructure workforce is equipped to meet the challenges of a digital future, according to a CIHT roundtable discussion.

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roundtable discussion

High level dialogue on the merits of devolution

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roundtable discussion

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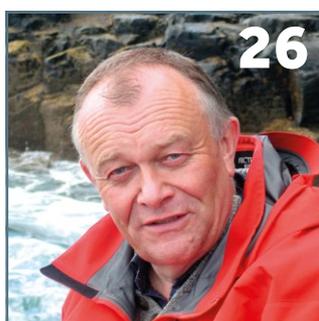
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This issue's cover: CIHT's new President Martin Tugwell, pictured in Oxford. A profile of Martin begins on page 12.

COVER IMAGE: SCOTT RAMSEY PHOTOGRAPHY

- 4 news & analysis:** Call for new safety focus on major roads; Hands free mobile use comes under fire; Eastern bypass takes shape in Lincoln; Luton rail to air link makes progress
- 8 debate:** Are enough steps being taken to reduce the impact of transport on climate change?
working life: Andrew Haines of Network Rail
- 9 tales from the past:** The Highway Engineer
just one more thing: Pavement parking
- 10 letters:** Comments invited to better shape the 'Place function' of streets; Future thinking imagined in New York; Running home from a station further afield
- 11 transport sketch:** Views from an elevated City walkway
- 12 president's profile: cover story –** Martin Tugwell aims to encourage the sector to work more closely with the public over the next year
- 16 road maintenance:** Drones capable of 3D printing asphalt could lead to predictive highway repairs
- 20 active travel:** Scotland's capital strides towards friendlier streets
- 22 ukrlg:** Roads ambassador Graham Pendlebury on strengthening links with international partners
- 24 technical paper:** Working together to reduce roadworks disruption in Croydon
- 26 ciht news:** Chief Executive Sue Percy is awarded a CBE; Neil Johnstone elected as CIHT Vice President; Transport planning recognised with Chartered qualification
- 29 events:** National, CIHT Region and International events
- 30 directory**
- 31 recruitment**



Campaigners call for a new safety focus on

Motorists are more than four times as likely to crash their vehicles on the proposed Major Road Network than on strategic highways including motorways, new figures reveal.

Analysis by the Road Safety Foundation and Ageas Insurance, published in early July, also found that the risk of crashing in England is nearly twice as high again on local authority roads that do not form part of the MRN.

It calls on the Government to set “disciplined safety goals” for the proposed MRN in line with those for the strategic network and for new investment to be released through the Safer Roads Fund to tackle the 75 persistently higher risk roads.

The charity also says that only 10% of travel on the MRN is on ‘low risk’ sections of route and that 18% of travel is on medium or higher risk sections, compared to just 1% of travel on strategic roads. Formal safety performance management must be introduced to the MRN



↑ Kate Fuller

and these roads should be tackled as a priority, the report adds.

“Our main road networks need to be safe,” said the Road Safety Foundation’s acting executive director Kate Fuller.

“So much of our travel is on these intensely used networks that any flaw in their in-built safety means tragedy sooner rather than later.”

She added that Scotland’s main road network is now safer than England’s and is significantly safer than that of Wales. “For England to achieve similar results the newly defined Major Road Network needs disciplined safety goals.”

The report, titled ‘How Safe Are You on Britain’s Main Road Networks?’ also calls for an



immediate investment of £117M to prevent 3450 fatal and serious injuries on persistently higher risk roads over the next 20 years.

An £83M annual investment over the next five years is also needed, it says, to address most of the unacceptably higher risk roads and to prevent around 6850 fatal and serious injuries over two decades.

RAC Foundation director Steve Gooding commented: “Part of the original Rees Jeffreys proposal for the Major Road Network was that there should be a performance specification attached to it, so you know what you are going to get, much as the Government set for Highways England in the first Road Investment Strategy.

“As a minimum we have argued that the Government should make it a condition of any bid for a Major Road Network grant that the relevant highway authority commits to

getting that road up to at least the same three star rating as it set for Highways England, as part of the funded scheme.”

A Department for Transport spokesman said: “We have invested £100M in the 50 most dangerous A roads, while our upcoming road safety statement and two year action plan will go even further to keep people safe.”

● Highway authorities across Great Britain have ‘a patchwork approach’ to tackling death and serious injury, according to the Road Safety Foundation report.

It says that only Highways England has a specific commitment relating to the safety performance of its road infrastructure; looking to reduce by 40% the number of people killed and seriously injured by 2020 compared to a 2005-09 average.

By comparison, it says, there is no fatality

Nudging drivers towards better behaviours



↑ European trials of a new lighting system on a slip road VICTOR BERGH ALVERGREN

Academic trials of a smartphone app designed to give feedback on driving style and ‘nudge’ motorists towards adopting safer behaviours are set to begin later this summer.

The app will tell participants whether or not they were driving in a dangerous manner and provide coaching.

Cranfield University is developing the coaching, which forms part of a European funded project looking at how interventions both in a vehicle and on the road ahead can encourage safer motoring.

Cranfield’s associate professor of driver behaviour Dr Lisa Dorn says one of the aims of the project is to reduce the number of instances in which a crash almost occurred.

“We know that harsh braking correlates with someone’s likelihood of being involved in a crash, for instance, so there are some specific coaching interventions that can be made to address that as well as improving a driver’s concentration and observation.

major roads



← Crash risk varies considerably across Britain

SALLY ANDERSON NEWS
– ALAMY

reduction target or long term safety vision on the Major Road Network in England.

Only “a few” local authorities in England have adopted a casualty reduction target for non MRN roads, the report says.

Transport for London is committed to a 65% reduction in killed and seriously injured persons by 2022 against a 2005-09 baseline. Strategic roads in Scotland have a target of reducing fatalities by 40% between 2010 and 2020 and local authorities north of the border have typically adopted the national casualty reduction target.

In Wales, a 40% reduction in killed and seriously injured persons on strategic roads by 2020 has been established compared to the 2004-08 baseline. National casualty reduction targets are set for local roads in Wales, although the extent to which these are adopted is said to be unknown. **MW**



← Holding a phone while driving is dangerous – but what about hands free?

ADMIN DESIGN
– SHUTTERSTOCK

Hands free mobile use comes under fire

Most, if not all, law abiding motorists will know that talking on a mobile phone while driving is both illegal and dangerous.

But what may be less well understood is that hands free phone devices (while legal) pose a safety risk too, and that drivers can be affected by a call long after a conversation has ended.

Dr Gemma Briggs, a senior lecturer in psychology at the Open University, says that any phone conversation had by a motorist – be it hand held or hands free – represents a cognitive distraction.



↑ Gemma Briggs

She told a Transport Select Committee evidence session on mobile phones and road safety that talking to someone on a phone while driving increases a motorist's risk of being involved in a collision by a factor of around four, for up to five minutes after the call has ended.

Dr Briggs added that using a mobile phone can affect a driver's visual perception, to the extent that they can look directly at a hazard in front of them and fail to see it because they are not paying sufficient attention.

“Drivers talking on a hands free or hand held phone tend to focus on a highly concentrated area ahead of them, just above the bonnet, and are significantly less likely to notice hazards in the peripheral areas,” she said.

Transport Research Laboratory chief scientist Dr Shaun Helman said that a driver's perception of hazards can “very definitely be affected, even with hands free conversations”. He added that experienced drivers with better hazard perception skills have been found to be more affected when using phones than novice drivers.

Discussion turned to technology other than phones that can be a distraction to motorists. It was said that voice activated technology allowing the heating to be turned up without a driver having to remove their hands from the wheel or eyes from the road could be seen to be a useful safety feature.

But Dr Helman pointed out that human machine interfaces need to be well designed, and often they are not. “If I say ‘turn up the heating’ and the system is not particularly good at understanding my voice or asks me a follow up question, it becomes a more onerous task.”

“It would be great if the app was found to have an impact on behaviour and lead to a discernible change in the way people drive.”

Further aspects of the €7.1M



↑ Lisa Dorn

European behaviour project, known as ‘MeBeSafe’ involve interventions such as altering lighting to encourage better driving techniques. Other countries will test whether, for instance, extinguishing every fifth light in a

series of columns might create the illusion that a motorist is travelling too fast, and therefore encourage them to slow down.

“Sometimes people are not fully engaged while driving, so nudging techniques can help bring motorists back to the task in hand. Changes in the vehicle and road infrastructure can help to keep drivers engaged,” Dr Dorn adds.

“But with manufacturers keen to get ahead of the game and get their latest technology out, there is a worry that not enough is being done to see how this affects behaviour.”

She adds that it may become more difficult for motorists to remain focused on the road ahead in the coming years as automated driving aids become more popular.

“This could become a major problem in the next 10 or 20 years. We are a long way off level five automation, so in the interim we risk more drivers failing to engage and not seeing obvious hazards.”

So called ‘haptic’ feedback could be another way to nudge people towards better behaviours. This may include introducing vibrations through a driver's seat if the vehicle

strays too close to a cyclist on the near side. “When 80% of driving is visual, haptic feedback might be beneficial,” Dr Dorn explains.

The European project is also looking to see how changes to road infrastructure or line markings might be used to nudge cyclists towards riding more safely.

But should roads be designed to be more challenging? “The jury is out on that; I sit in the middle of that debate,” she says. “While clearly there is some need for signage, we can provide too much information that drivers don't look at anyway.”



← A viaduct is being constructed over the River Witham

↙ Progress on Greetwell Road roundabout
THE DRONEMAN.NET

Eastern bypass takes shape in Lincoln

Less than a year remains until Lincoln's new eastern bypass is expected to open to traffic, but a challenging programme still faces contractors building the 7.85km single carriageway.

One key area of focus is a 250m viaduct spanning the River Witham and three



smaller watercourses close to the centre of the scheme. After battling against difficult ground conditions, a temporary structure has been built to access the permanent works and enable a major earth moving operation. Construction of the viaduct's north and south abutments and four piers are well under way.

A key challenge, said Lincolnshire County Council's principal engineer for the scheme Adam Round, is the need to ensure the river remains navigable to vessels and to keep open a cycle route running alongside.

"A major embankment is being built on the north side – the biggest on the job," he added. This embankment will need to be in place to enable the beams to be lifted for the viaduct in September, he explained.

Phasing of the construction of new roundabouts to provide access onto the bypass is also a key priority. One such roundabout at Greetwell Road will be completed at the end of the year after material from two further roundabouts – at Lincoln Road and the A15 to the south – has been transported to fill a nearby quarry.

"Constraints in traffic management are crucial to how we programme the works on these roundabouts," added Adam.

Once complete next May the Lincoln eastern bypass is expected to significantly cut congestion and reduce the number of heavy goods vehicles passing through the city centre, improving air quality, reducing noise and making the area more attractive. **SD**

Contracts

Buckingham Group has been appointed to construct a relief road for use by High Speed 2 construction traffic at Chipping Warden in Northamptonshire.

FM Conway will deliver a £6M contract for highways surfacing across the London Borough of Lewisham over the next two to three years.

John Sisk & Son has started work to upgrade junction 1 of the M58 in Sefton, Merseyside, which includes the construction of new slip roads.

Network Rail has awarded 17 framework contracts to deliver minor signalling works across the country, worth an estimated £215M between 2019 and 2024.

Ringway has been appointed to deliver Highways England's East Region maintenance and response contract – worth £28M per annum – for up to 15 years.

Transport for London is creating three single supplier frameworks for highway maintenance, capital renewals and enhancements worth up to £1.4Bn, for delivery from April 2021.

CIHT 100

Are enough steps being taken to reduce the impact of transport on climate change?

YES 8%

Good progress is being seen in making private vehicles less damaging to the environment and awareness of the green agenda is increasing among the public.

NO 92%

Current efforts are woefully inadequate and may already be too late. Drastic action is required. If measures are not painful and unpopular then they are not enough.

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.

Luton rail to air link makes progress

Construction is in full swing on several fronts at Luton to build a light rail shuttle between Parkway station and the airport.

