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From:
Sent:
To:
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_WEB_Local Plan

[REDACTED]

Subject:

Options Consultation

Attachments:

Stroud Local Plan Review IOR Stagecoach West covering letter to SDC 171109.pdf;
Stroud District Local Plan Review IOR Stagecoach West FINAL Response 171108.docx;
Stroud & Dursley Map 170903.pdf; prof-david-begg-the-impact-of-congestion-on-bus-passengers-digital.pdf

[REDACTED],

We are pleased to submit the attached duly-made response, following our earlier letter.

You will note that this is as full and comprehensive a set of representations as we can arrive at at this time. Unlike development promoters, for which this is a core part of their business function, we cannot draw upon a deep and broad range of assistance. However we are committed to supply as much further evidence as we can to the Councils, and, equally to responsible and professional land promoters, at a suitably early stage to support the ultimate adoption of the best possible Local Plan Review.

As you will know, we are keen to meet to assist the District and County Council move forward. Once the consultation has closed, I suggest that we aim to meet in the early New Year 2018. We have submitted this response early mainly to allow the County Council and the West of England JSP Authorities full sight of our thinking at the earliest possible stage.

Do not hesitate to contact the undersigned to raise any points you need to to.

I am on behalf of Stagecoach West

your sincerely

[REDACTED]

Head of Strategic Development and the Built Environment (South)

[REDACTED]

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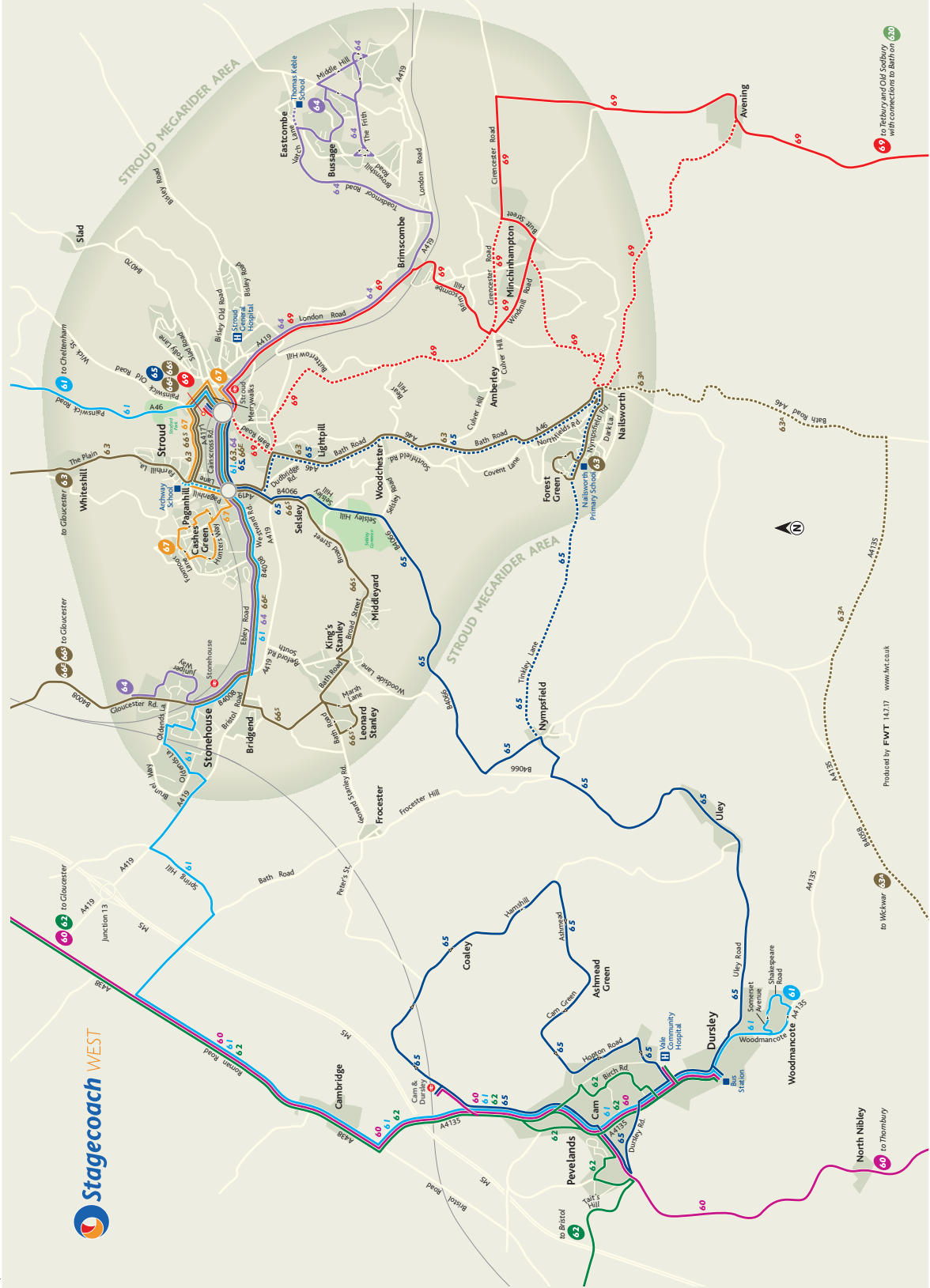
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bus services in & around Stroud & Dursley

- 60** **Thornbury to Gloucester**
via *Wotton-under-Edge, Dursley, Whitminster & Hunts Grove*
every 2 hours on Mondays to Saturdays
every 2 hours on Sundays & Bank Holiday Mondays between Dursley & Gloucester
- 61** **Dursley to Cheltenham**
via *Stonehouse, Ebley, Stroud & Painswick*
every hour on Mondays to Saturdays
every 2 hours on Sundays & Bank Holiday Mondays between Stroud & Cheltenham
- 62** **Bristol to Gloucester**
via *Berkeley, Dursley, Whitminster & Hunts Grove*
every 2 hours on Mondays to Saturdays
every 2 hours on Sundays & Bank Holiday Mondays between Dursley & Gloucester
- 63** **Forest Green to Gloucester**
via *Nailsworth, Stroud, Whiteshill & Brookthorpe*
every 30 mins on Mondays to Saturdays
every 2 hours on Sundays & Bank Holiday Mondays
school day buses also serve Wickwar & Wotton-under-Edge
- 63A** **Busstage to Stonehouse**
via *Brownshill, Brimscombe, Bowbridge, Stroud & Ebley*
every hour on Mondays to Saturdays
- 64** **Cam & Dursley to Stroud**
via *Uley & Nymphsfield*
every 2 hours on Mondays to Fridays
- 65** **Stroud to Gloucester**
via *Ebley, Stonehouse & Kingsway*
every hour on Mondays to Saturdays
every 2 hours on Sundays & Bank Holiday Mondays
- 65E** **Stroud to Gloucester**
via *The Stanleys, Stonehouse & Kingsway*
every hour on Mondays to Saturdays
every 2 hours on Sundays & Bank Holiday Mondays
Other journeys run on Services 66F and 66G between Quedgeley & Gloucester
- 66** **Cashes Green to Stroud**
every 20 mins on Mondays to Saturdays
- 66S** **Stroud to Old Sodbury**
via *Minchinhampton, Tetbury, Yate and Pucklechurch*
every 2-3 hours on Mondays to Saturdays



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9th November 2017

Dear ██████████

Stroud District Local Plan Review: Issues and Options Consultation

1. Introduction

Stagecoach West welcomes the opportunity to contribute to shaping the sustainable development of Stroud District over the Plan period from 2016-2036.

Stagecoach West is the leading commercial bus operator in Gloucestershire. The company operates the vast majority of bus service mileage within both Stroud District, and linking the District to neighbouring areas, not least Gloucester and Cheltenham. There are particularly strong public transport links from the District to the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy area. However, in recent years, Stagecoach has sought to develop its service towards the south, into South Gloucestershire and also into Cotswold District.

Stagecoach operates from a local depot in Stroud, supported by additional facilities outside the District in Gloucester and now, within North Bristol; from which buses work in. We operate a comprehensive network designed to offer both convenient local trips, but at least as important, services offering residents effective choices for longer journeys. The great majority of these routes are commercial, fully funded by our passengers.

We also operate services supported by Gloucestershire County Council, and South Gloucestershire Councils; won following tenders for best value. We always strive through disciplined reliable operation, effective marketing, quality customer service and on-board experience, to build revenue on such services with a view to taking them on, on a commercial basis without public funding at a future date, where possible. These services to a great extent follow timetables and routes specified by the Councils, as socially necessary services, where patronage today could not support a commercial operation by us or another bus company. In a predominantly rural District with few large centres of population such as Stroud, these services play an important role in meeting daily travel needs.

Stagecoach has a national, independently assessed reputation for delivering among the highest levels of customer satisfaction. As well as offering reliable convenient services, we are constantly investing both in existing routes and our operational bus fleet, as well as developing new products and services aimed explicitly at providing greener smarter travel choices to the public, and especially those who do not yet regularly travel by bus. Since November 2016, Stagecoach has upgraded a number of the major inter-urban services serving the District to its premium Gold brand, including service 63 Stroud-Gloucester and service 66 Stroud-Stonehouse-Quedgeley/Kingsway-Gloucester.

The company is shortly to introduce contactless card payment on all its buses in the District; while The new Stagecoach Bus mobile device Application (“App”) already allows a range of new functionalities, including real-time bus tracking, automatic journey planning, and payment via “M-ticketing”. As a result of these initiatives, we continue to see a gradual but steady increase in patronage on most of our routes

Stagecoach proactively seeks to identify and pursue business development opportunities, and the company recognises the role it plays in delivering sustainable development. We welcome the opportunity to comment on, and help shape development proposals to the advantage of the community and the wider travelling public.

High-quality bus services are one of the most credible means of preventing car dependency, mitigating local highways impacts, and achieving sustainable development. This includes not only environmental, but also socio-economic goals.

We submit that there is a clear alignment of interests between stakeholders in the planning system, and ourselves as commercial bus operators. In the current economic climate we recognise that close dialogue offers all stakeholders the potential to deliver particular value in optimising development plan strategies, and maximising the use of sustainable travel options from specific development proposals.

This response is intended by Stagecoach to serve three main purposes.

First it is provided to offer, as comprehensively as possible and as early as possible to all stakeholders, evidence on the baseline situation with regard to bus service position, and the challenges we currently face in improving these services to make them greatly more relevant to more people. It is essential that a shift to more sustainable modes from car use is achieved to meet the current Local Plan development requirements sustainably.

Second, we attempt to provide as clear a view as we can, of the opportunities that we see the Plan could take to take advantage of to ensure that the best possible public transport is offered to new developments, and the constraints on developing the public transport offer to serve current and proposed future development. Given that the District is currently not especially well-endowed with high quality public transport links, it is even more vital that the final Local Plan strategy takes fullest advantage of such services as exist today, as these are greatly more likely to offer potential to sustainably be improved to the point that mode shift can be achieved.

Third, we are well aware that the District faces challenges that are possibly unprecedented, in terms of accommodating development pressures, and that merely “rolling forward” the spatial strategy of the existing Local Plan is unlikely to be possible. This makes a clear break all but inevitable in our view; something signalled by the current Consultation very clearly at section 3. This presents the Council, and all stakeholders in the development process, with a very clear opportunity, as well as an equally serious set of risks.

By looking at the potential for entirely new or expanded settlements, Stagecoach sees a clear opportunity to achieve a step-change in public transport connectivity across the western part of the District, especially towards the south, and Bristol’s northern fringe, along which axis many of the District’s current transport demands are aligned, but in unsustainable ways. This opportunity is also potentially extremely well-aligned with the emerging strategy set out within South Gloucestershire. We therefore set out a clear vision, with as much evidence and justification as we can at this stage, for a soundly based, deliverable, scalable and flexible means of meeting housing needs, based on a single corridor-based approach focused on the A38, that creates maximum synergies with the existing development pattern and current patterns of movement by road, such that a greatly higher proportion of travel demands could be met by a new high-quality express bus spine, while at the same time reducing existing most settlements on the route of extraneous through traffic.

2. Stroud District’s planning and transport challenges

The Council’s Consultation clearly sets out as its key purpose “to understand which issues are of particular concern to residents, business and infrastructure providers today in Stroud District, and which matters are likely to grow in importance over the next 20 years.

The Consultation explicitly asks what new issues we see emerging that we need to take account of in preparing the next Local Plan.

Stroud District is evidently caught in a set of circumstances that to a great extent arise from an attractive set of locational characteristics. Many other localities may even consider the District’s geographic advantages enviable. As the spatial portrait in the current Plan makes clear, the District is blessed with great natural beauty, and a rich ecological endowment, as a result of which about 52% of the District is covered by strong policy designations that restrict development. Set against that, the District is positioned on the main transport links between the West Midlands and South West, directly between the economically dynamic urban areas of Greater Bristol and the Central Severn Vale; with direct rail links towards Swindon, the Thames Valley and London. The District has its own strong economic drivers, and has regionally-significant if not nationally-important economic potential.

Stagecoach West notes that the very recent consultation by the Department of Communities and Local Government (CLG) on the proposed national standard methodology for objectively assessing housing needs, suggest that the District will need to provide from an annualised quantum of 635 dwgs, significantly above the 448 rate that is provided for in the relatively recently-adopted Local Plan. This is a 42% increase and implies a five-year supply quantum (assuming a 5% flexibility buffer, and no deficit) of 3,330 units.

Not only that, but development pressures arising in both the City of Gloucester have not been able to be fully met within its boundaries for quite a few years, and development pressures from this direction have grown. This has become very clear through the Examination in public into the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy, leading to the Inspectors conclusion that two major allocations ought to be made within Stroud to meet those needs, adding to the already significant development committed and allocated within the current Local Plan at Hunts Grove, Hardwicke.

We see that similar pressures arising within Greater Bristol are affecting the south of the District. The notional OAN from the City of Bristol itself is calculated to be much higher than has been considered to date, and most of any uplift arising will merely add to the tally needing accommodation in South Gloucestershire, which has its own ambitious requirements to satisfy. Stagecoach cannot help but wonder how far this is also likely in policy terms to need the Council to consider if it has a need to accommodate any growth arising within the West of England Joint Spatial Plan (JSP) area that cannot be met within South Gloucestershire.

Balancing these growing pressures on the District, with the need to maintain and enhance environmental quality and quality of life, is clearly becoming even more challenging that it has been previously.

2.1. Traffic Growth and Congestion

In a relatively rural District like Stroud, the incidence of traffic congestion and the impacts on bus services might be considered of rather less consequence than they are, or might become in future, in more urban areas, such as the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy (JCS) area to the North.

This is far from being the case. Extended commute lengths, dispersal of residential development and jobs over many decades, and the interaction of local with longer distance journeys are affecting the road network in Districts like Stroud, and immediately adjoining areas very much more broadly, and with ever greater severity. Despite the number of journeys taken declining slightly, the National Travel Survey makes clear average journey length is increasing; and with it, total mileage. TEMPRO factors used by DfT and other bodies to predict demands on the highways network, make clear that actual experienced traffic level upon nodes and links continues to rise.

Certainly, corridors crossing the District Boundary within the urban area of Gloucester are subject to significant and increasing peak congestion and delay: the A38 from Whitminster into Gloucester (and the A430 within the City); the A4173 Stroud Road and also the A46 from Stroud through Painswick to Brockworth, which is the main direct link to Cheltenham. All of these are, naturally, key bus corridors.

However, this problem is not restricted to the Gloucester urban area, or its immediate approaches within the District.

Chronic and worsening congestion is encountered around Stroud town centre, including the main Merrywalks bus terminal. All the main approaches to the town centre pose problems at peak times, including A46 Beeches Green from the north and Stratford Road from the north west. Cainscross Road is especially problematic at peak times, including school closing times, arising from the very high proportion of movements associated with the grammar schools apparently being car-borne. Approaching from the south, capacity at the junctions of Dr Newton's Way, Bath Road and Cainscross Road is clearly exceeded for a good proportion of the peak based on queue lengths.

The relatively limited growth anticipated within the Stroud Valleys does at least make it more likely that these problems will not be hugely worsened by the Local Plan strategy, though this does not obviate the need to try to secure significant cost effective improvements, and reduce the wider reliance on the private car, a NPPF demands.

The bigger issues will arise at the main motorway junctions and their approaches, and just off-line on the A38 which today also pose significant issues. It is exactly these areas where large-scale development is likely to come forward, over and above that already committed; and it is these locations that consequential traffic impacts are likely to reach serious, and potentially severe levels. That would be bad enough, were it not the case that it is these links and nodes on the network where a major step change in public transport is demanded, merely to provide credible travel choices, even before consideration is given to how far improved public transport offers a key part of the solution, by achieving mode shift away from private car use.

2.2. Impacts of congestion on Stagecoach services

Attached at Appendix 1 is a major research paper published last year by Greener Journeys, which shows clearly how far rising traffic congestion is having a material and serious impact on bus services, and their ability to provide reliable, relevant and attractive travel choices. Specific evidence from the Gloucester City area is included within the Report. This is of direct relevance to the Stroud District Local Plan and its supporting Transport Evidence. Not least, as it is, a significant amount of peak journeys into Gloucester and indeed Cheltenham arises from within Stroud District. Secondly, a significant portion of the growth quantum within the District is explicitly required to meet needs arising within Gloucester, and as such the Plan need to address ways whereby this growth can be accommodated in such a way that these problems is not exacerbated.

Stagecoach West will do its best to provide the District and County Councils more detailed substantiated evidence on current conditions and the trends over time, as the Plan is developed.

However, it should already be apparent that targeted bus priority measures are likely to be a necessary if not entirely sufficient condition, if bus services are even to continue play the role they do today. We would suggest that a very substantial improvement in the public transport offer, and its relevance and use, can be achieved, in the relatively short term, at extremely modest costs compared with any credible alternative, if corridor-wide sustainable transport prioritisation measures were brought forward to support the Plan.

We set out a vision for what such an approach might look like in more detail elsewhere in this response.

2.3. Relevant, Objective and Proportionate Evidence: What should that look like for the Stroud District Local Plan Review?

The extent of the District and the nature of transport demands and flows presents a particular set of challenges, not least the interaction of the Strategic Road Network, and longer distance flows and demands, with the local network.

The fact that the District has particularly significant cross-boundary flows both north and south, which also strongly affects the demands for development, makes the need for effective and sustained cross-boundary working to cover the transport infrastructure issues arising from the Plan strategy, especially salient. This is required by NPPF at Paragraph 182 where the Duty to Co-operate set in the Localism Act 2011 does not just relate to discussions on meeting housing needs, but a much more deep and broad consideration of other matters, including infrastructure, with a wider range of stakeholders including transport operators.

Despite these strictures, we would say that it is relatively rare for such co-operation to be systematically undertaken by Plan-makers, in our experience. We would wish therefore, to urge in the strongest terms at the outset, that both GCC, Highways England, and ourselves (among others); are drawn in to a formal and rigorous programme of partnership working on transport and infrastructure issues; and that this should look at the local and wider cross boundary flows, in as holistic a manner as possible. The initial discussion might well need to focus on the scope and methodologies that the transport evidence base would require, for the plan to be soundly made.

For now, we would suggest that the evidence base probably need to be tackled in the following way, reflecting the influence that scale has on the issues that need to be addressed:

- A higher level strategic study looking at the whole District and the flows at a high level, in much the same way as the Central Severn Vale Strategic Transport Model does within the JCS area. A SATURN model is the platform for this work. This tool does not, however, have any means of adjusting mode share dynamically: it is a traffic rather than a transport model. It may well profit to employ a high-level multinomial logit-choice model, to much better assess how far the impacts of improvements to sustainable transport options could damp travel demands on the network, for example rail or inter-urban bus and coach improvements. There is clear potential for the latter to deliver short term and longer-term impacts, but the business and economic case requires suitable evidence to be available.
- Within the Stroud and Stonehouse principal urban areas, it is clear that the operation of the network suffers from issues arising from complex interactions between links and junctions. SATURN is not an appropriate tool to properly understand these. We would strongly suggest that a micro-simulation approach is used to best understand the nature of the issues, and start to look at what design options might credibly address the problems that exist today, and that might arise with new development. We see that S-PARAMICS is often used effectively in such situations. Warwickshire have used this approach as a matter of course.
- We can already see at least three areas where a corridor-based approach to capacity and mode-shift measures will be necessary. These also involve cross-boundary issues, most particularly between Stonehouse, Quedgeley and Gloucester, on the A38/M5/A4173 corridors; but also to the south between Dursley and Wootton under Edge, and M5 j14 within South Gloucestershire. Propose strategic development in South Gloucestershire, and the opportunities to create radically better public transport options in this area, beg a focused approach that also factors in fully the scope for cost-effectively limiting the transport impacts of development by facilitating mode shift to smarter travel choices. On the northern corridors it is already clear from the JCS Transport Evidence that serious issues arise with growth within the network just outside the District at Quedgeley on the a38/A430; and at St Barnabas on the A38/A4173. This may even warrant the use of micro-simulation using tools such as LINSIG or VISSIM, to examine in virtual reality, how current and forecast issues can be tackled.

We trust that SDC and Gloucestershire County Council can “take it as read” that we will do all we can to support the process of creating a robust evidence base, and to bring in further evidence and data we can supply, for example from our on-bus telematics, to help prepare and validate the models.

We also commit to work with stakeholders proactively and consistently, to offer credible public transport solutions for both the key corridors involved, and the wider Plan strategy. We will keep SDC and GCC fully abreast of our aspirations and emergent plans to ensure that the Councils, and wider stakeholders, can make well-informed and timely decisions with regards to the current and potential public transport offer, as far as it is possible to do so.

3. Addressing the Issues fully: Towards an Integrated Transport and land-use Vision for Stroud

All the issues above present a significant transport and mobility dimension, which the Local Plan Review strategy will clearly need to properly address. That this should be the case in a spatial plan should come as no surprise at all. However, it is the case that neighbouring planning authorities submitted a Local Plan for examination in 2014 that offered no transport evidence, nor supporting narrative on the access and mobility implication of their Plan at all, an omission that the Inspector has chided in the Final Report issued on 26th October 2017 as “serious”. It ought to be self-evident, not least from the language of NPPF, that the arithmetic of meeting development needs does not displace or detract in any way from the fundamental requirement to ensure that transport and movement issues are fully understood and provided for within the Plan strategy.

This is reflected in the current Local Plan at Issues 3 and 4, which states the need to address high levels of out-commuting to neighbouring economic centres; and to ensure that nationally-strategic links through the District are maintained in a condition that allows for the free flows of goods and people in the national economic interest, between the West Midlands and South West.

The nature of housing markets, and the way in which personal mobility has been transformed by personal car use, has led to a very significant increase in average journey lengths, despite the fact total numbers of journeys has been showing a slow but clear decline. This is very clearly shown up in the DfT’s National Travel Survey, as well as other data collected, (for example by the Trade Unions Congress), which shows how far pressure on housing affordability, among other things, is leading to ever-longer journeys to work.

These journeys have taken advantage of the National Strategic Highways Network (SRN), and in particular motorways; and, increasingly, on the railway, where nationally patronage has doubled since the mid-1990s. Both the SRN and the railway have finite capacity, and in and through Stroud District, it is clear these limits at peak times are already being reached.

Adding addition capacity to either is both very costly, and involves very significant delivery risks.

In particular, the history of the last 20 years demonstrates how hard it is to add either new stops, additional line capacity (“train paths”) or seats available, to the Railway. In no small measure this reflects the legacy of Victorian engineering, and the fact that it is extremely complex to alter the physical infrastructure of the railway while it is under such intense use. Both the costs and timescales involved have been demonstrated, repeatedly and consistently, to be both very hard to assess, and exceed estimates by factors that are often multiples of the original budgets. Given national pressures on the network, there is the additional issue of how far capacity exists within the industry and its supply chain, to deliver such upgrades as are clearly required.

