

## After the election

What to expect from a hung parliament



### Sixties symbol eyes resurgence

Croydon has been designated a London growth zone  
**p17**



### A nudge towards better choices

A behavioural toolkit could help to tackle congestion  
**p22**



### Towering in gallant fame

The winners of this year's Scottish Transport Awards  
**p24**

roadworks.org

The leading communications hub for live and planned road and traffic information

Diversion route planning  
changed forever...

[www.elgin.org.uk/traffic-management](http://www.elgin.org.uk/traffic-management)



The future of roadworks  
communication...

[www.elgin.org.uk/communications-management](http://www.elgin.org.uk/communications-management)



Save time with simple  
signage plans...

[www.elgin.org.uk/traffic-management](http://www.elgin.org.uk/traffic-management)



**elgin**   
roadworks.org

For further information, please contact us on 020 7127 6955, [info@elgin.org.uk](mailto:info@elgin.org.uk) or visit [www.elgin.org.uk](http://www.elgin.org.uk)

HIGHWAYS MAGAZINE

EXCELLENCE

AWARDS 2015

WINNER



Transport Times provides news, information, analysis and comment on surface transport.  
www.transporttimes.co.uk

**Publisher** David Begg  
**Email** david.begg@transporttimes.co.uk  
**Managing Director** Grant Poulton  
**Email** grant.poulton@transporttimes.co.uk

## Editorial

Transport Times welcomes editorial contributions – news, features and opinions – which should be emailed to the address below. The editor reserves the right to edit all contributions for reasons of length and style.

Unit 27,  
Beaufort Court,  
Admirals Way,  
London,  
E14 9XL

**Tel** 020 7828 3804  
**Fax** 020 7828 3803  
**Email** editorial@transporttimes.co.uk

**Editor** David Fowler  
**Email** david.fowler@transporttimes.co.uk  
**Production Editor** Rob Buckley  
**Email** rob@robbuckley.co.uk

## Advertising

**Sales Director** Isabel Poulton  
**Email** isabel.poulton@transporttimes.co.uk

**Tel** 01236 739577

## Printer

Buxton Press Ltd,  
Palace Road,  
Buxton,  
Derbyshire,  
SK17 6AE

**ISSN** 1759-1015

© All rights reserved. No part of this publication may be reproduced in any form without the prior written permission of the publisher.

# transporttimes

issue no: 143 June 2017

## Election result changes the debate

**F**ollowing an election that raised as many questions as it answered, some points are nevertheless clear.

Labour's dramatically better-than-expected performance was built on a number of factors, but what stood out was a rejection of austerity. The electorate has sent a clear signal that after seven years of sluggish economic growth, stagnating wages and cuts to vital public services, enough is enough.

With the date for elimination of the deficit slipping gradually further into the future, it is time to admit that the policy has failed. The overall political mood has shifted and it is likely that the next government, whatever form it takes, will reflect that.

A question remains over whether a loosening of revenue spending would be balanced by cuts in capital expenditure. TT has consistently backed the Government since 2010 for maintaining transport investment through the recession as the right thing to do for the economy. That should not be reversed now. Relaxation of austerity should go hand in hand with continued infrastructure investment for the long-term health of the economy.

Jeremy Corbyn emerged as a credible leader of the Opposition, bringing forward a programme that was not, as much of the media attempted to portray it, a left-wing Marxist platform but was in reality much more akin to European and particularly Scandinavian social democracy. Many of the policies Labour put forward proved highly popular with the electorate – taking rail

**After seven years, it is time to admit that austerity has failed**

franchises back into public ownership as they expire, for example – and these will not now be so easily dismissed.

Labour also demonstrated that young people could be mobilised to vote in large numbers. Now this constituency has seen the influence it can have on the result, there will be no going back. All parties will have to rebalance their approach away from the traditional bias to elderly voters who were more considered more likely to turn out. In transport, this means we can expect to hear more about

concessionary travel for teenagers and students, as proposed by Greater Manchester mayor Andy Burnham, for example.

Proponents of a more consensual, business-friendly approach to Brexit negotiations were emerging emboldened, from Philip Hammond to Andrew Adonis, and even former prime minister David Cameron added his voice to the call for a greater hearing for business. Given that Theresa May's appeal to the electorate to back her hard Brexit approach has been decisively rejected, and given that a deal with the DUP will still leave the Government with a majority of only six, it is hard to see how a more inclusive approach can be resisted.

As TT went to press, the proposed deal between the Conservatives and the DUP had not been finalised, and the situation remains in a state of flux. The likelihood is that sometime next week the Conservatives and DUP will put forward a Queen's Speech. Whether it can gain parliamentary backing is by no means a foregone conclusion. But even if it does, few are betting that the arrangement will last for anything like a five-year term.

## A message from the editor



**T**his is my 101st issue of *Transport Times* as editor, but it will also be my last. It's been incredibly stimulating to be at the centre of the transport debate, but after 10 years as editor, it feels like time to move on.

Throughout, TT has striven to be a positive influence and advocate for integrated and sustainable transport, as well as a lively read. This wouldn't have been possible without the unstinting support of many people, beginning of course with founders David Begg and Adam Raphael.

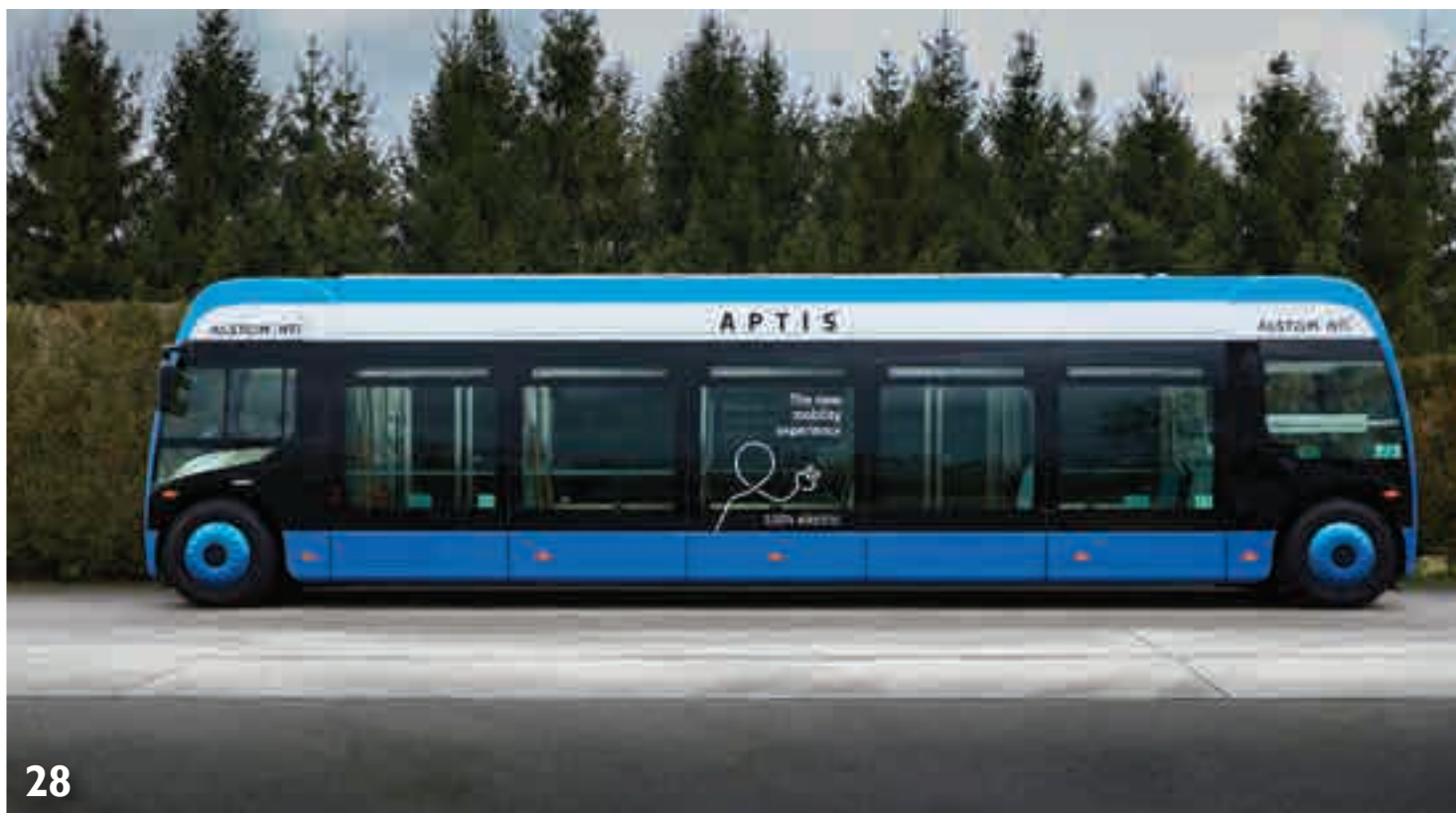
I'd also like to convey my special thanks to our array of contributors, who have given freely of their time and insights over many years. A special mention is due to the most longstanding: Tony Ciaburro, Anthony Smith, Claire Haigh; Christian Wolmar in the early days; Louise Ellman, who stood down as Transport Select Committee chair at the election; Stephen Hammond, who as transport minister kicked off our monthly "ministerial briefing" column; and finally to Jim Steer, who hasn't missed a month since December 2005.

Enormous thanks too to Dave Eastbury, with his unerring ability to turn a half-formed idea into a dramatic cover; and Rob Buckley, who as production editor for 10 years has been responsible for the design of the magazine and for making sure it appears on time!

With this issue TT, along with our regular contributors, moves online, where we have a fantastic following, and we hope you'll continue to find it an essential read.

**David Fowler, editor**





28



24



20



9



8



10

## ANALYSIS

### 5 ELECTION FALL OUT

Results point to the end of austerity

### 6 ELECTION COMMENTARY

Our experts share their insights into the election result – and its implications

### 8 CLEAN AIR

Strategy 'must tackle congestion'

### 9 ADAPTABLE CARRIAGE

Seating system allows for either passengers or cargo

### 10 AV PARTNERSHIP

Transdev and Delphi to develop mobility-on-demand

## OPINION

### 11 CLAIRE HAIGH

Air quality plan ducks the difficult decisions

### 12 DEREK HALDEN

Transport for healthcare should be a priority

### 13 JOE IRWIN

Autonomous cars may not solve urban congestion

### 14 SIMON PECK

Marketing must harness the power of data

## FEATURES

### 16 SIXTIES SYMBOL EYES RESURGENT FUTURE

Croydon, once seen as a landmark of post-war town planning, has been designated as a London growth zone and is heading for regeneration. David Fowler reports

### 20 ENHANCED PARTNERSHIPS WILL NEED NEW STRATEGIES

With the Bus Services Bill becoming law, and giving authorities powers to introduce franchising, many operators see new enhanced partnerships as a preferable alternative. But these present their own problems, says David Leeder

### 22 A NUDGE TOWARDS BETTER TRAVEL CHOICES

Road congestion is expensive and inconvenient, but measures to reduce it are politically unpopular. A toolkit of behavioural nudges can help, says Cavin Wilson

### 24 TOWERING IN GALLANT FAME

Commitment, determination and innovation were once again recognised and rewarded at the Scottish Transport Awards in Glasgow this week

### 28 A RETHINK FOR URBAN TRANSPORT

As part of a strategy to address mobility in a more integrated way, Alstom is developing two new types of vehicle, a 'last-mile' shuttle and a re-think of the bus. David Fowler reports

## REGULARS

### 31 PEOPLE

Who's moving where

# Election result points to the end of austerity



**L**abour's better than expected election performance, with opposition to austerity as one of its main planks, is likely to herald an overall change in the political mood after seven years of spending cuts. Meanwhile Theresa May's loss of her majority in the general election will result in a more consensual approach to negotiations to leave the EU in which the needs of the economy and business are given more prominence, backers of a "soft" Brexit believe.

Labour's success in mobilising young people to vote is also likely to prompt a rebalancing of policy, which has historically been tilted towards older voters.

As *Transport Times* went to press discussions on a planned "confidence and supply" deal under which the DUP would support the Conservatives on important measures had yet to be finalised. As a result it was expected that the Queen's Speech would be delayed by a few days from its planned date of next Monday, 19 June. But the start of negotiations with the EU, scheduled for the same day, appeared set to go ahead as planned.

There was a general welcome for the reappointment of Transport Secretary Chris Grayling, which will provide much-needed continuity at the Department for Transport, and also for the return of Philip

Hammond as Chancellor of the Exchequer. Transport ministers Paul Maynard and John Hayes had also been reappointed.

In a limited reshuffle, Michael Gove was brought back into the cabinet as Environment Secretary, where one of the first issues he will have to deal with will be the Government's Clean Air Strategy.

With Labour emerging as a credible contender for forming a future government, the party's policies will now be given more serious consideration. Its proposals to bring rail franchises back into public ownership as they expire were treated with scepticism by commentators but won wide resonance among voters. With younger voters having shown they can influence election results, policies such as reduced public transport fares for 16-18 year olds, as proposed by newly elected mayor of Greater Manchester Andy Burnham, can be expected to gain wider currency.