The £225M Direct Air Rail Transit (DART) system is set to run every four minutes at peak times between the rail station and terminal building, saving passengers the need to catch shuttle buses which run far less frequently.

Airport bosses hope the new 2.1km link will encourage more people to arrive at the airport by public transport and reduce the overall journey time by rail from London. Travel to the airport terminal from St Pancras station will take less than 30 minutes for those catching the fastest trains, putting it on a par with the time it takes to travel from Victoria to Gatwick.

Works currently under way at Luton include the construction of two light rail stations; one alongside Parkway station several metres above ground and a second next to the airport terminal, below ground.



↑ Andy Malcolm

Abutments for a new 80m long bridge have been built to carry the new service over the A1081 and a tunnel has been created for the route beneath an airport taxiway.

Shuttle vehicles will climb a steep gradient to the airport terminal, which is over 40m higher than Parkway station, so a cable haul system similar to that used on a ski lift has been specified.

Luton Council leader Hazel Simmons said the project is important to “meet the needs of the modern day passenger and to encourage the use of sustainable transport”.

Deputy leader Sian Timoney added that the rail shuttle will help the airport grow its annual passenger numbers from around 18M to 38M on its single existing runway.

She also said that the “unsatisfactory bendy bus” used to shuttle passengers between the rail station and airport “is one of the reasons



LONDON LUTON AIRPORT

↑ How the airport's rail link station will look and (below) abutments for a new bridge over a road

why more people are not currently coming to the airport by train”.

London Luton Airport chair Andy Malcolm said that around 14% of airport passengers currently arrive at Luton by rail, compared to Gatwick's near 40% share. “We have got to close that gap, particularly with the growth in passenger numbers we have seen in recent years. More people travelling by train is good for both the environment and for getting cars off the local roads.”

He added that proposals for a second terminal at the airport are being developed, but ruled out any second runway at Luton. The new DART shuttle has been designed so that an extension to reach an additional terminal building can be accommodated.

Main contractor VolkerFitzpatrick Kier's project director Phil Hobson said that a steel composite bridge built nearby will be driven into position along a dual carriageway this autumn before being lifted into place. “This is certainly a challenging project. We have two stations, a viaduct, a bridge, sheet piled

retaining walls, top down construction, tunnels and massive propping systems for keeping the excavations open.”

Phil added that working around members of the public at a live airport also has its challenges. “Normally people will follow footpaths, but in an airport people grab hold of their luggage and walk in a straight line. If you are in their way they will try to walk through your site, so we have to make sure they stick to the footpaths.”

Luton's DART shuttle is set to open in 2021.



Heathrow seeks feedback on surface access plans

Surface transport proposals put forward by Heathrow Airport for consultation in June – to prepare for passenger growth following construction of a third runway – include support for new Western and Southern rail links.

The Western link is a new 7km section of railway to be built in tunnel, providing a connection to the Great Western Mainline

and direct services to Reading and Slough. It is now planned to operate as a through service between Reading and Paddington, with trains starting to run in 2027.

Heathrow estimates that the Western link will account for a 3% share of trips to the airport, with 2.3M people using the service in 2030, rising to 2.8M by 2040.

Network Rail consulted on the rail link last year and is currently progressing a Development Consent Order application.

The Southern rail link currently has five route options: three that provide a direct link to Waterloo, a fourth that heads towards Guildford and Basingstoke and a fifth that would see a light rail link built to Staines.

Heathrow does not express a preferred route and says it does not believe the link will open before 2030. The airport predicts that the Southern line will be used by 3.9M people in 2040, representing a 4% share of surface transport trips.

Consultation on Heathrow's expansion masterplan, including surface access proposals, closes on 13 September.

Are enough steps being taken to reduce the impact of transport on climate change?

Yes



Dr Richard Wellings
Head of transport
Institute of Economic
Affairs

Reductions in transport and energy costs used to be major drivers of higher living standards.

Faster and cheaper journeys lowered the costs of trade, enabling huge productivity improvements and economies of scale.

Labour mobility was transformed, enabling better matching of skills and jobs. Mass car ownership and cheap

flights opened up leisure opportunities that for previous generations would have been the stuff of dreams.

But the green agenda risks putting these achievements into reverse. Many journeys are now taking longer as councils pursue anti-car policies, neglecting delays and the wider economic costs of millions of daily journeys on a mode that carries over 80% of passenger traffic.

At a national level, road investment has collapsed since the early 1990s despite a rising population. Much of the strategic network is now congested and unreliable; a nightmare for businesses.

There is some debate as to why living standards have stagnated in the UK over the last 15 years.

Policies to reduce climate change may have choked

off productivity gains in the energy and transport sectors.

We should be honest about these economic trade-offs and ask whether green policies may make people poorer than they otherwise would have been, including low income groups.

Moreover, UK policies are unlikely to make much difference globally when developing countries are rapidly increasing their emissions.

A more economically rational approach would be to focus instead on policies that reduce emissions without harming living standards.

Examples include ending counterproductive biofuels subsidies, phasing out foreign aid when it contributes to deforestation and scrapping energy intensive high speed rail schemes.

No



Matt Croucher MCIHT
Associate director for
sustainable transport
WSP

Urgency of the need to act, to stop the most extreme forms of climate change, has been underlined emphatically by scientists across the world. Yet while other sectors have made strides in reducing their relative greenhouse gas (GHG) emissions, transport's has remained stubbornly high.

Globally, the transport sector is now the fastest growing contributor to climate emissions.

Even at an EU level, emissions from transport are not falling quickly enough to meet Paris agreement targets.

In fact, in Europe GHG emissions from transport have increased over the last three years and even the trend towards lower CO₂ emissions from new cars reversed in 2017, following the 'diesel gate' scandal.

It is a similar story in the UK where transport is now the largest GHG emitting sector, with little change in the level of transport emissions since 2008, leaving the Committee on Climate Change to urge greater ambition in reducing transport emissions.

There is still some way to go to ensuring transport planning gives the necessary priority to reducing emissions and accounts for the externalities of transport and its carbon

emissions. Sustainable transport, low emission vehicles and future mobility models have a key role to play in getting the transport sector back on track.

In recent years we have seen a greater emphasis on these areas, but a decisive pivot away from car orientated development and traffic inducing road schemes is needed. Road space reallocation and 'polluter pays' principles, such as low emission zones, road user pricing and workplace parking levies are often still too hot to handle politically.

The UK's actions cannot in isolation halt climate change and a balance must be struck in preserving the economy, jobs, competitiveness and social equity.

But if we accept the urgency of climate change and want to play our part, or better still lead the way, there is undoubtedly more that can be done.

Andrew Haines



Job title – Chief executive, Network Rail

Terms of reference – I lead a service organisation that provides the means for people and goods to move around the country.

Suitability for the job – I started out in the left luggage room at London Victoria station working for British Rail and have worked in the rail industry for most of my career, with a slight detour to the airline industry for a decade. It's fantastic to be back.

Where based – London Waterloo station, but my role takes me all over the country.

Transport to work – I use public transport: bus, train or tube.

Top of in-tray – Punctuality. We know passengers want and deserve a reliable service, so we are working hard to reverse seven years of declining performance to get trains to run on time and passengers and goods where they need to be.

Best aspect of job – The people. We have some fantastic people doing their very best and I'm passionate about customer service.

Worst aspect – The overly complicated contracts and processes.

What is the most important transport issue today?

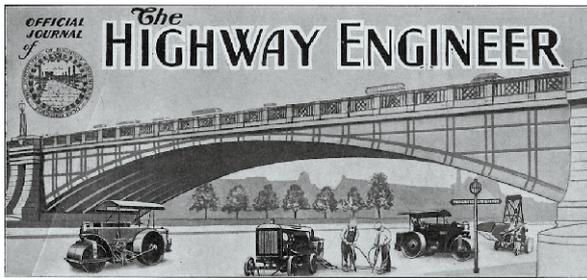
Rebuilding the public's trust in the railway industry in order to make the case for the investment needed to accommodate our future growth.

How do you relax? I love to start my day at the gym and have a passion for architecture.

What advice would you give to your younger self?

Be yourself, do your best and never stop learning.

Ambition – To put passengers at the heart of everything we do.



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

Comments made by Lord Adonis, the new Transport Secretary, that he expects high speed rail to largely replace domestic and short haul flights within 20 years have been seized upon by the Conservatives. The party's transport spokesman Theresa Villiers claimed that the remarks represent a change in direction by the Labour Government over plans to expand Heathrow Airport.

"The new Secretary of State has shot a huge hole in the Government' case for a third runway," she said. "I am now calling on the Transport Secretary to acknowledge that high speed rail can be a substitute for a third runway."

25 years ago

Britain's first traffic control system offering drivers up to the minute advice on route choices has been handed over to police control by the Highways Agency.

This marks the first stage of a programme to establish the new Strategic Traffic Management System in the Kent Corridor area.

The initial aim is to advise road users of alternative routes in the vicinity of the Channel Tunnel, Dover and Folkestone docks due to delays or as a result of the closure of parts of the M20 and A20. Advice is transmitted via a network of variable message signs.

50 years ago

If our system of road finance is to promote the best use of resources, charges must be related to use. This means that those who make decisions involving increased use of the roads bear the costs that those decisions impose on communities, wrote Professor E Victor Morgan of the University of Manchester.

Such a system would be a substantial improvement on our present methods and would remove some of the financial obstacles to the expansion of investment that is so greatly needed, he said. Unfortunately it is by no means easy to determine what are the relevant costs.

75 years ago

Railways displaced the old stagecoach because trains were quicker and more comfortable, wrote the Institution's President G McLean Gibson. They also displaced the canal barge, which is too slow in modern times.

However, he wrote, railways have now reached their peak of speed. That is of definite interest to road engineers, because it is turning transport from the railways to the road. People who want to travel a reasonable distance, he said, will always in the future travel by road rather than railway.



Pavement parking

Many residents outside of London who drive but don't have a driveway will be accustomed to bumping their car up a kerb and onto the footway when returning home, so they can park without blocking the road for other vehicles.

The practice of 'pavement parking' is common in towns and cities away from the capital – which introduced a ban in 1974 – and is evident across a range of urban street scenes from narrow Victorian terraced roads to new build estates, often designed with limited places in which to park.



It even takes place where there are designated parking bays on the highway. On one terraced street near where I live, a large saloon car is currently in a street bay but with two of its wheels on the pavement. And on a local estate some bold motorists even park all four wheels of their cars on the footway.

Pavement parking is also evident on many high streets. On a walk through Tunbridge Wells town centre today, I spotted several delivery vans with two wheels on the footpath. Often

their hazard warning lights are flashing, although – for pedestrians – it's not as though they need to draw any more attention to themselves.

In most places across the UK it is not against the law to park on the pavement. But just because it is tolerated doesn't necessarily make it right.

Footway parking creates difficulties for many people having to squeeze past vehicles and particularly for those with visual impairments, people in a wheelchair and for parents with pushchairs. There is a clamour for change and the Transport Select Committee is currently gathering evidence on the issue with a view to making a series of recommendations to Government.

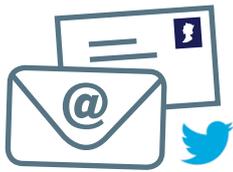
One of those called before the Committee in recent weeks was the Roads Minister Michael Ellis, who acknowledged that the matter of pavement parking is of "considerable public interest". His preference is to encourage changes in behaviour rather than to enforce penalties, and pledged to consider introducing an awareness raising campaign for motorists to highlight the difficulties that footway parking can cause.

One of the reasons why a national ban on pavement parking has never been introduced, the Minister suggested, is because it is "a complex matter riddled in considerable expense and bureaucracy" and he pointed out that 93% of local authorities around the country already have civil enforcement powers to ban pavement parking. But he also made the point that in some areas it is accepted that pavement parking is needed to allow a street to function.

An earlier evidence session hosted by the Committee heard that over half of motorists in a survey were aware that parking on a footway may cause a nuisance for guide dog owners, but would carry on doing so regardless. Some drivers were said to display a "sense of entitlement" when it comes to footway parking and it was thought a lack of enforcement means more people do it.