As far as the SRN is concerned, there remains very great concern about how far delivering capacity enhancements to junctions and links can in the long term, be either effective or justified both in cost-benefit or environmental terms.

Leaving such debates entirely to one side, it is also clear that the cost and timescales involved are such that any dependency on a development plan strategy on such upgrades, is fraught with serious problems.

Nor are the problems arising from access and movement to through and from the District restricted to the national rail and road networks. The District's north western boundary now essentially runs through the southern neighbourhoods of Gloucester City, such that significant local movements are already generated in both directions across the Bristol Road (extending to Stonehouse as the B4006) and the A38; and to a lesser extent along the A4173 Stroud Road. Relatively recent improvements within Gloucester City are already reaching their limits at peak times, along with key junctions both sides of the boundary: most notable at Quedgeley within GCC, and at Cross Keys within Stroud. The traffic demands giving rise to increasing and chronic congestion clearly arise from the combination of local trips, and longer-distance ones; including a significant component of journeys from outside the County, not least by HGVs.

Stagecoach has pointed out repeatedly to the JCS Authorities, and Gloucestershire County Council, that the issues arising from these cross-boundary movements have never been properly addressed within the JCS or its evidence base, such as it exists. Despite the very clear statement within the National Planning Policy Framework at paragraph 173 that the statutory Duty to Co-operate subsisting in the Localism Act 2011 also involves consideration of strategic cross-border infrastructure requirements that arise from development plan strategies, there has been no clear consideration of the cross border transport corridors between Stroud and Gloucester, a serious omission that we have done our best to duly and appropriately raise throughout the JCS Examination.

At a time when "significantly boosting the supply of housing" has been at the forefront of policy-makers considerations across the country, it is no big surprise that this broader mandate for cross-boundary co-operation has not been taken up to date within Gloucestershire, especially given the fact this failure has been common across England in recent years. However, this cannot be allowed to continue, if development is to be sustainably accommodated, without giving rise to unacceptable environmental, economic and social impacts.

The current situation is such that two particular problems already threaten the sustainable delivery of existing development commitments within Stroud District:

- 1) Longer-distance travel demands at peak, which are relatively dispersed in terms of their true origins and destinations, are relatively harder to provide attractive public transport options for, in particular by bus
- 2) The congestion arising from car-borne journeys is seriously hindering our ability to provide better travel choices for existing movements, at a more local level; while also adding greatly to the opportunity costs developing, extending or increasing the network to better provide for the changing travel patterns that we are facing.

The even higher rate of sustained housing delivery that the Plan review is likely to need to provide for, added to the fact that the destinations sought for journeys arising from development are likely to be ever-longer, makes it of critical importance that the transport issues that arise from and that facilitate sustainable development lie at the heart of the Plan, and its evidence base, to a degree that we do not see has been the case in the past.

4. Public transport within Stroud District: The current position

As the adopted Local Plan's spatial portrait says, public transport options within the District and to neighbouring areas, are not especially well-developed. This reflects a number of constraints, the greatest of which is the relatively dispersed population and the lack of travel demands sufficiently densely expressed along key corridors to justify frequent services.

The rail network offers stations that serve all the largest settlements, albeit some of them rather indirectly.

The main West-Midlands to Bristol Line serves a station at Cam for Dursley, but trains stop only about every two hours and additional train paths allowing for more stopping trains would require very major track and signalling upgrades. Currently peak trains towards Bristol are already overcrowded, and it is far from clear that this will be resolved in the short-medium term. The lack of a station serving either Stonehouse or Quedgeley on this line represents a long-recognised deficit, resolving which has been the focus of policy aspirations of both the County and District for many years. Despite this, progress towards securing such facilities has been very limited, and there is no clear prospect of them being put in place in the foreseeable future.

The Cheltenham-Stroud-Kemble Swindon branch of the Great Western Main Line joins the Birmingham-Bristol Line at Stonehouse, just east of which junction a station is provided, as there also is at Stroud itself. This offers a greatly more regular service, but one orientated towards longer-distance movements rather than local commuting.

The commercial bus network Stagecoach offers is somewhat more comprehensive, but is focused largely on Stroud, as well as the Gloucester urban area. We have sought to consolidate the network around simple, logical, direct services offering the highest possible clock-face frequencies, as this is what the public clearly responds to as offering the most relevant and useful service. The combination of routes 61, 64 and 66E provides a broadly 20 minute core frequency between Stroud and Stonehouse, which is also offered on the main Stroud Town service 67 to Cashes Green. Key inter-urban services 63 from Nailsworth via Stroud to Gloucester, and 66 from Stroud via Stonehouse to Gloucester, also offer a 30-minute core frequency. However most other services run broadly every hour, which while adequate for essential public transport users, is not enough to provide journey flexibility for those who have other choices available.

The network also includes regular hourly services between Gloucester and Dursley via Whitminster and Cambridge and Cam (60/62); and between Cheltenham, Stroud and Dursley via Stonehouse and Eastington (svc 61).

Supplementary links are provided approximately every hour from Stroud to Tetbury via Minchinhampton from Stroud on service 69; and from Stroud to Bussage on service 64. South of Dursley, services 60 and 62 alternately serve Bristol via Berkeley, or Thornbury via Wotton-under-Edge, Kingswood and Charfield. Many of these and other less frequent local less-frequent serviced are operated in whole or in part with financial support from the respective Councils, though we are endeavouring to build patronage to make them more financially sustainable.

At the northern edge of the District adjoining Gloucester city, rather more frequent services are available as part of the urban network, including service 12 between Hardwicke, Quedgeley and Gloucester every 12 minutes; and service 66 which from Waterwells Park and Ride, just outside the District, provides buses operating every 15 minutes on a direct route into the City. Service 2/2A offers a bus every 15 minutes from Upton St Leonards into the City. Finally, at Coopers Edge south of Brockworth, a portion of which falls within the District, a 20-minute off-peak service is offered, with additional buses at peak times.

A map of the Stagecoach network at September 2017 is found at Appendix 3.

Stagecoach also recognises that evening and Sunday services are especially limited outside Gloucester city fringes. The location of the rail stations within the District, away from main bus corridors and only offering relatively infrequent services make bus-rail connectivity of very limited utility.

5. Committed development and the evolution of the public transport offer in the short-medium term

Stagecoach is already well advanced with plans to steadily and systematically improve the public transport offer, responding to the demands and opportunities presented by the current Stroud District Local Plan.

In addition, the Company is in active dialogue with developers and promoters of large-scale developments that are associated with meeting the needs of the City of Gloucester within the District.

The agreed public transport alterations and improvements in connection with these proposals is summarised below, and could be relied upon as forming part of the baseline service provision for any future Plan strategy.

5.1. Gloucester City Fringes

5.1.1. Hardwicke, Colethrop Farm "Hunts Grove"

Hunts Grove represents the single largest planning commitment within the current Local Plan, comprising a consent for up to 1750 dwellings following an allocation in the 2006 Local Plan, and a further 750 south of Haresfield Lane made to meet a contribution towards Gloucester City's needs in the current local Plan adopted in 2015.

The lack of suitable highways and turning facilities within an initial phase of up to 342 dwellings to allow a bus service to penetrate and terminate, has meant no bus service has to date been offered into Hunts Grove, despite developer funding being available to provide for it. Stagecoach has nevertheless provided an hourly extension of services 60/62 to the eastern end of Waterwells Drive (within the City of Gloucester), which is the closest point a bus can reach, largely to offer some kind of service to Hunts Grove. Provision is now being made within Phase 2a under construction to provide for a bus route and turning circle at the new primary school. This will allow us to provide a new service, proposed to operate every 30 minutes, serving both the existing occupied dwellings and a considerable further quantum, within very convenient walking distance. This facility will be available by September 2018.

Stagecoach has been in discussions with the Developer and its client team over some years, about the longer-term strategy to serve subsequent phases, and land South of Haresfield Lane. We await further details of how the developer intends to progress the site in the short and longer term. One key issue is the current and ultimately-agreed alterations to the sequencing of the remaining development phases. However it is our understanding and assumption that the emphasis will remain on developing from the east, from Marconi Drive, for the next few years until a 750 occupation trigger is reached, and thus an increase of frequency of the Hunts Grove service via Waterwells and Kingsway would no doubt be the most rational approach for the medium term.

At the point a new junction is provided, and a through spine road between the A38 and Naas Lane/Kingsway the ultimate service pattern might evolve somewhat, depending on the way development might be being brought forward at Hardwicke Green west of the Bristol Road, the evolution of demands at Waterwells Park and Ride, and the feasibility and benefits of using the bus gate within Gloucester City at Naas Lane. Stagecoach has aspirations to be able to offer a 10-minute frequency, or better, at Waterwells, combining a number of services as soon as it is rational and economically feasible to do so.

5.1.2.Land West of Bristol Road “Hardwicke Green”

This site capable of accommodating over 1300 dwellings, has been consistently promoted as a sustainable location for development over many years. Stagecoach has recognised and supported its potential for development in a location that makes particularly good use of the opportunities for sustainable transport, in line with NPPF which requires patterns of development to be actively managed to this end.

An initial phase accessed of Bristol Road, the subject of a live planning application, can take advantage of existing bus services, 61 and 66E/S; together offering three buses per hour into Gloucester, as well as half-hourly service to Stonehouse and Stroud. Proposed access arrangements will make provision for new high-quality bus stops on the Bristol Road, while at the same time the initial access road is designed to ultimately facilitate a bus route into the main development area in due course.

The North West edge of the development is actually within 400m walking distance of existing service 12 operating frequently up to every 12 minutes on Westland Road, also serving recent development within the District at Sellars Farm. It is likely that service 12 would be altered and extended to run through the development, once a spine road were completed through the site to Bristol Road, in such a way that overall levels of service in Quedgeley improved, with a view to running at least every 20 minutes through Hardwicke Green, and quite probably more often.

5.1.3.Land at Whaddon

Development in this area has also been recommended by the Inspector into the Gloucester, Cheltenham and Tewkesbury JCS, to meet needs that cannot be accommodated within the City in the period to 2031.

The land is in three main ownerships, the largest of which is within the District at Brook Farm, north of Naas Lane and west of the A4173 Stroud Road. Connectivity across the railway is actually rather poor. Topographical constraints mean that the development will be arranged either side of a major open space/green corridor.

It is anticipated that initially, the first occupations will be served directly by a very short diversion of half-hourly Gold service 63 into the site in both directions from the Stroud Road, such that a significant quantum could be built within 400m of the stop.

Longer term it is proposed that service 9 would be extended through to the site from the north through land in another developer's control, and indeed it is essential that Local Plan Policy in due course requires that such a connection can be presented for adoption from both sides without any intervening third party land. An extension of service 9 would operate at least every 20 minutes off-peak, and more likely more often.

5.2. Development sites meeting Stroud District's development requirements

5.2.1. Land West of Stonehouse

The largest allocation made to meet Stroud's own development requirements is now underway. Stagecoach is working in close partnership with both developers as they bring the site forward; as it has over the period the proposals have been formulated.

Initially service 61 can divert into the initial phase of the site, for which a temporary turning loop is to be provided near the western end of the spine road. This will provide hourly links to both Stroud and Dursley.

Once 300 dwellings are completed at either end of the site, the spine road will be connected through to provide for a seamless bus corridor. This will allow service 61 and 66E/S to divert through the site between Stonehouse and the A419 then providing a half-hourly service to Quedgeley and Gloucester on service 66. The current 66 route along the B4008 through Standish will retain a service through the extension of service 64 northwards to Quedgeley.

5.2.2. Land off A419 and east of the M5, "Eco Park"

The land being proposed for development largely adjoins the western edge of the west of Stonehouse allocation. This presents the immediate opportunity that any service provided to Land West of Stonehouse, could be extended through the Eco Park to the A419, should a suitable route be provided.

This opportunity has been identified and secured within the proposals for the Eco Park, with the provision of a purpose-built bus gate between Grove Lane and the main development access route, linking then directly to the new junction to be provided on the A419. This will allow the half hourly service 66 between Stroud, Stonehouse; and Gloucester and Quedgeley to directly serve the development, as well as the service 61 between Stroud, Stonehouse and Dursley running each hour.

In addition parking facilities south of the A419 serving the new Football Ground could be used on weekdays as a Park and Ride facility that equally could serve both local buses, and longer-distance motorway express services. Bus stop and stand facilities are proposed that would allow both services to pick up and set down within easy reach of the car parks. These would have significant capacity available during most weekdays. The parking facilities might be used on non-match days for Park and Ride, and to facilitate longer-distance mode change, which would represent a major potential contribution to the sustainable transport infrastructure of the District.

5.3. The Emerging West of England Spatial Plan: securing sustainable southern connections

While historically the District has always had stronger function links within the County looking northwards to Gloucester, and to a lesser extent Cheltenham, this orientation has clearly been evolving rapidly for several years.

Since the late 1980s Bristol has been expanding towards the north, given that this direction for growth is clearly the least physically constrained, and also that major strategic transport corridors, including the M4, M5, Great Western Main Line and Birmingham-Bristol Exeter main Line, cross in the area. These advantages have seen regionally and nationally significant concentrations of employment develop at and near Bristol Parkway Station, University of West of England, and the former Filton Airfield, all within neighbouring South Gloucestershire. Most recently, the Bristol and Bath Science Park has become established a little to the east at Emersons Green.

Big questions are being faced within the wider West of England grouping of authorities that represent Greater Bristol, as to how the growth pressures generated by the nationally and internationally significant technology and innovation cluster of the sub-region can and should be accommodated. In particular, the contiguous urban area of Bristol has largely extended to the natural limits presented by the M4 and M5, following successive rolling back of the Bristol Green Belt through successive local plans since the late 1970s; and there is great resistance to assuming that development should simply continue beyond that limit.

As it is, the difficulty bringing forward committed strategic development and its supporting infrastructure is well exemplified within South Gloucestershire. The result has been an ongoing deficit in housing delivery and 5-year housing land supply, which has led to particular pressures on development beyond the Green Belt, and particularly at Thornbury, which offers some of the only obviously unconstrained development opportunities in a sustainable location. Successive consents have accounted already for almost 1000 dwellings being consented as departures, and Stagecoach is aware of a further quantum of about 900 dwellings that are subject to current applications or s73 appeals.

South Gloucestershire Council is proposing a significant amount of strategic growth in the West of England Joint Spatial Plan, immediately to the south of the District. This includes significant further expansion at Thornbury, broadly within the scope of current proposals. It also includes:

- a major new settlement at Buckover, on the A38 immediately east of Thornbury, of about 1500 dwellings, with as many as 3000 dwellings in the longer term; and
- A major expansion of Charfield, comprising about 1200 dwellings, and taking advantage of the perceived opportunity to reopen a railway station on the Birmingham-Bristol line. This follows similar long-standing proposals at Kingsway or Hunts Grove which have never yet proven to be deliverable. However, all the land involved is now under active promotion, adding to a significant quantum of development already underway on sites consented as departures from the Local Plan.

Supporting this strategy is a proposed extension of the MetroBus bus rapid transit infrastructure now nearing completion at Aztec West, Almondsbury, north up the A38 to Thornbury, and presumably to Buckover and Charfield. Stagecoach is actively in discussions with SGC and land promoters as to how it could help facilitate greatly improved bus services between the northern fringe and these areas, having become the major operator in rural South Gloucestershire over the last few years.

Finally it is relevant to the discussion to highlight that some smaller settlements within Stroud District already look towards Yate and destinations in the JSP area, more than towards the north. Services 60, 84 and 86 operated by Stagecoach serve these settlements, and those to the south within South Gloucestershire, albeit on a relatively infrequent basis.

Stagecoach notes that the JSP authorities are intending to progress the Plan on an accelerated timescale for submission by April 2018. A formal Regulation 19 consultation on the Publication Draft Plan is due to commence just as this Consultation closes. This has taken us a little by surprise, and gives us some concerns given the magnitude and complexity of the issues faced, not least the cross-border interface with Stroud District. Irrespective, we see that the Plan is rapidly carrying progressively more weight as it continues towards Examination at some stage in the fairly short term. Stagecoach will be making separate duly-made responses to that consultation in due course.

6. Concluding Points

The remainder of our response is attached to this letter.

This is set out in two main sections: a set of specific responses to the questions raised in the Issues and Options Consultation Document, and some appendices including two important case studies that exemplify the potential directions strategy might take.

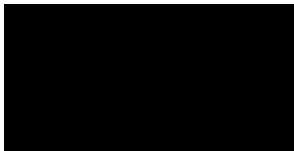
Both should be read with this overarching response, and will we hope, serve to elaborate the points we make above, while making our input easier for the Council to collate with other consultees' responses.

NPPF paragraph 180 makes clear that *“Local planning authorities should also work collaboratively with private sector bodies, utility and infrastructure providers.”* We would respectfully submit that our business does represent one such organisation. It continues in paragraph 181 to say that *“Local planning authorities will be expected to demonstrate evidence of having effectively cooperated to plan for issues with cross-boundary impacts when their Local Plans are submitted for examination;”* and that *“Cooperation should be a continuous process of engagement from initial thinking through to implementation, resulting in a final position where plans are in place to provide the land and infrastructure necessary to support current and projected future levels of development.”*


We trust that the efforts we are making to respond comprehensively to the Plan, from the earliest possible point, demonstrate our level of commitment to working collaboratively with the Council to secure the most sustainable possible development strategy for Stroud District, in the manner that NPPF requires. We naturally remain ready to engage on an ongoing basis with the Council, and the County as Highways Authority, to develop the Plan strategy further. Equally we have a strong track record of working in partnership with developers to the same end, and ensure that the best possible site-specific measures are incorporated and implemented, giving added certainty to everyone with an interest in the development process.

We look forward to working with you and your officers and other stakeholders to refine the Plan, and in the meantime I am on behalf of Stagecoach West

Yours sincerely



Head of Strategic Development and the Built Environment (South)





THE IMPACT OF CONGESTION ON BUS PASSENGERS

PROFESSOR DAVID BEGG



ABOUT GREENER JOURNEYS

Greener Journeys is a campaign dedicated to encouraging people to make more sustainable travel choices. It is a coalition of the UK's leading public transport organizations, user groups and supporters. It aims to reduce CO₂ emissions from transport by encouraging people to switch some of their car journeys to bus or coach instead. Switching from car to bus for just one journey a month would mean one billion fewer car journeys on our roads and would save 2 million tonnes of CO₂ every year. For more information visit www.greenerjourneys.com

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Transport connectivity creates economic growth, jobs and builds houses. The resurgence of our cities, the places our children migrate to get jobs, is in direct proportion to their connectivity both to the rest of the world and within the city itself. And the bus service, for journeys longer than a walk, is the most common way of creating connectivity in them. So making buses work better is good for growth and jobs and good for the urban areas they serve. And both David Begg and I said so when we chaired the late and much-missed Commission for Integrated Transport.

In this study David rightly highlights the crisis which has developed in bus service reliability across the UK, and suggests a new and urgent need to make our buses quicker and more reliable to make our cities work better. The air quality effects of congestion are getting much airtime just now - the economic effects are as obvious but left unsaid for the most part. This study seeks to put that right.

Sir Peter Hendy CBE *Chair, Network Rail*
Commissioner, Transport for London 2006/2015
Chair, Commission for Integrated
Transport 2005/2010



Of course the bus industry itself must do better - cash handling on the bus slows the service down, costs money and is unnecessary in the modern age of PDAs and contactless bank cards; schedules must be up to date, tailored to time of day and produce reliability without too much recovery time. The Traffic Commissioners should have more powers and resource to prevent poor operators getting licences and to stop poor operation on the road.

But in urban areas the best operation in the world will be sabotaged if congestion destroys reliability and journey speed. David points out eloquently that the effects of congestion are doing just that - increasing costs and decreasing revenue, which leads inevitably to less service. In London, fewer but faster and reliable buses will both solve an acute financial problem for Sadiq Khan (the combination of his fares freeze and the complete removal of subsidy from TfL by 2018), and restart bus passenger growth allowing his electorate to access work, education, health and leisure more easily.

And outside London, the same proposition would produce more and better services, with the same results, too. Not to mention the beneficial effects on driver recruitment, retention and resultant customer service.

David isn't advocating anything which as a politician he hasn't done himself with the Greenways in Edinburgh. In London, for Boris, we took out significant road space for cycling. Now our towns and cities are going to have to make the same sort of radical choices for more protected road space and more and cleverer signal priority, for buses across the UK to enable the growth, jobs and house building the bus service can support.

This is a critical piece of analysis, which every local politician and highway authority in the country should read, absorb, and act on. David Begg is to be commended for it

ABOUT THE AUTHOR



Professor David Begg is a former chairman of the Government's Commission for Integrated Transport and was the chairman of the Transport Committee of the City of Edinburgh Council when the radical Greenways bus priority measures were introduced in the 1990s. He has been a board member of First Group, Transport for Greater Manchester and Transport for London. He is currently owner and proprietor of *Transport Times*, Chairman of EAMS, a non-executive director of Heathrow Airport and Chairman of the Greener Journeys Advisory Board. He is a visiting professor at Plymouth University.

ACKNOWLEDGEMENTS

This report is dedicated to bus drivers and their passengers who suffer from the impact of congestion on a daily basis.

I have been fortunate to have been able to discuss the economic analysis in this report with some of the best transport economists in the UK: Professor Peter Mackie, Professor Peter White and Professor Stephen Glaister. The final analysis is my own and any errors are entirely down to me.

I have become immersed in bus timetables and observed the huge frustration bus operators experience trying to run a punctual and reliable service in the face of worsening congestion. Special thanks to Martin Dean (MD, Buses, Commercial Director, Go-Ahead), Les Warneford (former MD, UK Bus, Stagecoach), Mark Yexley (Former Operations and Commercial Director Arriva UK Bus), Neil Barker (First Group), Nigel Serafini (Head of Commercial & Business Development, Lothian Buses), James Freeman (First Group), Peter Shipp (Chairman and Chief Executive, East Yorkshire Motor Services), Mike Best (Brighton and Hove Bus Company) and Martin Harris (MD, Brighton and Hove Bus Company).

They not only have supplied me with copious amounts of data, but they have educated me further on the sector. Martin has gone out of his way to dig up archived bus timetables stored at the Kithead Trust. I am indebted to Philip Kirk, who does a fantastic job looking after this archive, which is such a rich source of information (www.kitheadtrust.org.uk).

Roger French, former MD of Brighton and Hove Buses has been an invaluable mentor for me in this research. He has left a fantastic legacy in Brighton.

Leon Daniels (MD Surface Transport), Garrett Emerson (CEO, Surface Transport) and Ben Plowden (Strategy & Planning Director, Surface Transport) from Transport for London have ensured that the major challenge the capital is facing, with rising congestion and sharp reductions in bus speed over the last few years, is accurately covered in this report. The new mayor would be well advised to listen to their concerns.

Dr Jon Lamonte (Chief Executive, Transport for Greater Manchester) and his colleagues Rod Fawcett and Mike Renshaw, have demonstrated to me in some detail the efforts they are making to speed up bus journey time in the face of a proliferation in road works and a rapid growth in city centre employment and demand for transport. They have been resolute in their policy objective of expanding bus priority in the face of stern criticism from some local politicians.

Anthony Smith and his colleagues at Transport Focus have guided me and reinforced my concern that congestion is the main challenge facing the sector. Joan Aitken has given me a Traffic Commissioner's view on the factors which are slowing up traffic in Edinburgh and how it impinges on bus operations.

David Brown (Group Chief Executive, Go-Ahead) and Giles Fearnley (Managing Director, First Bus) have provided wise counsel as have David Leeder, Chris Cheek (TAS Partnership) and Steven Salmon (CPT).