The election result appears to be a decisive rejection of further austerity and it is expected that a new government will feel obliged to loosen the spending constraints originally put in place by George Osborne. However, some observers ex-

turn to page 6

## Manifesto transport policies

### Labour

Labour's manifesto said it would take advantage of "near-record low interest rates" to create a National Transformation Fund that would invest £250bn over ten years.

It would complete HS2 "from London through Birmingham to Leeds and Manchester, and then into Scotland", linking it with other rail investments, such as Crossrail of the North. In the South East it would build a new Brighton main line and Crossrail 2 as well as completing East West Rail from Oxford to Milton Keynes and Cambridge. It gave a commitment to rail electrification and expansion "across the whole country, including Wales and the South West".

Rail franchises would be brought back into public ownership as they expired. Network Rail would be retained and the railway would form "the backbone of plans for integrated transport".

Powers to re-regulate local bus services would be extended to all areas that wanted them and the creation of municipal bus companies would be supported. Regulations to designate and protect routes of "critical community value" would be introduced.

The National Infrastructure Commission would be asked to recommend the next stages for developing the National Cycle Network.

Like the Conservatives, Labour committed itself to "position the UK at the forefront of the development, manufacture and use of ultra-low emission vehicles", adding "we will retrofit thousands of diesel buses in areas with the most severe air quality problems to Euro 6 standards".

### Conservatives

The Conservative manifesto reasserted the party's com-

mitment to a £23bn National Productivity Investment Fund, which would provide £1.1bn for local transport by the end of 2020. It also reaffirmed commitment to the rail and road investment programmes, with strategic investment directed to providing extra lanes on motorways, improving key routes and fixing pinch points and to create extra capacity on railways.

The party restated its commitment to "strategic national investments including High Speed 2, Northern Powerhouse Rail and the expansion of Heathrow Airport" – omitting, however, to mention Crossrail 2.

There would be investment in electric vehicle technology and low-emission buses.

### The DUP

Since 2011, over £5bn has been invested in new infrastructure projects in Northern Ireland, and further infrastructure investment is one of the party's five key priorities.

The DUP's plan for rebuilding Northern Ireland calls for investment in new roads with a focus on improving connections between key towns and cities, and schemes of strategic and economic importance.

Public transport would be improved by the Belfast Rapid Transit Scheme, the Belfast Transport Hub, extending park and ride, and Oyster-style integrated bus and rail ticketing.

A £1bn Northern Ireland Investment Fund would be established, using Financial Transactions Capital (an income stream provided by the Treasury for investment to support private sector schemes), with support from the private sector as well as from the European Investment Fund.

It would help finance projects in areas such as social and affordable housing, energy efficiency and renewables, telecoms networks and urban regeneration.



from page 5

pressed concern that a loosening of revenue spending might be balanced by a tightening of capital spending. A first indication is likely to emerge with the publication of the rail investment plan for the five years from 2019-2024, expected to be published as early as next week.

It is not clear what the DUP will seek from the Government in return for its support. However, one of its main themes is rebuilding Northern Ireland's infrastructure, and it has backed new road construction as well as improvements to public transport. Its manifesto called for the establishment of a £1bn Northern

Ireland Investment Fund to support the private sector in financing strategic schemes (see box).

It is widely expected that a more consensual approach to Brexit will be one result of the election. Former prime minister David Cameron called for the process to take greater account of the views of business.

Prominent supporters of a more moderate, business-friendly Brexit include Damien Green, promoted to the position of First Secretary of State – in effect deputy prime minister – in the weekend reshuffle, as well as Mr Hammond and Scottish Conservative leader Ruth Davidson.

Philip Hammond was one of five senior members of the cabinet

to be immediately reappointed on Friday after the election result left Theresa May without the authority to carry out a wider reshuffle. He is understood to have made it a condition that a Brexit deal must put jobs and the economy first, before immigration. He tweeted: "Pleased to be re-appointed so we can now get on and negotiate a Brexit deal that supports British jobs, business and prosperity."

There were calls for a cross-party approach to Brexit from Scottish Nationalist leader Nicola Sturgeon. And writing in the *London Evening Standard* Lord Adonis wrote: "If the mainstream majority among Tory and Labour MPs assert themselves across the party divide, they can save us

from the deep damage" which would be inflicted by "forcing Britain out of the European single market and customs union".

The DUP will not countenance leaving the EU with "no deal" or a hard border with the Irish Republic.

If the Conservatives can negotiate a deal with the DUP they would in principle have a Commons majority of six, which means any controversial measures are unlikely to be passed. Their first test would be to get Parliamentary backing in a vote on the Queen's Speech. Labour has suggested it will bring forward an amendment in the debate based on its manifesto programme and invite MPs to back it.

## Our experts share their insights into the election result – and its implications



Clockwise from above: Stephen Joseph, Steve Gooding, Jim Steer, Stuart Thomson, Luke Raikes and David Leam



### Stephen Joseph, Chief Executive, Campaign for Better Transport

**W**ith the election dust beginning to settle, there is still much confusion on what happens next. For transport, some things are clear – the Government will publish its outline rail strategy on 20 July, and is working up its roads strategy for next year. However, the lack of a majority in Parliament will lead to increased pressures for extra road and rail schemes, and will also allow coalitions of backbenchers to push new ideas. A stronger air quality strategy looks possible, as well as stronger support for devolution (the new city mayors, four of them Conservative, will be in a position to gang up on Chris Grayling).

The dawning realisation that young people do actually vote may bring forward ideas like a

national youth concession scheme for bus travel. Rail fares simplification will be unavoidable (all parties committed to it), and poorly performing rail franchises will face additional parliamentary pressure for improvements or the sack. Wider change may come through housing policy where there will be pressure for focusing on higher density developments near rail stations rather than in greenfield sites.

For big projects, HS2 has all-party support so may be safe, but the Heathrow third runway looks vulnerable to pressure from lots of MPs in and around south-east England, and also from those in the North unwilling to pay for the surface access costs. Above all, what Parliament does will matter more than in the past, so all-party groups will make a difference.

### Luke Raikes, senior research fellow, IPPR North

**W**e've just about elected a government, but not quite, and who knows how long it will last? Another election this year is a possibility, but who knows? After Brexit, Cameron's resignation, May's rapid ascension, her breakneck charge to declare Article 50, and now her humiliation at the hands of the electorate, it's clear that "a week is a long time in politics", and a year has changed everything.

How can we reconcile this turbulence with the long-term decisions the country needs to make? The timescales for transport planning are measured in many years, even decades – infrastructure relies on stability to take forward the projects that will transform our economy.

This stability is clearly lacking.

Part of the solution is to devolve powers to subnational transport bodies like Transport for the North. This new transport body has quickly established itself, and has grown in capacity and in confidence since it was founded just two years ago.

It is lined up to gain statutory status this year, but until that point it remains beholden to the ups and downs of Westminster politics.

The Government must press forward with plans to grant statutory status to Transport for the North. It is neither challenging nor politically divisive to do so, but it would mean the North can get on with the business of planning its own transport infrastructure, and leave the government to play its games.

## Jim Steer, director and founder of Steer Davies Gleave

**T**ransport figured little in the general election. Just two political pointers in the Conservative Party manifesto are worth a mention: its failure to endorse Crossrail 2 – reflecting, I fear, a problem for opposition party mayoralities – and a unionist ploy, with funding for cross-border initiatives – Scottish borders/Cumbria/Northumbria, and adjoining English authorities to North Wales and South Wales.

But no need to hold your breath. The Tories won with such diminished credibility that – we’re told – the manifesto has been torn up. So transport policy initiatives are “as they were” and DfT staffers might assume that nothing has changed for now.

Elections put everything on hold, and it will be important to ensure that pre-election purdah doesn’t extend into prolonged post-election hiatus. For rail and the highways sector in particular, Government is so central that continuing procurement delays could themselves adversely affect the national economy when it is showing signs of a serious slowdown. Delay to the national infrastructure programme would be an unintended (and avoidable) own goal.

In one respect, of course, the general election has changed everything. It has added important democratic data – much richer than that available from a single question referendum – to

the debate about Brexit. June 2016 addressed the yes/no question. June 2017 illuminates the question of what kind of Brexit, and most commentators think a “hard Brexit” is no longer deliverable. Even the unionist parties in Scotland and Northern Ireland believe it to be undesirable, leave alone their nationalist rivals.

Despite the fresh uncertainty, this should come as a great relief to those in the transport sector who know how important frictionless borders are for trade and the economy. Tariffs are bad enough, but operationally it is non-tariff barriers that are a primary concern to organisations like CILT whose members deal with the day-to-day. A softer

version of Brexit should mitigate the prospect of extended port of entry delays on which the institute has been advising the Government. And the transport sector will be delighted at the prospect of reduced restrictions on EU labour since – to quote the CILT advice: “Dependence on EU workers in the freight transport and logistics industry is so great that, at present, there is no solution for fully resourcing domestic supply chains without them”.

There has been talk of a new open approach to Brexit. This should not just embrace the breadth of views among recently elected politicians, but also take on board the advice of transport professionals.

## Steve Gooding, director, RAC Foundation

**“Well,”** as one returning prime minister said some years ago “who’d have thought it?”

Was it my imagination or did I really hear one pundit describing it as “the wrong sort of election”?

Undoubtedly having a hung parliament as we launch down the path of Brexit negotiations means we are in for some tricky

times, but might there be some transport positives too?

For a start, we’re saying “welcome back” to a Transport Secretary, Chris Grayling, who’s shown a determination to get on with taking decisions. For once the notorious revolving door at the DfT HQ hasn’t gifted us another change in the holder of a job that requires long-term thinking.

Once the civil servants who’ve written, rewritten and now

binned multiple megabytes of day 1 briefings have wiped their tears away, many will be relieved not to have to restart from first principles – this secretary of state should be ready to press on without delay.

We’re also welcoming Philip Hammond back to his desk at the Treasury, hopefully remembering his commitment to ring-fence Vehicle Excise Duty income for roads spending –

we’ll remind him if need be.

In a world of fractious politics, infrastructure investment seemed to attract a high degree of consensus – good for transport, give or take Crossrail 2.

But if secretary Grayling is looking for popular policies that sidestep the multi-party divide then what about some funding for innovative approaches to consign our wretched potholes to history?

## Stuart Thomson, head of public affairs, government and infrastructure, Bircham Dyson Bell

**T**he “understanding” between the Conservatives and the DUP may help deliver a government but not one that is likely to be strong, stable or particularly long-lasting. Aside from the potential implications for the Brexit negotiations, the DUP will try to extract a price from Mrs May for their support.

This is likely to include infrastructure investment, which the DUP considers to be

“crucial for economic competitiveness” as well as good for local jobs. They called for a specific NI Infrastructure Fund in their manifesto.

While such policies may have resonance with the Conservative party, they could prove expensive. If we still live in an age of austerity, then higher investment for Northern Ireland will need to come from somewhere.

The Conservative strategy of looking to the north of England

for extra seats largely did not work. Those worried about a continued focus on London and the South East (plus now Northern Ireland) are right to do so. Mrs May needs to firm up Conservative support in her heartlands and that could have implications for transport projects, devolution and other initiatives across the country.

But also don’t write off Labour and Jeremy Corbyn quite yet. Their transport policies,

including rail nationalisation, were some of the most popular policies with the public and if the new government arrangements are wobbly then Labour will look to seize the moment.

The reappointment of Chris Grayling offers the chance of policy continuity, but the reality of a minority Government is that everything is up for grabs. Most notably, Grayling will be under serious pressure to solve the continuing industrial disputes.

## David Leam, infrastructure director, London First

**I**t would be easy to be downcast at the prospect of Brexit consuming all political bandwidth for the coming parliament, to the detriment of domestic policy. Yet in 1944, at a time when Britain was literally fighting in Europe, Patrick Abercrombie was nonetheless able to sketch out a visionary plan that guided London’s future development. If our forebears were able to plan ahead in the darkness of Blitz Britain,

then we have no excuse for throwing in the towel on everything beyond Brexit. We simply must press on with business as usual.

The reappointment of Chris Grayling means continuity in a position which has historically been a revolving door. That’s good news for committed schemes in the current pipeline such as HS2 and Heathrow, despite a bit of political churn at the constituency level. Some

local opposition is already in the price of these projects and the Government will be desperate to demonstrate that they’re now moving full steam ahead. More positive news comes in the return to action at the National Infrastructure Commission of Andrew Adonis, whose undisputed energy and vision will be much needed in the months to come.

A bigger challenge is to populate the future transport pipeline

– beyond simply new gold-coated motorways for Ulster. England’s own devolved institutions in its cities and regions are fizzing with ideas for rail and road schemes that will drive economic growth. If the Government really wants to make Britain match-fit for its post-Brexit future then it must now engage with city leaders and businesses to get schemes like Crossrail 2 off the drawing board.





Integrated ITSO/EMV machines accept contactless payment cards, Apple Pay and Android Pay

## Oxford Bus launches contactless payment

**G**o-Ahead has launched contactless payments on buses in Oxford in what is believed to be the biggest UK deployment of the technology outside London.

The system, which went live on 8 June, will allow passengers to pay using EMV contactless cards as well as Apply Pay and Android Pay.

