Cities in crisis? How the Bus Services Act can improve air quality and reduce congestion

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Across the UK, large towns and cities are suffering from deteriorating air quality and chronic levels of traffic congestion, which affect public health as well as the economy. Robert Montgomery, formerly Managing Director of UK Bus at Stagecoach Group plc, and Matthew Shepherd, Oxera, explore how public transport can provide a solution to these problems, and consider the role of public/private sector transport partnerships

Over 40,000 deaths a year are attributable to poor air quality, with air pollution being directly linked to cancer, asthma, strokes, heart disease, diabetes, obesity and dementia.[1] The cost to the economy is estimated at £20bn per annum. Both government and local authorities have a legal requirement to improve air quality.

This health crisis has been exacerbated by rapidly increasing levels of car ownership and use, encouraged by low fuel prices and greater financial incentives to own cars through cheap, innovative leasing arrangements. Every large town and city in the UK is now blighted by growing levels of slow-moving traffic which, in addition to worsening air quality, is costing the economy another £30bn per annum.[2]

Collectively, we are wasting £50bn every year in making our largest towns and cities unpleasant and unsafe places to live. In addition, transport is one of the largest sources of carbon emissions contributing directly to climate change.[3]

Urban mobility

Mobility is a key requirement in our growing towns and cities but, currently, that requirement is largely being met in the least efficient and most unhealthy manner possible through a focus on a growing number of private cars shoehorned into limited road space and moving at ever slower speeds.

Air quality and congestion, and their impact on health and the economy, will only get worse unless there is a clear change in direction.

The only way to shift more people with fewer vehicle movements is to significantly increase the level of ride-sharing on major corridors, particularly at peak travel times into and out of urban centres. That implies substantial modal shift towards public transport. This finding is at the centre of urban planning in many major European cities, including Paris, Brussels, Berlin and Rome.

Bold policies followed by successive Mayors of London over the last 15 years have driven modal shift from car to bus and the London Underground, with both modes showing considerablegrowth over the last 15 years—use of the Underground grew by 42%, and bus use grew by 71% between 2000/01 and 2015/16.[5] We have seen demand for rail travel grow exponentially in recent years as people look to find a faster, more convenient way to access urban centres—particularly London, but also other large cities.

There is, therefore, considerable potential to resolve the air quality and traffic issues in the UK's major towns and cities through modal shift from car to public transport. Different modes of transport have different benefits: rail can offer very high capacity, but at the cost of being expensive to deliver, with long lead times, and taking significant amounts of scarce urban land unless it goes underground (which makes it much more expensive); buses are relatively cheap and very flexible, running on existing road networks, but able to offer lower capacity than rail; light rail and trams lie in between buses and rail in capacity, cost and flexibility.

Given the flexibility and relatively low cost of buses compared to other modes of transport, they are an important part of the way to deliver the mobility that large urban areas need, as a key component of the overall package of public transport.

However, outside London, bus services are too often inhibited from being punctual and reliable by the acute levels of traffic congestion that wreck reliability, lengthen journey times, and depress demand.

Research by Professor David Begg for the Greener Journeys campaign, estimates that demand for urban bus services is falling at 10–14% per decade as a direct result of traffic congestion.[6] He argues that the cost of delivering good-quality bus services is increasing by 8% per decade due to the effects of congestion, and that the problem is now

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also beginning to turn the growth in bus use in London into decline.[7]

Research by Transport Focus has clearly identified that people will travel by bus in urban areas if the service is punctual, reliable and good value for money.[8] The key question is therefore: 'how can these aspects best be delivered to produce the mode switching which is so important to addressing air quality and congestion?'

The bus solution

The Bus Services Act 2017 received Royal Assent in late April and is the most fundamental change to UK bus legislation since the 1985 Transport Act. The Transport Act set up the current bus regulation regime, and the Bus Services Act opens up new opportunities for local authorities outside London to work with bus operators to improve the bus operating environment and deliver real growth through modal shift. This, in turn, should lead to improved air quality, and reduced congestion and carbon emissions.

The Bus Services Act was initially seen as the vehicle to give Greater Manchester similar powers to London to franchise its bus network as part of the Greater Manchester Devolution Deal. It was subsequently broadened to enhance the powers of all local transport authorities, giving them new tools to work in partnership with operators.

Current experience in London is confirming that the growth in bus use there was driven, not by its franchised regulatory environment, but by demographic and economic factors that were unique to London and strong pro-bus policies by Mayors. This is reflected in experience outside the UK, where strong governance and leadership combined with investment are shown to deliver increases in the number of people using buses, regardless of the regulatory model.