The Committee also heard that there should be a presumption that drivers are not allowed to park on the footway unless signs say they can. One suggestion that made me sit up was that motorists should not always expect to park outside their front door. Instead they should look for a suitable space a few minutes away. "At the moment," said Dr Rachel Lee of Living Streets, "too many people are suffering hardship because of other people's convenience".

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

Comments invited to better shape the 'Place function' of streets

Manual for Streets, Manual for Streets 2 and (in Scotland) Designing Streets, did much to emphasise the importance of the 'Place function' of streets, not just the 'Movement function', when considering their design.

Nevertheless many highways, traffic and transportation professionals clearly still struggle meaningfully to translate an appreciation of 'Place' into their work. To help address this issue CIHT is looking to develop a common framework for street design that considers both 'Place' and 'Movement', and is keen to receive comments from members.

The evidence of numerous different schemes from the past decade or so is that 'Movement' commonly remains the predominant consideration in street design. This is, in part, a natural consequence of decades of professional convention; but it also results from the fact that many aspects of 'Movement' (e.g. flow, capacity, collisions) are measurable in quantitative terms, whereas 'Place' attributes are generally expressed in qualitative ways.

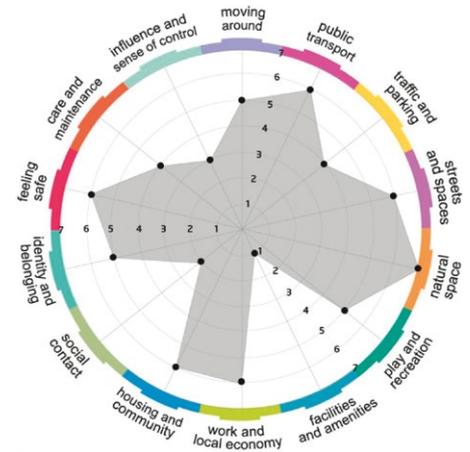
This gives 'Movement' the air of objectivity, in comparison to which 'Place' seems a subjective matter. Manual for Streets and the other documents give no guidance on how a

street's 'Place' function might be assessed or calibrated; and when 'Place' considerations are given prominence in design, this often seems to reflect personal views on what 'looks nice'.

In our non professional lives, we all make important decisions without rigorous calculation of the pros and cons of options. Where we live, work and shop; where we go for days out and where we go on holiday; the towns, streets and spaces we return to or avoid – these decisions are often based more on 'qualitative analysis' than quantitative (cost). Yet we fear taking the same approach to our work because of the understandable concern, that qualitative or subjective considerations are not 'robust evidence'.

This means that we exclude from consideration many of the factors that we know from our own experiences are actually most important to people.

Moreover, the focus on conventional 'Movement' metrics means we often fail even to enact the accepted transport hierarchy that has walking at the top and private motor vehicles at the bottom. The quality of the walking environment is a very rough proxy for the qualities of a 'Place'; but despite its formal supremacy we know that walking is dominated by the last mode on the list.



↑ A compass diagram with 14 attributes against which a scheme could be scored on a 0-7 scale

To help change this status quo, a small CIHT task group – chaired by Past President Andreas Markides – has drafted an approach that enables the rational consideration of both 'Movement' and 'Place' considerations within a common framework. The approach also enables both qualitative and quantitative measures to be used, and is based on a system also used in the Scottish Government's Place Standard and Transport for London's Healthy Streets methodologies (see sample compass diagram above, *source Lucy Saunders*).

Future thinking imagined in New York

TP's Future Mobility special in May brought to mind a recent exhibition at the Cooper Hewitt, Smithsonian Design Museum in New York called 'The Road Ahead: Reimagining Mobility'.

The exhibition explored what we might experience in transportation and urban spaces in the decades ahead and featured 40 projects that explored salient topics around the future



↑ A lightweight electric scooter MOVEO

of mobility and the urban environment.

The exhibition reimagined liveable streets and the way people, goods and services will move in a new age of connected and transformational mobility.

Curatorial assistant at the museum Julie Pastor said of the exhibition: "It's important to consider issues before the new technologies hit the streets so we can plan for them, so that we can make them fit into a system that's already working better, rather than just have them create more congestion and more problems later."

One of the biggest issues facing transportation planners and engineers is, of course, congestion and the National Association of City Transportation Officials has revealed that private motor vehicles move the fewest number of people per hour (600 - 1600) while dedicated transit lanes can move up to 8000 people per hour.

Many of the exhibition's designs reflected a future in which the private motor vehicle is mostly eliminated, in favour of shared and micro mobility.

Among the futuristic technologies on display were a lightweight electric scooter (pictured) that can be folded up and wheeled around like a suitcase. The scooter has an electric charge that lasts up to two hours and can travel at up to 28mph.

Others included the Zipline delivery drone in use in Rwanda and Ghana to transport medical supplies such as vaccines and blood, and a floating autonomous car developed by designer Yuchen Cai called 'The Float'.

Holly Stowell
Senior editor, ITE Journal

This letter is based on a piece that appeared in the June issue of the Institute of Transportation Engineers' Journal. To read the full article, visit bit.ly/2QNafHV

The approach places 14 attributes around the perimeter of a compass diagram and allows the scoring of each on a 0-7 scale. The idea is not that each attribute is weighed against each of the others, nor is it necessary to have an equal number of 'Place' and 'Movement' criteria (some relate to both functions anyway).

Rather, the idea is to enable an understanding – using a 'do nothing' base case – of how the score of each chosen attribute may be improved (or made worse) by one or more proposed scheme packages.

This may show that the effect of increasing traffic capacity is clearly to diminish the established 'Place' qualities of a street; or indeed that providing more space for cycling has a negative effect on the space for walking, sitting or bus movements.

The choice (and number) of attributes need not be fixed, and can be varied according to locally agreed priorities, which should reflect local policy goals. They should all be measurable in some way, and the scoring of some could be based on the views of local people, arising from engagement.

The compass diagram alongside presents a starter set of 'Place' and 'Movement' criteria. We would love to know what you think of this approach in principle; as well as to hear what 'Place' and 'Movement' attributes you think might be helpfully used, and how they might be measured.

To offer your comments, please email technical@ciht.org.uk

Peter Dickinson,
CIHT Urban Design Panel chair



Running home from a station further afield

I was inspired by your article in June's *TP* ('Taking

steps to walk more') to let you know my experience. Luckily, I live one mile from my nearest station at Farnham in Surrey so I always walk.

But not being happy with this and needing to do more exercise, I now get off the train one or two stops before I reach Farnham and run home.

That way it feels part of the working day, rather than encroaching into family time. It does require planning and suitable changing facilities, mostly at clients' offices, but everyone I speak to is encouraging.

James Elliott FCIHT
Director and principal consultant
Elliott Asset Management
james@elliottassetmanagement.com



↑ From right: Patti Kydd, Patrick Crockford, Tessa Montgomery and Kathe Jacob on one of the highwalks

Views from an elevated City walkway

Scores of office workers on their lunch breaks scuttle alongside slow moving traffic approaching a busy junction at Moorgate in the City of London as we peer down from a bridge overhead. Up here the view is more pleasant, the air feels fresher and you can more easily hold a conversation – but there are very few other people taking this path.

I'm standing on the Bassishaw Highwalk, one of a series of elevated footways connecting the Guildhall with the Barbican along with a small group of people on a walk to mark Clean Air Day.

Within a few steps we cross onto St Alphage Highwalk, a curved walkway with smartly laid surfacing flanked with elegant wooden handrails. The route passes alongside – and through the middle of – modern office blocks that stand close to crumbling remains of the old London Wall. Tree canopies and wild flowers give a splash of natural colour against the walkway's rust coloured weathered steel deck, and there are benches on which to sit.

Who wouldn't rather be ambling along up here rather than walking on the street below? But unless you work in the vicinity you are unlikely to even know that these walkways exist. And when you are up here, it can be hard to grasp where the path you are taking will end up.

At the end of one walkway is an escalator taking you down to the road below, adjacent to a pedestrian crossing on Wood Street. The roar of traffic gets louder and the pace of life seems to quicken as the slow descent continues. But as I turn around to see where we have just come from, I spot no sign pointing the way up to the highwalks; only an A-board promoting a wine bar.

Other routes up to the footways in the sky are rather hidden too: such as a staircase beside a seating area opposite Salters' Garden, and a wide terrace of steps leading north from the Guildhall beside Basinghall Street. To get around on foot here it pays to be bold; to try an uncertain path and see where it takes you.

Leading today's walk is the charity Living Streets' project co-ordinator Patti Kydd who points out local historic buildings, interesting artefacts and biodiversity of the area. Her colleague, the group's London manager Kathe Jacob, says she is keen to let people know about these "very enjoyable walking routes in the centre of London, which are less polluted" and to communicate with businesses "so they can tell their workforces about the health and wellbeing benefits of spending more time walking and building exercise into their daily routines".

One of those taking part in the walk is Patrick Crockford, a businessman who lives in Borough south of the Thames and walks to work in the City. For many years he has preferred to stride it out rather than take the bus or tube, but only recently has stuck to quieter routes away from main roads to avoid the worst of the pollution.

"A recent report said pollution on main roads drops significantly one block away, so now I take the back roads," he said. "Of course I still have to cross London Bridge, but the breeze from the river makes up for the traffic. It is a good idea if people can walk the last mile rather than take the bus. More people are seemingly conscious of climate change and the need for cleaner air."

Local resident Tessa Montgomery who lives in the Barbican says: "Lots of City workers walk past on their way to work wearing trainers now, but the Beech Street Tunnel is to be avoided; it is a real hotspot for pollution."

The 1960s complex of brutalist architecture that makes up the Barbican is loved by some and loathed by others. But those who do walk through the estate's elevated walkways are not just met with harsh swathes of concrete: there are large beds of long grasses and water fountains to walk past too.

Many properties sport window boxes that spill colour over the side of balconies. It is a joy to see, but first you have to find your way up here. **MW**

Martin Tugwell: pushing boundaries

↑ Dramatic sculptures are a feature of a recent urban realm improvement, introduced to the Buckinghamshire town of Aylesbury SCOTT RAMSEY PHOTOGRAPHY

CIHT's incoming President has built a career out of bringing professionals together to shape future strategy and aims to encourage even greater engagement with the public.

Ambitious, articulate and a willingness to lead from the front best sum up Martin Tugwell, a man with a passion for transport, an inquisitive mind and a desire to challenge conventions.

For over 30 years he has driven forward new thinking in the public sector and helped define policies to improve transport infrastructure and support strategic ambitions around sustainable development, housing and economic growth.

Martin heads up a major effort to boost connectivity across a large part of the Home Counties in his role as programme director of England's Economic Heartland Strategic Alliance, and his theme as CIHT President is 'Shaping Tomorrow Today'.

His objectives include better preparing the sector for the future and helping professionals have richer conversations with end users.

The new President's enthusiasm

for transport is clear and builds upon a lifelong interest in travel that first emerged as a young boy.

Martin was born in rural Devon and grew up in Newton Abbot close to the town's railway station with his two brothers and his sister. Their mother was a school lollypop lady and their father was a teacher. Saturdays in the summer were sometimes spent on the nearby platform watching trains pass by, including the region's unique diesel hydraulic locomotives.

Another of Martin's fond memories is watching two Concordes on their first test flights 50 years ago as the planes performed 'touch and go' manoeuvres at Filton aerodrome.

"I clearly remember the noise, the sense of power, the vibration, smell and the image of these shimmering white gull-like creatures landing and blasting off again. It left a large impression."

He attended Knowles Hill comprehensive school, excelled at

maths and geography and was a bright pupil, but recently came across an amusing comment in one of his school reports. 'Martin has had a good year', it began. 'But he would have had an even better year had he answered the questions set rather than those he thinks should have been set'.

"Reflecting on my career now and life generally, I've never liked received wisdoms," he notes. "It's incumbent on us to challenge things; the danger is we carry on in the same way just because it's what we have always done."