The project is the result of a partnership between Go-Ahead, ticket machine manufacturer Ticketer and Littlepay, a start-up company specialising in micro-payment processing services.

Ticketer has supplied ticket machines equipped with a fully-integrated EMV reader. The ITSO/EMV machines are being used by Go-Ahead subsidiaries Oxford Bus Company,

Thames Travel and Carousel Buses. Go-Ahead is planning to extend the introduction of contactless payment technology to its other UK bus operations in the coming months.

The system calculates fares in the back office and so has the potential to offer pay as you go with capping in due course.

Oxford Bus Company managing director Phil Southall said: "Our customers have been telling us for some time that they want to be able to pay for their travel as conveniently as possible, which for many means using contactless technology. This is just the first step in the deployment of our new system, and we have ambitious plans over the coming months to introduce further improvements."

## Clean air strategy 'must tackle congestion'

**T**he latest government plans to improve air quality will fail because they ignore the growing impact of congestion on pollution, according to a new report from campaign group Greener Journeys.

And in its proposals for clean air zones, the Government's hierarchy for tackling vehicle types has its priorities in reverse order, campaigners argue.

The new draft UK air quality plan for tackling air pollution was rushed out before the general election, after the High Court rejected government arguments for delaying it. It will be one of the immediate priorities for new Environment Secretary Michael Gove. The High Court ordered the final strategy to be published by 31 July.

The previous plan had been judged inadequate following a challenge last year by environmental law organisation Client Earth.

The new strategy, on which consultation ended yesterday (Thursday 15 June), identifies the establishment of clean air zones in towns and cities as "the most effective way to bring the UK into compliance with NOx concentration levels in the shortest possible time".

It proposed increasing the number of zones from five plus London to a total of 27.

Environmental groups branded the new strategy as still inadequate, and Client Earth considered the consultation "contained such major flaws" that it has started a new legal challenge "to seek urgent improvements".

The Greener Journeys report says that though it is essential to clean up diesel vehicles, it is also vital to tackle congestion. It cites evidence from the LowCVP that halving average city traffic speeds leads to a 50% increase in emissions of nitrogen oxides from larger vehicles.

The report says: "Traffic congestion in the UK's largest cities is 14% worse than it was five years ago, and in the last year alone has deteriorated by 4%. Morning peak traffic average speeds in central London have fallen from 16km/h in 2006 to 12km/h in 2016, causing a 10% increase in NOx from diesel cars

and vans, and a 25% and 27% increase for buses and trucks."

Though the Government has recognised the need to tackle congestion, its proposed strategies of removing speed humps and traffic light sequencing "will not address the root of the problem". The report adds that 75% of traffic congestion is caused by excess traffic. "Congestion will only be solved by reducing the number of vehicles on the road, which will require demand management and some measure of car restraint."

Conversely, improving traffic flow can lead to dramatic reductions in NOx emissions for all vehicle types.

The consultation also says that local authorities should only introduce charging in clean air zones if they are unable to identify "equally effective alternatives" for bringing NOx levels within the European limits. However, the technical report accompanying the consultation makes it clear that charging CAZs are expected to achieve compliance in the shortest time possible.

The Government's CAZ hierarchy for introducing charges identifies buses and taxis as priority vehicles to target, followed by HGVs, vans and only then (possibly) cars.

This is in the reverse order of NOx contribution, says Greener Journeys: "Diesel cars are the single biggest contributor to NOx levels, responsible for 41% of all NOx emissions from road transport," adding "a journey by a Euro 6 car emits 10 times as much NOx per passenger as a comparable journey by Euro VI bus."

"The only way to truly resolve the air quality crisis is to reduce vehicle numbers and free up alternative forms of transport such as buses," it says.

Greener Journeys chief executive Claire Haigh said: "Congestion has a direct and severe impact on air pollution. The Government plans must tackle congestion and encourage greater use of sustainable transport modes such as the bus."

The government strategy shortlists retrofitting SCRT to older vehicles as another policy option.





## Adaptable Carriage switches between passengers and cargo

**A** seating system that allows rail carriages to be configured to carry either passengers or high value cargo has been launched by product development consultancy 42 Technology.

The "Adaptable Carriage" system allows the seats and tables in a passenger train carriage to be automatically stowed to create space for low density, high value packages and other cargo that would otherwise go by road. The

fully-automated system takes under three minutes to fold away 20 rows of passengers seats to create cargo space equivalent to that of an articulated lorry.

The system has been developed as part of a two-year RSSB-funded programme, with extensive input from the UK rail industry. It could help ease road congestion, cut emissions and allow online retailers to offer later order cut-off times, faster deliveries and new services. The technology can be retrofitted to existing carriages as well as

included in new designs, and is ready for industrial trials.

42 Technology exhibited a working demonstration module at May's international Railtex exhibition at the NEC.

A novel forward-folding seat design tips any rubbish left on seats on to the floor for easier cleaning after the seats have been stowed. An innovative sliding mechanism configures the seats into position and locks them in place along the carriage.

The seats have been designed for passenger comfort

and minimal extra weight. All the seats, tables and draught screens within each section of an Adaptable Carriage are connected together and can be moved along the length of the carriage. The control system can be integrated with the carriage control system for door locking.

The Adaptable Carriage concept was one of three winners in the RSSB's 2015 competition "Tomorrow's Train Design Today" and 42 Technology shared the £2.2m prize fund to continue its development.

## Dockless bike hire for Manchester and Salford

**G**reater Manchester will host Europe's first trial of a cycle hire scheme in which the bikes do not have to be hired and returned to official docking stations.

Urban bike sharing service Mobike will launch a six-month pilot scheme at the end of June, making 1,000 bikes available for public hire in central Manchester and Salford.

It will be the first venture outside Asia by Mobike, the world's largest bike-sharing company, which runs cycle hire schemes in 100 cities in Singapore and China.

The scheme uses a unique bike design with a built-in smart lock, coupled with a cashless smartphone app which allows cyclists to pick up and drop off hire bikes at any convenient legal cycle parking location.

The Mobike app enables users to locate a nearby bike using built-in GPS mapping and unlock it automatically by scanning a QR code on the bike. Journeys are charged in 30-minute periods starting from when the bike has is unlocked. Bikes will initially be available at sites such as railway stations and university

campuses. Mobike will employ data on use of the bikes to distribute them efficiently to meet demand on a continuing basis.

The pilot is the first non-docking station scheme of this scale in the UK. It will not be publicly funded or subsidised.

The scheme has been welcomed by the Greater Manchester Combined Authority and Transport for Greater Manchester.

Greater Manchester mayor Andy Burnham said: "As mayor I want to see many more people swapping their cars for bikes in Greater Manchester and I

will take a positive approach to promoting cycling across the city-region. This scheme could help make cycling more accessible to people, but it is an untested idea in the UK and we will need to keep it under review."

TfGM has established a voluntary code of working with Mobike to make sure the service operates in a way that does not inconvenience other road users, pedestrians or city centre traders, Mr Burnham said, adding: "If successful, it could play an important role in our long-term plans for cycling in the region and for making travel easier and more sustainable."



## Transdev and Delphi launch autonomous vehicle partnership

**T**ransdev has announced a partnership with automotive systems supplier Delphi to develop a fully automated mobility-on-demand transport system.

Pilots of the system are planned in Rouen and at the campus of Paris-Saclay university.

The system will combine Transdev's universal routing engine and Delphi's automated driving platform, the Centralized Sensing, Planning and Localization platform which it is developing in partnership with Mobileye.

Delphi and Transdev will develop fully autonomous vehicles, a driverless vehicle infrastruc-

ture solution and cloud infrastructure to support a commercial system to create the first EU driverless on-demand mobility service on an open road..

Transdev initiated a three-year experimental autonomous on-demand mobility service programme in Rouen, Normandy this year with support from Métropole Région Normandie, the Normandy Region, and the French government. The collaboration with Delphi will allow the two groups to jointly test the entire system: dispatch, remote control-command and vehicles, and test the sensor architecture and intelligence for a driverless last-

mile and door-to-door transportation service, with the next phase including a commercial service.

The Rouen pilot is planned to operate from the Technopôle du Madrillet terminus of the tram line to serve the Madrillet technology park, which covers 35ha and is a base for 5,000 students and 2,500 employees. It will serve businesses, R&D centres, a student campus and, eventually, a residential quarter. The service will offer different routes, but initially there will be a 1.5 km loop with three vehicles based on the Renault Zoe.

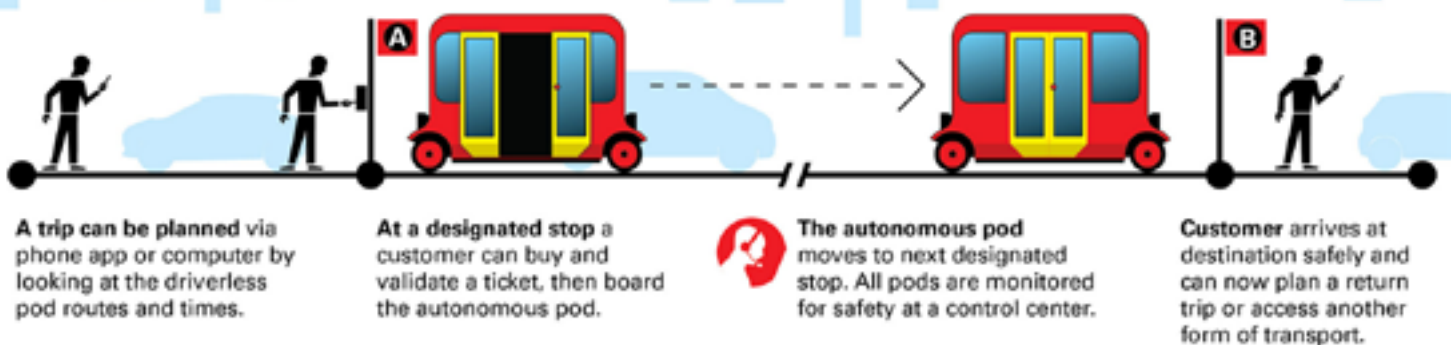
Operation of the cars to validate technical tests is expected

to begin this year, with a shared on-demand transport service opening to the public next year.

The service will operate on normal roads. The cars will share the roads with other vehicles and local buses, and will cross several pedestrian crossings and roundabouts. To guarantee a safe, efficient service, strategic points in public areas and on the roadside will be equipped with communications technology.

In Paris-Saclay, Transdev and Delphi will collaborate on the development of a last-mile on-demand service between a conventional railway station and the Paris-Saclay campus.

### Moving autonomously with Transdev-Delphi



# Air quality plan ducks the difficult decisions

The Government's new plan sidesteps charging in clean air zones and, by focusing on emissions per vehicle rather than per passenger, proposes targeting vehicles in reverse priority

**C**ongestion is not just a drag on the economy: it kills. Greener Journeys has published new research which demonstrates that reducing congestion must be at the heart of the Government's strategy to improve air quality.

Halving average city traffic speeds leads to a 50% increase in NOx emissions. While it is essential to clean up diesel vehicles, it is also crucial that the continuing decline in urban traffic speeds is tackled.

Traffic congestion in the UK's largest cities is 14% worse than it was five years ago, and in the last year alone has deteriorated by 4%. Falling traffic speeds drastically worsen air quality. Morning peak traffic speeds in central London have fallen from 16km/h in 2006 to 12km/h in 2016, causing a 10% increase in NOx from diesel cars and vans, and a 25% and 27% increase from buses and trucks.

Improvements to traffic flow can yield huge reductions in NOx emissions among all vehicle types, but for buses the results are particularly impressive. For Euro VI diesel buses, which will be compliant in clean air zones, NOx emissions are more than halved by increasing speeds from 6km/h to just 8km/h.

Though the Government has recognised the need to improve traffic flows, its proposed solutions of removing speed humps and modifying traffic light sequencing will not address the root of the problem. 75% of traffic congestion is caused by excess traffic. Congestion will only be solved by reducing the number of vehicles on the road, and that will require demand management and some measure of car restraint. A huge concerted effort will be needed if NOx levels in towns and cities are to be brought to safe levels.

The Government's new air quality plan says that without

further action, over 70% (31 out of all 43) of the UK air quality reporting zones will still not be compliant in 2020, mainly because real world emissions from Euro 6 cars, and Euro 5 and Euro 6 light goods vehicles, are higher than expected.

However, there are serious contradictions in the new plan. The Government has said local authorities should only introduce charging in clean air zones if they are unable to identify "equally effective alternatives" for bringing NOx levels within European limits. But the technical report makes it clear that only charging is expected to achieve the compliance of zones in the shortest time possible.

**The quickest and most cost-effective solution to the air quality epidemic is to put the bus at the centre of the strategy**

Not only has the Government been very cagey about which areas will need to become charging CAZs, but it has also soft-pedalled on the issue of diesel cars.

Diesel cars are the single biggest contributor to NOx levels, responsible for 41% of all NOx emissions from road transport. However, the Government's CAZ hierarchy identifies buses and taxis as priority targets, then HGVs, then vans and only then (possibly) cars: precisely the reverse order of NOx contribution.

It is difficult to escape the conclusion that all the politically difficult decisions have been delegated to local authorities.