Franchising a major urban bus network does not, of itself, change the fundamental dynamics and economics of delivering bus services, hence the much higher levels of public subsidy required to sustain the London network which is, also, now turning from growth to decline.

The *Franchising Powers* contained in the Bus Services Act would also require significantly higher levels of public expenditure if they are to lead directly to an increased quantity or quality of service or lower bus fares.

However, the alternative *Partnership Powers* may very well lead to more, better-quality and cheaper bus services if they are used comprehensively and positively to create strong, focused partnerships between the public and private sectors.

Private sector bus operators have access to capital, operational expertise and customer understanding, and are better placed than local authorities to deliver quality bus services and manage the commercial and financial risks involved.

The public sector is better placed to understand the economic development and social needs of a major city, integrating public transport policy with a wide range of other policy areas including health, land use and economic development. In addition, the public sector can contribute substantially to the quality, efficiency, reliability, and punctuality of local bus services through a wide range of public policy transport measures including congestion charging, parking charges and policies, highway design and priority measures, air quality zones, bus stop and bus terminal infrastructure, and information-sharing.

By focusing on the strengths of both sectors and acknowledging that there is a substantial overlap in objectives, these partnerships would have the potential to materially influence the air quality and levels of congestion in major urban areas. However, the dynamics and economics of these partnerships will be fundamental to their success.

As mentioned above, expenditure by local authorities can significantly

improve the environment for bus operation, which can lead directly to faster, more frequent, more attractive, cheaper, and environmentally cleaner bus services, resulting in rising bus use, operator revenues and profit potential.

Put another way, the costs and revenue benefits do not automatically align across the parties and, therefore, the partnerships need adjustment mechanisms for sharing these costs and revenues equitably if they are to become lasting and sustainable.

There is a complex mix of cost, risk and reward for both the public and private sectors in working so closely together in this field, which must be well understood, planned and managed if the partnerships are to succeed and endure. This is not easy and the details will be tricky.

Six prerequisites of successful enduring partnerships

There are six prerequisites for successful, enduring public–private sector partnerships that deliver urban bus services in a manner that addresses and reduces the £50bn annual cost of poor air quality and acute urban traffic congestion.

- **Clear objectives**

Both the public and private sector partners need to be clear and transparent about their objectives in entering into partnership.

It is likely that the public sector's priorities will relate to economic development, social inclusion, improved mobility, better air quality, reduced urban congestion, and value for public money.

The private sector will be focused on improving the overall quality of bus services, stimulating sustained market growth and modal shift, and achieving a long-term sustainable return on capital.

These objectives are not mutually exclusive.

- **Governance**

It is essential that these are *true* partnerships designed to work positively to achieve the mutual objectives of all parties, ideally overseen by an independently chaired Board with equal representation from both public and private sector members and, possibly, relevant independent members bringing further insight and expertise.

Decisions on issues affecting the bus operating environment in the area should be taken jointly without unduly constraining the private sector operators' freedom to manage their consumer-facing retail businesses in a competitive environment, or the local authority's freedom to deliver on its other areas of activity.

- **Funding**

To achieve its objectives, the partnerships should be properly and appropriately funded by both sides. The local authority and the operators should give consideration to all areas of their individual expenditure that would be better pooled and spent through the partnerships.

There should be a clear understanding of the extent to which public sector investment in the bus operating environment can lead to enhanced profit for operators, with appropriate adjustment mechanisms.

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Finding funding sources to support innovation will also be important.

- **Economics**

Value for money is critical for both the private and public sectors, so there is an essential requirement to fully understand the economics of achieving the objectives of all parties.

Public sector partners have it in their power to radically improve the bus operating environment by taking steps to address both traffic congestion and air quality in urban areas. There are social and economic paybacks from these steps through improving public health, enhancing the urban environment, and cutting the £50bn cost of the twin evils of air pollution and traffic congestion—but there are also political downsides, in that motorists may object to restrictions on car access to city centres.

The private sector bus operators will gain economically from any steps taken to address congestion, as bus operating costs will fall and demand for services will rise, leading to a financial gain for the private sector in terms of increased profits from the public sector financial investment.

To justify restricting car movements to enhance air quality, bus operators will be required to invest in improving emissions from buses, either through the use of new, cleaner vehicles and/or by retrofitting existing vehicles with clean emission technology.