Martin studied civil engineering at Southampton and was fascinated with the university's work supporting the early applications of SCOOT traffic signal control. He was introduced to transport planning and enjoyed taking part in a mock public inquiry associated with the proposed Dorchester Bypass, which was to cross a water meadow.

"I enjoyed the task of creating a narrative, defending it and considering the opposite view," he says.

Martin would also design structures by hand and now treasures the "wonderful technical drawings" he

Strengthening connections from east to west

Reopening former railway corridor in full between Oxford and Cambridge forms the centrepiece of a transport vision set out by England's Economic Heartland Strategic Alliance, led by Martin Tugwell, to significantly grow the region's economy.

"East-west connectivity is currently a weakness and we have to improve that strategic corridor," he says. "In 10 years you will be able to take a train from Oxford to Cambridge in one hour and 10 minutes, whereas today it takes two hours and 45 minutes. This will be truly transformational and give people real opportunities.

"The Strategic Alliance is providing leadership and a clear voice about the need to invest in infrastructure for economic growth," he says. "The National Infrastructure Commission highlighted



↑ Martin near the village of Winslow, beside a former rail corridor which will soon see trains run again

the critical importance of strategic leadership, we will be engaging with stakeholders this summer and will produce a draft transport strategy in the New Year."

Powers are being sought to deliver on the strategy and the Alliance's long term ambition is to become a statutory body looking after strategic infrastructure, including transport.

created "which are also pieces of art".

During the summer holidays he volunteered as a ticket inspector on the Dart Valley Light Railway near Paignton. After graduating with a 2:1 Honours he was unsure of his next move, so joined the railway as a guard.

"I had such fun running trains and early on I realised this was a magical period. But I was also aware that life moves on and this was not necessarily going to be a fulfilling career for me."

An opportunity came up at Devon County Council as a transport modeller, where Martin created and analysed files on the council's central computer. He then worked in the roads and bridge design teams on the A30 Okehampton to Launceston Bypass.

Martin later enrolled on a graduate training programme under the guidance of Dave Black – now head of the council's planning, transportation and environment department – and it

"You won't learn if you haven't pushed yourself or experienced problems."

Martin Tugwell

↓ Road schemes have been a major part of his career



was Dave who encouraged him to join the Institution.

Martin designed a structure on the Torbay ring road which formed the basis of his successful application to become a Chartered Engineer, before spending "12 glorious months" as an assistant resident engineer on a project to complete an upgrade along the A380 between Exeter and Newton Abbot.

Promotion followed to the role of senior engineer in the council's traffic signals team, where he monitored a network of cameras. In his power was the ability to control signals manually. One morning his "curious, inquisitive mind" got the better of him and Martin managed to cause huge congestion to junction 29 of the M5.

"It was a mistake and I didn't do it again," he reflects. "But you won't learn if you haven't pushed yourself or experienced problems like this."

His curiosity proved a great asset, however, when he later joined the council's transport studies unit. Across the office was a team from strategic planning and Martin went over and started talking to them. It turned out they were working on a plan for new settlements and could do with some fresh input.

"I realised I could assist them and our conversations opened my eyes to the idea of using strategic planning to help shape the future."

He went on to help make the case

for two new settlements including one at Cranbrook near Exeter that incorporated new thinking around introducing a 'hierarchy' of travel modes, prioritising walking, cycling and public transport use.

"Sustainable development was becoming part of the agenda and my involvement in structure plans drew me into regional planning."

In 1999, Martin joined the Government Office for the South East as a senior transport planner and started to develop local transport plans as well as multi modal and route based studies. "This seemed to be a natural extension of my career, although the move meant leaving Devon."

The next year he was appointed head of regional transport planning at the new South East England Regional Assembly. He helped create its first transport strategy and assisted local authorities across Surrey and Sussex with their local transport plans.

He became programme manager for the A3 Hindhead Tunnel roads based study. Delivery of the tunnel would represent two and a half years of funding for the region and Martin gave political leaders the evidence they needed to prioritise the scheme.

One consultant working on the project was Denvil Coombe, a specialist in multimodal studies, who explored whether or not motorists should pay to use the tunnel. One piece of his >

president's profile

> advice Martin remembers was around what makes for a robust decision. "You know that it is robust," he recalls, "if you would still come to the same conclusion if presented with further information".

In 2005, Martin was appointed the Assembly's regional investment director to lead the South East Plan. He wrote the first regional transport strategy and prided himself on not using the word 'strategic' once, arguing that the phrase is too vague.

"It's important to be clear about what you are trying to achieve; language is crucial," CIHT's new President says. His report was well received, although a senior colleague suggested that a few points could do with further explanation.

"I remember feeling quite defensive, but took a step back and realised if another person doesn't understand what I'm trying to say it's my fault, not theirs: it's a lesson I think we all do well to remember."

Martin also chaired a transport officers' group that brought together eight regional assemblies. One of its projects looked at the impact technology may have on future mobility. "Even then we could see that digital connectivity would change how many things are done; although we weren't clear exactly how."

Following the demise of regional assemblies nearly a decade ago he joined Oxfordshire County Council as head of sustainable development to lead the case for establishing a new Local Enterprise Partnership.

Promotions soon followed; first to deputy director for growth and infrastructure, then strategy and infrastructure planning. During his four years with the county he also helped establish the concept of the Oxfordshire Science Transit to serve



↑ Rail's link with housing is a key aspect of good future planning

the transport needs of research facilities at Culham and Harwell.

Martin moved to the Transport Systems Catapult in 2014 to head up business development, excited by new thinking around technology and innovation. "Creation of the Catapult was a huge opportunity and I'm very comfortable following something and seeing where it may end up. I enjoy the journey of discovery."

Having worked in the public sector Martin was frustrated that the ambitions of politicians could not always be realised. "But at the Catapult we worked with entrepreneurs who moved quickly when they saw opportunities," he adds.

The following year he joined England's Economic Heartland Strategic Alliance as programme director to help establish the case for better transport, digital and utility connectivity in support of new development and economic growth on the Oxford to Cambridge Arc and surrounding counties (see box, page 13).

One of Martin's guiding principles is that individuals are free to make their own, sometimes irrational, choices. This is especially true when it comes to transport. He also recognises that some people can exhibit apparently contrasting views.

"I sit in meetings where there are calls for more to be done to save town centres, but how many of them will go home afterwards and order online?"

"The reason certain things happen is because we all make choices. As professionals we should challenge ourselves more often: would we do what we're asking others to do?"

Martin is keen to explore who, exactly, can be considered to be a transport authority today: is it a council, Uber, Google or individuals themselves? Or a combination of all of them? And he warns that while user-focused applications offer convenience, care must be taken to ensure autonomous vehicles – for instance – are not directed into locations where policy makers are trying to reduce traffic.

The new President also urges more joined up thinking between public transport providers, especially during periods of disruption. If there are problems with one service, people must be able to use their ticket with another provider, he says.

"We must always think about transport from an end-user's perspective. Ask yourself: if we were Amazon, would we manage and deliver our services the way we do?"

He also likens the need for increased transport spending with the need for business investment. "If we don't keep investing, we go backwards. Unfortunately the country's productivity is not as good as our global competitors, so we have to invest in our infrastructure to ensure continued success."

One emerging area of interest for Martin is 'agent based' modelling which better simulates human behaviours and uses this to explore the implications of different future scenarios, so policies can be developed to achieve a desired outcome.

But he also makes the point that as a profession, "some aspects of what we do isn't rocket science; it is about

↓ At the Jam Factory co-working space in Oxford



Shaping tomorrow with CIHT

Improving connectivity creates opportunities for all and puts the work of CIHT members at the heart of society, Martin Tugwell said at his Presidential inauguration on 19 June.

Martin outlined his Presidential theme 'Shaping Tomorrow Today' and set out three issues for his year ahead: making the case for investment, championing a more diverse and inclusive profession and harnessing the power of vision led scenario planning.

He also called on professionals to work with

communities, businesses and political leaders to develop a shared ambition for future mobility.

During his 30 years with the Institution, Martin has been involved with the South West and South East regions, served on Council and chaired the Learned Society & Technical Strategy Board and the Regional Panel.

Martin said CIHT's recently launched Public Sector and Education Partner networks "give us a foundation on which to build" and added that changes to be implemented later this year as

part of a Governance Review will further strengthen the CIHT's voice in shaping the future.

"As an Institution we've always welcomed all those who make a contribution to running, maintaining and developing our transport system.

"In the year ahead and beyond we must provide the leadership our communities and businesses seek: as individuals and as an Institution.

"It is great that people can now become Chartered Transport Planning Professionals through CIHT and I am looking forward to presenting the first of our transport planners as they gain this title," he added (see page 27).

doing the basics really well". Successful outcomes can be just as much about "doing things correctly, efficiently and in a timely manner".

Martin supports the building of new railway lines and stations as well as improving train services to assist growth. More focus is needed, he adds, on developing freight on rail. Cycling and walking need greater promotion, he continues, but not just in cities.

"We need to see more off road cycling infrastructure in rural areas to improve safety and make traffic flow better."

Some new road building is necessary, Martin says, especially to support new development. But highways have to be designed with a nod to how motorists may be expected to pay to drive in future and the continued move away from vehicle ownership towards more of a mobility access model.

His asks of Government include being "honest and up front about funding allocations for the regions and to support geographically

specific national policy statements for infrastructure". Martin also calls on the sector to make a strong case to politicians to invest more in infrastructure and services in the forthcoming Spending Review.

He is dismayed about Crossrail's delayed opening in London and suggests too many people were guilty of 'group think' about the project. "We all bought into it being on time and budget, but at the same time were walking past building sites that were clearly far from ready. No-one seemed to challenge whether this was right."

Martin adds that some construction projects display too much of a 'macho' culture where there is an "intensity on people to deliver" and says more needs to be done to promote good mental health among staff. "Sometimes we all need to give ourselves space; whether that is sitting on a train staring out of the window, taking a longer coffee with a friend, or going for a walk."

Martin sometimes reflects with his

own son that there seems to be a lot of pressure on young people to decide what they want from a career. "I never knew what I wanted to do and kept my options open for as long as possible. Many of the jobs I have had did not even exist when I was at school.

"I'm very proud of Sam. He is 22, has a passion for the railways and secured an apprenticeship with Great Western at the second attempt. He showed resilience in trying again and has just joined Network Rail as a signaller."

Martin remembers back to his earlier years when he was interviewed by former CIHT President David Tarrant for a telematics job in Hampshire, but was unsuccessful. Many years later Martin bumped into David and reminded him that he didn't give him that job. David replied: 'Yes, but you wouldn't be where you are if I had.'

CIHT's new President says he is very much looking forward to the year ahead. "It is a huge privilege to be given this opportunity." **MW**

"We must always think about transport from an end-user's perspective."

Martin Tugwell



↑ Five Olympic rings come together during the opening ceremony INTERNATIONAL OLYMPIC COMMITTEE

Olympic lesson in leadership

Never underestimate the ability of one person who can make a difference, says CIHT's new President.

Among the people to have inspired Martin Tugwell are the Victorian engineer and visionary Isambard Kingdom Brunel, former American President John F Kennedy and the film director Danny Boyle, who orchestrated the Opening Ceremony of the London Olympic Games in 2012.

Martin was one of the cast members of that performance, playing the role of a working man during a sequence about the industrial revolution.

In one of the first rehearsals, he remembers sitting among a large group of "enthusiastic amateurs" keen to understand more about what was expected of them. "Danny came and spoke to us all, explained what each sequence involved and

what he wanted to get across. We all shared in his passion and there was a feeling of 'whatever you want, we will do it'.

"Danny told us that the moment everyone will remember is when the five rings come together above the stadium, and he was right."



← Martin takes a break during rehearsals

Drones promise predictive highway repairs



↑ Trials of a drone capable of small scale road repairs are due to be carried out in Leeds later this year UNIVERSITY OF LEEDS

Unmanned aerial vehicles featuring 3D printers that produce small volumes of asphalt could one day be a useful tool in tackling the UK's pothole crisis, reports Steve Dale.