The quickest and most cost-effective solution to the air quality epidemic is to put the bus at the centre of the strategy. Progress in clean diesel bus technology has dramatically

exceeded diesel car technology. Real-world testing of Euro VI diesel buses demonstrates a 95% reduction in NOx emissions compared with Euro V. Currently a journey by a Euro 6 diesel car emits 10 times as much NOx per passenger as a comparable journey by a Euro VI diesel bus.

Moreover, putting buses at the centre of air quality strategy would support UK manufacturing. At least 80% of urban buses sold in the UK are built in the UK. And government financial support for bus retrofitting provides 15 times as much value for money as scrappage allowances for diesel cars.

The Government's exclusive focus so far on reducing emissions per vehicle presents a distorted picture. The focus needs to be on reducing emissions per passenger and on moving people not vehicles. Measures to encourage modal switch can be transformative. Bus priority measures can achieve emissions per passenger-km 75% less than for car passengers. A fully loaded double-decker bus can take up to 75 cars off the road.

Though it might be expected that there will be a significant reduction in emissions from the vehicle fleet by 2030, the congestion problem – with all the associated social and economic costs and aggravation for road users – is set to get worse. On current trends, average traffic speeds in major conurbations are projected to fall from 16.5mph in 2016 to just 11.9mph in 2030.

On the twin perils afflicting our towns and cities – congestion and pollution – the Government must show leadership. Decisions must be based on evidence, not on political expediency; address head-on the issue of diesel cars; and encourage the switch to more sustainable transport.

**Claire Haigh is chief executive of Greener Journeys, a campaign dedicated to encouraging people to make more sustainable travel choices [www.greenerjourneys.com](http://www.greenerjourneys.com)**





# Transport for healthcare should be a priority

The lack of effective transport to support healthcare is one of the more important gaps in effective transport provision, and concerted action is overdue



**T**he World Bank estimates that healthcare in the UK accounts for 9.1% of GDP. But healthcare is

highly travel-intensive, accounting for nearer 20% of domestic UK journeys. Despite this high demand, the special needs of health travel are often missed. Each election generates political promises to fix the problems, but why is transport for healthcare not a higher priority anyway?

Parking problems at hospitals often attract the greatest criticism. Cancer charities point out how some patients requiring treatment such as radiotherapy have run up huge parking bills. Low-wage shift workers in the NHS still pay high parking charges, despite their travel often being at times of day when no public transport is available. The case has been well made that something needs to be done to redesign transport to serve the travel needs of health staff, patients and visitors more effectively.

The Scottish and Welsh governments have made parking at most hospitals free, and some progress has been made designing parking discount schemes elsewhere. However, more needs to be done. For this election, the most specific promise was in the Labour manifesto, budgeting £162m to make hospital parking free.

Parking costs are, however, only one small element of the current transport challenges. In Scotland, where there is far less congestion than in England, the parking free-for-all at many hospitals means that driving to hospital is no longer an option because of parking congestion.

There are two essential things that any incoming government must do. The first is to set a clear national policy for travel times and transport fares and charges to healthcare. The second is to introduce measures to guarantee that practical door-to-door transport solutions provide equitable access to healthcare for everyone.

Health services have changed radically since the rules about NHS payment of travel costs were designed, and transport service provision needs to catch up.

There is nothing particularly radical or unachievable about making these changes, but concerted action is overdue to link national and local action for transport and healthcare. 20 years ago, the incoming Labour government made planned accessibility for all people a flagship policy in its manifesto. Successive governments since then have confirmed their aim to reflect more closely social and economic goals such as healthcare needs in the travel times and costs available to people.

Policies for planned access, total transport, business trav-

**Parking costs are only one small element of the current transport challenges**

el plans, door-to-door service design, mobility as a service and other policies have dominated the policy agenda and brought about successful local projects. However, the gap between transport policy and practice has grown for all the reasons forecast in the 1990s. The destabilising effect of siloed government funding has probably done more to undermine the development of markets for integrated health transport than any other factor.

More generally for public health, it remains unclear to what extent the promotion of active travel is a transport budget responsibility or part of primary healthcare. Those guided by transport economic appraisal rules in WebTAG (STAG in Scotland and WelTAG in Wales) treat a mode shift from car to walking as a negative transport economic change, but with positive health

and other wider benefits. Many transport authorities using these rules to prioritise funding do not invest as they could in transport for healthcare. A simple change to clarify accountability for funding could go a long way to enabling desirable healthcare transport outcomes.

The lack of effective transport to support primary, secondary and tertiary healthcare is one of the more important gaps in effective transport provision, so it is not surprising that each election brings a new round of promises that reflect voters' perception of the problems. Well-funded and well connected private mobility providers have seen the potential, such as rideshare app Uber's partnerships with social care services to provide transport for care staff and NHS patients. But better transport for healthcare deserves a more clearly defined agenda within which to balance best value viable transport provision with wider social aims.

Defining the terms of the national health transport tariff could support more efficient procurement and service provision compared with the current ad hoc arrangements, with commitments to provide a level of access to healthcare to meet all needs. Transport for healthcare can never be free at the point of delivery, but it can be designed to make sure that the NHS remains true to its values.

The public does not expect health service providers to be transport experts, so the buck will always stop with the transport sector, not least for road and parking congestion around hospitals.

If transport providers can focus more clearly on people's needs for what remains one of the fastest growing trip purposes, there should be substantial benefits for everyone.

**Derek Halden is Director of DHC Loop Connections [www.dhcl.co.uk](http://www.dhcl.co.uk) and Secretary of the transport think tank [www.stsg.org](http://www.stsg.org)**

# Autonomous cars may not solve urban congestion

Applying new technology to the car as we know it today demonstrates narrow thinking. A wider approach with cycling and walking at its centre could improve quality of life for everyone, says **Joe Irwin**

**M**otor traffic is at a record high and studies show that British roads are among the most congested in Europe. Clogging up our cities is bad for health, the environment and the economy. Building more roads only seems to exacerbate the problem. But will technology solve these problems?

Electric vehicles will at least shift the source of pollution to manufacturing and power generation. And KPMG estimates that by 2030, 25% of cars on the UK roads will be fully autonomous vehicles.

Some proponents of AVs believe they will help solve congestion in cities by using road space more efficiently. Research from Illinois College of Engineering published last month suggests that with few as 5% of vehicles automated, stop and go waves caused by human driving behaviour could be eliminated.

However, this is a contested prediction. Uber may be a taste of how new formats, while promising more efficiency, can generate extra traffic. That is especially true if AVs substitute for public transport. The sheer scale of traffic growth may mean that AVs can't solve rising congestion on our roads.

Perhaps the problem with AVs is that we are visualising an existing form, and applying technology to a version of the same thing. It illustrates our limited thinking in utilising technological innovations.

What would be the answer if the question was not "How can driverless cars cut congestion?", but "How can we change the way we move around to improve the quality of our lives?"

A broader view might encompass the way we plan land use: sustainable housing and workplace developments; localisation of services; more responsive public transport; shopping facilities in easy reach; rationalisation

of deliveries. Or change the way we live our lives, reducing the need to travel altogether. Slocat – the Partnership on Sustainable Low Carbon Transport – argued recently that reducing travel will be essential to curb climate change and pollution; switching to electric motors is not enough.

Designing cities where walking, cycling and public transport are the natural choice for everyday journeys is an essential element. And city leaders around the world are waking up to the realisation that if you can enable more people to walk and reduce car use, you can create healthier, happier cities and attract inward investment. This is demonstrated by the appointment of London's first walking and cycling

**The Government's Cycling and Walking Investment Strategy was a watershed moment for active travel**

commissioner, and the promise of an active travel commissioner in Greater Manchester.

In April, the Government launched its Cycling and Walking Investment Strategy, a watershed moment for active travel. The legal commitment to producing such a strategy was contained in the Infrastructure Act 2015 following intensive campaigning by Living Streets and other groups. The strategy is a big step for the Government, acknowledging that walking is worth investing in and is vital to the way that streets are planned.

The Government's ambition is to make walking and cycling the natural choices for short journeys. People are walking 30% less than they did just 20 years ago. The cycling and walking investment strategy contains goals to increase active travel, and in particular a target to raise

the number of children walking to school to 55%. At peak times, the school run accounts for a fifth of cars on the road.

Of all the ways we travel, walking takes the least road space and causes the least pollution. The negative impact of car-centric lifestyles creates a social burden, too. The reduction in physical activity and the rise of obesity are two reasons why today's children are the first generation expected not to live as long as their parents; getting active is seen as a miracle cure for many of the illnesses that hamper old age and threaten to bankrupt the NHS.

Living Streets has published *Creating Walking Cities: A Blueprint for Change* with seven steps to success, based on examples of best practice from around the world. It's aimed at city leaders and officials, but we hope it will also provide a useful tool for campaigners or advocates of walking. Each step will help improve your town or city for people walking. Together they can transform the way people move and experience a city, and improve everyone's quality of life.

No doubt we will see great technological change in the next decade. We don't yet know where it will lead. But we have a choice – think narrowly and simply replace cars and buses with autonomous vehicles, or think big and make the way we travel contribute to a better quality of life.

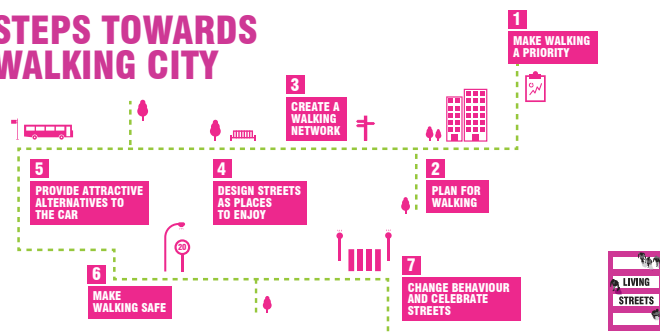
**Joe Irwin is chief executive of Living Streets**



Joe Irwin: "Reducing the need to travel will be essential to curbing climate change"

*Creating Walking Cities: A Blueprint for Change* can be downloaded from [www.livingstreets.org.uk](http://www.livingstreets.org.uk)

## 7 STEPS TOWARDS A WALKING CITY



# Marketing must harness the power of data

Rail franchises are passing up the opportunity to engage with passengers through digital channels to provide better and more tailored services, says **Simon Peck**



**Simon Peck:** “Outdated approach sticks out like a sore thumb”

**T**o a passenger such as me, the operations behind a modern rail franchise are somewhat akin to the mechanics of the lunar landing – vast, highly technical and unimaginably complicated.

Yet most of us don’t consider ourselves experts in space flight. The problem for rail franchises is that most passengers do have a perspective on rail travel, shaped entirely by their own very limited experience.

A commuter is unlikely to understand the myriad chain of factors that triggered the delayed arrival of the 06.50 to Waterloo, which may have begun hours earlier in a different part of the country. But they will remember the experience of being delayed, and they’ll be more than happy to tell people about the disruption they suffered as a result.

This illustrates precisely why customer service is vital to rail operators. It may be peripheral to technical considerations like track and fleet management, but it is the lens through which consumers view the entire franchise: the shop front for the railway.

And crucially, each passenger’s perspective is different – from the London commuter to the rural traveller and the family taking a weekend trip.

Yet to those of us outside the industry, rail companies still seem wedded to generic “brand campaigns”, communicating with one voice to all their consumers

and offering the same service information, promotions and travel advice to all. To communications professionals who work in a range of sectors, this is an outdated approach that sticks out like a sore thumb. We no longer treat shoppers like a homogenous group, so why should rail passengers be viewed any differently?

There will always be a place for traditional brand campaigns, but today’s consumers work at their own speed and need different types of information at different times. If a passenger needs to get from A to B, the brand needs to respond to their needs – whatever the time and location.

The solution to this challenge

**There is a major opportunity for companies willing to prioritise the collection and use of data**

is an “always-on” approach to customer service, with more people on the ground, and more communication channels for consumers to access information such as website services and apps. Today’s consumers expect a personalised and not merely transactional relationship with their operator, and there is a major opportunity for companies willing to invest in and prioritise the collection and use of data to provide better and more tailored services and messages to passengers.

In other sectors such as retail, for example, major companies have for years been harnessing the power of consumer data to engage with their customers in an ever more intelligent and targeted way and create a better experience, with shopping centres using hyper-targeted messaging to guide individual shoppers to appropriate concessions and deals through their smartphones.

Through Engine’s work

with Hammerson, a FTSE 100 retail property owner, we are providing this experience in its shopping centres through the use of Bluetooth beacons, sending location-specific offers and information to shoppers via the Hammerson Plus app on site. Similarly, we’ve harnessed the power of customer data with DIY and home improvement retailer Wickes to serve highly targeted offers to customers based on analysis of their purchasing history.

By engaging with passengers through an app, for example, it is possible for rail operators to find out how regularly they use the service, at what times and from which stations – enabling them to issue hyper-localised and personalised off-peak ticket discounts or regional service information to those passengers most likely to be interested.

The main barrier to improving the customer experience in the rail industry until now has been access to data. Most operators will sell a maximum of 25% of tickets directly through their website, meaning three-quarters of their passengers are digitally out of reach. This inevitably makes it hard to develop an accurate overview of what the average passenger looks like.

But the “average passenger” is irrelevant. That 25% shouldn’t receive generic e-mails about promotions across the entire network – and by opening up more channels of communication with customers, operators should be aiming to at least double that number.