Vince Stops from London Travel Watch has been a passionate supporter of bus users in London and kept me right on the capital and Marshall Poulton (former director of transport at the City of Edinburgh Council) and George Mair (CPT Scotland) have been my go to men on Scotland's capital.

Sir Peter Hendy has kindly written an insightful foreword. He may now be Chairman of Network Rail but buses will always be in his DNA and he leaves behind him a fantastic legacy from his time 15 years at TfL, both as director of surface transport and subsequently Transport Commissioner.

A big thanks to David Fowler and Kirsty Walton at Transport Times for making this report read much better than it otherwise would and to Katie Allister for her vital contribution on research and the case studies. It has been a pleasure to work with her again.



EXECUTIVE SUMMARY

TRAFFIC CONGESTION IS A DISEASE WHICH IF LEFT UNCHECKED WILL DESTROY THE BUS SECTOR.

This is a dire and sensational prediction, but the evidence uncovered in this research leads to no other conclusion. On historical, current and future trends it's a question of when, not if. There is a distinct trend across our most congested urban conurbations in the UK of bus journey times rising by – on average – almost 1% per annum.

Over the last 50 years, bus journey times have increased by almost 50% in the more congested urban areas. If we had protected bus passengers from the growth in congestion there would arguably be between 48% and 70% more fare paying bus passenger journeys today. If the trend is allowed to continue, then our urban buses will no longer represent a viable mode of transport for the majority of its customers and will be populated largely by people with mobility difficulties. Already in London some buses on some routes run at close to walking speed.

THE NEED FOR THIS STUDY

Everyone in industry, local government and Whitehall knows we have a problem. Until now it has not been properly quantified. This report makes clear the true extent to which congestion has been corrosive to the bus sector. It has been caught in the vortex of three vicious downward spirals:

- 1. Slower speeds leading to higher costs, higher fares, fewer passengers, service decline, fewer passengers.**
- 2. Slower speeds leading to increased journey time, fewer passengers, service decline, fewer passengers.**
- 3. Slower speeds, punctuality and reliability decline, fewer passengers, service decline, fewer passengers.**

Bus operators are forced to respond to congestion in one of two ways. First, to try to maintain service frequency. If they do this, then every 10% decrease in operating speeds leads to an 8% increase in operating costs. If this is passed on to passengers through higher fares it results in a 5.6% fall in patronage (DfT fares elasticity of 0.7).

The second response is to operate at lower frequency. A 10% deterioration in operating speeds would lead to a 10% reduction in frequency and 5% fewer passengers (based on a frequency elasticity of 0.5). A combination of the two responses is also likely. The end result – whether it's a greater peak vehicle requirement (PVR – the number of buses required to operate the service) or reduced frequency, or a combination of both – is pretty much the same in terms of patronage decline.

To the above it is necessary to add the response passengers have to spending longer on board buses. This would lead to a further 5% fall in passengers (because of an in-vehicle elasticity of 0.5). **The net result is a direct correlation between operating speeds and patronage: a 10% decrease in speeds reduces patronage by at least 10%.** The figure could yet be higher because congestion puts pressure on punctuality and reliability which can increase waiting time at bus stops. Passengers place a value two to three times as high on waiting at a bus stop as they do for in-vehicle time.

Chronic traffic congestion is not just a headache for passengers it's also a nightmare for bus drivers. It makes it much harder to attract the very best customer-focused bus drivers into the industry, it prevents bus drivers giving the best service they can to passengers, and those who are committed and loyal often find the task so frustrating it encourages them to leave the industry – or not join in the first place. Many bus companies are once again struggling to attract enough drivers and have significant vacancies (especially in large conurbations).

LONDON “FALLING”

Despite London Buses being one of the Capital's transport success stories over the past 15 years, more recently bus speeds have been declining faster than anywhere in the UK. This comes after decades of relative success in protecting bus passengers from traffic congestion through effective bus priority measures, such as red routes and other initiatives, and the central congestion charging zone introduced in 2003. If the average bus speed in the UK's congested urban areas has historically been decreasing by almost 1% p.a., then for one-third of London bus routes the decline has been more than five times this average over the past year.

¹ The TAS Partnership

² DfT elasticity

THIS HAS BECOME A CRISIS FOR THE CAPITAL AND SOMETHING THE NEW MAYOR, SADIQ KHAN, MUST PRIORITISE.

London, which for more than a decade has been the UK's bus success story, with passenger numbers doubling since the formation of TfL in 2000, is now facing one of the fastest declines in bus use anywhere in the UK.

There is a key lesson to be learned from this. You can get all the other ingredients right: modern bus fleet, cashless buses with the most advanced smartcard and contactless ticketing system in the world, a level of integration which is the envy of other UK cities, state-of-the-art passenger information at the bus stop and on mobile devices. Add to this population and employment growth and you should have a recipe for the London bus success story continuing. But all these laudable ingredients cannot offset the rapid deterioration in bus journey times.

TfL are facing swinging cuts to their revenue budget. London's public transport system is expected to operate without any revenue subsidy by 2018. Hong Kong and London will be the only cities in the world expected to meet this objective. The new Mayor has committed to a fares freeze which raises the question of who is going to pay for bus services in London if it's not coming from the taxpayer as passengers will not make up the difference in higher fares. The solution is to operate buses more efficiently by improving their speed. If London is to eliminate the £461 million per annum subsidy to its bus network then bus speeds would have to improve by 24%.

Former London Mayor Boris Johnson was right to warn that his successor will have to use tougher congestion charging measures to tackle London's growth in congestion. It can be argued this legacy was, in part at least, his creation through policies including the removal of the western extension of the congestion zone and the reduction of road capacity in central London by 25% through the introduction of cycle superhighways without taking action to curtail traffic in central London.

WHY DOES IT MATTER IF BUS JOURNEY TIMES INCREASE?

Slow buses are bad for our city economies. **If the trend for bus journey times increasing by almost 1% per annum continues we can expect to continue to lose access to around 5,000 jobs per year as a consequence.**³

Buses are vital to the health of local economies. More people commute by bus than all other forms of public transport combined and those bus commuters generate £64bn in GDP. Around 400,000 people are in better more productive jobs as a direct result of the access the bus service provides. Buses are also the primary mode of access to our city centres, facilitating 29% of city expenditure.

Slow buses are also bad for pollution. Fuel efficiency measured in kilometres per litre has declined by 35% since 2000, and carbon dioxide emissions per bus km in urban conditions have risen by 25%. While there are factors other than congestion driving this trend, such as larger buses, stop-start conditions caused by congestion are a key factor. Under heavily congested conditions, tailpipe emissions can be increased by a factor of three or four.⁴

WHAT CAN WE DO ABOUT IT?

THE MANTRA FROM TOO MANY POLITICAL DECISION-MAKERS AT LOCAL AND NATIONAL LEVEL IS TO GIVE THE PUBLIC "CHOICE". THE PROBLEM IS THAT IN URBAN AREAS THIS MEANS ALL ROAD USERS HAVE NO CHOICE OTHER THAN TO PUT UP WITH CHRONIC TRAFFIC CONGESTION WHICH WILL CONTINUE TO GROW.

The way our road system is managed in urban areas could be argued resemble the tools used by Communist-era countries to control production: traffic volumes are regulated by congestion (queuing) in the same way the former Soviet Union used to ration bread. It is bad for urban economies and their environment. Without road pricing there is no solution to urban congestion.

³ Daniel Johnson, Institute for Transport Studies, Leeds University

⁴ Environmental Factors in Intelligent Transport Systems, Prof Margaret Bell. IEE Proceedings: Intelligent Transport Systems, Vol 153 Issue 2, 2006

There is therefore a need to return to the ethos of the 1998 White Paper on Transport which recognised the necessity of changing travel behaviour and the importance of demand management. It led to the London's congestion charging system and dedicated the revenue raised being used mainly to improve bus services.

More cities need to follow the lead of London, with the implementation of congestion charging, Nottingham, with its workplace parking levy, and Bristol, with essential car parking restraint measures. All three cities have been prepared to use both the carrot (improved sustainable transport) and the stick (car restraint). Public transport improvements on their own are not a panacea for urban congestion. They have to be accompanied by traffic restraint measures.

If london-style cashless buses with contactless payment and smart ticketing could be extended to the rest of the uk, bus journey times could be improved by up to 10% by halving dwell time at bus stops. In urban conditions dwell time makes up between 25% and 33% of total journey time. The big five bus operators in the UK have set a target to introduce contactless bus transactions by 2022. They should do everything possible to accelerate this, and it is realistic for them to achieve this goal in the large conurbations within three years.

The Buses Bill should set out guidance encouraging local authorities and bus operators to set targets for average bus speeds. The minimum requirement should be for bus speeds to stop declining. Local authorities need to give priority on roads and at junctions to buses.

Edinburgh is one of the few cities in the UK to have bucked the trend in falling bus speeds, at least for a decade. Between 1986 and 1996, scheduled bus speeds increased by 5% as a result of better conventional bus priority culminating in the radical Greenways bus priority scheme. However, this legacy has been allowed to dissipate through weaker enforcement, a trial on removing bus priority during off-peak periods, and a failure to paint the lanes green and properly maintain them. As a result, in the last 20 years Edinburgh has reverted to the UK norm with bus speeds declining by 20%.

SPACE WARS: POLITICAL DECISION-MAKING

Too little focus is placed on the importance of the bus because bus passengers carry too little weight with opinion-formers and political decision-makers. The socio-economic profile of bus passengers is very different from rail users, motorists and cyclists, with a much higher percentage of those on lower income travelling by bus. It helps to explain why fuel duty has been frozen for six consecutive years despite rock bottom oil prices. During this time Bus Service Operator Grant (BSOG) has been cut by 20% which means bus operators paying more for their fuel. The motoring lobby is significantly more powerful and influential than the bus lobby.

MORE BUS CHAMPIONS ARE NEEDED IN THE UK IN LOCAL, DEVOLVED AND CENTRAL GOVERNMENT.

The bus is the most efficient user of road space, crucial for the health of our city economies and a vital part of an environmentally-friendly local sustainable transport system.

Bus companies need to get better at communicating with their customers to keep them better informed. This would also help them to mobilise support from their customers for pro-bus measures such as bus priority. At present, it would be a rare event for a bus passenger to lobby politicians for improved bus priority; it's much more common for non-bus users to complain about priority measures. Local politicians who are making brave decisions to allocate road space for bus passengers need as much support as they can get from their local bus companies as well as bus passengers.

A sensible balance needs to be struck between making our cities pedestrian-friendly and ensuring that bus passengers can get close to their destination. It's important to remember that shopping is the purpose of around one-third of bus journeys in the UK, and bus users spend an estimated £27bn on shopping and leisure. The more accommodating city centres are to pedestrians, the more attractive they become to retail and businesses generally. Bus routes radiate from the city centre: the more people travel to our city centres, the more populated our buses are. City retail faces stern competition from out of town shopping centres and a newer threat which is growing exponentially, that of online shopping. Bus companies are often the first to protest about pedestrianisation, but it would serve them well to acknowledge that city retail is facing a major battle to hold on to customers. The viability of city centre retail and bus companies are inextricably linked.



01.
THE NEED
FOR THIS
STUDY

There is a good deal of evidence of the impact traffic congestion has had on the economy. The Cabinet Office has calculated the cost of congestion to the urban economy to be at least £11bn per annum, while the costs to society of poor air quality, ill health, and road accidents in urban areas are each similar to congestion, exceeding £40bn⁶.

However, there has been little research on the impact rising congestion has had on the bus sector and consequentially on city economies and their environment.

THE BUS SECTOR HAS BEEN HIT THE HARDEST BY CONGESTION.

Bus operators often cite congestion as a major factor in their failure to hit punctuality targets, but there is little documented evidence of the link between congestion, rising operating costs, fares and disappointing patronage figures. Motorists and freight and delivery drivers are able to view congestion hot spots on satnav and take alternative routes. This is not an option for bus drivers.

At the start of the research for this report it was clear that growing urban congestion was a serious problem facing the UK bus sector, but the detailed analysis undertaken revealed just how acute and crippling the problem the problem is. It is now a disease, and if left unchecked will irreparably damage the sector.

There is a debate to be had about the merits of bus regulation versus deregulation. This is not something which this research is concerned with. Traffic congestion had an adverse impact on bus passengers prior to the 1986 Transport Act and the advent of deregulation; it has impacted on them since and will remain a major problem in any future franchise regime. It is becoming such an acute problem in London that there has been a marked reversal in the upward trend in patronage.

This paper analyses one of the most potent headwinds facing the bus sector: traffic congestion. It ranks as one of the top three most powerful headwinds that have held the bus sector back, the other two being rising car ownership (car-owning households make 66% fewer bus trips per annum than non car owning households) and the migration of retail and business to out of town locations built around car access. In more recent times these trends have been exacerbated by online shopping and the advent of Uber.

⁶ An Analysis of Urban Transport, Cabinet Office Strategy Unit, November 2009. <http://webarchive.nationalarchives.gov.uk/+http://www.cabinetoffice.gov.uk/media/308292/urbantransportanalysis.pdf>

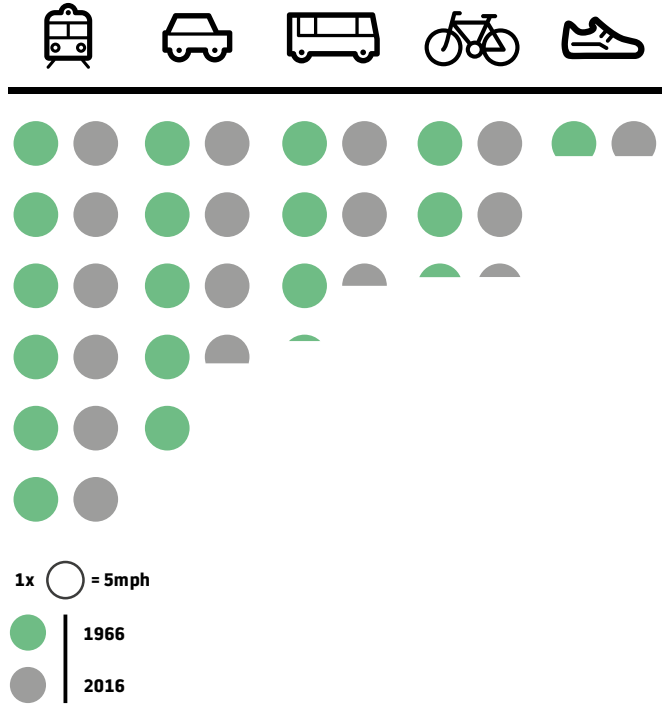
IN LONDON BUS SPEEDS ON SOME ROUTES ARE CLOSE TO WALKING PACE AND IF THIS TREND IS ALLOWED TO CONTINUE IT WILL EVENTUALLY ONLY BE THOSE WITH MOBILITY DIFFICULTIES WHO TRAVEL BY BUS.

This report attempts to quantify what the growth in patronage would have been if bus journey times had remained constant over the last 50 years, using elasticity analysis (elasticity is a means of quantifying how demand for a service changes in response to changes in fares, frequency and in vehicle time) It will estimate the impact the growth in journey times has had on our city economies and their environment. It will look at what policies we need to implement to reverse this debilitating downward spiral of rising congestion, higher costs, higher fares, and fewer passengers. It will look at what operators can do to improve fare transaction times and reduce dwell time at bus stops.

There are many factors outside the scope of this study which can explain why rail patronage has doubled over the last 20 years while bus patronage (outside London) has been disappointing in comparison. The graph to the right shows the trend in average speeds in urban areas for the different modes. Urban rail, walking and cycling have remained fairly stable over the last 50 years; car speeds have declined. But it's the fall in bus speeds which has been most marked, with an average decline of almost 50% in the congested urban conurbations.

In the mid 1970s bus speeds became slower than cycling and the gap has widened since. On current trends average urban bus speeds will slower than walking in 60 years' time. The speed of the number 11 bus in London is already down to 4 mph for part of its route .⁷ Urban traffic congestion is becoming worse with each passing decade.

URBAN SPEEDS



Bus speeds have been declining faster than any other mode of transport. Urban rail, walking and cycling have remained fairly static but urban car speeds have been declining, but not as fast as bus.

⁷ Number 11 bus speed

⁸ Daniel Johnson, Peter Mackie and Jeremy Shires: Buses and the Economy II, Institute for Trnspport Studies, University of Leeds, July 2014

http://www.greenerjourneys.com/wp-content/uploads/2014/07/Buses_and_the_Economy_II_main_report_july.pdf

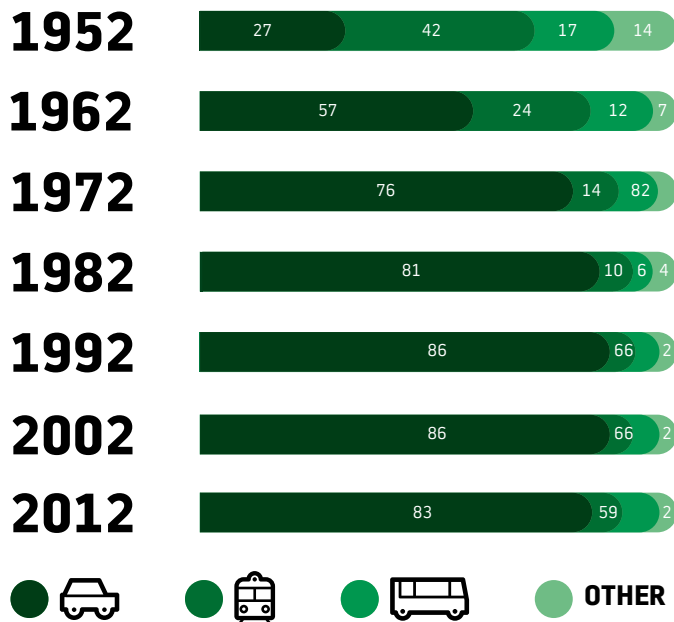
01. THE NEED FOR THIS STUDY

The bar chart below shows that public transport has made a comeback over the last 20 years, but it has been rail rather than bus which has been achieving modal shift from the car. This is the result of many factors: innovation in the rail industry, especially in marketing and ticketing; the advent of wi-fi, which makes it more attractive to travel by train; and the cost of motoring relative to rail fares to mention just three. Congestion is undoubtedly a key reason. **Traffic congestion is the friend of the railways but the enemy of the bus.**

This report highlights just how corrosive congestion is to bus patronage, and this research has given it a much higher weighting in my opinion when ranking the factors which explain modal split trends.

If we are to emulate the success in rail, and achieve modal shift from car to bus, then we have to protect bus passengers from congestion.

UK PASSENGER TRANSPORT MODEL SHARE OF PASSENGER KILOMETRES (%)



Source: Lazarus Partnership: Public Transport – Smartening up: Technology’s role in modal shift, September 2014

WHY IT MATTERS - THE ECONOMY

Buses are crucial for the wider economy. More people commute to work by bus (2.5 million daily plus 1 million as vital back up) than all other forms of public transport combined, and they generate £64bn in economic output every year. Buses are the primary mode of access to our city centres – even more than the car – and responsible for facilitating 29% of city centre expenditure.

One in ten bus commuters would be forced to look for another job or give up work all together if they could no longer commute by bus. Around 400,000 people are in a better, more productive job, as a direct result of the access the bus service provides. It has been estimated that if bus journey times for commuters in England could be improved by 10% it would be associated with over 50,000 more people in employment. ⁹ If this 1% p.a. increase in journey times continues we can expect to continue to lose around 5,000 jobs annually as a consequence

There is also a direct impact on jobs. Around 90,000 of the 140,000 or so active holders of passenger-carrying vehicle (PCV) licences are engaged in driving local buses. A 50% increase in passengers would require 12.5% more drivers, or 11,250 new jobs (appendix 3). This direct employment impact underestimates the true figure as it doesn’t include the extra jobs that would be created in the supply chain.

ENVIRONMENTAL IMPACT OF SLOWER SPEEDS

Lower operating speeds are bad for pollution. Fuel efficiency measured in kilometres per litre has declined by 35% since 2000 ⁹.

CONGESTION DRAMATICALLY INCREASES CARBON DIOXIDE EMISSIONS FROM VEHICLES. UNDER HEAVILY CONGESTED CONDITIONS TAILPIPE EMISSIONS CAN BE INCREASED BY A FACTOR OF THREE OR FOUR TIMES ¹⁰.

⁹ Prof Peter White, University of Westminster: Impact of bus priorities and busways on energy efficiency and emissions. Greener Journeys [September 2015]

¹⁰ Environmental Factors in Intelligent Transport Systems, Prof Margaret Bell. IEE Proceedings: Intelligent Transport Systems, Vol 153 Issue 2, 2006



02. METHOD- LOGY

A. ECONOMIC ASSUMPTIONS

The assumptions made on elasticities are critical to the assessment of what impact declining bus speeds have on patronage. This research has been guided by some of the best transport economists in the UK and there has been support for the elasticities deployed in this study.

This study looks at a 50-year period and this very long run period results in higher elasticity levels than short or medium term studies.

A 10% decline in bus speeds leads to an 8% increase in operating costs: assuming operators try to preserve frequency levels by running extra buses. This is accepted by academics and bus operators (ref- TAS)¹¹. It is then necessary to make the assumption that increases in operating costs were passed onto the fare box – in reality this would vary depending on market conditions. However, someone has to pay for higher costs and in the long run it is a reasonable assumption to make.

If operators decide to increase headways (cut frequency) in response to falling bus speeds then this also has a negative impact on frequency (frequency/supply elasticity of 0.5)

Traffic congestion has three distinct impacts on bus use:

1. **Higher operating costs and higher fares**
2. **Higher in-vehicle time**
3. **Deteriorating punctuality and reliability**

This research looks at a low and a high scenario on elasticities (see Table 1):

	LOW	HIGH
Speed/operating cost	0.8	0.8
Fares/price elasticity	0.7	1.0
Fares impact	$0.8 \times 0.7 = 0.56$	$0.8 \times 1 = 0.8$
In-Vehicle time.	0.4	0.5
Punctuality/reliability.	0	0.1
Total	0.96	1.4

¹¹ The TAS Partnership:



BUSES 10% SLOWER EVERY DECADE

0.5 IN VEHICLE TIME ELASTICITY

$0.5 \times 10\% =$
5%
FEWER PASSENGERS

PUNCTUALITY AND RELIABILITY DETERIORATE

$0.2 \times 10\% =$
1%

HOW DO OPERATORS RESPOND?

A
MAINTAIN FREQUENCY BY RUNNING MORE BUSES
↑8%
IN COSTS

IF COSTS PASSED ON TO FARES:
↑8%
IN FARES

FARE ELASTICITY = 1.0
 $1 \times 8\% =$
8%
FEWER PASSENGERS JOURNEYS

B
 $0.1 \times 10\% =$
1%

FREQUENCY/SUPPLY ELASTICITY =
0.5

$0.5 \times 10\% =$
5%
FEWER PASSENGERS JOURNEYS

IN THIS HIGHER ELASTICITY SCENARIO MAINTAINING FREQUENCY LEADS TO A LARGER FALL IN PATRONAGE

5% + 1% + 8% = 14% FEWER BUS JOURNEYS EVERY DECADE



BUSES 10% SLOWER EVERY DECADE

HOW DO OPERATORS RESPOND?

0.4 IN VEHICLE TIME ELASTICITY

$0.4 \times 10\% =$
4%
FEWER PASSENGERS

A
MAINTAIN FREQUENCY BY RUNNING MORE BUSES

IF COSTS PASSED ON TO FARES:
↑8%
IN FARES

FARE ELASTICITY = 7.0
 $7 \times 8\% =$
5.6%

B
FREQUENCY CUT BY
10%

FREQUENCY/SUPPLY ELASTICITY =
0.5

$0.5 \times 10\% =$
5%
FEWER PASSENGER JOURNEYS

SIMILAR OUTCOME

4% + 5.6% = 9.6%
FEWER PASSENGER JOURNEYS EVERY DECADE

02. METHODOLOGY

In the low elasticity scenario this research deploys a DfT fares elasticity of 0.7 and the low range of the in-vehicle time (TRL 2004 0.4 to 0.7)¹². Because of the difficulty in estimating negative impacts on punctuality and reliability this has been given a zero value.