Imagine this future scenario: you are travelling along a local road, perhaps in an autonomous vehicle. You glance up to the sky and see a fleet of drones approaching – some carrying cones, others signage.

They come to land and close off a single lane of the carriageway, directing traffic to go around. Among them is a highly specialised road maintenance drone, capable of 3D printing asphalt to repair cracks in the road surface before they grow into potholes.

The work is completed quickly and



"The idea is that this will perform preventative maintenance."
Bilal Kaddouh

the fleet flies off again to its next job. This vision could become a reality in the not too distant future if pioneering research being carried out by the University of Leeds, alongside other academic institutions, proves to be successful.

A prototype unmanned aerial vehicle (UAV) with a 3D printer on board has already been put through off road testing using trial asphalt slabs and, it is hoped, will be deployed for a demonstration on a real street in Leeds later this year.

"The top part of the prototype is a standard off the shelf drone," explains research fellow Dr Bilal Kaddouh from the University's school of mechanical engineering. "We have a companion computer that commands it, so it can fly autonomously and we have equipped the landing gear with tracks so it can also drive on the ground."

The 3D printing part of the drone features a nozzle developed by project partner University College London, which is able to heat up upon landing

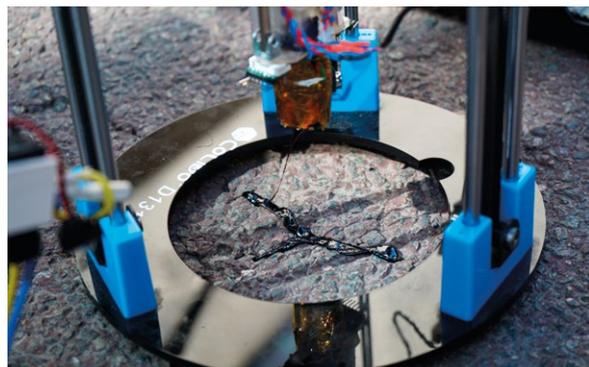
and fill defects in the road surface with repair material. An on board camera guides the nozzle and estimates the amount of fill needed.

"It's a system of systems which has a purpose to find those cracks and fix them," says Bilal. Currently, the 3D printer uses pure bitumen but researchers have experimented with different mixtures, using small aggregate materials.

"We will never be able to reach the asphalt composition that you usually have on roads, but this is not needed anyway for this type of repair," he says. "The idea is that this will perform preventative maintenance."

"If we can close cracks when they first appear, we can prevent water ingress and stop surface deterioration, extending the life of that part of the road for an extra two to five years," he adds. "That's the vision."

Cracks to be fixed, it is proposed, would be identified via a number of sources, ranging from ground robots and drones flying overhead, to fixed >



↑ Bitumen is 3D printed to fill cracks

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> camera assets and members of the public reporting defects. "Once we find them, defects can be 'geotagged' and their location sent back to a command centre that prioritises jobs and sends out the repair drones," says Bilal.

The prototype road maintenance drone has been developed as one work stream of an Engineering & Physical Sciences Research Council (EPSRC) funded programme called Self Repairing Cities, which includes a vision to have zero disruption from streetworks by 2050. In addition to Leeds, the universities of Birmingham and Southampton and UCL are partners on the programme.

"Mainstream deployment is not going to be before five years from now," says Bilal. "That will give time for regulations to allow autonomous flying and for the technology to mature a bit more; then you might start to see it."

UAVs featuring 3D printers could also perform tasks such as roof repairs.

Further aspects of the research programme – due to end in January 2021 – include developing 'perch and repair' drones as well as small, wheeled robots which can perform infrastructure inspections and maintenance at height, such as on bridges. This would eliminate risks to operatives working up high.

For example a magnetic robot has been tested which was deposited by a UAV onto a disused metal bridge. Another prototype robot is currently in development that would be placed on concrete bridge piers to inspect the condition of bridge bearings.

A further aspect of the programme is research into the likely impact of using these systems within cities in terms of their environmental, economic and social effects. "Because we are developing this technology to improve society, we don't want it to have a negative effect so we are trying to manage that in our project," says Bilal.



↑ A prototype drone in flight

Pipe robots look to take over streetworks



↑ Kirill Horoshenkov is leading work to develop micro robots that inspect utility pipes (left)

Swarms of autonomous micro robots designed to navigate and inspect the condition of underground pipe networks could one day help reduce the need for disruptive streetworks.

A £7.2M project led by the University of Sheffield is investigating ways in which robots can move freely and intelligently through utility pipes and transmit data about infrastructure faults.

"Every year 1.5M excavations are made on the UK's roads to maintain utility assets," says the project's academic lead Professor Kirill Horoshenkov. "Each dig causes disruption to road users, noise and has a cost to the economy."

A key challenge, he adds, is in pinpointing the exact location of faults in buried pipework, which often leads to larger street closures in terms of size and time than should be necessary. It is hoped that introducing pervasive robots into the pipe network will help to overcome this.

"The robots will be able to spend weeks, months or even years surveying the network to inform operators about changes in pipe condition, so faults can be repaired before they develop."

These repairs, he suggests, could be carried out by work crews digging the road less frequently and more accurately, and ultimately by in-pipe fixer robots. "Everything should be done within the pipe in future for minimum road disruption," he says.

The EPSRC project – which also involves the universities of Bristol, Birmingham and Leeds and industry partners – officially launched in March and is currently building a team. Key challenges include establishing how the robots will navigate without the use of GPS, which does not work underground, and how they can be integrated into a single system of buried asset management.

The robots are expected to be 3D printed using standard parts and could take different forms depending on the type of pipe. For example Professor Horoshenkov suggests that those placed in wastewater pipes could crawl along its roof, while those in clean water pipes might resemble tadpoles with legs. In gas infrastructure the robots may look similar to ants.

"We might have to go through several iterations before we get it right," he says.

Defect modelling boosts council resources

Artificial intelligence software capable of analysing the width and depth of potholes and calculating the volume and type of materials needed to fill them is starting to be trialled by local authorities.

The 3D imaging and modelling software developed by Welsh firm GPC takes accurate and fast measurements based on still photographs or video footage of road surface defects.

This, says the company's chief technology officer Huw Morgan, can be used to help councils quickly prioritise repairs. "This technology can have a huge impact in terms of allowing councils to get roads maintained faster, allocate their resources better and save money," he says.

Current trials are under way in Blaenau Gwent County Borough Council and Durham County Council. The former is exploring the use of handheld



↑ Potholes are measured using a handheld device

3D camera technology with a view towards automating the process, with cameras attached to council vehicles such as refuse trucks. Durham is more focused on making it easier for members of the public to report potholes using mobile apps.

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- **Keynote Address: 2002 to 2020: Back to the future - From early experiments with Floating Vehicle Data to opportunities to monitor & manage networks** Andy Graham, White Willow Consulting
- **Temporary detection for UTC – keeping sites coordinated** Jackie Davies, Bristol City Council
- **Highways England Future DMRB** Jonathan Flynn, Highways England
- **'It's adaptive control, Jim, but not as we know it'** Dave Caborn, Kirklees Council
- **The realities of distributed traffic control** Keith Manston, Siemens
- **Local bus priority, centrally** Joel Dodsworth, Leeds City Council
- **Temporary MOVA – Operating MOVA control on SRL MOVA 64 signals** Tom Sidall, 4 Way Consulting
- **Green Man Authority – An Innovative Solution to contribute to Healthy Streets in London** Jennifer Treen, Transport for London
- **Keeping London Moving – Highbury Corner UTC controllable temporary signals case study** Daniel Hornshaw, Transport for London
- **Adaptive Portable Signals Kent Case Study** Darren Hudson, Traffic Group Technology
- **Safety in procurement & the role of ARTSM** M.Pleydell & K.Franklin
- **Why Engineers, Designers and Installers should always feedback to product providers?** NAL
- **Tbilisi – Georgia on my mind (Bus priority Schemes)** Dave Parkin, Mott MacDonald
- **Adaptive Strategic Linked MOVA using Blockly** Craig Cameron, Siemens
- **Building Information Modelling - a business process to reduce whole life costs of infrastructure assets** Will Barron, Keysoft

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Scotland's capital strides towards friendlier streets

Recognition of a need to improve air quality, tackle climate change and make urban centres more friendly to pedestrians and cyclists underpin plans to transform Edinburgh.

Radical proposals to end traffic dominance in Edinburgh's famous World Heritage district and give far greater prominence to space for active travel are expected to be approved before the year is out.

The Scottish capital has just completed a major public consultation on its plans to transform the city's Old and New Town areas over the next decade.

Edinburgh's transport convener Councillor Lesley Macinnes explains that the City Centre Transformation programme began as a realisation that "we had over 20 separate projects that were due to hit the city centre.

"This is an attempt to pull all of that together and make sure it works effectively moving towards our wider ambitions," she says.

These ambitions include a pledge to achieve net zero carbon emissions by 2030, at a time when the city's population is expected to grow 20% within 20 years. Also linked are plans for a low emission zone – which has been undergoing a parallel consultation – an extension of its tram system north to Newhaven and an upcoming city mobility plan.

City Centre Transformation project director Daisy Narayanan adds: "Over the past few decades we have seen the dominance of motor vehicles in the city. All the projects that make up our



↑ An artist's impression of the Meadows to George Street scheme CITY OF EDINBURGH COUNCIL

ambitions are trying to rebalance that and encourage a shift onto active and public transport." It is hoped that city centre traffic will reduce by 30% within 10 years.

A central 'pedestrian priority zone' sits at the heart of the transformation programme, which will feature selected car free streets including on the Royal Mile and at Waverley Bridge.

Across the area carriageway space will be reduced and footways widened – including on the major thoroughfare of Princes Street – alongside public realm and junction improvements. "Cars and vehicles will be treated as



"This is about changing the city to make it much more people oriented."

Lesley Macinnes

guests within the pedestrian priority zone," says Daisy.

Councillor Macinnes adds: "Princes Street is a key part of this." The street offers views of the castle, but, she emphasises: "Right now to actually see it you are dodging buses, because we have 5600 bus movements on that street every day.

"Unless we can find some way to reduce the dominance of that, the street is always going to feel busy and less relaxed and welcoming than it could be." In response, a proposal is to have certain buses that currently run through the city centre drop off at one of several interchange points, before turning back again.

A number of segregated routes for cycling are also proposed, including a new walking and cycling bridge connecting the Old and New Towns. Cycling infrastructure improvements will be supported by the roll out of electric bikes to the city's cycle hire service later this year; a potential "game changer" according to Councillor Macinnes.

Further interventions include a free 'hopper' bus service to ease movement

Campaigner urges greater cycle spending



↑ Martin McDonnell

Scotland is set to miss its target for 10% of everyday journeys to be made on a bicycle by 2020, Transport Secretary Michael Matheson announced in June to the disappointment of sustainable transport champions.

Martin McDonnell of Lothian cycling campaign Spokes' planning group emphasised the need for greater investment by the Scottish Government

in active travel infrastructure, but rued its present focus on road spending.

"I just don't think they have realised the scale of the spend they need to make," he says. "We shouldn't be talking about tens of millions, we should be talking of a billion to really change things."

He also urged a more comprehensive network of safer routes for those on two wheels to be developed in Edinburgh.

Tram extension looks to learn from the past

Lessons learned from Edinburgh's challenging tram project, which opened five years ago following significant delays and cost overruns, are set to be applied to an extension of the line from York Place north to Newhaven.

Construction of the almost 5km route is due to start towards the end of this year. "This will be a completion rather than an extension," clarifies the scheme's senior officer Hannah Ross of the City of Edinburgh Council. "The line was originally to be built to Newhaven and some work was done to enable that, but ultimately difficulties with the project meant it was truncated."

One important difference about the upcoming project is the introduction of an early contractor involvement phase. "Last time the design wasn't absolutely finalised when it came to starting on site," says Hannah. "The ECI phase allows us to work with our contractors to really hone the designs and identify value engineering opportunities."