No responsible operator would run a service without knowing every minute detail about the rolling stock, the signals and the track. But rail networks aren’t just about trains – they’re also about passengers. By learning more about the people who use the service, operators can provide a better experience for all.

**Simon Peck is managing director of communications network Engine UK**

**Passengers should not be considered a homogeneous mass**





**REGISTER  
FOR FREE**

# COACH & BUS UK17

**4-5 OCTOBER 2017**  
**NEC BIRMINGHAM**

## THE UK'S PREMIUM COACH, BUS AND ACCESSIBLE EXHIBITION

Keep up-to-date  
with technology

Learn from the  
industry experts

Witness new  
product launches

View the latest  
vehicles on display

Network with  
your industry

 /coachandbusUK  @coachandbusUK

**COACHANDBUSUK.COM**

**diversified**  
COMMUNICATIONS UK

**cpt** 

**AEO**  
2017 MET R



A photograph of the Boxpark entrance at dusk. The large, illuminated 'BOXPARK' sign is at the top. Below it is a glass and steel structure with a grid of beams and glass panels. Inside, there are colorful lights and people. The foreground is a paved area with some greenery and a person walking.

# BOXPARK

## Sixties symbol eyes resurgent future

Croydon, once seen as a landmark of post-war town planning, has been designated as a London growth zone and is heading for regeneration. **David Fowler** reports





It became known as the quintessential 1960s town, with flyovers and high-rise office blocks bestriding the centre. But Croydon is undergoing a transformation, as an ambitious £5bn regeneration programme gets under way, promising growth, jobs and new housing. Improvements to transport, from large-scale road and public transport schemes to extensive walking, cycling and public realm projects, will provide crucial underpinning to the works.

Councillor Stuart King, cabinet member for transport and the environment, says: "It's an ambitious programme. It's about bringing new jobs, homes and new investment into Croydon."

A number of forces have aligned to make this possible. The borough was identified as an Opportunity Area by the London mayor – a planning designation given to the limited number of areas in London capable of accommodating large scale development, officially adopted in 2013. More than 10,000 new homes and over 25,000 jobs are expected to be created.

The central Whitgift shopping centre was in need of redevelopment. Westfield began to develop plans, eventually joining forces with Hammerson, owner of Centrale, Croydon's other (and more recent) main shopping area, to put forward a planning application in 2013.

Meanwhile the attention of other developers had been attracted. "There is a lot of space, a lot of sites, and prices are significantly lower than in central London," says Croydon director of growth Lee Parker. Fast rail links – 15-20 minutes to central London – were another attraction. "There was a lot of development coming in. The council needed to facilitate it."

He adds: "As the opportunity area planning framework came together, it became evident that additional infrastructure was needed, especially public transport."

The idea of a Growth Zone attracted cross-party support on Croydon council. Labour won control of the council in the May 2014 elections. Cllr King says: "We came in as a new administration wanting to generate new jobs, homes and prosperity in the borough, working with Westfield and Hammerson as one of the flagship developers but recognising that a lot of other developers saw the potential. We wanted to show that Croydon had a council able and willing to encourage this."

Consultant URS was commissioned to undertake a study of the town centre to identify projects needed to facilitate growth. In December 2014 it produced a list of 92 projects, costing almost £1bn.

Meanwhile the chancellor, George Osborne, gave the go-ahead

in principle for the Growth Zone in his 2014 autumn statement.

With the Treasury and the Department for Communities and Local Government a mechanism was devised for funding the programme – a form of tax increment funding similar to that used to create the Greater Manchester Transport Fund in 2009. Under the deal Croydon will borrow £309m next year, to be repaid over 20 years through retention of business rates in the central Growth Zone. Croydon will keep 50% of any increase in rates income, while the Greater London Assembly will forgo its share.

The 92 projects have been winnowed down to 39, with a total cost of £495m. The gap between the £309m and £495m will be bridged by contributions from TfL, Section 106 payments and the Community Infrastructure Levy.

Currently Peter Brett Associates is compiling the final business case to confirm the overall programme represents value for money and will support growth, and a 4-5 year execution plan has been adopted "so that by the time Westfield is open, the infrastructure will be there to support it," says Mr Parker.

"Transport is very important because of development in the town centre – the new shopping centre, new businesses and housing," he adds.

**The refurbished Fairfield Halls will be part of a new focus on cultural events; the owners of Croydon's two main shopping centres are working together; active travel will be promoted**  
Images © Croydon Council

turn to page 18





from page 17

**Over the next four to five years, there will be a complete transformation of Croydon town centre**

One of Croydon's main transport assets is the tram, and one of the most important transport projects under the programme will lay new track on Dingwall Road in the town centre to create additional capacity and a new turnback. This will increase flexibility and allow more services to be added.

A range of other projects will add further capacity, especially on the branches to New Addington (where 12 trains/hour are planned) and Beckenham, including the provision of more stabling and depot capacity (at a location yet to be decided). Another central turnback could be added near the Reeves Corner stop.

Another project of a similar scale involves the A23 Brighton Road, where a series of junction improvements are planned. This will not only improve capacity and reduce congestion but will also allow public realm improvements to be undertaken.

There are plans to improve West Croydon station and the interchange facilities there, to complement the recent rebuilding of the bus station.

Patronage at East Croydon, on the main line from Victoria to Brighton via Gatwick, is increasing. Network Rail is looking into improvements to

the main line and also into a station redevelopment, with the possibility of adding an extra platform.

The programme is not all major capacity improvements, and there is a general focus on the public realm and a move towards healthy streets in the town centre. "Croydon is short of spaces to sit and relax," says Mr Parker. "Over the next four to five years there will be a complete transformation of Croydon town centre, with benefits for the rest of the borough and beyond. That budget for the Growth Zone enables us to really make a change."

Cllr King adds: "From my perspective it's particularly important that this huge development coming to Croydon promotes active transport. We don't want people's only means of getting into Croydon to be by private car. An important political perspective is to benefit the entire borough, not just the town centre. So it's important to make sure connectivity between the town and district centres is improved."

Considerable development activity is already getting under way. Four office blocks are being converted to residential use, and over 10,000 new homes will be created in the centre over the next 10 years. In March Chinese developer R&F Properties bought the 1964 Nestlé Tower (officially St George's House) and neighbouring St George's Walk, a retail area at the foot of the tower, with plans to create over 1,000 new homes. The former Nestlé

trian access, with kerbs and guard-rails removed, plus new shelters and signposts, better lighting, new public seating, and tree planting in a £5.4m joint project between Croydon Council and Transport for London.

On Wellesley Road, the main highway through the town centre, a new pedestrian crossing of the largest permitted width has been installed, with a second one to follow, replacing subways. Shrubs are being planted along the dual carriageway's central reservation.

Another swath of public realm improvements began in April as part of a programme to improve all streets in the town centre. £1m is being spent on Surrey Street market, to level the carriageway and provide a new surface, improve lighting, and provide additional electric power for traders.

Complementing the work on West Croydon bus station, more than £3m was invested in the area around West Croydon station, to create a more welcoming environment with more space for pedestrians and better connections to the rest of the town centre. This included new paving, lighting, signs and seating, an improved tram stop and widened footways on Station Road. Building frontages were also improved.

Mr Parker points out that smaller projects can make a significant difference to the feel of an area and can also be done quickly. Pop-up and interim schemes are being introduced includ-



HQ has been empty for five years.

This is being complemented and anticipated by work under the growth plan. "Over the last year change has already started and there'll be much more in the next two years," says Mr Parker.

East Croydon bus station reopened early in April after a five-month closure. Work included better pedes-

ing architectural lighting schemes around the Fairfield Halls and Nestlé Tower; and temporary use of a sunken area behind the tower and opposite the town hall, where play areas will be installed until development gets under way. Temporary seating using innovative wooden construction which can be set up and dismantled quickly will be installed, as well as mini parks,



and areas under Croydon's flyover will be used to provide temporary cinema and performing arts space.

"It's not just public realm design in the classic way, but we're working from the outset with the council's cultural department to ask how can we bring the spaces to life during the development rather than at the end?"

New tenants moving into office space in Croydon include HMRC and the Borders Agency, but it is also popular with IT and technology firms. To support that, broadband and fibre optics networks have been improved around the town centre. Croydon i-Street, a competition with *Architects Journal* for product

He adds: "We're looking at how we can reduce the risk of HGV and cycle accidents, talking to the London Cycling Campaign and TfL."

Croydon is also planning to adopt demand management techniques that worked well in the Olympics, including holding briefings to alert businesses about what is going on and what action they can take, and encouraging modal shift. Roadshows will also be held. "It will be an opportunity for us to help people move to public transport or walking and cycling," says Mr Parker.

Overall the new developments are expected to create 23,000 new retail and office jobs, and 5,000 jobs in the



– are helping to change perceptions as well as boosting the night-time economy, says Cllr King. "There are plans for an exciting new cultural offer with the Fairfield Halls at the centre of it," he adds. The Fairfield Halls, whose main auditorium is a smaller scale version of the Royal Festival Hall with, many claim, superior acoustics, is currently undergoing refurbishment.

"There is still to some degree, among people who don't live or work here, a perception of Croydon as a vision of the 1960s with big roads running through it. Projects such as BoxPark and the Fairfield Halls – along with private developments like Westfield Hammerson – will change people's perceptions," he says.

**Opposite:** public realm improvements including tree planting will take place throughout the town centre; Box Park is a pop-up street food mall that hosts live events; tram capacity will be increased  
Images © Croydon Council



designers, wayfinding specialists and technology companies to propose a way to help people find their way around in a changing environment, got under way in March. Legible London signs are hard to keep up to date, and it is hoped that a new idea, which might, for example, combine technology and street furniture, will emerge. The competition is due to run until June with winners to be announced around July. The winning design is expected to be on the streets next year.

Overall the scale of development in Croydon is on a par with the Battersea/ Nine Elms development and the rate of activity will step up significantly from next year. In turn this will bring about a potentially big increase in movements of heavy goods vehicles. TfL has helped by advising on the lessons learned from Nine Elms, including the use of HGV holding areas – this would allow the flow of trucks heading for different developments to be regulated, rather than having "a free for all", says Mr Parker. Croydon is going further and looking into the possibility of a freight consolidation centre for construction traffic, where materials would be transferred to smaller vehicles for final delivery to reduce HGVs in the town centre.

construction industry. Under the Croydon Works programme, local people are being trained in a range of technical trades and crafts, starting in advance of the main development work getting under way, with the aim that people will have lasting skills at the end of the project.

On walking and cycling, Croydon was unsuccessful in bidding for "mini- Holland" status, but the work undertaken for the bid identified a large number of projects which are now being further developed in conjunction with TfL. "The mini-Holland bid put us in a good position and with funding we can move forward," says Mr Parker.

The plans also include provision for social infrastructure. Funding has been set aside to contribute towards school places, health services, and community and play spaces to cater for the newly enlarged town centre population.

Meanwhile there is activity on the cultural front. "We want to reinforce Croydon's transport connections and make it a destination worth visiting in its own right," says Mr Parker.

Projects such as BoxPark – a "pop-up street food mall" created from shipping containers which also hosts events by DJs, musicians and other performers





# Enhanced partnerships will need new strategies

With the Bus Services Bill becoming law, and giving authorities powers to introduce franchising, many operators see new enhanced partnerships as a preferable alternative. But these present their own problems, says **David Leeder**

Local authorities have tended to prefer projects such as smartcards to traffic management policies that favour buses

**F**or decades, UK bus operators have sought to contain economic regulation, while local authorities have consistently argued for increased powers. As with some medieval siege, nobody can quite remember when the fighting broke out, and entire careers have been spent on policy battles without either side giving up an inch of territory. It is not inaccurate to say that this Hundred Years' War has its origins in the 1920s, with regulatory victories for the authorities in 1930 and 1968, and the operators in 1986.

The Bus Services Bill is now law, and will give English local authorities new powers to control bus

services in their areas, and the first metro-mayors have been elected. The existential threat of London-style operating contracts has led most operators to welcome any alternative to the franchise model. In my view, enhanced partnerships, which the new Act also introduces, are likely to be challenging for both sides, and will involve some difficult maths.

The first problem will be to build some consensus about scheme objectives. This ought to be straightforward. Both sides would benefit from passenger growth, which would generate the social benefits desired by the public sector, and would swell the coffers of the operators, leading

to greater financial returns. However, there are several obstacles.

What is passenger growth intended to achieve? In the early 2000s social inclusion was a key priority. Then the agenda moved towards decongestion, then economic growth. Now environmental improvement is the policy priority. Objectives will need to be stabilised if any kind of economic model is to be constructed that involves risk capital over extended periods.

For many in the public sector, a desire for control is an end in itself. Anything that gives too much flexibility to the operators will be difficult to accept. In practical terms, this will lead to differences of opinion on a



variety of topics, including fare setting, marketing and the all-important question of economic returns. Operators will need to move the agenda on to measurable outcomes around which a consensus can be built.