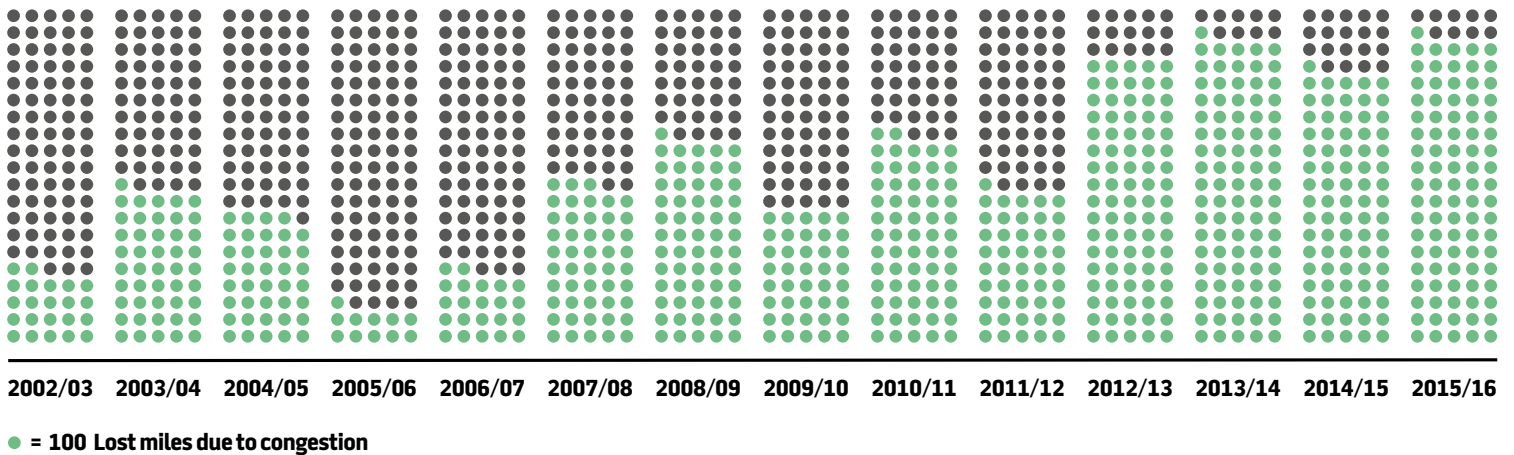
In the high elasticity scenario (another transport economists has suggested this should be labelled “medium” but this research is prudent and sticks with “high”) a fares elasticity of 1.0 has been used. The long run fares elasticity varies between 0.7 and 1.2 (TRL, 2004). For the research uses a modest estimate of 1.0 to avoid over-exaggeration. The research also has a built-in estimate for punctuality/reliability in the high elasticity scenario of 0.1. It was important to do this as waiting at a bus stop is valued twice as high as in-vehicle waiting time (ref: TRL, 2004). For in vehicle time the research used 0.5 in the high elasticity scenario, well below the high end of the range (0.7).

In short, the aggregate high elasticity scenario is 1.4. If the research were weighted towards the top end of the range it would have been 1.8. On balance, this is judged to be too high.

The above elasticities are an average and would obviously vary depending on what alternative modes of transport were affordable and available. In London, for example, bus patronage has declined by 5% over the last year, partly because for many – particularly those travelling on the north side of the Thames – there is an extensive Tube network which they can switch to. The better the alternatives available, the higher the fares and in-vehicle time elasticity.

Concessionary travel accounts for around one-third of bus trips in the UK. Concessionary travellers are immune from the fares effect of higher operating costs, but they will be affected by higher in-vehicle times and poorer punctuality and reliability. However, because this is too challenging to calculate it has been excluded from the model, which focuses on changes to fare-paying journeys only.

STAGECOACH WEST



¹² The demand for public transport: a practical guide. R Balcombe (ed), TRL Report TRL 593, 2004

02. METHODOLOGY

The chart above shows lost miles due to congestion on Stagecoach West services between 2002 and 2016. Lost mileage is defined as scheduled miles minus operating miles; it can be divided into traffic lost miles (for example delays caused by congestion) and operating lost miles (for example caused by driver shortages and vehicle breakdown).

The chart shows a threefold increase in lost miles due to congestion. This results in a much less punctual and reliable service. The research has only included the impact of this on bus use in the high elasticity scenario with a very low 0.1 elasticity.

WHILE IT IS DIFFICULT TO QUANTIFY IN THE MODEL, IN REALITY LOST MILES ON THIS SCALE CREATE HAVOC WITH THE TIMETABLE AND ERODE PASSENGERS' CONFIDENCE IN THE SERVICE.

HOW BUS OPERATORS REACT TO CONGESTION

Bus operators either try and maintain frequencies, which means more buses (a greater peak vehicle requirement), or they let frequencies decline. The end result is pretty similar in the economic model used to forecast patronage impacts. If they deploy more buses then operating costs will rise by 0.8% for every 1% decline in speed. This reduces patronage by 0.56% in the low elasticity scenario ($0.8 \times 0.7 = 0.56\%$).

If they decide to reduce frequency then we get a 0.5% reduction in patronage using a frequency/supply elasticity of 0.5. In reality a bus operator's response will depend on local market conditions and often will be a combination of the two reactions mentioned above.

In areas where there is day-long congestion, operators are forced to increase resources to maintain the same level of service, or look at widening headways or removing sections of route in order to implement an achievable timetable.

If the operator response to congestion is to operate with the same level of resources at lower frequency, in effect there is no change to variable driver or vehicle costs. Fewer miles are operated with the same number of buses and driver hours but using less fuel and tyre costs. This would reduce costs by 1.6% for each 10% reduction in miles, but a 10% reduction in frequency and miles might result in 5% reduction in passengers and revenue (short run supply elasticity 0.5).

If the operator response to congestion is to operate additional buses to maintain the same service frequency this would increase driver, fuel, tyre, and vehicle costs (depreciation, lease, licences) and maintenance costs (labour and materials). Stagecoach has calculated that this would increase costs by 7.9% for each 10% increase in resources – very similar to the TAS industry average calculation of a 0.8% increase in operating cost for each 1% decline in operating speed ¹³.

THE DIFFICULT JUDGEMENT FOR AN OPERATOR FACED WITH WORSENING PUNCTUALITY IS WHETHER TO REDUCE FREQUENCY AND RISK PATRONAGE LOSS, OR TO MAINTAIN FREQUENCY WITH INCREASED RESOURCES.

On balance it is unlikely that operating at the same frequency, albeit more punctually, will generate sufficient additional revenue to offset the additional costs unless there are other factors generating patronage growth.

¹³ Cost issues in public transport operation, Cfit, January 2008 <http://webarchive.nationalarchives.gov.uk/20110304132839/http://cfit.independent.gov.uk/pubs/2008/index.html>

Bus use is influenced by a number of factors—these not only relate to the bus service itself, but the supporting infrastructure and the attractiveness of other modes

Policy
 Modal shift
 Buses

Attribute	Evidence of impact ¹
Fares	<ul style="list-style-type: none"> Bus fare elasticities average -0.4 in the short-run to -1.0 in the long run (i.e. a 10% rise in fares will lead to a 10% fall in patronage in the long run) – responsiveness of demand to fare changes is less sensitive in the peak
Journey time	<ul style="list-style-type: none"> The elasticity of bus demand to in-vehicle time for urban buses has been estimated to be roughly in the range of -0.4 to -0.6
Service levels	<ul style="list-style-type: none"> The elasticity of bus demand to vehicle kilometres is approximately +0.4 in the short-run and +0.7 in the long run
Ride quality	<ul style="list-style-type: none"> Studies in London have indicated that a smooth vehicle motion is worth 10.5p per passenger (1996 prices and values)
Real-time information	<ul style="list-style-type: none"> Passengers in London valued countdown boards at 9.0p per trip (1996 prices and values)
Safety	<ul style="list-style-type: none"> Bus users value CCTV at stops and on the bus at 16.6p and 5.8p respectively (2001 prices and values)
Waiting environment	<ul style="list-style-type: none"> The provision of information at bus stops has been valued at 4-10p per passenger
Interchange	<ul style="list-style-type: none"> Passengers dislike having to interchange – the ‘penalty’ associated with the need to interchange is equivalent to 5 minute journey time even before waiting time and the cost of an additional fare is factored in
Car costs	<ul style="list-style-type: none"> Bus use is sensitive to changes in the costs of fuel. A 10% fall in petrol costs for motorists is estimated to reduce bus demand by 21%
Income	<ul style="list-style-type: none"> Each 10% increase in income reduces bus use by 5%-10%, this includes the impact of higher car ownership

Policy implication: there are a number of ways to influence the level of bus demand – the list above is not exclusive; and these interventions do not just relate to bus service attributes—interventions off the bus, such as an improved waiting environment and better information, can have a significant impact on demand

The above table showing the top ten factors influencing bus use, the top three on the list are affected by congestion: fares, journey time and frequency. Source: An Analysis of Urban Transport, Cabinet Office Strategy Unit, November 2009

B. CASE STUDIES

THE UK HAS THE MOST CONGESTED ROAD NETWORK IN EUROPE¹⁴.

This was the case when the Commission for Integrated Transport benchmarked the UK against European best practice in 2001, and has been confirmed since by extensive data from companies such as TomTom and INRIX through the monitoring of live traffic flows.

The latest TomTom congestion index shows seven UK cities in Europe's top 30 most congested: Belfast, London, Manchester, Edinburgh, Brighton, Hull and Bristol. Congestion in the UK's biggest cities is 14% worse than it was just five years ago.

Across the rest of Europe, average congestion is actually down 3% over the same period.


The annual Traffic Index from TomTom shows average UK journeys in 2015 took 29% longer than they would in free-flowing conditions – up from a 25% average delay in 2010.

The TomTom index measures the difference between off-peak and peak traffic speeds. As Belfast has relatively good off-peak speeds compared with other cities, this exaggerates ITS' congestion problem. Intuitively, based on personal observation and experience, I do not believe Belfast has a worse congestion problem than London, or indeed the other UK cities. I have therefore used a combination of INRIX and TomTom data to determine the cities that I would scrutinise in this report.

The INRIX data has Belfast as the third most congested city in the UK, behind London and Manchester. The INRIX index measures urban motorway traffic delays, so would exclude Edinburgh and Brighton, which are mainly devoid of urban motorways.

Balancing the two indexes the following cities have been included in the case studies: London, Manchester, Edinburgh, Brighton, Hull and Bristol. Due to difficulty in obtaining bus journey time data from Belfast it was not included in the study

¹⁴ European best practice in delivering integrated transport. Commission for Integrated Transport, November 2001 <http://webarchive.nationalarchives.gov.uk/20110304132839/http://cfit.independent.gov.uk/pubs/2001/index.html>



03.

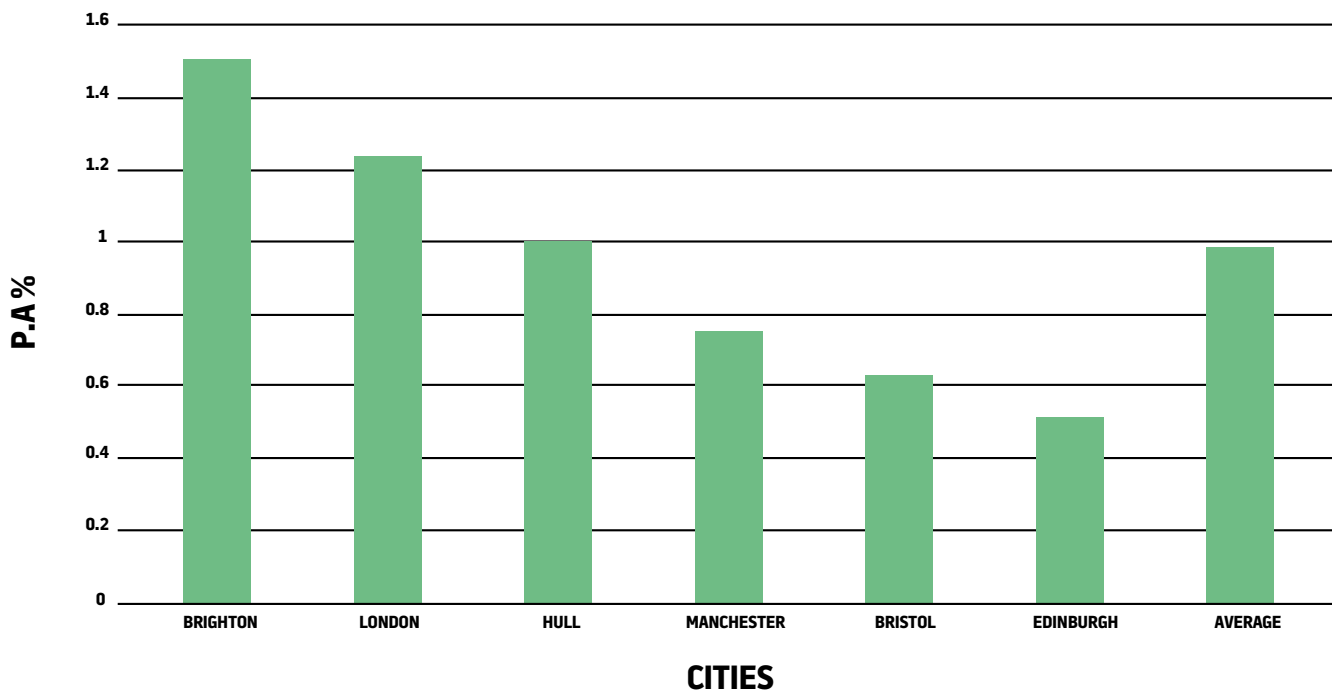
RESEARCH
FINDINGS

03. RESEARCH FINDINGS

A. BUS JOURNEY TIMES ARE INCREASING

The trend in bus journey times is an increase of between 0.5% and 1.5% per-annum - for city wide services (daily average) over the past 30 years, with an average increase of 0.98% per annum for the six case studies as shown in as shown in chart below.

INCREASE IN JOURNEY TIME



(NOTES TO CHART)

Fig 0.98% p.a Increase in average bus journey times.

Data covers 1986-2006 except for:

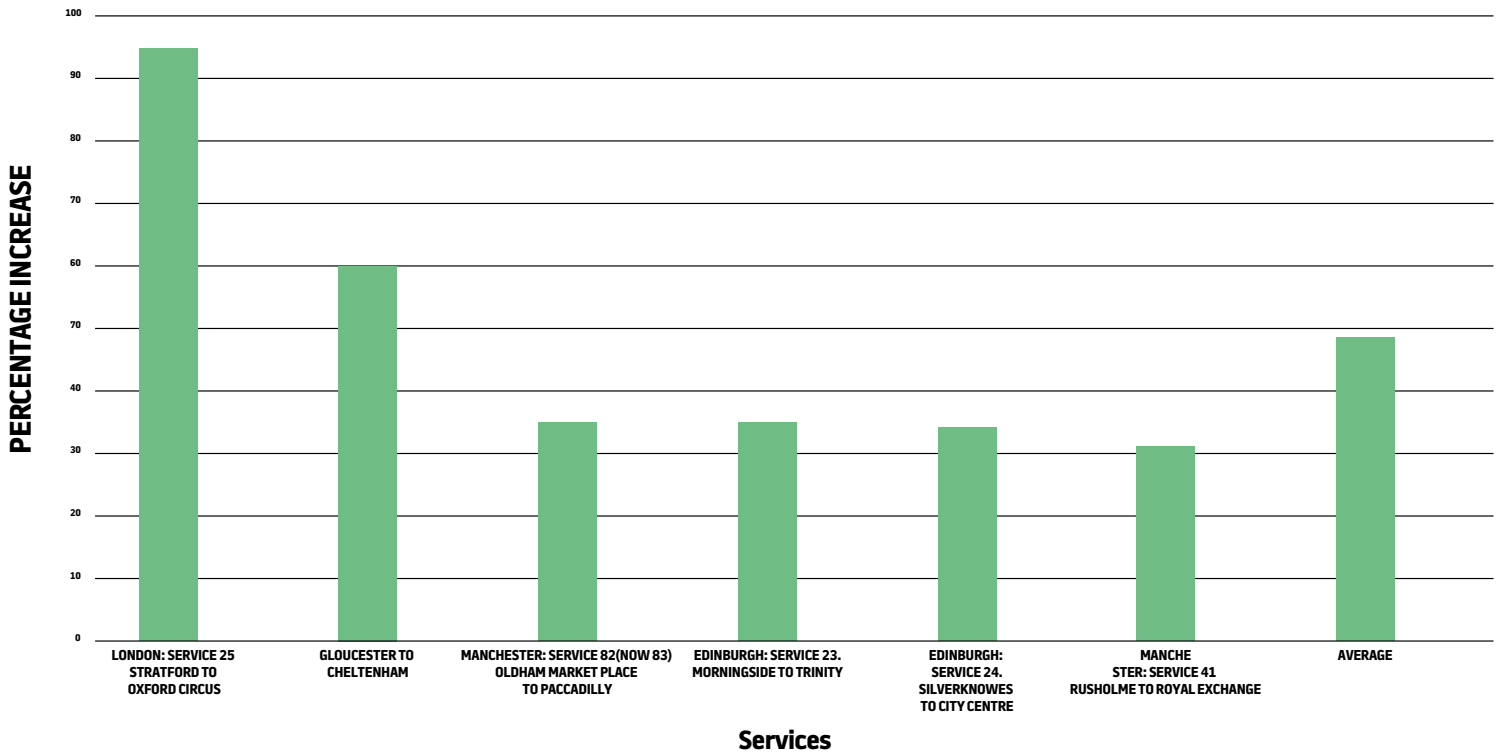
Brighton: 2008-2016. The south coast town has experienced a sharp increase in congestion levels.

London: 2003/4 (from peak levels just after congestion charging) to 2015/16. It covers central, inner and outer London

¹¹ The TAS Partnership:

03. RESEARCH FINDINGS

INCREASE IN JOURNEY TIME ON SELECTED SERVICES (AM PEAK) FROM 1966 TO 2016

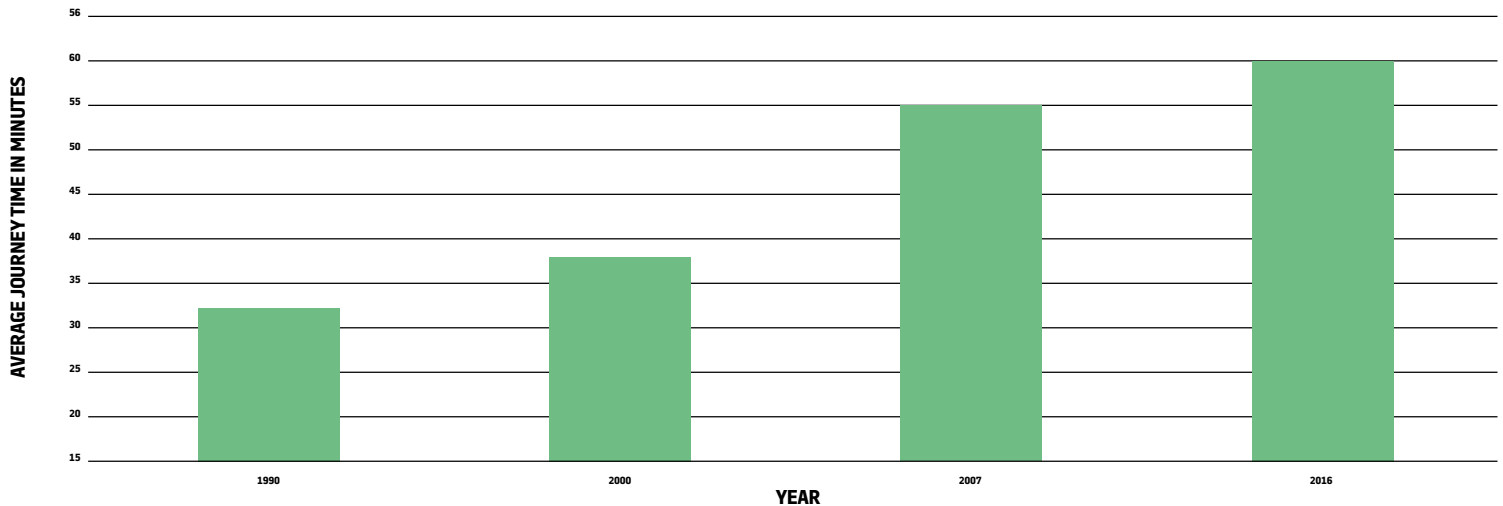


The data in the bar chart above is derived from archived timetables for 1966 and compares journey times then, with a section of the same route from today's timetable. Journey time on the 25 from Stratford to Oxford Circus in the a.m. peak has increased from 40 minutes in 1966 to 78 minutes today. The journey time has almost doubled. It must be borne in mind that the move to one man operated buses impacts negatively on journey times for the longer term data going back to the 1960's.

DECLINE IN BUS SPEEDS NOT CONFINED TO URBAN CONURBATIONS.

While this research has focused on the trend in bus speeds in the six most congested urban areas in the UK the problem is not confined to them. If market towns such as Cheltenham and Gloucester are representative then the trend is much more endemic.

CHELTENHAM - GLOUCESTER (PEAK)



87% increase in journey time. 3.34% increase p.a. Stagecoach data.

03. RESEARCH FINDINGS

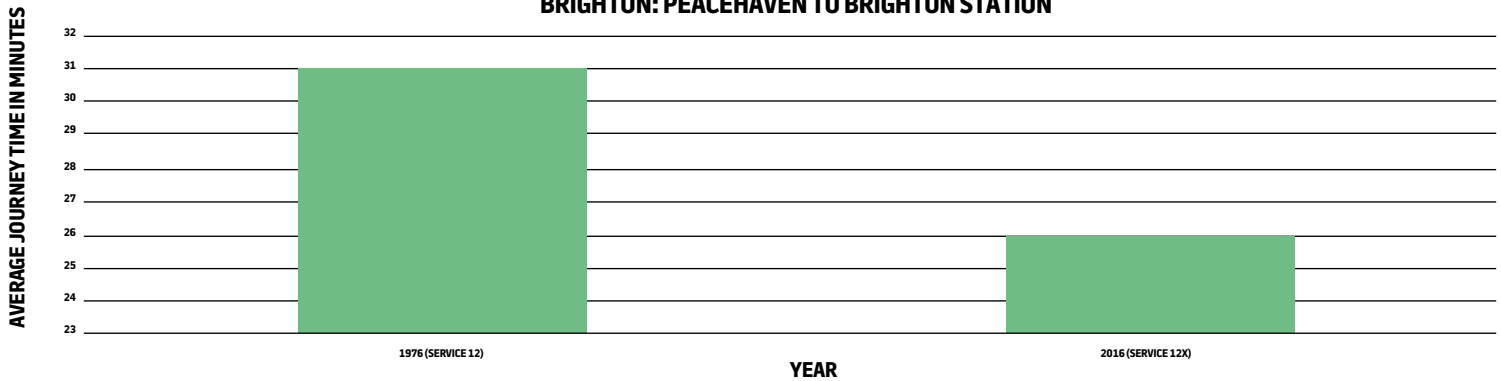
It doesn't have to be this way. Bus passengers can be protected from traffic congestion if there is the political will. Indeed, the examples below shows how we can improve journey times by bus if radical action is taken.