The council is also taking more direct oversight of the trams to Newhaven scheme



↑ Completion of the tram line to Newhaven will get under way soon



"ECI allows us to hone the designs and identify value engineering."

Hannah Ross

than the previous project – which was delivered by a separate council owned company – while funding comes from borrowing against future fare revenue.

During construction, a 'single dig' approach will see utility diversion works run concurrently with infrastructure works to install track slab and rails, and traffic management will not change throughout the 18 month programme

to prevent confusion among road users.

Improved cycle safety measures are promised around the tram lines and sections of segregated cycleway are set to be introduced. Trams are expected to begin operating from spring 2023. The project's infrastructure and systems contractor is a joint venture of Sacyr, Farrans and Neopol, and the utilities contractor is Morrison Utility Services.

around the city centre, the removal of car parking facilities and four vertical connections to improve accessibility between streets at different levels in the hilly capital. And a longer term proposal is to create a city centre tram loop, with a new link south to an emerging 'Bio Quarter' and the Edinburgh Royal Infirmary.

"Something that underpins all of this is the issue of social justice," says Councillor Macinnes. "It will be about changing the nature of the city and making it much more people oriented, as well as achieving health and wellbeing outcomes.

"If we can provide a better environment in the centre where people can feel increasingly comfortable, that is not oppressed by traffic, I think we will have done a good thing. It will make such a difference to residents and visitors alike."

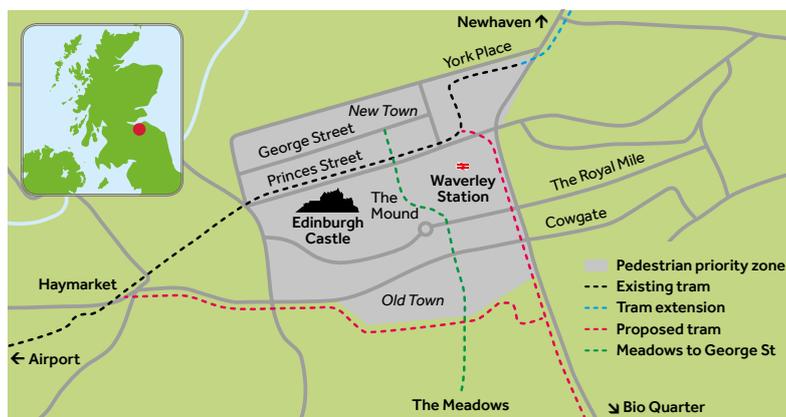
Support for the transformation initiative has been marked. In an early consultation presenting broad concepts and ideas, over half of respondents said they wanted to see a radical rethink of how the city centre is managed.

Regarding the latest consultation, Daisy Narayanan says: "We have had some incredible feedback, a huge



"Over the past few decades we have seen the dominance of motor vehicles."

Daisy Narayanan



amount of ideas and lots of push to be more radical and ambitious, which is amazing, but there are some individual concerns as well." A final version of the City Centre Transformation plan is set to go before the City of Edinburgh Council's Transport & Environment Committee this autumn, before delivery from January 2020.

Among the first projects set to get under way as part of the programme will be the Meadows to George Street scheme, which will feature wider footways and segregated cycling provision along a route that includes The Mound.

A cycling route is also set to start construction shortly, connecting Roseburn in the west with Leith Walk

in the east via the city centre.

An important precursor to the delivery of the transformation programme has been the introduction of Open Streets days, of which three have now taken place since May on the first Sunday of each month.

The initiative currently involves 13 streets in the Old Town which are closed off to traffic, leading to children playing in the street, people practicing yoga and playing badminton, and, for businesses, boosting Sunday takings.

Councillor Macinnes says: "I think it has helped to change people's expectations because we are giving them the chance to look at the city from a different perspective and see what can be possible." **SD**

Be willing to engage openly says UK roads ambassador

Graham Pendlebury – the recently retired local transport director at the Department for Transport – is focused on helping to strengthen the UK's ties with international partners. Justin Ward reports.



↑ Graham Pendlebury will lead a UK delegation to the World Road Congress in Abu Dhabi in October BESTPHOTOPLUS – SHUTTERSTOCK

As the UK looks to forge new relationships in a post Brexit world it is interesting who the Department for Transport has chosen to help build these networks.

Graham Pendlebury, who until the end of May was director of local transport at DfT, is now working part time to focus on the UK's presence at the World Road Congress in Abu Dhabi later this year.

This comes two years after he was appointed senior Government official (UK First Delegate) to represent the UK at the World Road Association (also known as PIARC).

It was an astute choice to elect Graham to take over from former First Delegate Roy Brannen (now chief executive of Transport Scotland) and his openness to engage with others and listen has strengthened the UK's international presence.

Graham is also known for his inclusivity and his ability to involve others, so it is perhaps not surprising that he now has an international brief to take these qualities

forward. He also has extensive overseas experience from previous roles at DfT.

Graham is personally committed to developing the UK's relationship with PIARC and he sees networks such as the UKRLG and the National Committee of the World Road Association in the UK as key to this.

"We at the DfT re-activated our engagement with PIARC," Graham says. "Roy did a great job, but was not always getting enough support from all parts of the UK. I wanted to rectify that."

Graham has found that countries right across the world share similar problems to the UK. He says that officials from France, Germany, America, Japan and China have all told him they also face issues around how to maintain infrastructure and are looking to address challenges such as whether they have the right skills to cope with new technologies.

For the UK there is so much we can learn from others and for Graham this is why being more engaged with PIARC and having a bigger presence at the World Road Congress can only be a good thing.

Graham will continue to work for the DfT until the end of October in order to deliver the UK's presence at the next World Road Congress in Abu Dhabi from 6 to 10 October. The event is expected to attract 5000 delegates and 40 transport ministers and there will be 300 exhibitors, including the UK.

Marshalling the UK's presence is now a core focus for Graham. "We have got great innovative companies here and the work that is done by the various transport organisations provides an opportunity to showcase what we are doing," he says. "Let's face it, it is a competitive world so we have to make sure we have the same if not better visibility than our competitors."

I ask Graham what advice he would give his younger self and he responds with a broader perspective. Looking back at the civil service and the Department over the last 30 to 35 years, he says it would have been to not have such a 'bunker mentality' and be more willing to engage with communities of expertise and

"We have to have the same if not better visibility than our competitors."

Graham Pendlebury

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Minor structures guidance published by lighting group

Highway managers responsible for the upkeep of street furniture including lamp posts, traffic signal poles and signs are urged to consult a new asset management toolkit produced by the Institution of Lighting Professionals.

Its guidance note 22: 'Asset Management Toolkit: Minor Structures' (ATOMS) was launched on 12 June and is available to download for free at the ILP's website.

ATOMS was supported by the Department for Transport and produced in association with the UK Lighting Board, Highway Electrical Association and Transport for London. It has been developed following the UKRLG's 'Well Managed Highway Infrastructure' Code of Practice to help everyone with a responsibility for such assets to effectively manage them in line with the code.

The document updates and supersedes ILP Technical Report 22 'Managing a Vital Asset: Lighting Supports', which is now withdrawn.

The main points of ATOMS are to confirm that columns supporting luminaires, signals and CCTV are now defined as minor structures and are to be considered, assessed and managed as such.



↑ Columns featuring signs and lighting units are covered by new guidance YORKMAN – SHUTTERSTOCK

A column condition index has been developed and the document also advises how an asset owner can develop an assumed residual life value for the lighting column, allowing them to plan and budget effectively for the future.

UK Lighting Board chair David Denner said

the new document gives an "opportunity to align the inspection and testing of lighting assets with those of other highway assets as minor structures".

To download the document, visit theilp.org.uk/atoms

delivery partners in a much more candid way to build trust.

"The more you have a shared ownership of issues and work together to solve problems, the better." His advice would have been: 'Don't be so buttoned up: be willing to engage with other partners'.

I get the sense from seeing Graham in meetings that he is universally well liked. He might not always say what you want to hear but his openness, honesty and candid nature mean that he gains the trust of whoever he is speaking with. This strength has been an asset when chairing the UK Roads Liaison Group.

He thinks that the UKRLG is unique in Government and this is demonstrated

↓ Delegates from the UK at the last World Road Congress in Seoul in 2015



by its longevity. The group continues to secure good participation from all the devolved administrations, Transport for London, Highways England and from different tiers of local government across the UK.

More recently UKRLG has acted as a conduit for developing a UK wide research programme and Graham says that too is possibly unique in Government; not only sharing research but also procurement processes to make it less burdensome for any one authority.

UKRLG's products, Graham hopes, have been very useful for practitioners but so too is the UK wide collaboration. He sees the network of relationships as also of vital importance, saying: "I think transport is one of the best areas in Government for doing that."

Graham adds that the UKRLG has been flexible in how it thinks about transport as new technologies have emerged and has adapted to these shifts. Specifically, he sees the Code of Practice 'Well Managed Highway Infrastructure' as demonstrating quite a significant shift with the move to the risk based approach that is becoming well embedded in the sector.

CIHT provides support to both PIARC

and the UKRLG both in terms of logistical and technical support. In Graham's view CIHT is one of the success factors in UKRLG and PIARC and the relationship with the Institution is one that is unique within the Department and more widely within Whitehall.

The directorate which Graham was responsible for within the DfT is a major contributor to the Government's economic growth and localism agendas and is accountable for around £2.5Bn a year of public expenditure. Graham has a Master's degree in history, and is a continuing policy fellow at the University of Cambridge's Centre for Science & Policy.

Graham has noticed during his 35 year career the huge impact EU membership has had and how it started to take up more time of professionals. He says it will be interesting to see how this pans out in the future.

Environmental standards and harmonisation of technical standards were major areas of influence from the EU, so the process of untangling the UK from Europe will, he notes, take a long time. On this Graham sounds an upbeat note, saying: "Our adherence to high standards will continue whatever the future political framework is."

Working together to reduce the disruption of roadworks

Creating a culture of collaboration and data sharing is much harder than it looks, but in Croydon utility companies have come together to reduce time and disruption on site, say Alexander Pocklington and Natasha Lalwani.

Introduction

According to a recent study, drivers in some of the UK's larger cities lose dozens of hours each year because of congestion. In 2017, the report added, the average motorist in London lost 227 hours stuck in traffic.

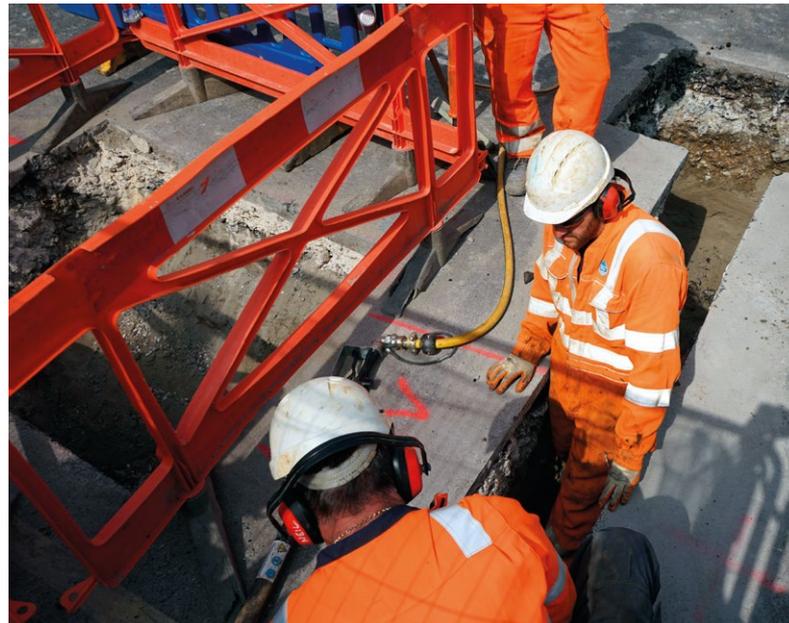
Roadworks account for an estimated 15% of this congestion in the capital. But disruption can be mitigated. Multiple utility companies collaborating with a 'dig once' approach seems to be the logical solution to the problem of endless roadworks disruption.