The second problem relates to the interventions needed to achieve growth. The partners will need imaginative but achievable plans for growth. This will be difficult. Contrary to the general opinion among local authorities, passenger growth is hard won, and operators already have powerful incentives to increase volumes. It is now clear that best-in-class businesses such as Stagecoach, Go-Ahead and TfL are struggling with the problems of congestion and unhelpful demographics, even in cities with an otherwise benign operating environment. In recent years, local authorities have tended to evade the kind of tough traffic management measures that are unpopular with motorists and cyclists, and have placed their faith in second-order projects such as smartcards and low-emission buses, which increase costs with minimal revenue benefit.

There is in fact remarkably little doubt about the policy menu that would improve bus patronage. The winning policy mix has been fairly clear since the Oxford Balanced Transport Strategy of the 1970s. Such a strategy would be founded on traffic management, coordinated parking management, and planning policies that favour development in key nodes. The difficulty will be to reach a local political consensus over such a menu. In many regional centres economic growth is anaemic, at best. Authorities are prepared to grab whatever developments they can, regardless of the impact on travel demand. Hence the slow drift towards out-of-centre office parks, retail strip malls and suburban regional hospitals.

It should now be apparent that the unfavourable demographics of many English urban areas make devising a growth plan a non-trivial issue. Operators in many areas face significant headwinds, including population decline, weak urban centres, and fundamental changes to demographics (such as heavy bus-using 85-year-olds being replaced by low bus-using 63-year-olds). None of this will alter as a result of bus regulation, and London is now comprehensively proving that even highly favourable demographics can be negated by traffic management policies that prioritise cycling and walking.

Bus lanes remain politically problematic, often generating vocal public objection, without the association with moral virtue and elite support associated with cycling priority.

The failure of the bus industry to mobilise middle class opinion in its favour remains a significant issue.

The evidence from places such as Sheffield (and now London) demonstrates that partnership schemes without decisive traffic management policies that favour buses are insufficient to generate meaningful passenger growth.

The third and largest set of issues is economic. Both sides seem to have a shaky grasp of the financial architecture of a true partnership. Many local politicians (and a good many officials) confuse profits with dividends. This explains the widespread view that any profit-making local bus operation can fund an infinity of "nice things", such as real fare cuts, increased capital investment and staff pay rises. Some authorities genuinely think that they can have all these things, and extract large dividends for themselves.

They will quickly discover that such wishlists far exceed the ability of current revenue streams in most local bus markets to bankroll them. Meanwhile, most operators are offended by the idea that they should ever share their revenue streams with the authorities.

This financial problem is made worse by implicit commitments to greater capital expenditure (for improved buses, bus stations and bus priority measures) and for "development mileage". Experienced hands will realise that the last is the most expensive item of all. A good rule of thumb is that any new route will be unlikely to break even without £1m-3m investment in running empty buses until demand catches up with the new supply.

Furthermore, many authorities cling to the ancient idea that there is something wrong about running high levels of service on busy routes, and therefore "wasteful" bus miles can be moved around the map without an impact on demand and revenue. Cutting "oversupply" on busy routes is in fact likely to depress demand and reduce revenue, with a corresponding impact on network finances.

Network economics will need to be modelled in new ways, to isolate these issues and devise workable cashflows for all parties. Hard maths, and clear thinking, will be needed to resolve them, and highlight the trade-offs needed to devise a viable plan.

Issue four might be termed "dividing the spoils". The current arrangements, both in London and outside, have avoided the need for formal, utility-style regulation of operator returns: by the threat of on-the-road competition outside London, and competition for contracts in the capital. For a partnership arrangement to

work, there will need to be some kind of formal mechanism to measure, regulate and allocate returns. Moreover, authorities will need to accept that operators' profits will need to go up (as in water and airports) if they are being asked to deploy more capital and or take more risk.

A true partnership model will have to address the issue of "excess returns" (if any), and allocate cashflow between operators and authorities in a fair manner. In practical terms, this means finding solutions to:

1. Remunerating capital expenditure in buses and fixed equipment (including highway measures)
2. Sharing profits from bus operation, and dividing them between operators and authorities
3. Stabilising the basis for subsidies to specific passenger groups – for example concessionary fares
4. Determining a means to regulate fare levels, in the absence of on the road competition
5. Creating an incentive for operator cost efficiency
6. Incentivising local authorities to deliver their part of any bargain.

Britain's impending exit from the EU could be helpful, as it will allow UK bus policy to be decoupled from EU rules concerning public procurement and transport subsidies that limit the scope for creative solutions to this question. Greater flexibility in this area may allow authorities to enter into longer, more flexible franchises or route licences. But creativity will also intensify the need to codify economic regulation.

In conclusion, true partnerships between bus operators and local authorities create the opportunity to transform the outlook for urban public transport, and to address the severe economic challenges facing the UK bus sector. But both sides will need to adopt much more flexible thinking, and climb out of the policy trenches.

The issues are both economic and mathematical. In the absence of competition (or the threat of competition), operators will have to accept some form of economic regulation. Authorities will have to learn hard lessons about the real cost of capital, the cash needed for speculative mileage, and the allocation of risk. The two sides will need to agree a menu of highway and service improvements that is simultaneously tough enough to decisively improve the relative speed and reliability of bus travel, and appealing enough to command the political support necessary.

None of this will be easy, and the winners will require analytical and political skills that may change market shares and operator returns dramatically over the next ten years.

**The winning policy mix has been clear since The Oxford Balanced Transport Strategy of the 1970s**



**David Leeder** is managing partner of specialist strategy consultant **Transport Investment Limited (TIL)**, and chief executive of German bus group **MET**



# A **nudge** towards better travel choices

Road congestion is expensive and inconvenient, but measures to reduce it are politically unpopular. A toolkit of behavioural nudges can help, says **Cavin Wilson**

**B**y 2050 82% of Europe's population will be living in towns and cities. While the density of urban centres improves the productivity of people living there, it can lead to costly road congestion – the annual cost of congestion to European economies is expected to increase by 40% in the next decade.

Policy measures that alleviate road congestion save people time and increase economic wellbeing by changing how and when they travel. However, the policies that are most effective at reducing congestion – those that put a price on driving or parking in congested areas – are often expensive and politically unpopular.



**Cavin Wilson is an economist at Oxera Consulting**

An alternative is to consider policies that nudge people towards socially optimal travel decisions without restricting their options or changing financial incentives. Such nudges are likely to be cheaper and less controversial than traditional congestion policies and could be just as effective.

### What are nudges?

Traditionally, economists like to think that people are “rational agents” who maximise wellbeing and minimise costs. Their solution to congestion has therefore been to adjust the cost of using the road network at a given place and time in order to encourage people to travel at different times, take a different route, use public transport, or not travel at all.

However, a growing body of evidence from behavioural economics suggests that this simplified model of decision-making ignores the fact that people regularly make seemingly irrational travel decisions and are strongly influenced by how and when

journey options are presented to them.

An understanding of these biases can give policymakers a set of techniques for reducing congestion that does not entail new charging regimes or infrastructure. This article sets out how these techniques can be applied to ease congestion in European cities.

### Framing

Providing people with the data they need to make informed transport choices is an important public service. However, insights from behavioural economics suggest that how this information is presented can be just as important as what it contains. When people choose how and when to travel, four behavioural shortcuts are particularly relevant.

*People care more about potential losses than potential gains.* For example, a person is more likely to travel by bus if they are told that using their car instead will cost them ten minutes, than if they are told that taking the bus will save them ten minutes. They are



even more likely to go by bus if these costs are broken down – if they're told that not taking the bus will cost them five minutes on the journey to work and five minutes on the journey home.

*People are better at absorbing simple information.* If an incentive structure or explanation is too complex, people may not absorb all the information. Presenting too many public transport options might confuse or deter a commuter. Journey planning tools should instead present people with a shortlist of recommended options.

*People are more likely to choose the option presented to them as a default.* A default option may convey information about the "normal" or socially acceptable choice, and opting out of a default incurs friction that influences behaviour. For example, journey planning tools could be obliged to propose public transport as the default option, requiring users to actively opt out if they prefer to travel by car.

*Nudges work best when they reinforce existing social norms.* Studies suggest that informing someone that their peers are making socially-conscious choices can encourage them to do the same, such as filing their tax return on time or reducing energy consumption. To reduce congestion, policymakers could tell people how many of their neighbours use car pools or cycle to work. Even when norms are weak, nudges can be used to embed socially positive attitudes or behaviour. For example, people who commute outside peak times or use public transport could be given a platform to communicate their socially conscious travel choices to their peers, creating a "badge effect".

Taking these factors into account when presenting information can encourage people to make travel choices that benefit society as a whole, and help reduce congestion in a way that is cheaper and less interventionist than direct anti-congestion policies.

## Timing

Behavioural economics shows that people's choices are not only affected by how information is presented,

**Above: People will be more likely to use public transport if it is presented it as the default option**

**Below: Incentives such as making bike hire free for a day may persuade travellers to change their habits permanently**

**A longer version of this article appears at <http://www.oxera.com/Latest-Thinking/Agenda/2017/Hard-shoulder-using-behavioural-nudges-to-reduce-c.aspx>**



but also when. This is because we use a shortcut known as "status quo bias" – a subconscious preference for the current state of affairs. This suggests that congestion could be minimised by appealing to this bias in two ways: intervening before habits are formed, and encouraging experimentation once they are entrenched.

*Nip the behaviour in the bud:* When people first make choices about a new journey, they must consciously look at alternative modes, departure times, parking options, and so on. Once they make their choice, however, decisions about subsequent journeys are likely to be made by reflex or habit. Thus congestion policy interventions need to influence behaviour at the point when habits are being formed, not once it's too late.

For example, new homeowners or tenants could be given information about their local cycle paths or bus routes, or offered discounted car club vouchers when they move in. Similar information could be provided by companies to new employees. Such well-timed interventions could shape an individual's travel choices at the time when long-term decisions or purchases are made.

Similarly, journey planning tools could provide someone travelling to an unfamiliar location with a detailed public transport travel plan, including help finding terminals and transferring between modes. Citymapper, for example, advises users in Berlin which S-Bahn compartment is best for their transfer, and sends them notifications when they're approaching their Metro stop in Paris.

*It's never too late to change one's spots, though stronger nudges may be required.* Understanding the behavioural shortcuts that people take can make this job

easier. For example, evidence shows that people, especially those who don't travel very often, do not absorb all the available information about their travel options. A recent study showed that when commuters were forced to experiment with alternative routes following a Tube strike in London, 5% changed their route permanently. In this case, incomplete information, such as a stylised Tube map and substantial variation in the speed of different Underground lines, led people to make sub-optimal choices.

This demonstrates that some people can be encouraged to make better choices if they are pushed to experiment.

Policymakers might consider making a socially conscious route choice cheaper or more convenient for a short period of time – for example, by subsidising private hire vehicles to drop commuters at their nearest railway station for a week, or making bike-sharing schemes free on a particular day. Some people may find that the new route is more efficient and switch permanently, even after the subsidy lapses.

Understanding status quo bias and timing interventions so that they have the greatest impact can therefore be a cheap and effective means of changing travel choices and reducing congestion.

## Next steps

Insights from behavioural economics can provide policymakers with a toolkit for reducing congestion and a credible alternative to traditional policy measures. By carefully framing how information and incentives are presented and considering when these interventions would be most effective, policymakers can help reduce road congestion, saving people time and making urban spaces more enjoyable for everyone.







# STA | SCOTTISH TRANSPORT AWARDS

## TOWERING IN GALLANT FAME

Commitment, determination and innovation were once again recognised and rewarded at the Scottish Transport Awards in Glasgow this week

**In 2015, First decided only to buy buses with Euro VI engines**

**S**cottish transport professionals gathered in Glasgow this week for what has become an essential event in the calendar, the Scottish Transport Awards. From the frontline to the top echelon of leaders, they convened to celebrate the industry's achievements and to recognise the work of their peers, in the fifteenth year of the awards. Minister for transport and the islands in the Scottish Government Humza Yousaf gave the keynote address at the event which was hosted by writer, presenter and actor Sanjeev Kohli.

### Scottish Local Transport Authority of the Year

**South Lanarkshire Council** took the most prestigious award, Scottish Local Transport Authority of the Year.

The council, with Sustrans and SPT, invested £1.25m in cycle routes in the 2016 financial year. It has completed National Cycle Network route 74, to create a direct connection between England and the central belt of Scotland.

For public transport, last year £1.1m was invested in traffic signals to smooth traffic flow and improve reliability. Seven of South Lanarkshire's 19 stations have park and ride facilities, providing 2,425 spaces. There are plans to add another 1,000 spaces at Lanark, Carstairs, East Kilbride and Newton stations.

Rural road safety is being addressed through Route Action Plans, using a combination of new warning signs, new road markings, reflective road studs and anti-skid surfaces. On treated routes the average annual

accident rate has been reduced by 58%.

The Cathkin relief road, completed in February, is one of four projects in South Lanarkshire included in the Glasgow City Deal. The 1.6km single carriageway removes traffic from the town centre and will improve public transport reliability and bus/rail integration.

### Public Transport Operator of the Year

**Virgin Trains** was named Public Transport Operator of the Year. Virgin and Stagecoach joint ventures operate both the East Coast and West Coast inter-city routes. In 2016 record passenger numbers were achieved on both.