It is essential for the partnerships to fully understand all the economic, social and financial impacts of steps taken to improve the bus operating environment and ensure that the costs, risks and financial rewards of these steps are appropriately allocated between the various partners.

It may be that private sector operators should fund some of the traffic-management and infrastructure measures taken to reduce congestion or offer other social benefits to the public sector in return for those measures taken by the public sector, such as discounted fares for young people.

It is critical that robust professional economic analysis sits at the heart of the partnerships to ensure that they spend their funding wisely in ways that optimise the overall benefits, and share them out appropriately between the public and private sector partners.

- **Dynamic decision-making**

Partnerships would exist in a dynamic, changing world.As such, any commitments by the partners on service levels, pricing, investment, etc. need to be balanced by mechanisms to deal with, and respond to, changes in the bus operating environment.

For the partnerships to endure in the long term, they need to be dynamic and flexible, and to recognise that circumstances will change. They must also ensure they have governance mechanisms in place so that they can flex their actions to continue to achieve the partners' objectives cost-effectively in a turbulent world.

- **Mechanics**

The partnerships need to recognise four critical areas with the necessary associated skilled expertise if they are to succeed:

- bus network design;
- ticketing and payment;
- air quality management;
- traffic management.

All four are critical to achieving the partnerships' objectives, and successful, enduring partnerships will have its own advice on these issues and will be capable of resolving dynamically any conflict between the partners on the best approach to each.

Conclusion

Poor air quality and congestion are estimated to cost the UK economy £50bn a year, with air quality resulting in 40,000 deaths a year. There is now a legal requirement for the UK to improve its air quality. In this context, while the Bus Services Act 2017 was initially seen as the vehicle for providing Mayoral Combined Authorities with the powers to franchise their local bus operations along the same lines as in London, the Act provides local authorities with new tools to form radical partnerships to improve the use of buses and address air quality and congestion.

These partnerships have the potential to transform the quality of life and attractiveness of urban areas across the UK, by encouraging more environmentally friendly, safer and cost-effective ways of moving around, with buses playing a key (and larger) part in providing this mobility as part of the overall transport solution for the urban area.

To deliver this step change, bus services in major towns and cities need to be delivered through strong, focused, cost-effective and fair public–private sector partnerships that make full use of the enabling powers contained in the Bus Services Act.

They must be genuine partnerships that are focused on agreed objectives, with clear governance structures driven by robust economic analysis, taking dynamic decisions as circumstances change, and with mechanisms to ensure that the costs and revenues involved are shared equitably between the partners.

Only in this way can public transport maximise its contribution to meeting the legal air quality requirements imposed by the courts on the UK government and the economic and social costs of air pollution and congestion be mitigated.

Robert Montgomery and Matthew Shepherd

[1] Royal College of Physicians (2016), 'Every breath we take: The lifelong impact of air pollution', https://www.rcplondon.ac.uk/projects/outputs/every-breath-we-take-lifelong-impact-air-pollution, accessed 10 July 2017, p. xii.

[2] Royal College of Physicians (2016), 'Every breath we take: The lifelong impact of air pollution',https://www.rcplondon.ac.uk/projects/outputs/every-breath-we-take-lifelong-impact-air-pollution, accessed 10 July 2017, p. xiii.

[3] Cookson, G. and Pishue, B. (2017), 'INRIX Global Traffic Scorecard',http://inrix.com/scorecard/, accessed 10 July 2017, p. 28.

[4]See Committee on Climate Change, 'UK Emissions by Sector', https://www.theccc.org.uk/charts-data/ukemissions-by-sector/, accessed 10 July 2017.

[5] Mayor of London and Transport for London (2016), 'Travel in London Report 9', Figures 3.5 and 3.7. A new methodology for measuring bus patronage was introduced in 2007/08.

[6] Begg, D. (2016), 'The impact of congestion on bus passengers', http://www.greenerjourneys.com/wp-content/uploads/2016/06/Prof-David-Begg-The-Impact-of-Congestion-on-Bus-Passengers-Digital-FINAL.pdf, accessed 10 July 2017, p. 7.

[7] Begg, D. (2016), 'The impact of congestion on bus passengers', http://www.greenerjourneys.com/wp-content/uploads/2016/06/Prof-David-Begg-The-Impact-of-Congestion-on-Bus-Passengers-Digital-FINAL.pdf, accessed 10 July 2017, p. 7.

[8] *Transport Focus* (2016), 'Bus passengers have their say', March, pp. 10–11.

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