Collaborating in Croydon

The London Borough of Croydon is currently undergoing a town centre redevelopment programme and recognised the need to minimise disruption to residents.

To this end, Croydon worked with design consultant Atkins and its innovation partner Fluxx to understand how best to collaborate planned works. They sought funding from the Transport for London Lane Rental Fund to execute the project.

The Atkins and Fluxx teams started by creating a geospatial web map for Croydon that lets the borough and utility companies share their forward planned maintenance and



↑ Roadworks in the collaborative Thames Water and SGN site in Croydon



Alexander Pocklington, Principal impact assessment engineer, London Borough of Croydon
Alexander previously worked at TfL, organising traffic management and diversions for a closure of Tower Bridge in 2016.

construction programme data in one common environment.

Once information was received and data mapped geographically, it created a visual picture using layers that users can zoom into and out of to identify areas where works are overlapping in the same streets.

Data mapped included Croydon's resurfacing plans and the utility companies' rehabilitation plans as well as other relevant information

including Section 58 orders. One street that stood out due to a significant overlap of work and timelines was Epsom Road; major works were required by gas provider SGN and Thames Water. In addition, the London Borough was due to resurface the same road. It made sense to take the opportunity for collaboration forward.

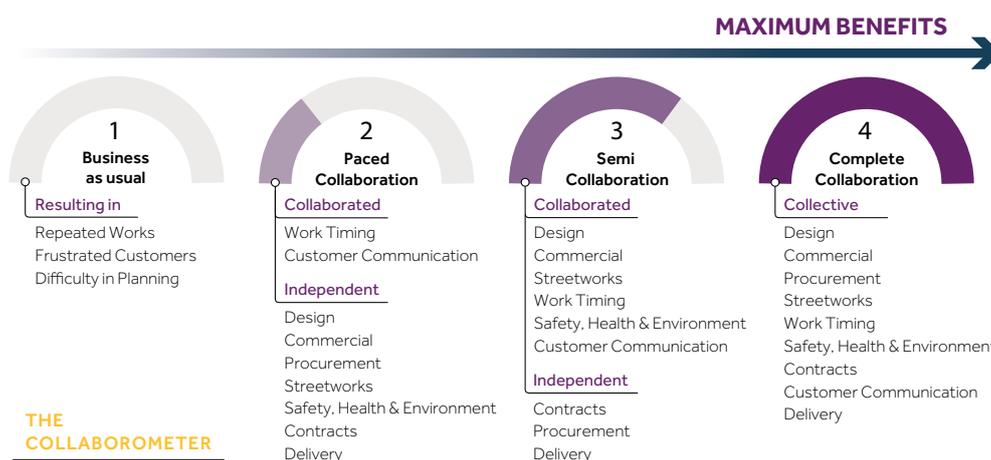
↓ Various degrees of collaboration are possible on roadwork projects

Bringing professionals together

As a next step a workshop was held to allow people to brainstorm, including senior stakeholders from the London Borough of Croydon, Thames Water, SGN and the Greater London Authority.

Teams went away from the workshop eager to translate optimism into concrete work plans. The second step involved digging deeper into the practicalities.

However, talking to procurement and operations teams at both utility companies led to a stark conclusion: collaboration was going to be much harder than originally thought.



Under the current Construction, Design & Management laws it is challenging for utility companies to use the same sub contractor. CDM rules state that there has to be one principal designer for the project and one principal contractor on site. But on Epsom Road, who would that be?

There were also challenges related to project compliance, construction standards and procurement policies. While these were manageable over time, Epsom Road needed a more immediate solution.

Pacing the work

The London Borough of Croydon suggested that instead of complete trench sharing, works could be 'paced', so one utility company would complete a section, carry out a temporary resurface and then move to another section. Another utility company would then follow.

As an incentive for working collaboratively, the parking bay charges were waived by the borough, saving the utility companies around £200,000.

Other benefits included sharing traffic management and customer liaison efforts. One output from a workshop was the 'collaborometer' which shows various levels of collaboration that are possible (see graphic, previous page)

Overcoming CDM challenges

To make this new way of working CDM compliant, Safety, Health & Environmental teams and delivery teams evaluated solutions in the planning stage.

The conclusion was that where separate principal designers (PDs) and principal contractors (PCs) are appointed and plan to be working in the same general area at the same time, the site must be clearly demarcated to be compliant with CDM.

Under these circumstances, works



↑ Highway and utility teams collaborate in Croydon



Natasha Lalwani, Senior innovation consultant, Fluxx Natasha has worked in consumer goods, real estate and technology. She was an integral part of a Thames Connect project using technology to make streetworks more collaborative and efficient.

↓ London Deputy Mayor for Planning, Regeneration & Skills Jules Pipe CBE (left) with Atkins and Fluxx representatives



can be considered as having individual clients and can proceed as per existing paced collaboration. Although works needed by both utility companies were required in the same site footprint, the cost of establishing the legal and commercial arrangements required by CDM to permit full collaboration would have outweighed the benefits.

CDM footprint handover

A design and construction solution was established whereby responsibility for demarcated sections of site or CDM footprint was handed over from one party during different phases of construction.

The solution involved regular coordination meetings and supporting documentation to formally identify the duty holders of any given location at any given time, allowing two clients, PDs and PCs to maintain full control and assume their roles and responsibilities under CDM as they would in any other situation.

All in one place

With the plans of all parties in one place through a GIS tool, Croydon was able to see that the road was due for resurfacing months before utility companies were due to do their replacement works: a classic situation all too common on London's road network. That is where Epsom Road stood out: the interests of all parties coincided and it was thought better to get the utilities in first, before the road was resurfaced.

Large savings realised

When calculating the potential savings, the numbers really started to add up. With Thames Water and SGN using the same road space and coordinating

work timings, the projected reduction in overall disruption from road closures is 98 days, leading to an estimated saving to the local economy of £678,000.

There are additional benefits surrounding shared costs of traffic management, traffic orders, more efficient site working and other aspects of roadworks. The Greater London Authority is set to publish an appraisal of the final benefits later this summer.

Conclusion

Despite the existing constraints of Construction, Design & Management laws, the teams were able to develop an interim working solution; one that could work in the immediate future under existing legislation.

The teams realised that being too close to a problem, too aware of the constraints or too focused on an ideal solution can often blind us to simple solutions that can deliver a lot of value.

The team working on the project has published a Collaboration Handbook (available at croydon.gov.uk) to guide others to coordinated delivery of utility infrastructure and the Mayor of London has set up the Infrastructure Development Coordination Team to support coordination of infrastructure and development planning and delivery in the capital.

The team is backed by industry and one of its main objectives is to reduce disruption and other adverse effects caused by work promoters.

For further information or support on working collaboratively, email ict@london.gov.uk

Acknowledgement

This article has been peer reviewed by the CIHT Network Management & Operations Panel.

Chief Executive Sue Percy awarded CBE

Sue Percy says she is “overwhelmed with the lovely messages of congratulations” received in recent weeks following her award of a CBE in the Queen’s Birthday Honours.

CIHT’s Chief Executive received the accolade in June in recognition of her services to transport. She has led the Institution for the last seven years during which time CIHT has grown its membership and increased its influence.

Sue also holds several voluntary and non executive director roles and has worked in the built environment sector for over 25 years.

“I’m delighted, thrilled and honoured to receive the award,” Sue said. “When I received the letter from the Cabinet Office, I had to read it a couple of times; the news came as a complete surprise.

“I have received congratulations from far and wide, including hand written letters and messages on social media. People have been very generous in their congratulations.”

Sue added that her CBE “also reflects the great work of the Institution, its members, the Board of Trustees, and colleagues at Britannia Walk.

“I also hope that the award helps to shine a positive spotlight on the importance of highways and transportation to the economy and the wellbeing of society.”



← Sue Percy was recognised for services to transport in the Queen’s Birthday Honours

SCOTT RAMSEY PHOTOGRAPHY

In recent years Sue has been proud to have helped push forward on the diversity and inclusion agenda and to have helped raise the profile of CIHT.

“Hopefully we have brought some fresh thinking into the way we do things in the transport sector,” she added.

Sue is due to receive her CBE at Buckingham Palace later this summer.

CIHT’s Immediate Past President Mathew Lugg OBE said: “We are delighted that Sue has been recognised in this way. This honour is in recognition for the tireless work and enthusiasm that she has brought to the industry over the years.

“It is a great privilege for CIHT to have Sue playing a leading role in our industry and we are proud that she has been awarded this honour.”

Neil Johnstone elected as CIHT Vice President

Transport planning and business change specialist Neil Johnstone FCIHT has been elected as the Institution’s new Vice President.

Neil is the director of Consult-NJ, which helps clients set out policy



↑ Neil Johnstone

and development proposals, and previously worked for Systra as its development and integration director. For 25 years Neil worked for Halcrow, becoming managing director of its activities in continental Europe where he oversaw work in a range of sectors including transport, energy and water.

Until this summer he chaired CIHT’s Appian Trading Board and has just joined the Institution’s Audit Committee. Neil has served on Council and is proud of his time with the inaugural Procurement Board when he helped to produce a guidance manual about procurement for younger members.

“I am both honoured and delighted to have been nominated as Vice

President,” Neil said. “Joining the Presidential team is a big job and one that has to be done well.”

Neil studied civil engineering at Edinburgh University and went on to achieve a Masters in the subject at Glasgow University while working for Lothian Council.

“I am a civil engineer at heart who got into transport planning and have seen highways and transportation from every angle from design and maintenance, to planning and strategy,” he added.

Among a range of transport projects including roads, rail and ferries, he acted as an expert witness on behalf of Edinburgh’s congestion charging inquiry and is currently closely following developments

around Mobility as a Service and procurement.

One of Neil’s specialist areas is around change management. “I see every project and transport plan as a change process; and the one thing they all have in common is people. Any steps to take forward a transformative process has to take account of the human dimension.

“People deserve a transport system that is reliable, and not just focused on saving journey time,” he added. “The concern for reliability means we must also look carefully at how we maintain existing assets.”

● Deborah Sims of the University of Greenwich now becomes the Institution’s Senior Vice President.



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President:
Martin Tugwell FCIHT

Chief Executive:
Sue Percy CBE

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 23 August.



↑ Fatema Karim-Khaku, Arup



↑ Louise Batts, Ringway



↑ Desiree Li, Highways England



↑ Elizabeth Box, RAC Foundation

Members champion diversity campaign

Professionals from across the industry shared why they love working in transport to mark International Women in Engineering Day on 23 June.

CIHT supported the day with a social media campaign and continues to engage in a range of activities to promote the inclusive nature of the highways and transportation profession.

To view a series of photographs of engineers with cards explaining why they love their work, visit @CIHTUK on Twitter or visit the Institution's LinkedIn page.

Transport planning recognised with Chartered qualification

Becoming a Chartered Transport Planning Professional is now possible after CIHT was granted an amendment to its Royal Charter to award the title to those who hold the TPP qualification.

Chartered status will give greater recognition of the professional competence of practitioners in the transport planning field. "I'm absolutely delighted that the Transport Planning Professional now has the status of a Chartered qualification – this recognises the key role that transport planners have in shaping the future," said CIHT's new President Martin Tugwell.

"The skills and perspective they bring will enable us to harness the power of vision-led scenario planning to 'decide and provide' the future shape of our transport system."

The TPP qualification – awarded by CIHT and the Transport Planning Society – has been running for a decade and is highly regarded by the profession. It assesses a broad range of technical competencies as well as high level management skills.

TPP's new Chartered status comes as a result of CIHT petitioning the Privy Council for transport planning to be formally recognised as equal to other Chartered professional qualifications.

It means that new candidates who successfully complete the TPP

assessment process, as well as those who are already TPP qualified, are now able to apply to the Institution for the 'CTPP' title.

In addition, entry to the qualification – formerly restricted to CIHT and TPS members – has now been extended to other recognised professional bodies.