An improved Edinburgh-London timetable introduced last year provides a half-hourly service through most of

the day and has provided capacity for passenger growth, with the aim of capturing 50% of the rail/air market between the capitals. Patronage has increased by 8% between Edinburgh and London, taking the total number of passengers to more than a million for the first time.

The West Coast business had to cope with the seven-week closure of the West Coast main line following damage to the Lamington viaduct in South Lanarkshire during storms on New Year's Eve. It recorded the highest-ever number of passengers between Glasgow and London in the 12 weeks to January this year.

Last year £140m was invested in trains and stations on the East Coast route, with a fleet overhaul and the introduction of first class lounges. Beam, Virgin Trains' on-board entertainment app, has helped improve satisfaction scores and eased demand for onboard Wi-Fi.

### Scottish Airport of the Year

**Inverness Airport** was named Scottish Airport of the Year, recognising its increasingly important role to the Highland economy. Last year a record 796,854 passengers passed through, a 17.4% annual increase, with continued interest in European routes to Amsterdam Schiphol, Geneva, and Dublin, and increased traffic to UK airports such as Manchester and Heathrow. KLM launched new routes to Schiphol, while British Airways reinstated daily Heathrow-Inverness flights after nearly 20 years. The airport also provides lifeline services to some of the Scottish Islands. A £3.3m funding package has been secured for a new railway station at Dalcross, which will improve public transport links between the airport and Inverness city.

Over the past year, the airport has improved the terminal and other facilities, with £900,000 of investment for the arrivals area, departure lounge, retail outlets and catering offering. An arrivals hall has been established.

### Road Safety, Traffic Management and Enforcement

**City of Edinburgh Council** was the winner in the Road Safety, Traffic Management and Enforcement category, sponsored by FirstGroup, with its School Streets project.

School Streets aimed to create a safer, more pleasant environment by promoting active travel to reduce congestion and pollution around schools. The nine chosen locations had road safety concerns arising from congestion at the school gates. A pilot, beginning in 2015,

introduced restrictions on motor vehicles during set times, with flashing signs to warn when the restrictions were in operation. Under a reward scheme with Living Streets, children tracked their active journeys and could earn a badge for a reaching a target number.

The pilot demonstrated lower vehicle

speeds on the streets concerned, and the number of children walking to school increased.

### Contribution to Sustainable Transport

The award for Contribution to Sustainable Transport went to **First Bus**. In 2012, the company began holding an annual fuel economy testing programme at Millbrook Proving Ground, comparing buses from different manufacturers. As a result First Aberdeen, First Scotland East and First Glasgow have bought buses which are 30% more fuel-efficient. With support from Transport Scotland, the company has bought 142 new buses in the last two years, 132 of which are low-carbon certified. In 2015 First took the decision only to procure vehicles with Euro VI engines, which produce around 95% less NOx than Euro V.

In the same year the company began operating four hydrogen-powered buses in Aberdeen, in partnership with Aberdeen City Council and others. It bought five flywheel-assisted buses, in which a spinning flywheel recaptures energy that would oth-

erwise be lost during braking.

The company recently bought 43 double-deckers with stop/start technology, which automatically turns the engine off at bus stops, saving fuel and reducing kerbside emissions.

### Best Practice in Travel to School and Work Schemes

**Fife Council** was named winner in Best Practice in Travel to School and Work for its participation in Living Streets' WoW (walk once a week) scheme. Fife has worked with Living Streets since 2015 to encourage pupils, parents and carers at 30 schools to travel actively to school at least once a week. Pupils record how they travelled using the interactive Travel Tracker.

The Walk of Fame tracks schools' results throughout the year, and in October 2015 Duloch Primary School in Dunfermline reached number one as the most actively travelling school. During National Active Travel Month in 2016, five schools from Fife reached the top ten in Scotland, with Milesmark Primary at number one.

In May last year, 10 schools in Fife took part in the WoW relay across Dunfermline, Kirkcaldy and Glenrothes. Survey results for 2016 show that for 21 of the schools taking part in WoW there was a decrease of up to 16% in the number of non-active journeys.

### Excellence in Walking and Public Realm

WOW also won an accolade for **Living Streets Scotland** in the Excellence in Walking and Public Realm cate-

turn to page 26



**Clockwise from left: Glasgow City Council's strategic plan for cycling won the Achievement in Cycling Award; The Improvement Service won Excellence in Technology for the National Entitlement Card migration; Humza Yousaf was keynote speaker**





from page 25

gory. The year-round walk to school challenge rewards primary school pupils who walk to school at least once a week with a monthly collectible badge, helping create a healthy habit for life. As part of WoW, the online Travel Tracker enables schools to record and reward walking and other sustainable journeys using the classroom interactive whiteboard.

Working with the Smarter Choices, Smarter Places programme, Living Streets Scotland and local authorities have raised awareness of travel choices and encouraged modal shift to more sustainable options for the journey to school in over 250 schools during the current academic year.

Participating WOW schools have shown a 13% increase in walking and a similar percentage reduction in cars around the school gates.

## Achievements in Cycling

**Glasgow City Council** was the winner of the award for Achievements in Cycling with its Strategic Plan for Cycling 2016-2025. The plan was adopted in March last year, with a funding commitment of £6m. It seeks to create an integrated network of routes and a healthier city which is safer for cycling.

The plan includes introducing segregated cycle lanes on Sauchiehall Street, due to begin later this year, and a tenfold expansion of the highly commended City Way cycle routes, which use kerb segregated cycle tracks. Some sections of South West City Way record over 1,300 cycle trips daily. The South City Way project won £3.25m towards its £6.5m cost in the Scottish Government's first Community Links Plus funding competition.

The Cardonald Quietway was the first of the Quietways promised in the strategic plan. New traffic signal technology introduced in 2016 included low-level traffic lights and early release for cyclists. The city's Nextbike cycle hire scheme is to be doubled in size. Rentals grew by almost 25% in 2016.

## Best Bus Service

**Stagecoach North Scotland's JET 727** service was named winner in the

Best Bus Service category. Jet 727 was originally launched in Aberdeen in 2010 to provide a direct connection from Aberdeen city centre to Aberdeen International Airport. The service has shown strong passenger growth and last May the latest improvement was an investment of £1.7m in eight Alexander Dennis Enviro 400 double-deckers. The buses have free Wi-Fi, leather seats, optimised temperature control, USB charging points and extra luggage storage racks.

The new fleet features distinctive new branding to communicate features such as the frequency, the route, affordable fares and Wi-Fi. The buses have more than double the passenger capacity of their predecessors, removing overcrowding at peaks, and three times the capacity for storing luggage. A tracking system allows passengers to track their bus on the Stagecoach mobile app.

and other accessibility issues. From this, Transport Scotland co-produced a vision and four national accessibility outcomes. A list of 48 issues formed the basis of an action plan.

The desired outcome of the new policy is to enable more disabled people to make safe and comfortable door-to-door journeys.

## Most Innovative Transport Project

**Network Rail Infrastructure Projects, working for the ScotRail Alliance**, was the winner of Most Innovative Transport Project with the renewal of concrete slab track in Glasgow Queen Street Tunnel.

The track, in the tunnel leading to Queen Street station, was replaced in a 20-week blockade from March to August last year to prepare the station for electrification in 2018. The Austrian OBB-Porr slab track system,

Below:  
Aberdeenshire Council's GrassHOPPER multi-operator ticketing scheme  
Right: Midlothian Council's touch-screen travel information consoles  
Opposite: Living Streets Scotland's Walk Once a Week won the award for Excellence in Walking and the Public Realm



## Accessibility Project of the Year

The award for Accessibility Project of the Year went to **Transport Scotland**, for the development of Scotland's first Accessible Travel Framework. The framework was developed with disabled people at its heart, and represents the first stage of a process that will bring disabled people, transport providers, and local and central government together to continuously improve accessibility.

Transport Scotland began with a list of transport accessibility issues raised by disabled people, assembled from events held by Independent Living in Scotland in response to the United Nations Convention on the Rights of Persons with Disabilities. In March 2015, an Accessible Transport Summit brought together policy officials, transport providers and operators and 60 people with first-hand experience of physical barriers to transport

successfully used in the Winchburgh Tunnel in 2015, was adopted. It is estimated that it saved 10 weeks.

The existing slab track was removed on the up line first, keeping the down line for engineering trains. Once break-out was complete, pouring of the base slab began, prior to installation of the OBB-Porr slab track.

For the two crossovers in the tunnel the Sonnevile LVT system was used, its first installation in Scotland. It can be adapted to any layout and guarantees excellent track geometry. Prior to the blockade starting, the project team had commissioned new signalling to allow services to be diverted to Queen Street low level and Glasgow Central. The project was completed ahead of schedule and under budget.

## Excellence in Technology and Innovation

**The Improvement Service** took the award for Excellence in Technology







and Innovation, sponsored by BAM Nuttall, with the National Entitlement Card migration project. On 31 December last year, 1.3 million entitlement cards used for concessionary travel in Scotland were due to expire. Transport Scotland (which runs the scheme) and local authorities (which maintain the cardholder data) had to make sure new cards were sent before the deadline to the right people at the right addresses. The solution was supplied by the Data Hub – a data matching/cleansing service provided free to Scottish councils by the Improvement Service. The Data Hub analyses multiple data sources to identify the most accurate and up-to-date addresses and records for its clients' customers. Verified or updated addresses are then uploaded to the client's system.

West Lothian Council piloted the Data Hub to validate 56,000 addresses, cross-referencing several of its own datasets against the card

management system data. The pilot began in July 2015, and by October it had produced impressive results, with a data matching rate of over 90% for cardholders aged over 60.

The data cleansing process took less than four months, rather than the six originally estimated. Around a million concessionary cards were replaced on time.

#### **Transport Team/ Partnership of the Year**

The Transport Team/Partnership award went to **Aberdeenshire Council** for the GrassHOPPER multi-operator ticketing scheme. Aberdeenshire Council, Aberdeen City Council, First Aberdeen, Stagecoach North Scotland and several local bus operators have been working to streamline the fare and ticketing system on bus services in north-east Scotland. GrassHOPPER was launched in December 2013, followed by Smart GrassHOPPER

in August last year, the first smart multi-operator ticketing arrangement in Scotland. There has been a threefold rise in value of tickets sold over the last year and a half.

Previously, a journey involving more than one operator required a separate ticket for each leg. With a GrassHOPPER pass, a passenger can buy a ticket on one bus for the whole journey.

The service has increased in popularity as more features have been added. The smartcard was launched last August, with over 4,200 uses during the month. By December, this had risen to over 12,000.

#### **Excellence in Travel Information and Marketing**

**Midlothian Council's** Out and About Midlothian project won the award for Excellence in Travel Information and Marketing.

Midlothian Council received a Smarter Choices, Smarter Places grant for the project, to promote sustainable travel. The council created a programme of marketing initiatives including events, mapping and advertising. During the 2015 financial year, its main aim was to encourage walking, cycling and public transport to the new Borders Railway stations at Shawfair, Eskbank, Newtongrange and Gorebridge.

A highlight was the installation of touch-screen travel information consoles at each station and in Dalkeith. The consoles display maps showing nearby bus stops, local facilities and active travel routes, as well as live travel information for trains and buses and a journey planner.

A marketing campaign led by the council promoted sustainable travel, with led walks and cycle rides, map and freebie distribution, and Dr. Bike sessions.

Surveys showed an increase in active travel modes, notably in cycling.

**JET 727's  
new buses  
have more  
than double  
the passenger  
capacity of  
their  
predecessors**

## **Outstanding people**

### **Outstanding Contribution to Transport in Scotland**

**Andrew Burns**, former leader of Edinburgh City Council, was presented with the award for Outstanding Contribution to Transport in Scotland.

David Begg said: "Andrew Burns served with great distinction on the City of Edinburgh Council from 1999 to 2017. He was the lead member on transport for five years and became leader of the council in 2012, showing leadership on transport throughout.

"His period in the transport brief included the referendum on congestion charging in 2005. Though 74% voted against the proposal, Andrew

articulated the case eloquently. He put sustainable transport at the heart of the council's strategy and his legacy on road safety, cycling and pedestrian improvements will be long lasting."

### **Frontline Employee of the Year**

**Ian Davidson**, a driver at First Scotland East's Balfour depot, was named Frontline Employee of the Year. Ian went to the aid of 13 local children and their teacher when their school minibus was involved in a collision near Stirling.

Driving his empty bus on the A811, he said, the scene was an "alarming" sight. "The minibus had

been involved in a head-on collision and had gone into a ditch. I went to help the children. There were walking wounded, with others in shock and the teacher was trapped in the minibus with an arm injury."

Ian moved the children to his bus and went to help the teacher, with an off-duty firefighter. Concerned that the emergency services had not arrived, he dialled 999 and found out that the controller had an incorrect location. Services, including the air ambulance, were soon on the scene.

Ian said: "It was an alarming incident but thankfully there was no lasting damage."



**Frontline Employee of the Year Ian Davidson**



# A rethink for urban transport



As part of a strategy to address mobility in a more integrated way, Alstom is developing two new types of vehicle, a 'last-mile' shuttle and a re-think of the bus. **David Fowler** reports

**Wheels at the corners allow the Aptis to have level access and a flat floor over the whole interior**



In an increasingly connected and congested world, passengers and transport authorities alike are placing new demands on transport system manufacturers.