EDINBURGH: % CHANGE IN AVERAGE JOURNEY TIME (AM PEAK)



In Edinburgh, the introduction of Greenways bus priority in 1996, following years of good conventional priority measures, resulted in a 4% improvement in journey times between 1986 and 1996. Alas, for reasons you can read about in more depth in the case study on Edinburgh in the appendix, this was not sustained. This included weaker enforcement, removal of priority during off peak and lack of maintenance of bus lanes.

BRIGHTON: PEACEHAVEN TO BRIGHTON STATION



In Brighton, on the Peacehaven to Brighton Station service, there has been a 16% improvement in journey time since 1976 and a 4% improvement per annum, thanks to highly effective bus lanes along the A259 coastal corridor. Journey time between Brighton Station and Peacehaven is actually seven minutes quicker today than it was in 1966. It shows what can be done, and that we do not have to accept declining bus speeds as being inevitable.

B. IMPACT OF INCREASED JOURNEY TIMES ON BUS USE.

If average bus speeds in the most congested urban areas decline on average by almost 1% per annum, this means that operating costs due to congestion are increasing by around 0.8%¹⁵. Assuming that costs are passed on to the passenger in fares, and we apply an elasticity of 0.7, this results in a 0.56% decline in passengers every year as a result of the operating cost impact. To do this it is necessary to add the decline in passenger numbers due to increased in-vehicle waiting time. With an in-vehicle elasticity of 0.5, this leads to a 0.5% decline in passengers. If the two are added together there is a 10.6% decline in passengers every decade from the congestion impact on buses on the low elasticity scenario. On the high elasticity scenario a 14% decline in bus use every decade as a result of congestion can be seen. If bus passengers had been protected from rising congestion over the past 50 years, then fare-paying patronage in the cities covered in this report would be at least 50% higher than today's figure. This time period has been chosen as the mid-1960s was when car ownership and traffic began to grow exponentially.

LONDON "FALLING"

IN LONDON BUS SPEEDS HAVE BEEN DECLINING FASTER THAN ANYWHERE ELSE IN THE UK OVER THE LAST FEW YEARS.

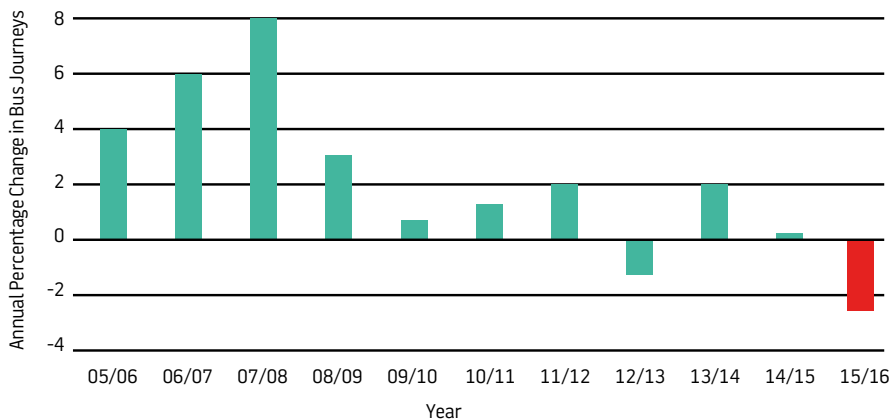
This comes after of decades of relative success in protecting bus passengers from traffic congestion through effective bus

priority measures, such as red routes and other initiatives, and the central congestion charging zone introduced in 2003. If the average urban bus speed in the UK has historically been decreasing by almost 1% p.a., then for one-third of London bus routes the decline been more than five times this average over the past year. This has become a crisis for the capital and something the new mayor must prioritise. **London, which for more than a decade has been the UK's bus success story, with passenger numbers doubling since the formation of TfL in 2000, is now facing one of the fastest declines in bus use anywhere in the UK.**

There is a key lesson to be learned from this. You can get all the other ingredients right: modern bus fleet, cashless buses with the most advanced smartcard ticketing system in the world, a level of integration which is the envy of other UK cities, state-of-the-art passenger information at the bus stop and on mobile devices. Add to this population and employment growth and you should have a recipe for the London bus success story continuing. But all these laudable ingredients cannot offset the rapid deterioration in bus journey times.

Boris Johnson was right to warn that his successor will have to use tougher congestion charging measures to tackle London's growth in congestion, but there is insufficient evidence to suggest he took enough effective action on his watch. He exacerbated the problem by removing the western extension of the congestion zone and by reducing road capacity in central London by 25% through the introduction of cycle superhighways – without taking action to curtail traffic in central London

BUS USE IN LONDON



¹⁵ The TAS Partnership, [1] op. cit



04.

CHALLENGES
MOVING
FORWARD

04. CHALLENGES MOVING FORWARD

A. CONGESTION IS GETTING WORSE

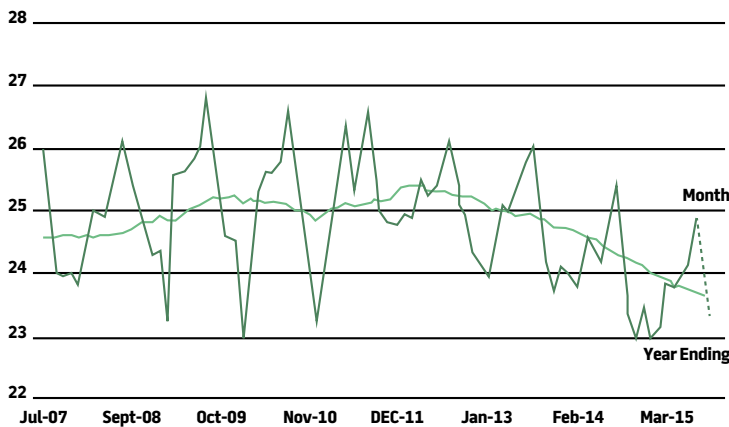
The average speed of general traffic on local roads was 23.4mph in year ending December 2015. In November 2015 it was 3% slower than in November the previous year, and in December 2015 it was 2.9% slower than the previous December.

The average traffic speed in Bristol, Reading, Slough, Manchester and London is less than 10mph.

The DfT's 2015 forecast was that traffic will grow by between 19% and 55% between 2010 and 2040

CONGESTION ON LOCAL AUTHORITY MANAGED A-ROADS, ENGLAND

AVERAGE VEHICLE SPEEDS (MILES PER HOUR)

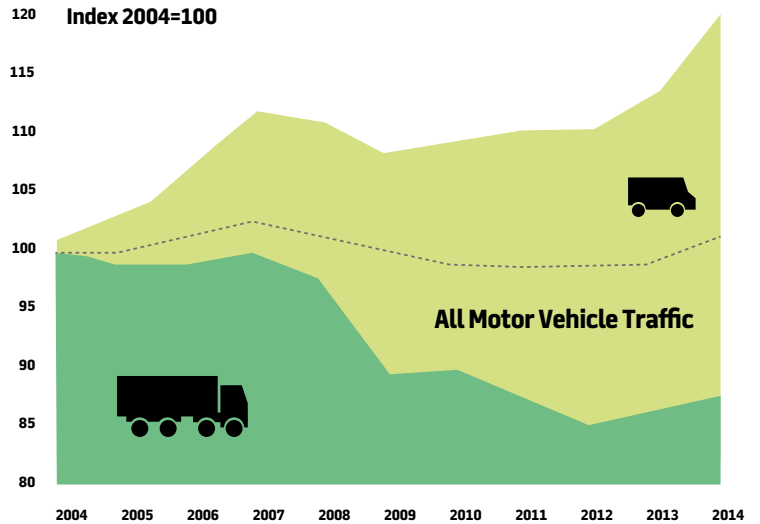


There has been a rapid decline in traffic speed over the last five years on A-roads, as shown in Fig zz. **The key causes in urban areas are: delivery vans, private hire vehicles, road works and traffic lights.**

DELIVERY VANS

The rapid growth in delivery vans is a result of the proliferation of online shopping. This represents a double blow to the bus sector: first, it increases operating costs due to more congested roads, and second, there is less revenue for buses as fewer shopping trips are made (shoppers account for one-third of all bus journeys).

GROWTH OF LGV AND HGV TRAFFIC



Van traffic has risen faster than that of any other vehicle type, with van miles increasing by 6.1% between Dec 2014 and Dec 2015 to a new peak of 47.7 billion vehicle miles. This represents a 24% increase compared with 10 years ago and a 73% increase compared with 20 years ago.

The biggest four online shopping markets in the world are predicted to double in size over the next three years as consumers buy increasing amounts of goods through the internet.

British shoppers already spend almost £1 in every £5 of their shopping via the internet and the online shopping revolution will continue.

Online retail expenditure in the UK is forecast to grow by 44.9% in the coming five years to reach £62.7bn in 2020.

It is surprising that more household parcels are not delivered in the evening when the roads are quieter and people are more likely to be at home. The proliferation in the number of vans is becoming such a problem that it is worth investigating the impact a charging scheme could have to incentivise deliveries off-peak, especially during the evening.

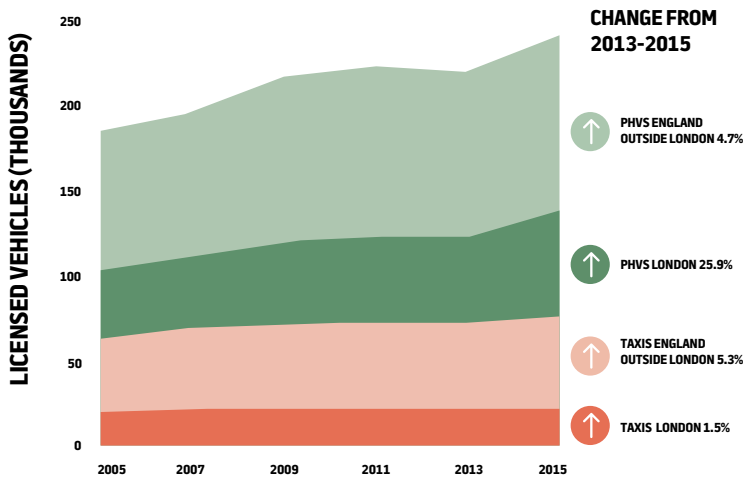
04. CHALLENGES MOVING FORWARD

GROWTH IN PRIVATE HIRE VEHICLES

Private hire vehicle numbers have risen by almost 28% in the last ten years, from 120,000 in 2005 to 166,000 in 2015.

- In England outside London the number of PHVs rose by 4.5% between 2013 and 2015.

TAXIS AND PRIVATE HIRE VEHICLES BY TYPE AND AREA: ENGLAND 2015



PRIVATE HIRE VEHICLES IN LONDON

Between 2013 and 2015, there was a 26% rise in PHVs in London. Licensed PHVs increased from 60,000 in 2013 to 94,000 in 2015; PHV licenses are being issued at a rate of 600 every week, and so they could potentially rise from 94,000 to 124,000 by the end of 2016.

The number of new minicabs has risen by 56% in the last two years, largely due to Uber.

The increase in PHV activity in London has lengthened journey times by over 10% over the past 12 months. Uber in London has gone from having zero to 20,000 PHVs registered with it in three years (ref: GLA transport committee)¹⁶

¹⁶ Addison Lee Data Analytics <https://www.addisonlee.com/addlib/london-journey-times-jump-by-10-in-a-year-says-addison-lee-research/>

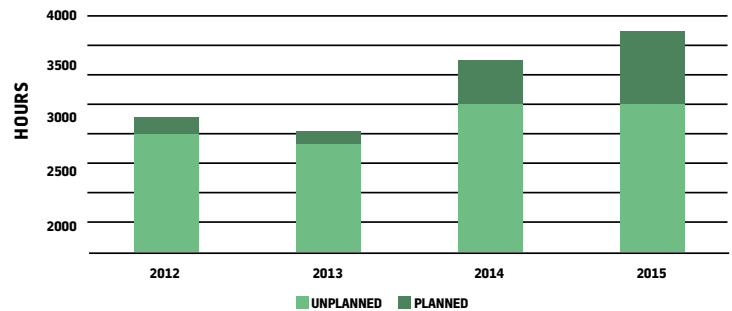
MORE ROAD WORKS

Congestion, as always, is caused by demand exceeding supply. What is interesting about the recent sharp rise in congestion in central London – increasing by 12% per annum since 2012 (Inrix London congestion trends May 2016), is that it is mainly a supply side problem. Demand for road space has remained relatively flat, with the growth in LGVs and private hire being largely offset by a decline in car traffic.

IT IS THE SUBSTANTIAL REDUCTION IN ROAD SPACE, WITH PLANNED ROADWORKS INCREASING BY 362% OVER THE LAST 3 YEARS, WHICH HAS LED TO SIGNIFICANT INCREASES IN CONGESTION.

It is to be hoped that many of the road closures are temporary with major capital works such as Crossrail and Cycle Superhighways reducing available road space.

FIGURE ES4: LONDON SURFACE TRANSPORT DISRUPTION HOURS, 2012-2015



Ref: Inrix London Congestion trends May 2016.

MORE TRAFFIC LIGHTS

A sharp increase in the number of signal-controlled junctions means that there is one set of lights for every 5.5 miles of road (a figure that will be much higher in urban areas), a rise of two-thirds since 2000¹⁷.

It is important that buses get as much priority as possible at junctions.

¹⁷ We're Jammin': A comprehensive nationwide study into how traffic management is leading to costly delays for the UK taxpayer. Grant Shapps MP. British Infrastructure Group, May 2016 <http://www.shapps.com/wp-content/uploads/2016/05/Were-Jammin-FINAL1.pdf>

B. SPACE WARS: POLITICAL DECISION-MAKING

The mode of transport people choose has a significant bearing on the priority they think it should be given. The majority still view the transport problem from behind the wheel of a car and this all too often is reflected in political decision-making. It would be good to be able to say that decision-making is more objective and informed by investment appraisal and cost-benefit analysis which looks at economic, social and environmental factors. But transport decision-making is much more subjective than that. Our cities deserve better.

The more affluent and generally well-educated the traveller, the more vocal and powerful a lobby they form to be able to effect change that is advantageous to their choice of mode. This helps to explain why, for the sixth year running, fuel duty has been frozen (except for buses) despite record low oil prices. The motoring lobby is powerful. It also helps to explain how rail has been allocated £38bn to maintain and improve the network until 2019, despite buses accounting for a greater proportion of trips than rail. It is the bus passenger who has the least profile and is the furthest from the ear of the politician.

People in the highest-income households travel almost five times as far by rail as people in the lowest income households, whereas people from lowest income households travel 2.4 times as far by bus as people with the highest income level. People in households of highest income group travel 2.6 times as far by car as people in lowest income households.

What is less well-known is how relatively affluent cyclists in London are compared with bus passengers. Transport for London describes the London cyclist as “typically white, under 40, male with medium to high household income”. A report by the London School of Hygiene & Tropical Medicine’s Transport & Health Group in 2011¹⁸ describes cycling in London as disproportionately an activity of white, affluent men. Only 1.5% of those living in households earning under £15,000 cycled compared with 2.2% of those living in households earning over £35,000.

While more sustainable forms of transport should be supported, and the critical importance of reducing cycling accidents through segregation is clear, care must be taken to ensure cycling improvements are not to the detriment of bus passengers. Despite the commendable efforts of Greener Journeys, Bus Users UK, Transport Focus, the Urban Transport Group and Campaign for Better Transport, the voice of bus passengers does not seem to be heard by decision-makers. This can partly be explained by the lack of coverage and exposure the bus receives in the mainstream media whose management are far more likely to drive or use the train, than they are to catch the bus to work.

THIS LACK OF PUBLIC PROFILE FOR BUSES MEANS THERE IS LESS PRESSURE ON POLITICIANS TO LOOK AFTER BUS PASSENGERS.

Roads are one of the most valuable and scarcest resources our city authorities have at their disposal. City authorities are still too focused on moving vehicles rather than people. With an average occupancy of around 1.2 for commuting trips, cars are the most inefficient users of road space.

One of the most radical reallocations of road space that has occurred on UK roads in recent years has been London’s cycle superhighways, whereby 25% of road space on key routes has been allocated to cyclists in central London. The former Mayor, Boris Johnson, made this a personal policy mission because he is a London cyclist. However, it is much more common for local and national politicians to view transport problems from behind the windscreen of a car or through the window of a train.

On a personal note, when I was appointed chair of the Transport Committee in Lothian Region (succeeded by City of Edinburgh Council) in 1994, I inherited a tram scheme which was led by Alistair Darling before he was elected to the House of Commons. When I was told by council officials that we had minimal resources at our disposal – and certainly nothing sufficient enough to build the two line scheme that was proposed – I asked what plan B was. It was Greenways bus priority.

Greenways was unique among bus priority schemes in the UK in that it was extensive and involved a much higher level of enforcement. It was and still is controversial.

For me, the decision was straightforward. Bus trips accounted for 50% of the trips into Edinburgh city centre during the peak so it was only fair that we allocated 50% of the road space to them. If I had seen local government as a stepping stone to Westminster or Holyrood, I would not have implemented it. The winners were bus passengers; winners are not vociferous and bus passengers are not anyway, certainly when compared with the perceived losers, motorists, who are very vociferous and much more influential. They are more likely to be business leaders, newspaper editors and opinion formers.

POLITICIANS ARE MUCH MORE LIKELY TO FIND MEMBERS OF THE PUBLIC ATTENDING THEIR LOCAL SURGERIES TO COMPLAIN ABOUT BUS PRIORITY THAN TO ASK FOR MEASURES TO SPEED UP BUS TIMES.

We need more bus champions in the UK in local, devolved and central government. The bus is the most efficient user of road space, the most environmentally friendly of the motorised modes and the one most used by those on the lower end of the income scale who are all too often less vocal, and less likely to be heard.

MOVEMENT SPACE VERSUS PEOPLE SPACE

The desire to create more a pedestrian-friendly environment has resulted in movement space being squeezed in many cities. This has had an impact on traffic flow.

While there is often a conflict between catering for cyclists and bus passengers, and the London cycle superhighways are a topical case in point, policies favouring pedestrians and buses are more complementary and have greater synergy between them than many think.

The more accommodating city centres are to pedestrians, the more attractive they become to retail and businesses generally. Bus routes radiate from the city centre: the more people travelling to city centres, the more populated our buses are. There is at times a conflict: sometimes buses are denied access to parts of the town centre as part of a general vehicle ban. Conversely, Oxford Street in London and Princes Street in Edinburgh are two good examples of streets where pedestrians and buses compete for space.

City retailing faces severe competition from out of town shopping centres and a newer threat which is growing exponentially, online shopping. Bus companies are often the first to protest about pedestrianisation; it would serve them well to acknowledge that city retailers are facing a major battle to hold on to customers, and that the viability of city centre retail and bus companies are inextricably linked. A sensible balance needs to be struck between making our cities pedestrian-friendly and ensuring that bus passengers can get close to their destination.

It is important to remember that shopping represents around one-third of bus journeys in the UK.



05.

FIVE

POINT

PLAN

1. SET BUS SPEED TARGETS

The Buses Bill should set guidance encouraging local authorities and bus operators to set targets for average bus speeds (with a minimum requirement of stopping bus speeds declining any further). This should apply in both a regulated and deregulated environment. In the latter, it should be a requirement for the new Enhanced Quality Partnerships proposed in the upcoming Buses Bill.

Local authorities would deliver their side of the partnership by giving priority on roads and at junctions to buses, and bus companies would focus on significant improvements to dwell times by accelerating the programme for off-bus ticketing, smart cards and contactless payment. Paying cash on a bus is archaic and should be made a relic of history as quickly as possible.

ITSO smartcards have considerably slower transaction times than those in London. It's imperative that the rest of the UK emulates the high bar that London has set in ease of ticketing and speedy transaction times.

2. DEMAND MANAGEMENT

There has been a fundamental change in transport policy over the last 20 years, away from changing travel behaviour to giving people choice. **The consequence of this laissez-faire approach is rising congestion, slower traffic speeds and gridlock becoming all too often the norm.** This is bad for our city economies and their environment.

It is interesting to note the comments below from TomTom Traffic Vice President, Ralph-Peter Schaefer. They could have been taken straight out of the 1998 White Paper on Transport:

“Transport authorities are managing congestion with well-engineered policies, but you can't just build your way out of traffic jams. Studies have shown that policies of 'predict and provide' are unsustainable. Building new motorways and ring roads doesn't eliminate congestion. More must be done to better manage existing road space and to spread demand.

People simply aren't doing enough to change their travel habits – such as working flexible hours, avoiding peak commuting times, making use of real-time traffic information and trying alternative travel modes. If only 5% of us changed our travel plans, we could improve traffic congestion on our main roads by up to 30%.”

CHOICE MEANS NO CHOICE BUT TO SUFFER WORSENING CONGESTION

The problem with this policy shift is that it means that all users of our city roads, from bus passengers to motorists, from delivery and freight vehicles to taxis, **all now have no choice but to sit in ever-worsening traffic jams.** Without some form of demand management, from parking restraint to the more effective congestion charging, coupled with improved public transport, we will regulate traffic volumes in our cities through congestion. This explains why peak hour city centre traffic volumes have remained fairly static over the last 30 years, and why the morning and evening peaks continue to lengthen. We reached saturation point and road users responded by adjusting the time of day they travelled. While many motoring and freight trips have some flexibility in the time of day they are made, this does not apply to buses. **Nor are bus drivers able to take advantage of satellite navigation to negotiate their way through traffic jams. They have to stick to their route.**

STICK NEEDED AS WELL AS CARROT

While it is crucial that we do everything we can to provide better public transport, this is not a panacea for city traffic congestion. If we are successful in shifting car trips to public transport, the road space that is vacated will be taken up by latent demand – road trips that people did not make because congestion proved to be a deterrent, until they were enticed back on to the road network as congestion declined.

I was sharply reminded of this when the Commission for Integrated Transport studied Munich¹⁹. We chose the Bavarian capital because it was one of the best examples of what a strong devolved regional and city government could achieve

¹⁹ Commission for Integrated Transport: Study of European best practice in the delivery of integrated transport: report on stage 2 – case studies: 3, Munich,

Germany November 2001. <http://webarchive.nationalarchives.gov.uk/20110303161656/http://cft.independent.gov.uk/pubs/2001/ebp/ebp/stage2/03.htm>

on the public transport front. It had everything we aspired to in the UK with public transport provision, and yet traffic congestion continued to rise. The city transport officials in Munich recognised that they were powerless to prevent this without demand management measures to constrain the growth in car use. It has long been acknowledged that we need the stick as well as the carrot. However, politicians find the latter much easier to deliver than the former.

LONDON'S SUCCESSFUL CONGESTION CHARGE

Introduced in 2003, the London congestion charge achieved its objective of cutting traffic volumes in the charging zone by 20%. (This has since been more than cancelled out as road space has shrunk in central London through road works, cycle superhighways, growth in delivery vehicles and private hire). The congestion charge had the added benefit of providing a valuable revenue stream to improve bus services and hold down fares. The bus sector benefited most from congestion charging, not just from the hypothecated revenue stream but from improved journey times and reliability.

In the first year of congestion charging, bus speeds in the central zone improved by 7% and excess waiting time was cut by 30%.

THE CONGESTION CHARGE GAVE A BIGGER BOOST TO BUS PASSENGERS THAN ANY OTHER SINGLE MEASURE.

Speeds increased by 14.6% (comparing three months before with three months after introduction) in the Congestion Charging Zone (CCZ) following the introduction of the charge. However since 2004 bus speeds in London have been gradually decreasing to below pre-congestion-charging levels. This trend grew worse from 2014, in line with increased road congestion caused by the economic recovery, a proliferation of roadworks and the reallocation of road space to Cycle Superhighways.