Chartered TPP status provides employers, their clients and society with the confidence that registered professionals possess and maintain the knowledge, skills and commitment required to meet transport planning needs.

It signifies a transport planner who has undergone a rigorous assessment of their technical and managerial capabilities and has satisfied a recognised professional benchmark.

For individuals, this means CTPP can lead to improved career and salary prospects and greater influence within their organisation and the wider profession, for example when providing legal evidence as an expert witness.

Applications from TPP holders for the CTPP title should be made to CIHT on a form provided online.

No further assessment beyond the TPP review process is required to gain the Chartered title. However applicants will be required to confirm their commitment to CPD.

For details visit ciht.org.uk/ctpp

Engagement invited on governance review

CIHT is inviting feedback from members on a series of proposed changes to its governance structure, before these are put to an expected extraordinary general meeting in November.

Seven preliminary recommendations have been put forward following initial work by a Governance Review panel, chaired by CIHT Past President Sue Sharland. She said: "It is an exciting time to be a member of CIHT as we seek to improve our services



↑ Sue Sharland

for a growing membership and to increase our influence in a changing world.

"As a forward looking organisation, the Board of Trustees established the Governance Review panel to ensure that our governance evolves to support current and future strategic plans, and that we can embrace future opportunities, while managing risks."

The first recommendation is to split the Presidential role into President and Chair of the Board of Trustees, allowing the latter to become a two year term to provide greater continuity in strategic and business development.

Introduction of a Nominations Panel is also proposed which would manage succession planning for the Board of Trustees, and it is also suggested to increase the number of young professionals involved through the Board and on Council.

A further recommendation is to increase the total number of Council members and to change its meeting pattern to three full day meetings per year, with one held outside London.

Disbanding the External Affairs & Communications Strategic Board is also suggested alongside splitting the Membership Skills & Strategy Board into two Boards – one covering education and qualifications and one covering membership and member services.

Finally it is recommended to allow the appointment of up to two non-member Trustees to the Board of Trustees, to fill potential skills, expertise or experience gaps identified by the Nominations Panel.

Sue Sharland said: "Throughout this review process, we are keen to engage and receive views from our members so we look forward to hearing from you."

For more information visit ciht.org.uk/governancereview

Member profile: Tony Jones

Major transformations in technology and procurement stand out as the biggest changes Tony Jones FCIHT has seen over his 50 year career working in highways design and construction.

Tony was recognised with a Certificate of Merit by the West Midlands Region recently and recalls joining the Institution in 1968 when he started work for Liverpool City Council.

He soon joined the Warwick sub unit of the Midland Road Construction Unit at a time when England's motorway programme was getting under way, and first worked on the planning of the M69 from Coventry to Leicester.

"These were the early days of computer aided design when the computer filled the basement of County Hall and data preparation involved punched cards," said Tony.

His initial experience of construction was on the Kenilworth

Bypass, followed by spells on the M42 and M69. When the RCUs were privatised in the early 1980s, the Warwick sub unit joined Arup, which inherited the Water Orton section of M42 north east of Birmingham; a complex junction with the M6 in poor ground conditions.

Tony was chosen to lead the team that redesigned the project and oversaw construction as resident engineer to an early completion.

The project's success was rewarded with an invitation for Tony and his wife Pam to attend the Royal Garden Party at Buckingham Palace. "That was the project that made my career," he said.

Tony was later promoted by the company to become a director and eventually went on to lead the worldwide highways business.

Another significant moment came with the introduction of Design & Build contracts by the

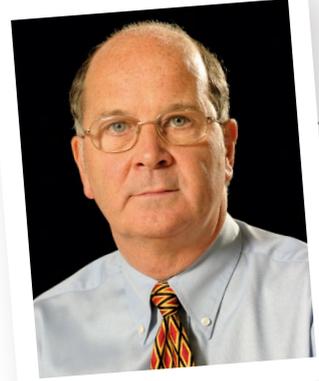
Highways Agency, Tony recalls. "Before that there was an adversarial environment. But once we moved to D&B there was much closer working."

Key projects led by Tony in the following years included the design of the Bingley Bypass and the development of the A120 Stansted to Braintree scheme for Essex County Council, which went through two public inquiries.

He also chaired the design consortium on a project which saw the Birmingham Northern Relief Road become the UK's first privately owned toll motorway.

Later, the development of PFI for road projects opened up a new market for the company as an advisor to lenders and Tony went on to lead a team that was involved with projects all over the world.

He has been an active CIHT member for many years and joined the West Midlands Committee



in 1998, going on to chair it in 2005. Nationally, he has sat on CIHT Council as well as a number of boards and panels, including as chair of Transportation Professional's editorial panel.

Throughout his career Tony has been interested in the training of young engineers and technicians and was involved in establishing a mentoring scheme for review candidates in the West Midlands. "The advice I always give to young people is to be true to yourself and do what you think is right," he said.

Tony retired as a director of Arup in 2007 and went on to hold a part time consultancy with the firm.

Hong Kong hosts UK delegation

CIHT's Immediate Past President Matthew Lugg and Chief Executive Sue Percy enjoyed a productive trip to Hong Kong in June when they visited the Institution's committee in the Region, transport projects and Corporate Partners. The day after arriving the group – which also included Matthew's wife Susan – enjoyed visits to CIHT Gold Corporate Partners Arcadis, Arup and WSP.

"These companies have a big presence in Hong Kong so we were keen to reach out, meet senior people and make them aware of the Institution's activities, talk about the good things we are doing and get them more involved," said Matthew. The group also visited the Hong Kong Institute of Highways & Transportation to discuss collaboration and joint working.

The following day included a visit to a 5km under sea road tunnelling project known as the Tuen Mun – Chek Lap Kok link. Boring machines are being used to excavate the twin tunnel.

Matthew was impressed with the way operatives responsible for keeping the machines maintained are being accommodated underground on site, under high pressure conditions, to ensure they are readily on hand.



↑ Visiting a major road tunnel project

A visit to the nearby airport followed, where an expansion programme is under way. That evening the group attended the CIHT Hong Kong AGM and dinner, which saw new chairman Dr Gordon Leung take over from Dr C F Chan.

The final day saw the group enjoy lunch with committee members and recently Chartered members, and Matthew presented certificates to graduates who are supporting the committee.

Summing up the trip, Matthew said: "CIHT Hong Kong is an active and vibrant Region full of committed people, and I am grateful for the warm welcome we received. It was also great to make the link with our Corporate Partners, who have a massive presence in Hong Kong."

Locan Cup golf event

CIHT's premier golf competition the Locan Cup tees off on Monday 17 September at the John O'Gaunt Golf Club in Bedfordshire. A practice day takes place on the Sunday and there will be a dinner hosted by the East of England Region.

Arrangements for the event were initially organised by Bill Wadrup – a long standing member of the Locan Cup Committee – who sadly died in January. The event will be attached to his memory.

The Locan Cup competition was initially promoted by Sir Charles Drake, a borough engineer of Blackpool and later County Surveyor of Lancashire. The actual cup has been in existence since 1883. Charles Locan – a keen golfer who set up his own surfacing manufacturing company – agreed to donate the cup to the Institution in 1947.

Back in 1948 the competition was a singles event. After 10 years the format changed to 'four ball better ball' and remained so until 1972 when the current format was introduced and participation increased threefold. The competition has been contested over the years at venues across the UK.

For details about the event contact your regional golf organiser or Locan Cup Secretary Mike Jones on 07495 647980 or mikejj@jones-bros.com

National events – CIHT and others

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

Future of infrastructure conference

18 July, London

This conference will analyse the building of high quality systems, tackling under investment and driving future projects.
infrastructure.co.uk

UK light rail conference

23 July, Manchester

Industry professionals and key decision makers will debate the issues and opportunities facing the future of light rail.
mainspring.co.uk/uk-light-rail-conference



↑ Jim O'Sullivan HIGHWAYS ENGLAND

England's road network

10 September, London

Priorities for future investment in roads will be examined at this event featuring Highways England's chief executive Jim O'Sullivan.
weef.co.uk

UK rail industry forum

17 September, London

Policy updates will be provided with insight into how the industry is responding to current challenges.
waterfrontconferencecompany.com

Smart transport conference

18 September, Birmingham

Discussing key transport challenges and providing a roadmap towards the introduction of practical, integrated technology solutions.
smarttransport.org.uk

Driverless cars workshop

26 September, Manchester

This series of workshops, which also features dates in other UK cities, will gather different perspectives on the prospect of driverless cars.
bit.ly/2WBMN1K

Healthy streets summit

9 - 10 October, Glasgow

Best practice case studies will be profiled from cities that are delivering successful healthy streets projects in the UK and beyond.
landor.co.uk/healthystreets/2019

Accelerate: Rail Infrastructure

10 October, London

Transformative power of artificial intelligence and developing the digital railway will be among the topics explored at the conference.
marketforc.live.com

Smarter Tomorrow conference

23 - 24 October, Liverpool

Stakeholders involved in initiatives to improve cities, streets and travel will gather to discuss cutting edge mobility solutions and planning approaches.
landor.co.uk/smartertomorrow

Intelligent transport conference

5 - 6 November

Attendees will learn about the latest breakthroughs, innovations, challenges and solutions affecting the public transport industry.
intelligenttransport.com

CIHT Young Professionals Conference

14 November, Science & Industry Museum, Manchester

Early bird tickets are now available for this conference, designed for those in the first 10 years of their career.
ciht.org.uk

Transport Planning Day

20 November, London

Winner of a People's Award showcasing best practice in community engagement in transport planning will be revealed.
tps.org.uk/events

North of England transport summit

26 November, Manchester

Key politicians and practitioners will come together to discuss and debate future transport strategy.
transporttimes.co.uk



↑ Trams in Manchester TFGM

CIHT Region events

Members can attend events in any region. For full listings visit ciht.org.uk/events



↑ Golf competition at Handsworth

West Midlands

Golf day

22 July, Handsworth Golf Club, Birmingham, 1pm

Members and their guests will compete over 18 holes for the Silver Trophy at this course, located in the picturesque Sandwell Valley.
ciht.org.uk/wm

North East & Cumbria

Professional qualifications workshop

23 July, Castle Garth, Newcastle upon Tyne, 5.30pm

A workshop designed to help those progressing to professional accreditation, whether at the start of the process or close to submission.
ciht.org.uk/ne

Cymru Wales

Transporting future generations

29 October, The Kinmel, Abergele, 6pm

Civil Engineering Contractors Association Wales director Ed Evans will explore how the sector should respond to future challenges.
ciht.org.uk/wales

International events

World Road Congress

6 - 10 October, Abu Dhabi

An opportunity to explore best practices in all areas related to highways. This year's theme is 'connecting cultures - enabling economies'.
piarc.org

Walking conference

7 - 10 October, Rotterdam



↑ Walking in Rotterdam

PAUL ARPS - FLICKR

This conference on walking and liveable communities will explore initiatives aimed at putting pedestrians first in cities.
walk21.com/rotterdam

European transport conference

9 - 11 October, Dublin

Focusing on the key issues facing the sector, from the implications of autonomous vehicles and big data

to climate change and improving air quality.
aetransport.org

ITS World Congress

21 - 25 October, Singapore

Smart mobility, empowering cities is the theme of this year's congress, which is expected to involve over 10,000 participants.
itsworldcongress2019.com

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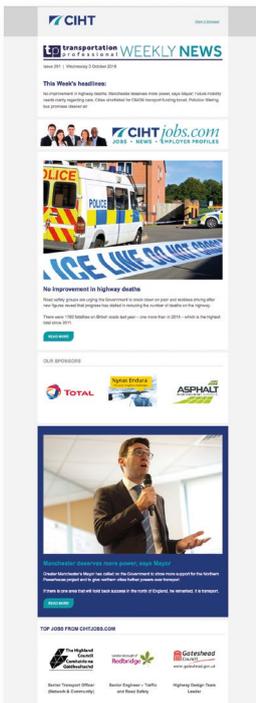


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