Passengers want a 100% connected journey, a seamless transition from door to door, better comfort and accessibility, and to take control of their journey.

Transport authorities want a greener transport system, higher capacity and more mobility options, maximum availability and punctuality, and low cost of operation.

It is for these reasons that train and rail systems manufacturer Alstom set out to make a transition, "from train manufacturer to mobility maker", in the words of chairman and chief executive Henri-Poupard Lafarge.

The company manufactured trains and rail electrical and signalling systems, and carried out operation and maintenance of its systems. "Two to three years ago we realised the need to go a step further," said Mr Poupard-Lafarge, "from more than just rail systems to whole systems for mobility



– including digital technology.” The aim was to achieve better integration of systems in urban mobility generally.

Speaking in the run-up to the UITP public transport summit and exhibition held in Montreal in May, Mr Poupart-Lafarge said: “In discussions with city and town authorities they would say ‘Rail is completely isolated from other systems.’”

He continued: “We need to take into account all systems of mobility. Rail will always be at the centre, because of its almost unlimited capacity, but it can’t be isolated from other systems.” Other systems, he added, needed to become smarter.

He unveiled a range of new initiatives and products designed to address these new demands, including Optimet Urban Map, an intelligent metro map which takes account of traffic in real time, Optimet Real-Time Train Occupancy, which shows passengers whereabouts to stand on the platform to have the best chance of getting a seat and thus also speeds up boarding, and Mastria, a multi-modal information aggregator designed to support operators in reacting to incidents and disruption on their networks.

## EasyMile

Two of the most significant initiatives are new types of vehicle: EasyMile, an autonomous shuttle for the “last mile” of a journey, and Aptis, a radical redesign of the bus, using experience from tram design.

The target market for EasyMile’s latest EZ10 shuttle is for the last leg of journeys from work or home, where population and public transport provision may be less dense.

The idea of an autonomous shuttle was developed as a response to congestion, says Gilbert Gagnaire, EasyMile founder and chief executive.

“At some point we have to get rid of cars in city centres,” he says. But even with congestion charging, “the efforts of authorities to get rid of private cars don’t work – because individuals don’t think they’re the problem.”

Park and ride systems linked to rail stations don’t work because they are limited “not by the capacity of the train but by the number of parking spaces”. For example, in the Bay Area Rapid Transit in San Francisco “by 6am there are no more parking spaces and the trains run empty”.

EasyMile’s EZ10 is designed to work like a more flexible bus. It is suited to suburbs and, in general, areas where population density and demand are lower. “When demand is dispersed it’s not economic to operate a full-size bus or anything with a driver,” says Mr Gagnaire.

EasyMile’s 12-passenger driverless shuttles would run on pre-defined

routes with set stops like a bus, connecting from transport hubs in more densely populated areas to sparser zones, but with a much denser network than a normal bus, to “within around 100m from your doorstep”.

Somewhat disconcertingly, the shuttles have full-width seats at each end and no steering wheel or driver’s seat. They would operate on demand in response to requests from a smartphone. The passenger would specify their destination and the system would use an algorithm to match demand with the optimum use of shuttles. A message to your phone would tell you where and when to wait, with an identification number for the shuttle.

EasyMile is essentially a software company, working with Ligier as vehicle supplier. Its shuttles are in operation in 50 sites in 14 countries in Asia, North America, the Middle East and Europe, mainly in defined sites, such as operating a guided tour of Singapore’s botanical gardens. The EZ10 has been under test in Paris since September 2016.

In January, Alstom took a €14m, minority stake in the firm in order to assist in developing the system for urban transport. Alstom director for autonomous auto systems Jean-Marc Pagliero says the company is acting as system integrator, using its expertise in managing complexity to develop the system for the required scale. Alstom plans to integrate the shuttle when it bid to provide mobility systems.

When designing the route for a shuttle, a risk assessment would be carried out to identify potential hazards, such as places where visibility was restricted, where the shuttle would be programmed to slow down automatically. At the current stage of development the shuttle is more suited to operation on a segregated route rather than in mixed traffic.

The shuttle operates at a maximum speed of 20-25km/h. Six lasers and radar sensors detect obstacles within two operational zones. At a distance of up to 40m the sensors gently slow the shuttle down if an obstacle is detected, sounding a bell and bringing the shuttle to a standstill if the object comes within 2m.

The battery-powered vehicle can operate for up to 14 hours on one charge where air-conditioning is not required, or 7 hours where it is. Opportunity charging is possible because it is unlikely that the vehicle would be operating for 14 hours continuously.

Mr Pagliero says: “You would incorporate a strategy to recharge the shuttles into the overall operating strategy.” A central operating system would manage the location of each shuttle and assign “missions” as requests from passengers came in.



Mr Gagnaire says: “Today the technology is ready – not to automate your car, but for an autonomous shuttle, because it would operate in a known environment, with a known route and risks.”

The main obstacle to its deployment currently is that legal frameworks have not yet been developed to cover the operation of autonomous shuttles in urban passenger transport. Mr Pagliero says: “No authority has defined the framework – what kind of city, homologation, and so on. We need a framework that these vehicles can fit into.”

## Aptis

Bus design has not fundamentally changed since the introduction of rear-engined layouts half a century ago, and in many ways for much longer than that.

**The EasyMile EZ10 seats six and can operate for 14 hours on one charge**

**turn to page 30**



from page 29



Aptis is an attempt to incorporate new technology at the same time as rethinking the concept of the bus, with a strong influence from tram design.

The all-electric Aptis has been developed by Alstom and its subsidiary (in which it holds a 51% stake) NTL. It is the same size as a standard bus, at 12m long and 2.55m wide, but that is about the limit of the similarity.

Aptis started trials early this month on a live route in the Paris region, along with numerous other zero-emission buses, as part of an evaluation by operator RATP.

Perhaps the most striking feature of the new design is that the wheels have been pushed out to each corner, allowing a low floor over the entire length of the interior, with level access so that wheelchair ramps are not needed. Less obvious is that fact that the wheels at both ends steer, making the bus much more manoeuvrable around tight city streets. "It feels much

more like a car to drive. You don't have to take wide curves around corners in town," says project manager Benjamin Bailly. Drivers typically take 15 minutes to acclimatise to a new style of driving when switching from a normal bus.

Two-ended steering operates constantly, but the driver can also select a parallel wheels mode, in which the wheels at both ends steer in the same direction, allowing the Aptis to be driven at an angle into restricted bus stop bays.

Inside, large windows provide all-round vision and give the interior an airy feel. The flat floor allows more people to be accommodated, so that the Aptis can carry up to 95 passengers.

Bailly says one of the biggest challenges was to design an electric bus capable of operating all day without a charge. The Aptis has a range of 200km, compared with a typical daily operating cycle for a bus in Paris of 130-180km.

Charging would normally take place overnight, taking six to eight hours, but Alstom is developing a quick charge system using a pantograph or the company's wireless SRS system, which would allow a top-up in five minutes. Some 4.5t of batteries and associated equipment are installed in the roof of the bus.

Mr Bailly explains that the electronics have been derived from railway equipment and so are designed to have a longer lifetime than the 15 years which is the norm for a bus. The whole vehicle has a design life of 20 years.

Heating is electric (unlike some electric buses which retain a small diesel engine for heating) and work is under way to develop a heat exchanger which would allow air-conditioning to be installed – but this is not currently a requirement Paris buses.

In the current trials the Aptis will be one of seven buses from rival manufacturers being evaluated by operator RATP and transport authority STIF (Syndicat des transports d'Île-de-France). RATP aims to switch to a completely zero-emission fleet (80% electric, 20% natural gas) by 2025, reducing its carbon footprint by 50%. This means it will need to replace 4,500 buses. The first tenders are due to go out later this year.

Mainly because of the cost of the batteries, the purchase cost of the Aptis will be about twice that of a conventional bus. But because of simpler maintenance, lower operating costs and longer-life components its lifetime costs are expected to be approximately the same.

"This innovative concept was made possible thanks to NTL's knowledge of vehicles on tyres and Alstom's expertise in electric traction and system integration," said Alstom chairman and chief executive Henri Poupart-Lafarge. "This new environmentally-friendly solution will revolutionise urban transportation," he predicted.

Clockwise from top left: Alstom's Jean-Marc Pagliero; chairman and chief executive Henri Poupart-Lafarge and Benjamin Bailly





Sir Richard Leese



Elaine RossCraig



Tony Ciaburro



Peter Strachan

# Leese and Hughes appointed Manchester deputy mayors

**New mayor of Greater Manchester Andy Burnham** has announced his leadership team. Manchester City Council leader **Sir Richard Leese** has been appointed deputy mayor for business and economy issues. Former Home Office minister **Baroness Beverley Hughes** will become Greater Manchester's first deputy mayor for policing and crime. Bury Council leader **Rishi Shori** will become portfolio holder for young people and social cohesion.

**First Bus** has appointed **Elaine RossCraig** to the new position of customer service improvement director. Ms RossCraig joined this year from the TAS Consultancy, where she was a management consultant, before which she was head of customer insight at Stagecoach for 14 years, managing a team responsible for projects in the UK, US, Europe and New Zealand. She started her career with Scottish and Southern Energy as a data and market analyst.

The company has also appointed **Ian Warr** engineering director. Mr Warr joined the company earlier this year supporting the mobilisation of operations to provide bus services during the construction of the new nuclear power station at Hinkley Point in Somerset.

Mr Warr was previously regional engineering director for Arriva in London, operating a fleet of over 2,000 buses. He began his career as an RAF engineer and he has worked with ComfortDelGro in both London and Australia.

Former Northamptonshire director for place commissioning and **TT** contributor **Tony Ciaburro** has become the chief executive of Societal, a new social enterprise company providing a radical new approach to transport services. The company has been set up in partnership with Northamptonshire County Council, the University of Northampton, Northampton General Hospital, the Northamptonshire Health Foundation Trust and St Andrew's Healthcare, representing around 30,000 staff, students, academics and patients in Northampton. Societal aims to break down institutional barriers by developing "place based" solutions rather than through individual organisations in isolation.

**Serco** has strengthened the leadership of its UK rail business as it prepares for the introduction of the new Caledonian Sleeper train fleet next year. **Peter Strachan**, previously MD of Caledonian Sleepers, has been appointed UK Rail chairman. In a newly created role, he will chair the Caledonian Sleepers board and will continue to chair the Caledonian Sleepers new trains project board. He will also become a shareholder representative in Merseyrail, the joint venture with Abellio, in which Serco has a 50% shareholding.

**Keith Wallace** has been appointed MD of Caledonian Sleepers. He started his career as a graduate trainee with British Rail and has held roles as techni-

- **First Bus** adds new directors
- **Tony Ciaburro** to head Societal
- **Serco** prepares for Caledonian Sleeper fleet
- **Ian Patey** to chair ITS (UK)
- **Joseph Infante** joins CPC
- **John Dutton** joins Steer Davies Gleave

cal director, operations director and managing director for Scott Wilson Railways and programme director for Govia Thameslink Railway. He has also provided consultancy services to high profile projects such as HS2, and more recently has been supporting Abellio Greater Anglia.

**Ian Patey** has been unanimously approved as the new chairman of ITS (UK), replacing TRL's chief scientist Dr Alan Stevens who is stepping down after his two-year term. Mr Patey is head of profession for ITS at Mouchel, part of WSP. He has been with the company since 1984 and has been involved in ITS (UK) since its formation 18 years ago. He has been vice-chair for the past two years.

**Joseph Infante** has joined CPC as a new partner, to support the firm's growing transport and infrastructure division. He will be focusing on the expansion of its commercial management and project management services in the rail sector in the UK and internationally. Mr Infante has more than 40 years' experience in the construction industry. He worked

in the energy industry throughout the 1980s as a project and programme manager, before moving to infrastructure, where as a commercial and programme director he worked on projects up to £6bn capital value. He joins CPC, a consultancy in project management and commercial management for the transport, residential, commercial, health and education sectors, from Capita, where he was a divisional director managing the infrastructure business and leading the rail sector.

**John Dutton** has joined Steer Davies Gleave as a director. With more than 30 years' experience in the rail industry, he has held leadership roles on projects including HS1, London Underground track renewals, Crossrail and Heathrow Airport. Mr Dutton started his career with Gloucester and Oxfordshire county councils, moving to Sir Alexander Gibb & Partners, where he worked on designing the Channel Tunnel Rail Link. At Gibb, he developed its rail business, and in 1999 he became the deputy MD.

In 2001 with Andy Collinson he founded CollinsonDutton, a rail consultancy providing services to clients in the UK, Australia and New Zealand. Mr Dutton took on roles such as interim head of surface access projects for BAA at Heathrow Airport, and client package representative on Crossrail for the works in the Royal Oak and Westbourne Park area. CDL merged with GHD in 2011.



# Front runner in **ENVIRONMENTAL INNOVATION**



Leading the bus industry's environmental agenda  
by embracing low emission technologies.

Through partnership, technology and innovation we're introducing cleaner, greener vehicles; setting new standards of fuel consumption; cutting emissions; and improving air quality for our local communities.

Our solutions  
put us at the heart of a greener,  
cleaner future for our communities

[firstgroup.com](http://firstgroup.com)



**First**  **Bus**