The former Mayor, Boris Johnston, against the advice of TfL, rejected demand management as a policy weapon and immediately on his election removed the western extension to the congestion charging zone. Again he went against the advice of TfL by implementing Cycling Superhighways without reducing traffic volumes in central London. **You can't take 25% of road space out on key routes in central London without doing anything to compensate by reducing traffic. The result has been worsening congestion and slower traffic speeds. Bus passengers have been the main losers.**

When his term as London Mayor ended, Boris Johnson warned his successor that he will have to take action to cut traffic volumes by increasing the congestion charge. However, this solution has resulted from the decisions he took during his eight years in office.

The other good example of a city adopting a radical demand management measure is Nottingham with its workplace parking levy. It is well known that if people have a free parking place at work it is very difficult to get them to use public transport. It is no coincidence that Nottingham is one of the few cities in the UK to have experienced a decline in traffic volumes and city centre congestion over the past decade. The success has been built on carrot and stick.

The proliferation in the number of delivery vans in London is becoming such a problem in many cities that it is worth investigating the impact a charging scheme could have to incentivise deliveries off-peak, especially during the evening

BACK TO THE FUTURE

There is a need to return to the ethos of the 1998 White Paper on Transport, which accepted the necessity for demand management in our cities and the crucial importance of bus priority. It was right then and the passage of time has made its conclusions and recommendations even more essential.

Those cities that have embraced this agenda, such as London and Nottingham, have been successful in cutting traffic congestion. In the case of London, the early success

of congestion charging has been eroded by capacity reductions on the road network and the failure to build on the very positive legacy of the congestion charge when first introduced in 2003.

The Conservative Government in the 1990s also accepted there could not be a free-for-all in our cities and proposed a “roads hierarchy” which gave priority to pedestrians, cyclists, bus passengers and motorists, in that order ²⁰. This was nothing to do with being anti-car, but a logical acceptance that cars, with an average occupancy of around 1.2 for commuter journeys, are highly inefficient users of road space. One of the most precious and scarcest of resources that local authorities have at their disposal is road space. They can choose how they allocate it. The enlightened ones recognise the roads hierarchy and are not afraid to make the tough decisions.

3. BUS PRIORITY

The road network needs to move people and goods efficiently if we are to ensure the social and economic wellbeing of our communities. Buses have a vital role to play in this, as they can make excellent use of limited road space, carrying many more passengers than a private car for a given amount of space.

However, the potential benefit of the bus is stifled by traffic congestion. Local authorities and bus operators need to work in partnership to make buses a more attractive alternative to the car by releasing them from the congestion delays experienced by other road users. This in turn will improve reliability and help make the bus an attractive choice for more car users as well as providing quicker journeys for both bus and other road users.

Experience from schemes around the country shows that bus lanes may reduce bus travel times by 7 to 9 minutes along a 10km congested route and also improve their reliability. Reliability means buses operate in accordance with their timetables on every journey, which is important to bus users. Measures to assist buses in one metropolitan city have halved the variation in journey times that operators

experienced in that corridor, enabling them to operate their buses more efficiently.

By introducing bus priority with other improvements, services can become more attractive to potential passengers. For example, a comprehensive quality corridor initiative in a major conurbation delivered a 75% increase in bus passengers over 5 years, with 20% being new customers.

IN A 2014 REPORT FOR GREENER JOURNEYS, KPMG ESTIMATED THAT BUS PRIORITY SCHEMES CAN TYPICALLY GENERATE £3.32 OF BENEFITS FOR EVERY £1 INVESTED BY THE GOVERNMENT AND IN SOME CASES £7 BENEFIT FOR EVERY £1 INVESTED ²¹.

This represents excellent value for money, compares well with other forms of urban transport investment, and scores more highly than many much larger transport infrastructure projects. Bus priority schemes are also cheaper to build and maintain, and quicker to implement, than many traditional transport schemes.

In the words of the Urban Transport Group:

“Bus priority is about more than smoother bus journeys. Indeed, it is about more than improving transport. It can make a considerable contribution to local economies and quality of life. Bus priority schemes are significant projects which can provide the catalyst to assess how streets function, what people and businesses want from their local area and how to resolve longstanding issues effectively. This integrated approach delivers many benefits. They range from quicker journeys for all road users to greater access to employment, better trading conditions, safer streets, and public realm that makes for more enjoyable time in our towns and cities.” ²²

²⁰ Steven Norris: Minister for Transport.

²¹ A National Statement on Local Bus Infrastructure, Greener Journeys, June 2014 <http://www.greenerjourneys.com/wp-content/uploads/2014/06/12.pdf>

²² Bus priority works, Urban Transport Group, July 2014 www.urbantransportgroup.org/resources/types/reports/bus-priority-works-business-shops-communities-and-growth

4. SPEED UP DWELL TIME AT BUS STOPS

While this report has focused on the impact rising traffic congestion has on bus journey times, in urban environments between 25% and 33% of journey time is spent picking up and dropping off passengers (dwell time).

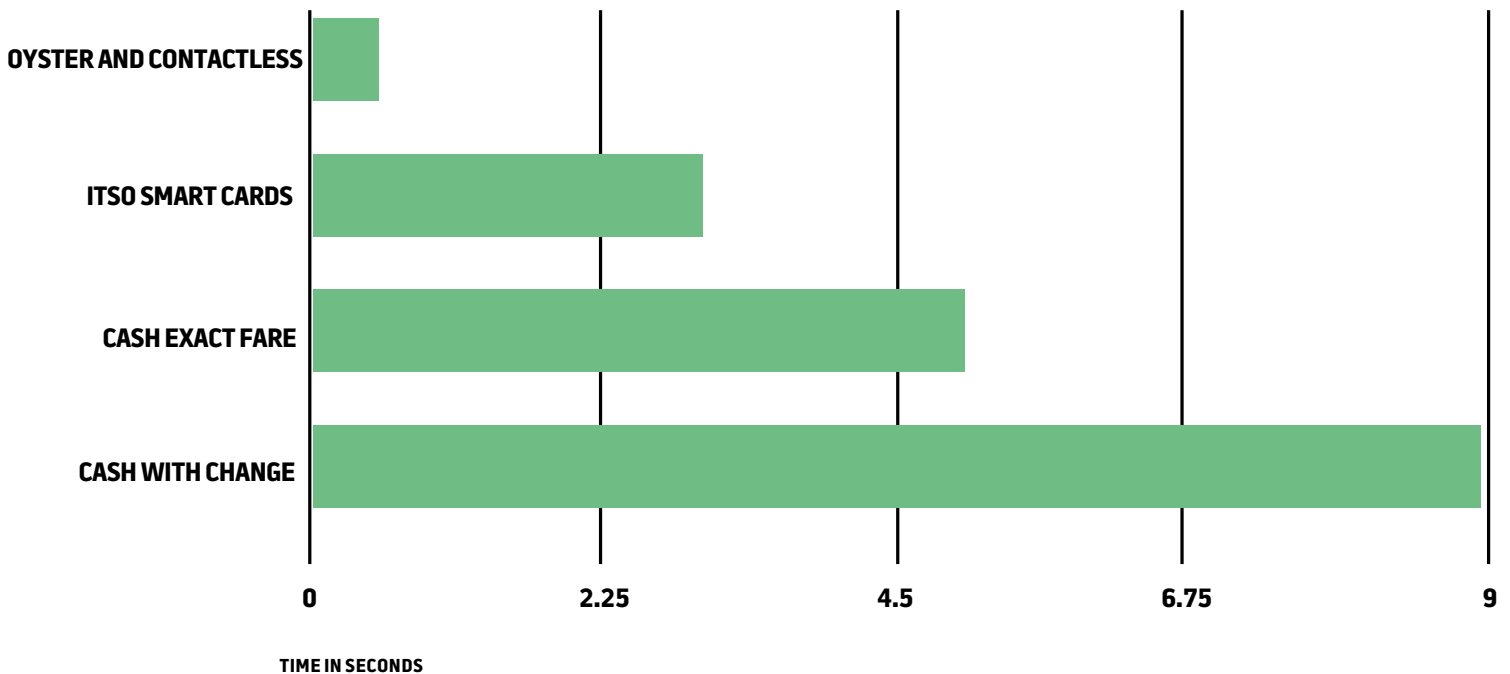
London has led the world on cashless buses, which have had a dramatic impact on reducing dwell time at bus stops. The 0.5 seconds per transaction on London buses is unrivalled anywhere in the world. Dwell time has been cut by at least half. Transport for London believes that the total run time of buses has been reduced by between 7 and 10%.

Most of the operating cost of buses is directly driven by run time, so that translates into a straight saving of some £120-180m annually. This dwarfs the one-off cost of introducing Oyster (£50m) and contactless (£68m).

If London-style cashless buses and contactless payments could be extended to the rest of the UK bus journey times could be improved by up to 10% by halving dwell time at bus stops.

The big five bus operators in the UK have set a target to introduce contactless bus transactions by 2022. This should be the very latest date for this to be introduced UK-wide, and everything possible should be done to accelerate it. It is feasible for bus operators to achieve contactless payments on buses in the major urban conurbations within the next three years.

FARE TRANSACTION TIMES (SECONDS) PER PASSENGER



5. MOBILISING BUS PASSENGERS

Too little focus is placed on the importance of the bus because bus passengers carry too little weight with opinion-formers and political decision-makers. The socio-economic profile of bus passengers is very different from rail users, motorists and cyclists, with a much higher percentage of those on lower income travelling by bus. It helps to explain why fuel duty has been frozen for six consecutive years despite rock bottom oil prices: the motoring lobby is powerful. Cheaper fuel reduces the competitive position of the bus versus the car.

We need more bus champions in the UK in local, devolved and central government. The bus is the most efficient user of road space, crucial for the health of our city economies and a vital part of an environmentally-friendly local sustainable transport system.

Bus companies need to get better at communicating with their customers to keep them better informed. This would also help them to mobilise support from their customers for pro-bus measures such as bus priority. It would be a rare event for a bus passenger to lobby politicians for improved bus priority; it's much more common for non-bus users to complain about priority measures. Local politicians who are making brave decisions to allocate road space for bus passengers need as much support as they can get from their local bus companies

SUMMARY OF FIVE POINT PLAN RECOMMENDATIONS

1	Bus speed targets
2	Demand management
3	Bus priority
4	Speed up dwell time
5	Mobilise bus passengers



06.

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07.

**APPENDICES
/CASÉ
STUDIES**

BRIGHTON

Brighton and Hove has long been considered to be a beacon of best practice on bus policy, resulting in strong bus growth and very high per capita bus use. The number of bus journeys in Brighton & Hove has doubled in the last twenty years with bus journeys rising from 22 million in 1992/93 to 44.8 million in 2012/13. This was in marked contrast to the national story on bus use where the figures showed a continuous decrease in passengers.

- This impressive rise in bus use has been facilitated by the favorable climate created by an excellent local bus company working in partnership with Brighton & Hove City Council, who have implemented a number of pro-bus measures, including:
 - A network of priority bus lanes on key routes, such as the Western Road/North Street corridor, the A259 coast road and the A270 Lewes Road
 - Real Time Information signs at bus stops that let people know when buses are due – these have also increasingly been installed in buildings so that people can time when they leave to avoid waiting for the bus. The system can also be accessed from mobile phones and Brighton & Hove Bus and Coach Company was the first bus company to launch an iPhone app to do this
 - Being the first council to introduce ‘talking bus stops’ for visually impaired people so they can access the ‘real time’ information and be independent travelers
 - Bus priority at traffic signals which gives buses a head start in traffic, delivering passengers to their destinations quicker and helping with punctuality
 - In 2004, Brighton & Hove became the only English city, outside London, to have a commercially viable night bus service when the bus route N7 was launched. This was subsequently joined by other commercially operated night buses by the bus company
 - A Quality Bus Partnership that has produced a number of initiatives, including making bus stops more accessible (providing a level surface from the pavement onto the bus)
- Joint work on specific projects with bus companies on improving routes, such as the Lewes Road transport corridor and the better bus area for Edward Street, Eastern Road and Valley Gardens
- Support through winning EU funding to enable the bus company’s smartcard (known as ‘the key’) to be available on local trains and tendered bus routes operated by other bus companies enabling people to prepay their journeys on a card that can be scanned on the bus. The bus company has also introduced extensive use of mobile phone based ticketing
- Breeze Up to the Downs, a successful partnership service that links buses from the centre to some of the most popular countryside destinations outside the city

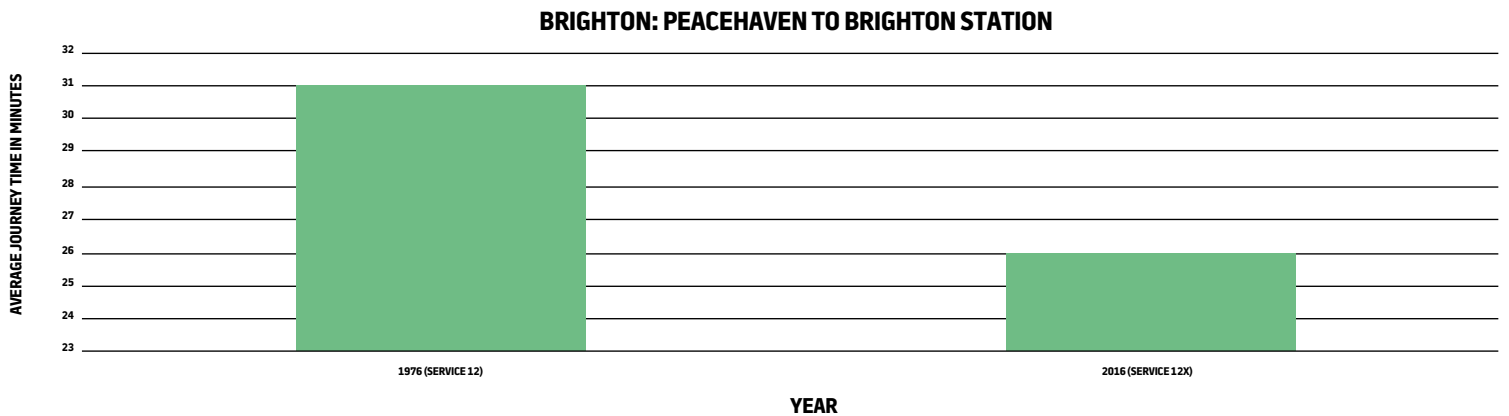
The most critical of these factors behind the impressive growth has been the council’s long held commitment to bus priority which has allowed for the creation of a virtuous circle whereby the bus operators have been able to invest in new vehicles, smarter ticketing, more frequent services, encouraging more people to use the bus. From the mid-1990s to date, a significant length of bus lanes have been introduced: through the city centre, the Coast Road as well as the road accessing the two universities which allowed buses to bypass long, regular traffic queues.

The most dramatic effects have been seen on the Coast Road where the reason for the bus lane was to bypass regular queueing traffic. On the Peacehaven to Brighton Station service (Route 12 and all its variants) since the bus lane was introduced not only are bus journey times shorter but they are much more predictable. There has been a 16% improvement in journey time since 1976 and a 4% improvement per annum. Journey time is actually 7 minutes faster today than it was in 1966. It shows what can be done and how we do not have to accept declining bus speeds as being inevitable. The number of passengers on the main route to use the bus lane has increased by 63% between 2007 and 2015, although data is not available on the extent of diversion from other modes.

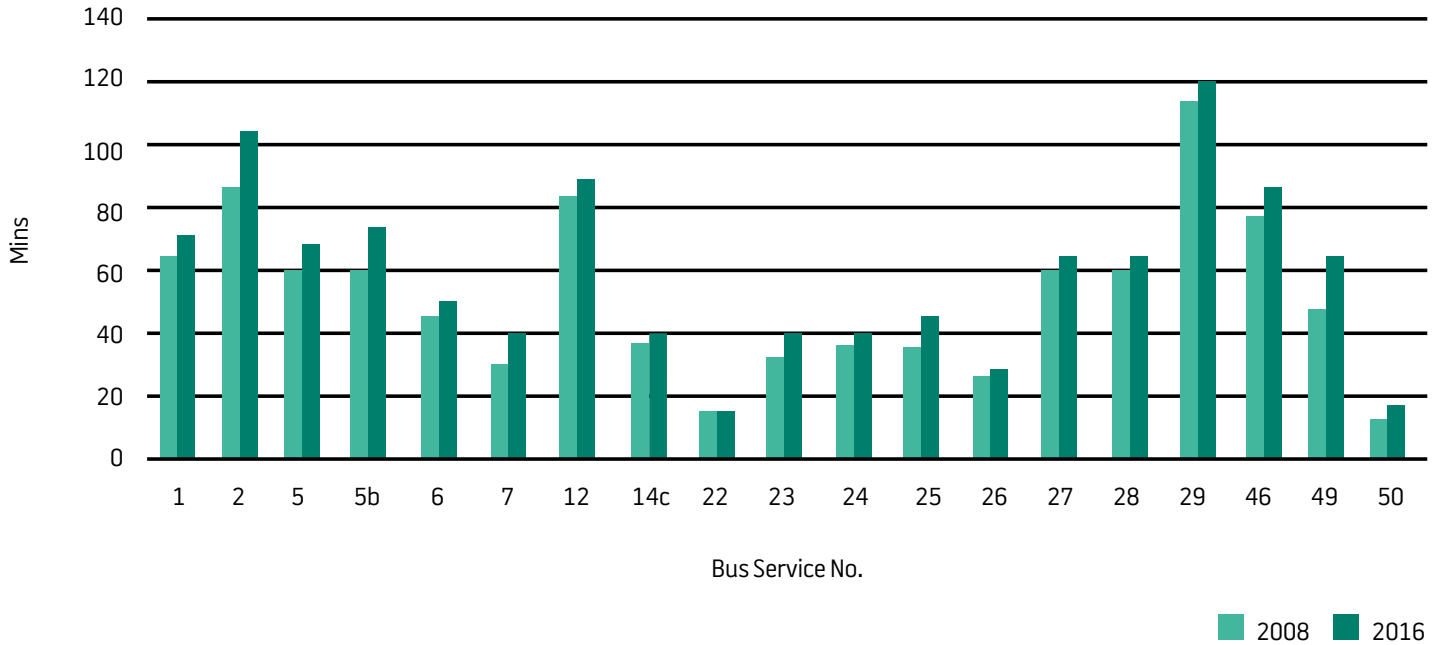
07. APPENDICES / CASE STUDIES

In 2012 the operator carried out a simple survey on the Coast Road by counting the number of vehicles and the number of occupants in each during the morning peak and found that buses made up 2% of the number of vehicles but carried 45% of the people.

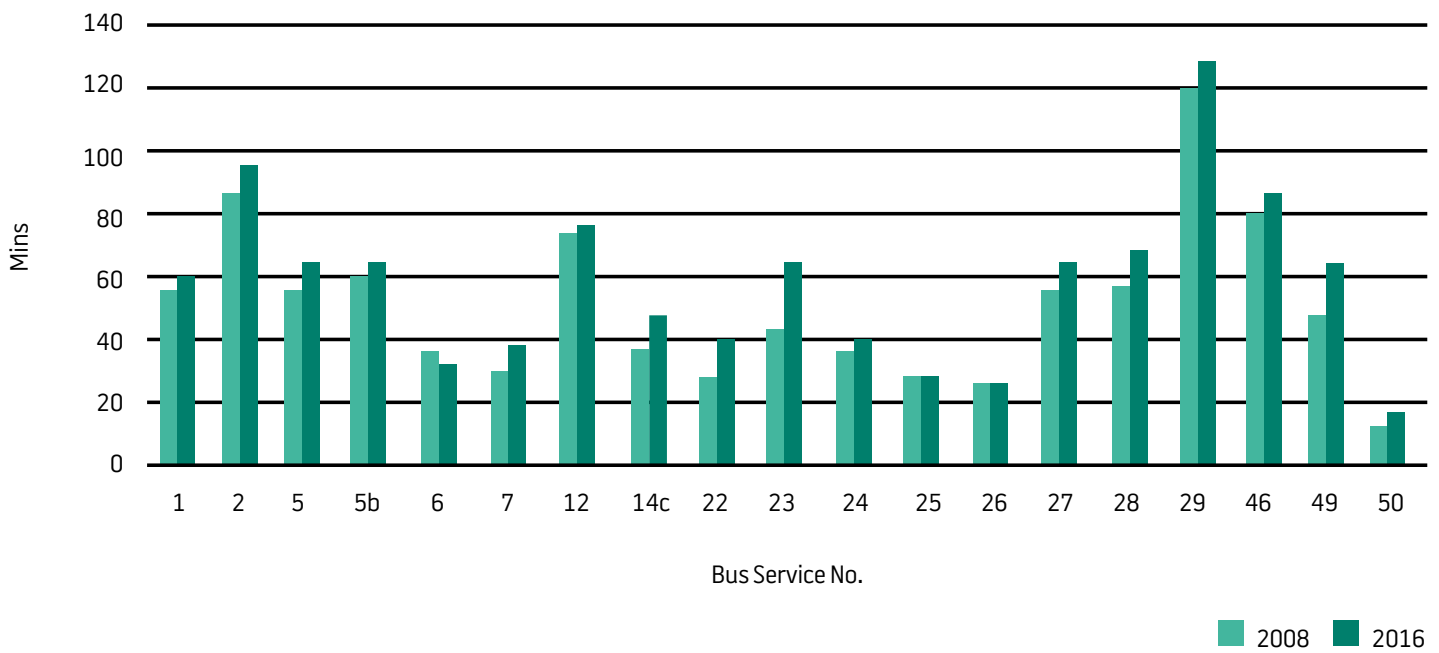
However, the south coast city has experienced a sharp increase in congestion levels over the past decade culminating in Brighton along with Gloucester coming out worst for congestion, with an average increase in journey time of 1.5% per annum. Unsurprisingly, this has had a detrimental effect on bus operations and without further action, could jeopardise the status of Brighton as a shining light in sustainable transport use.



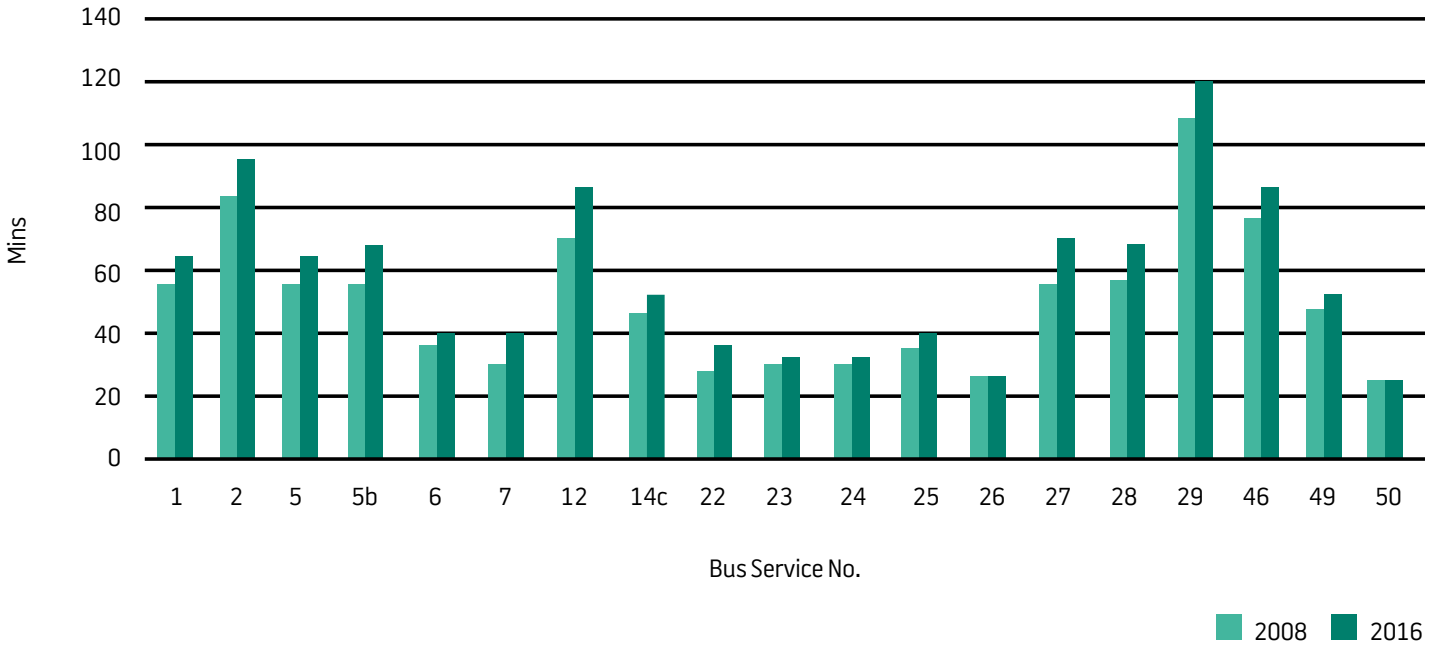
BUS SERVICE RUNNING TIMES EASTBOUND PM PEAK: 2008 v 2016



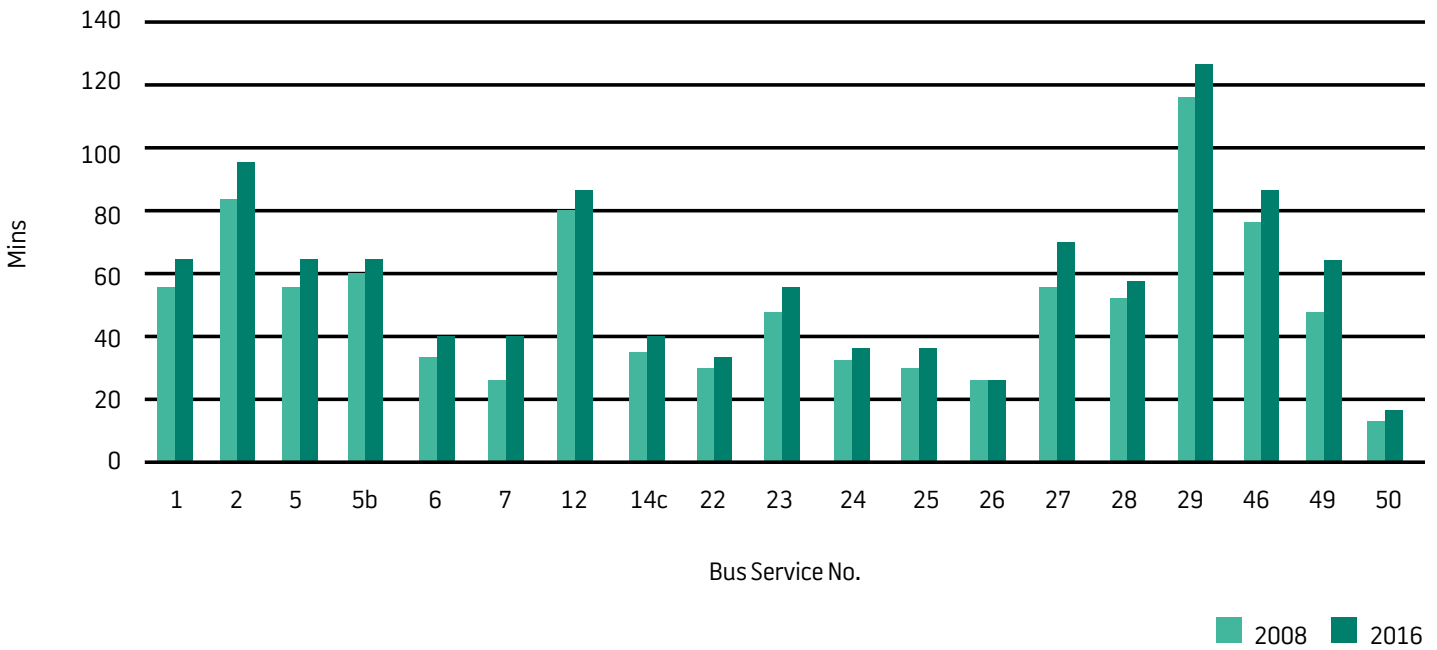
BUS SERVICE RUNNING TIMES WESTBOUND PM PEAK: 2008 v 2016



BUS SERVICE RUNNING TIMES EASTBOUND PM PEAK: 2008 v 2016



BUS SERVICE RUNNING TIMES WESTBOUND PM PEAK: 2008 v 2016



A study by one of Brighton's bus operators of running times (the maximum running time for each direction, by am peak, daytime, and pm peak) for each route shows that, on average, peak running times in the city have increased by about 13% since 2008, or put another way, bus speeds have declined by this amount.

This has led to operators having to increase the PVR just over the last few years just to maintain the required service level in the face of this congestion. Another report showing worsening services (and operational costs increases) demonstrates how although the maximum running times appear reasonable, the peaks are starting earlier and finishing later. For example instead of using daytime running times until 4pm and then longer peak running times until 6pm, the longer peak running times are now needed between 3.30pm and 6.30pm.

BRISTOL

Over the last decade and in particular since the four local authorities in the West of England (Bristol, North Somerset, South Gloucestershire and Bath & North East Somerset) came together to form a partnership to deliver on areas like transport, Bristol saw large improvements to bus priority, principally under the auspices of the Greater Bristol Bus Network.

The Greater Bristol Bus Net recognised the vital role that bus services had to play as the backbone of cost effective urban public transport systems. An effective partnership between the commercial bus operator and the local authorities delivered a series of bus network enhancements which brought 10 key routes up to showcase standard, with:

- Over 120 new buses
- Nearly 1,000 improved bus stops - new shelters, new information panels, level access
- More than 300 new real time information displays
- New bus priority signals at junctions that turn green when buses approach helping them stay on time
- Bus priority lanes allowing buses to bypass general traffic
- Road widening in key traffic hot spots

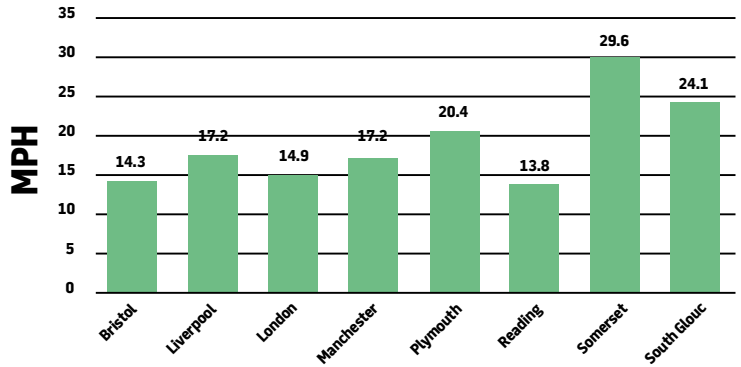
In 2017, the long gestation of the Metrobus project – high priority and high speed bus services connecting several parts of Bristol that will link in with existing bus and rail services – is set to become operational in 2017. It will be operated with modern, low-emission vehicles that will run on segregated bus ways and bus lanes which have right of way over traffic on sections of the route. Bus stops will provide electronic, real-time information displays with fast-boarding and smartcard ticketing. In 2015, the bus company carried 54 million passengers in the West of England, a 20 per cent increase from two years ago.

Despite active promotion, an increase in use of public and active transport in the city, and being selected as the European Green Capital for 2015, Bristol has a severe congestion problem with regular grid-locks an all-too-familiar feature of local life. The Department for Transport's figures show that Bristol is in fact the most congested city in the country and that traffic moves slower during peak times than any other city, including London. On A roads in peak times, the average speed of vehicles in Bristol is 14.3 mph (compared to London's average of 14.9mph). The city's latest average represents a drop from 14.5mph in June 2014 and 15mph the year before.

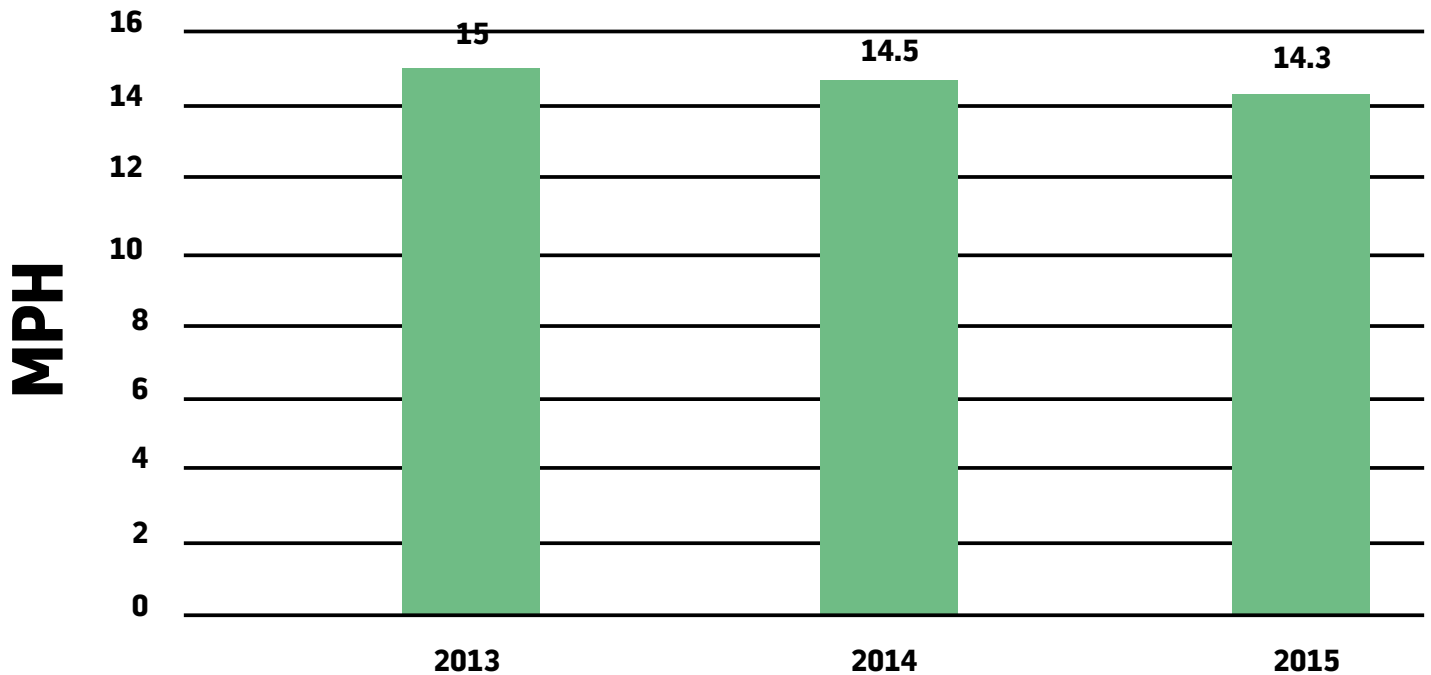
Bristol is a busy city and the urban hub of the West of England sub-region with half a million car users travelling in to the city each day. A historic deficit in transport infrastructure, with lower than average public transport for a city of its size, high levels of car ownership (during the period 2012-2015 the DVLA recorded an additional 18% of vehicles registered in the West of England partnership area), a rapidly rising population (+12,000 a year in the city alone) as well as increasing prosperity has seen traffic levels and congestion at breaking point during peak times. This has had a seriously adverse impact on bus journey times and reliability.

The reality is that Bristol’s new directly elected Mayor, Marvin Rees, will have no choice but to tackle the problem head on and follow in the vein of his pro-bus and pro-public transport predecessor, George Ferguson.

AVERAGE VEHICLE SPEED IN AM PEAK



REDUCTION IN VEHICLE SPEEDS IN BRISTOL 2013-15



EDINBURGH

Edinburgh’s Greenways.

This year marks the 20th anniversary of Edinburgh’s radical Greenways bus priority scheme. It has won plaudits from transport professionals and central government: “Edinburgh Greenways scheme is successful” (DFT: 2010. “Bus Priority – The Way Ahead”) and “Edinburgh’s Greenways have proved to be a high profile and effective form of bus priority which substantially insulates the buses using them from the worst effects of congestion”(The Scottish Executive Central Research Unit 2000).

I need to declare an interest as I was the politician responsible for Greenways. While it’s reassuring to receive plaudits from fellow transport professionals I still, 20 years later, get stuck when I return to my native city!

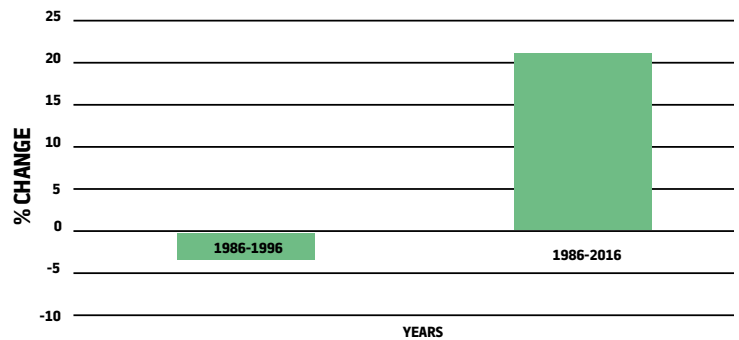


Look how green the bus lanes are! They look nothing like this now as they are not as well maintained.

You were 15 times more likely to be caught by a traffic warden for illegally encroaching on a Greenways bus priority, compared with a conventional bus lane.

What is startling about the bus journey time data from Edinburgh is that from 1986 to 1996 all day average bus speeds – as a result of good conventional bus priority followed by Greenways – bucked the UK trend and actually improved by over 5%. It’s the only conurbation wide example in the UK where bus journey times have actually improved over a prolonged period. From 1996 to 2016 journey times in Edinburgh revert to the UK wide trend and declined by 20%

EDINBURGH: % CHANGE IN AVERAGE JOURNEY TIME (AM PEAK)

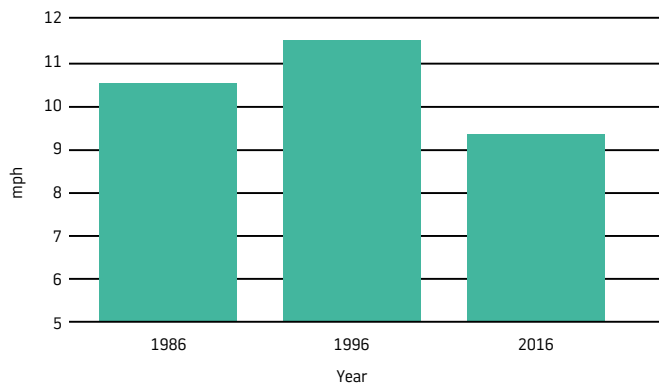


The City of Edinburgh Council needs to stand firm against those who want to dilute Greenways enforcement and point to the fact that bus speeds are now falling by 10% every decade.

Whilst the Greenways in Edinburgh were a bold and strategic way forward for the mass movement of people in the 1990’s their effectiveness has declined over the last 20 years. There are a number of measures the City of Edinburgh Council can take to reverse the upward trend in bus journey times:

- Review traffic signal timings. Best practice would indicate that this should be done every three years.
- Don't become too reliant on camera enforcement of bus priority lanes. With only 9 road side camera's to enforce over 60 km of bus lanes there are too many unauthorised vehicles using them.
- Properly maintain Greenway's. They no longer look green and the white line segregating the bus lanes from general traffic should be clearer. The Council should allocate a proportion of the annual dividend they receive from Lothian Buses to finance bus lane maintenance and enforcement. It would provide the Council with a great financial return through increased patronage and higher future dividend payments. A 10% improvement in bus speeds would result in an increase in passengers of between 10% and 14%.
- The 9 month trial they have embarked upon to remove bus priority during the off-peak should not be made permanent. If it is this will lead to a permanent reduction in off peak bus speeds and patronage with a consequential impact on dividend payments.

EDINBURGH: AVERAGE SPEEDS (MPH) OFF PEAK



The data from Lothian Buses shows that bus speeds have declined by 19% over the last 20 years even during the so called off-peak! This evidence should persuade the City Council that the trial should not be made permanent.

Lothian Buses are one of the best bus companies in the UK and the vital backbone of Edinburgh's public transport system. They deserve the very best level of protection from rising traffic congestion.

GREATER MANCHESTER

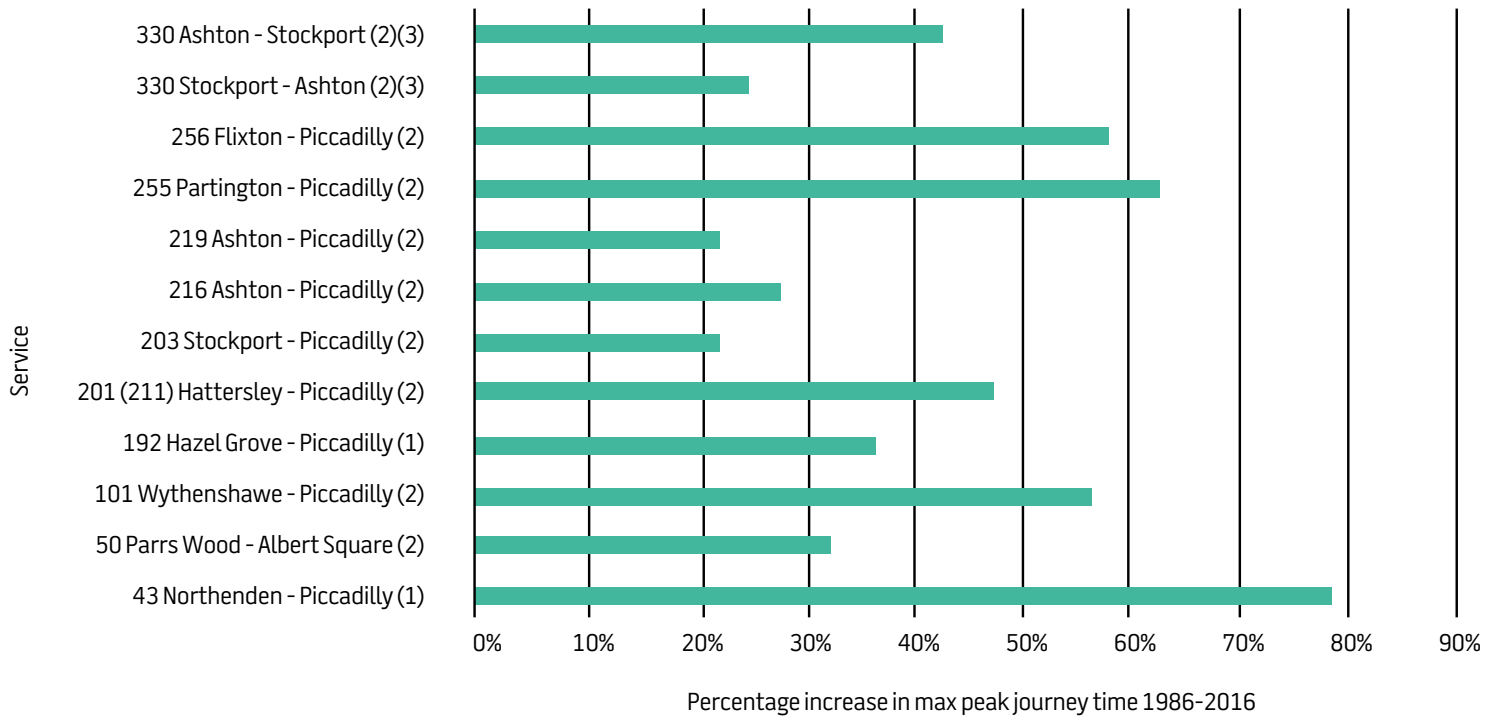
TfGM is delivering the largest contemporary urban public transport investment programme outside London, working closely with district authorities in order to create a world class public transport network in order to achieve world class city status for the city of Manchester. The aims of its public transport network are to increase sustainable travel and reduce car travel, cut congestion, improve the environment and allow communities to flourish. Critically, its public transport system is designed to provide access to jobs and strengthen the Greater Manchester economy – the largest regional economy outside London

Data relating to travel demands to the city centre during the AM Peak period (0730-0930) show that the number of inbound movements that cross the cordon using a car has reduced by 22% (-7,123) over the period between 2006 and 2014 as investments in public transport attracts increasingly greater proportions of commuters.

Its impressive investment programme includes the expansion of Metrolink, major transport interchange facilities and extensive bus priority and busway schemes, investment to boost rail travel, significant cycling, town centre and highways improvements, and evolving integrated travel information systems.

However, traffic congestion on the region's highways has reached such a level that it has begun to seriously affect ridership on non-congesting forms of travel, most critically the bus. Ironically much of the congestion has been caused by disruption from the construction and development of public transport infrastructure designed to strengthen bus operations (and other public transport), which have temporarily reduced or eliminated highway capacity. Coupled with traffic growth of 4% per annum, emergency highways repairs and population (the number of city centre residents grew 177% between 2001 and 2011) and employment growth (district of Manchester has seen a 31% increase in residents of working age between 2010 and 2014), congestion has increased to unprecedented levels. This has produced extremely challenging conditions for bus companies.

MANCHESTER MAX PEAK SPEED

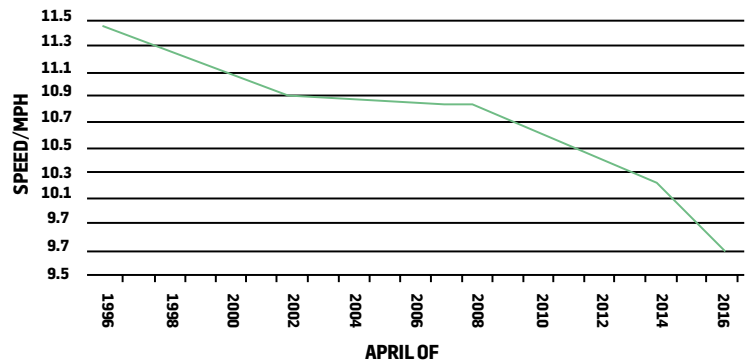


According to bus operators, this has resulted in average bus service punctuality over the last two years being reduced by 10 per cent. On the poorest performing days, this can reach 50 or 60 per cent below the regulatory target.

Bus operator data shows that this reduction in punctuality has led to longer journey times (up to 100% longer in the evening peak on cross-city routes and also longer in the mid and late evenings); gaps in service as controllers attempt to re-schedule and re-allocate resources; increased regulatory risk (3 DVSA investigations over reduced punctuality ongoing); doubling of lost mileage; a 10% increase in customer complaints; an increase in staff overtime payments (up 400% in the last quarter of 2015); and, critically, plans for permanent reductions in peak period service levels.

The same data shows additional vehicles have been deployed daily since November 2014, from at least 2 to a peak of 17 between October and December 2015. It is currently 5. Average journey speed has fallen from 11.2 mph in 1996 to 10.2 mph in 2014, and then to 9.7 mph in February 2016.

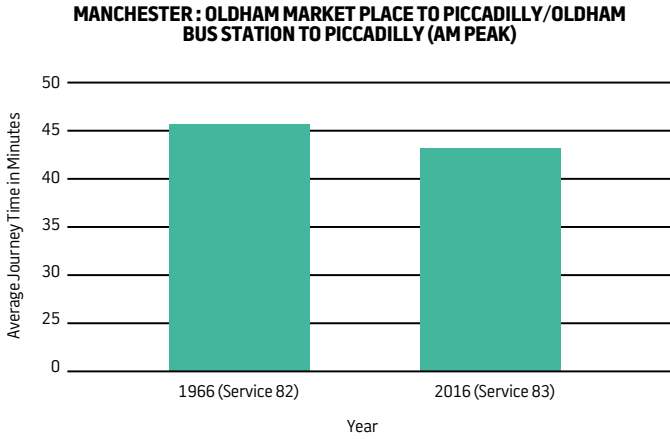
AVERAGE BUS SPEED OF MANCHESTER



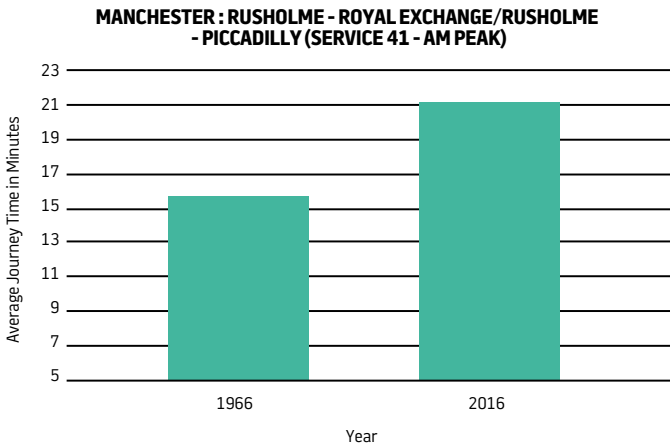
Several services have observed average peak journey time increases of between 40 and 60 per cent and from January 2016, peak period headways have been widened on several services. 89 timetables have been adjusted for headway or journey time since May 2015.

For the services in South Manchester below, Stagecoach have added 42% more PVR's since 1986 due to impact of congestion on running time. Overall 125% more PVR's due to also increasing frequencies.

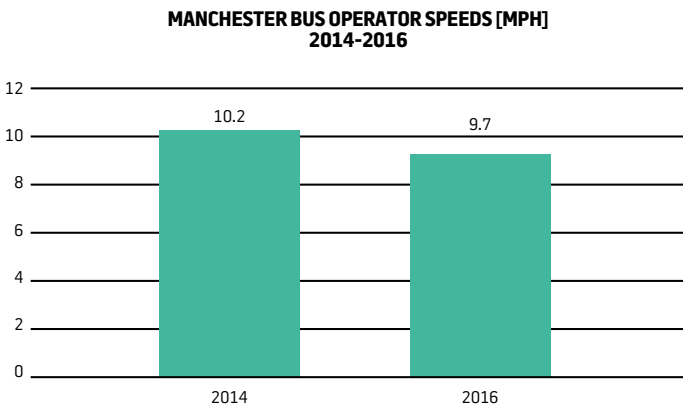
Average mileage is down by 3% year on year (4.5% after allowing for a service enhancement) and critically, passenger numbers are down by 2.4% on year (after allowing for service enhancements). These figures are despite operating hours being up by 0.4% on the year.



35% increase in journey time. 0.7% p.a.



31% increase in journey time 0.62% p.a.



The long term data shows a decline in bus journey times of between 0.6 and 0.7% per annum from 1966, on the two sections of route above, that I was able to compare current timetables with historic.

This compares favourably with the UK trend which is nearer 1% per annum decline.

However, it is the dramatic increase in journey times over the last few years which are much more worrying. Data shows how Stagecoach’s average bus speeds decreased by 4.9% between 2014 and 2016, way above the average trend of 1% per annum for the six most congested conurbations.

TfGM publicly recognises that traffic congestion on its highways is a real challenge and is undertaking a broad programme of activity that recognises the role and further potential that buses have in helping meet the challenge of congestion and equally, the effect congestion has had on bus operations across Greater Manchester. In particular, it is recognised that there is limited resilience on key parts of the highway network, and that relatively small increases in demand can cause significant levels of congestion. Hence there is a key role for bus, functioning efficiently within a more integrated public transport network, to attract as much demand as possible thereby helping reduce highway congestion in aggregate.

Based on the success of its £88m Quality Bus Corridors implemented between 1998 and 2008, TfGM showed its continued commitment to bus priority by implementing its £122m Bus Priority Package from 2008 to date. Patronage on its QBC routes had increased by 7.9m journeys (18.6%) between March ‘04 and July ‘08 and the “gap” between car and bus journey times reduced, increasing bus competitiveness. Safety also improved in the location of major QBC schemes with an average reduction in all accidents of 19%; and average bus speed in bus lanes was 25kph, 38% faster than the average speed of 15kph where bus lanes were not provided. The study also showed marginally improved average journey times for general traffic.

These achievements led it to embark on its £122m Bus Priority Package which is one of the largest investments in Greater Manchester’s bus network for decades, with over 25 miles of the network being either created or improved. The investment

will allow cross city bus services to run directly through the heart of Manchester city centre so passengers won't need to change buses. It will also improve accessibility and connectivity between areas in the north and west of Greater Manchester to the Regional Centre and Oxford Road. This includes the North West's first guided busway which opened in April 2016.

In the short term, some disruption during construction phases is inevitable, but close liaison between TfGM with all agencies including bus operators and careful forward planning will hopefully help mitigate the effects. And in the longer term, investments such as the Cross City bus priority schemes confer significant operational and efficiency advantages for bus operations.

Looking ahead, as part of the 2040 Greater Manchester Transport Strategy, assessment is underway of key locations causing bus delays. A long term strategy for bus priority investment is in development, an integral part of the Highway Strategy for Greater Manchester

HULL

Through a Quality Bus Partnership approach between Hull City Council and the two main bus operators, Stagecoach in Hull and East Yorkshire Motor Services, bus patronage has grown by 30% since 2002/3 with around 26 million bus journeys being taken on the city's combined bus network each year. This represents twice the rate of growth achieved throughout the country during the same time period. This is also the equivalent of cutting more than 3.5m car trips from the city's roads.

Such impressive growth has been the result of improved fares structures; Park and Ride schemes; extensive bus priority; a major new transport interchange; award winning marketing campaigns and the bus lane enforcement scheme.

Despite such a success story, congestion in Hull is a major issue which is impacting significantly on the city's radial routes and the A63 Trunk Road Corridor. The latest research by 'Tom Tom' identifies that Hull is the sixth most congested city in the UK. There are a number of factors behind the severity of congestion levels. Car ownership and car use in Hull is growing. The city's role as a strategic port and a 'gateway to Europe' creates

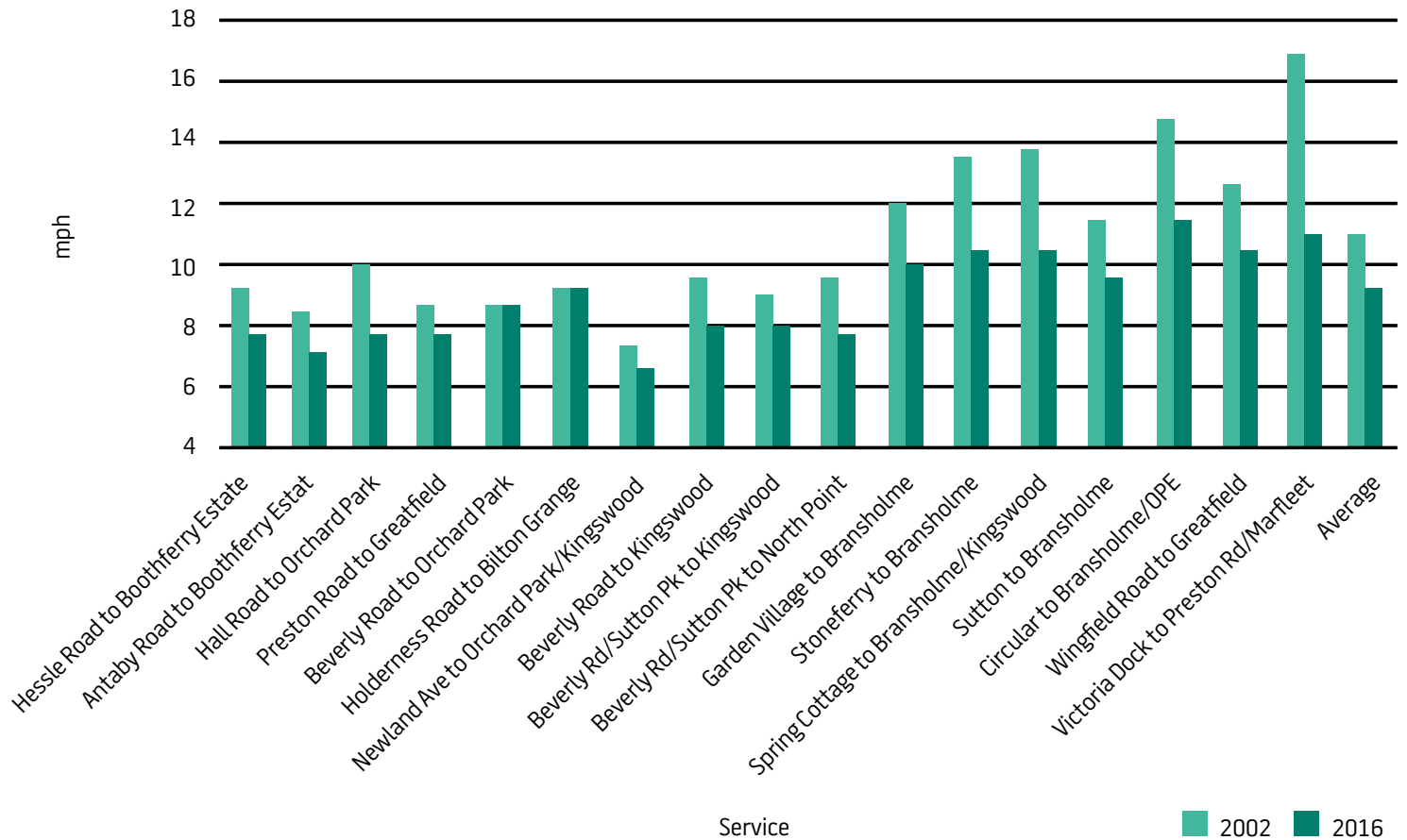
additional traffic which has to pass through the city centre to access and depart from the docks on the eastern side of the city, making the A63 trunk road the most congested part of the local road network. The reduction in Humber Bridge tolls led to a 25% increase in traffic with most vehicles going in to Hull on the A63.

According to the Tom Tom study, journey times on Hull's roads are on average 33% slower than they would be in free flowing traffic. According to the Department for Transport's Average Delay on Local A Roads 2014, Hull experienced an average delay of between 60 to 90 seconds per vehicle mile which it categorizes as high levels of delay. DfT statistics show that between December 2014 and December 2015, the average speed on local roads during the weekday AM peak fell from 16.7 mph to 16.1 mph. It also shows that during the last quarter of 2015 alone, speeds fell by 1.3%.

Inevitably, Hull's congestion problem has had an adverse impact on buses. Additional buses have been added to the network simply to increase bus running times to reflect lower traffic speeds and the effect of traffic congestion. Bus operator data has quantified the effect of increased congestion by recreating and comparing the resources that would have been required to run today's service levels using 2002/3 bus running times and schedules. Bus speeds have slowed from 10.8 mph to 9.1mph and the current network could be operated with 15% fewer buses in the traffic conditions experienced in 2002/3.

The city council and in particular Councillor Martin Mancey, has continued to be supportive of pro bus measures and public transport in general, which it has voiced as being the only solution to reducing some of the congestion in the city, and regularly encourages people to switch from using their cars to non-congesting modes. However, budget cuts are now biting, with the council unable to afford to submit the planning application for an additional park and ride. Given the city's strategic role as an international trading route, a continued rise in congestion is not only going to continue to negatively impact local bus services but on both the local and national economies

HULL BUS SPEEDS BY ROUTE



LONDON

In London bus speeds have been declining faster than anywhere in the UK over the last few years. This comes after decades of relative success in protecting bus passengers from traffic congestion through effective bus priority measures, such as red routes and other initiatives, and the central congestion charging zone introduced in 2003. If the average urban bus speed in the UK has historically been decreasing by almost 1% p.a., then for one-third of London bus routes the decline been more than five times this average over the past year. This has become a crisis for the capital and something the new mayor must prioritise. London, which for more than a decade has been the UK's bus success story, with passenger numbers doubling since the formation of TfL in 2000, is now facing the fastest decline in bus use anywhere in the UK.

There is a key lesson to be learned from this. You can get all the other ingredients right: modern bus fleet, cashless buses with the most advanced smartcard ticketing system in the world, a level of integration which is the envy of other UK cities, state-of-the-art passenger information at the bus stop and on mobile devices. Add to this population and employment growth and you should have a recipe for the London bus success story continuing. But all these laudable ingredients cannot offset the rapid deterioration in bus journey times.

Boris Johnson was right to warn that his successor will have to use tougher congestion charging measures to tackle London's growth in congestion, but it's a pity he did not take action on his watch. When his term as London Mayor ended, Boris Johnson warned his successor that he will have to take action to cut

traffic volumes by increasing the congestion charge. However, this solution has resulted from the decisions he took during his eight years in office. He exacerbated the problem by removing the western extension of the congestion zone and by reducing road capacity in central London by 25% on key routes through the introduction of cycle superhighways – without taking action to curtail traffic in central London. Both decisions were taken against the advice of TfL.

London Buses have undoubtedly been one of the Capital’s success stories, however, recent growth in traffic and congestion over the last few years have undermined bus speeds and reliability to the degree that buses are now facing a crisis.

The historic pattern of slowly declining patronage was dramatically reversed in the late 1990s to one of strong growth. Over the 13 years from 2000/01 to 2013/14, the number of bus journey stages in London increased by 59.9 per cent, and passenger-kilometres grew by 73.8 per cent. More than half of all bus journeys taken in England are made in London.

However, this upward trend in bus patronage levelled off in recent years and over the period between 2014/15 and 2015/16, patronage actually declined by 71 million journeys which represent a decline of 3% year on year

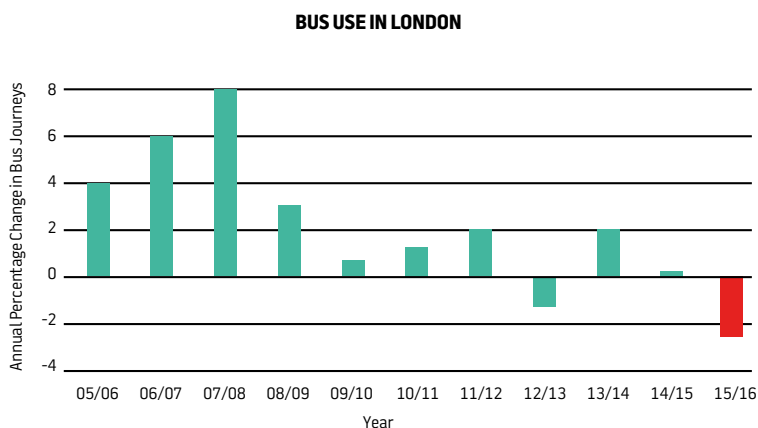
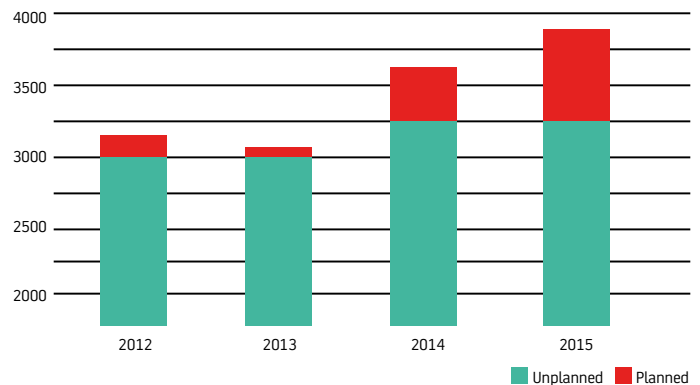


FIGURE ES4: LONDON SURFACE TRANSPORT DISRUPTION HOURS, 2012 TO 2015



ref: Inrix London Congestion trends May 2016.

The primary cause of this significant decline in patronage is the increased road congestion caused by London’s population growth and the construction of major highway and urban improvement schemes which has led to severe pressure on the road network. This has caused such a deterioration in traffic speeds and bus network reliability that frustrated passengers have stopped using the bus as much as they would have previously.

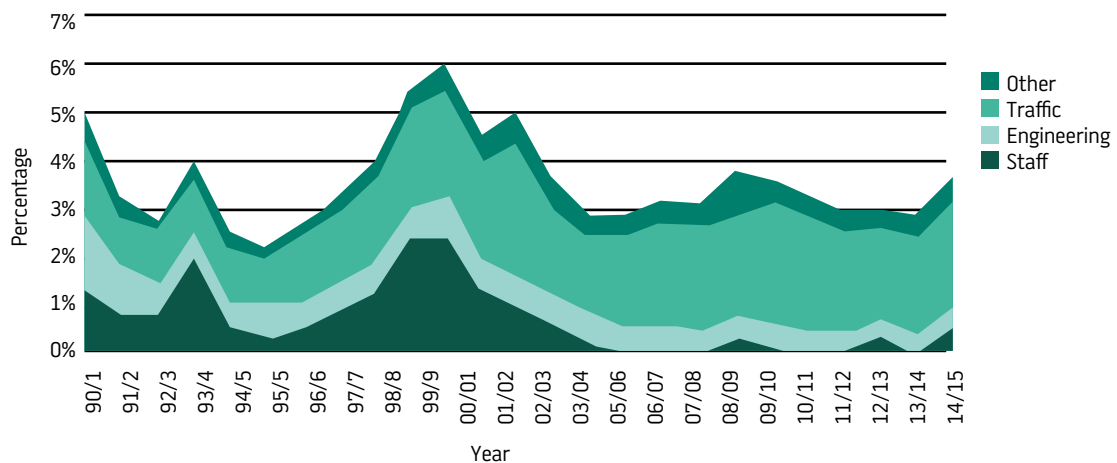
While levels of road traffic had been falling for much of the last decade, they have increased for the last few years. Car driver trips increased by 1.2 per cent in 2014, the first increase since 2009. During 2014, traffic volumes started to increase in all parts of London – by 3.4 per cent in central London, 1.4 per cent in inner London, and 1.9 per cent in outer London (1.8 per cent at the Greater London level), relative to 2013.

Congestion, as always, is caused by demand exceeding supply. What is interesting about the recent sharp rise in congestion in central London – increasing by 12% per annum since 2012(Inrix London congestion trends May 2016) is that it is mainly a supply side problem. Demand for road space has remained relatively flat, with the growth in LGV’s and private hire being largely offset by a decline in car traffic. It is the substantial reduction in road space, with planned roadworks increasing by 362% over the last 3 years, which has led to significant increases in congestion. It is to be hoped that many of the road closures are temporary with major capital works such as Crossrail and Cycle Superhighways reducing available road space.

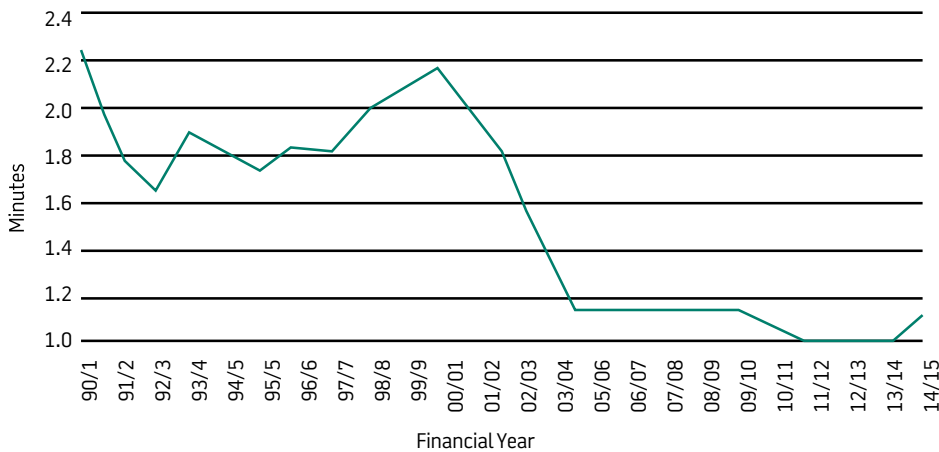
The knock on effect for buses in London is that bus speeds have declined faster than anywhere in the UK over the last few years. This comes on the back of decades of relative success in protecting bus passengers from traffic congestion through effective bus priority measures, such as red routes and other initiatives, and the introduction of the central Congestion Charging Zone (CCZ) in 2003. Speeds increased by

14.6% (comparing speeds 3 months before to 3 months after) in the CCZ following the introduction of the charge, however, since 2004 bus speeds in London have been gradually decreasing to below pre congestion-charging levels. Bus operations have suffered as a result. Bus kms lost for traffic reasons rose from 1.8% in 2012/2013 to 2% in 2014/15 and average excess waiting time (mins) on high frequency services rose from 1.02mins to 1.09mins.

LOST KILOMETRES BY CAUSE



EXCESS WAITING TIME FOR HIGH FREQUENCY BUS SERVICES



The greatest decline in speeds was noticed in Tower Hamlets and Lewisham with reductions in excess of 3% per annum, with the south-east the worst-affected region. Route level data reflects this picture, with 474 routes out of 528 considered showing a decline in speed in 2015/16, 158 of which declined by more than 5% (routes with low levels of service operated were discounted). TfL has closely monitored bus speeds in London since shortly before the introduction of the congestion charge in February 2003.

Bus speeds in Central London have declined by around 7% in the last 8 years (see graph below). Working on the basis that average urban bus speeds in the UK have historically been decreasing by around 1% per annum, then on one-third of London bus routes they have been decreasing in speed by more than five times higher than this average over the past year. The current speed of the Route 11 bus which is averaging 4mph in the peak, epitomises the level of crisis that this has become for the capital and something the new London Mayor, Sadiq Khan, must prioritise.

TfL are facing swinging cuts to their revenue budget. Public transport is expected to operate without any revenue subsidy by the beginning of the 2018/2019 financial year. London and Hong Kong will be the only major cities in the world to achieve these target. The new Mayor has committed to a fares freeze which raises the question who is going to pay for bus services in London if it is not coming from the taxpayer and passengers will not make up the difference in higher fares. The solution is to operate buses more efficiently by improving their speed. If London is to eliminate the £461 million per annum subsidy its bus network then bus speeds would have to improve by 24%.

The rise in congestion is reducing TfL's potential bus revenue and is not being fully offset with patronage gained from elsewhere on the public transport network. TfL is working to reverse the loss of bus revenue and patronage through a combination of special route reliability measures, improving the flow of traffic through new bus priority initiatives and through greater incentivisation of performance in outer London.

London Buses have already become the butt of media jokes in the media with speeds being compared unfavourably with a donkey (ref Sun) and a chicken (ref Hackney Advertiser). Some of these media comparisons on journey times in London are worst case scenarios and made in a jovial manner. While bus speeds in London have fallen dramatically in recent years they provide an insight into where the trends are taking us in the rest of the country unless radical action is taken especially given that congestion in inner London is projected to rise by 25% and in outer London by 15% by 2031.

London has led the world on cashless buses, which have had a dramatic impact on reducing dwell time at bus stops. The 0.5 seconds per transaction on London buses is unrivalled anywhere in the world. Dwell time has been cut by at least half. Transport for London believes that the total run time of buses has been reduced by about 7-10%.

Most of the operating cost of buses is directly driven by run time, so that translates into a straight saving of some £120-180m annually. This dwarfs the one-off cost of introducing Oyster (£50m) and contactless (£68m).

If London-style cashless buses and contactless payments could be extended to the rest of the UK, bus journey times would improve by up to 10% by halving dwell time at bus stops.

department at [REDACTED]

Company Name: Stagecoach Group plc

Registered Address: [REDACTED]

Registered Number: [REDACTED]

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