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| Georgina Wells,  London Assembly,  City Hall,  The Queen’s Walk,  London SE1 2AA August 2016 | Dean of Faculty Professor Paul Olomolaiye Director of CTS **Professor Graham Parkhurst**  Dr Steve Melia  Centre for Transport & Society  Department of Geography and Environmental Management  Faculty of Environment & Technology  University of the West of England  Frenchay Campus  Coldharbour Lane  Bristol BS16 1QY  Direct Line 0117 32 83267  Email steve.melia@uwe.ac.uk  http://www.uwe.ac.uk/research/cts |

# RE: Evidence for Investigation into traffic congestion in London

Dear Ms Wells,

I am responding to the above call for evidence. I am a Senior Lecturer, researcher and writer on transport planning and policy; my last book, *Urban Transport Without the Hot Air*,[[1]](#endnote-1) includes a chapter on transport in London. A full list of my publications and past research projects can be found at the URL cited at the end of this letter.

The following responds selectively to those of Committee’s questions where I can most usefully comment.

1. **How has traffic congestion changed in London in recent years? Are there differences in the amount, time, type and/or location of congestion?**

The DfT’s measures of average speeds and average journey times on locally-controlled A roads in the morning rush hour[[2]](#endnote-2) show that congestion reached a low point in England and in London during 2012, since when it has been worsening. Comparing 2015 with 2012 shows:

**Change in Congestion on Local A Roads in the Rush Hour 2012 - 2015**

|  |  |  |
| --- | --- | --- |
| 2015 compared to 2012 | Change in Average Speed | Change in Average Time |
| England | -6% | +7% |
| Inner London | -7% | +8% |
| Outer London | -8% | +9% |

Whilst this single comparison does not show a complete picture, it suggests that the increase in congestion over that time has been a national phenomenon, which may have been slightly more rapid in London.

1. **What are the key causes of these changes in congestion?**

There are likely to be many causes, which only a complete study could ascertain, but the above comparison suggests that national (or international) factors, such as recovery in the national economy and the fall in fuel prices have been much more important than any local factors within London (which some respondents may be seeking to exaggerate for political reasons). That small difference is probably mainly due to the faster economic recovery in London, compared to England as a whole (the latest available figures confirm that up to 2014[[3]](#endnote-3)).

1. **What impact does congestion have on Londoners, the city’s economy and its environment?**

On the economy, we do not know. Studies that purport to answer this question are all based on theoretical conjecture, even those that use complicated mathematical modelling and make authoritative-sounding conclusions. With such a complex problem it is impossible to prove what causes what in the real world. We may note however that compared to other regions of the UK London has the most congested traffic2 and the highest GVA per capita3 by a big margin in both cases. This suggests that the argument that ‘congestion strangles the economies of cities’ is at best exaggerated and might be the opposite of the truth. Road congestion will have contributed to the agglomeration effects (where industries cluster together) which have helped to make London the richest part of the UK. I have yet to find any research that seeks to investigate that alternative hypothesis; the reason for that is probably political: there are big vested interests on all sides (including those of transport academics) in talking up the damaging economic effects of congestion.

The environmental effects of pollution from vehicles are clearly negative. Pollution is greatest from vehicles that are stationery; to that extent the environmental consequences of congestion are clearly negative. However, that conclusion depends on the alternative scenario to which we are comparing the ‘do nothing’ situation. If that scenario involves expanding road capacity, there may be a short-term improvement followed by a longer-term worsening of local air pollution (the effects on global air pollution will be unambiguously worse).

**4. What can London learn from other cities in its effort to reduce congestion?**

A key conclusion that I come to in *Urban Transport Without the Hot Air* is that:

“for as long as people are free to own, park and drive cars and politicians are influenced by public opinion, urban congestion will always be with us… Providing there are enough people with enough vehicles wanting to use a road, vehicles will continue to fill it until congestion slows everyone down and some people start looking for alternatives.”

Similar conclusions have been reached by others.[[4]](#endnote-4) The main factors driving congestion are the intensity of activities within an area constrained by the available road capacity. Once the intensity of activities exceeds the *potential* capacity of the area, demand is suppressed so that any increases in capacity (unless they are large enough to solve the *entire* problem) will simply release more of that suppressed demand and redistribute but not significantly improve congestion. That is a long-term statement; many factors may cause congestion to fluctuate in the short-term within limits bounded by the long-term factors. Similar comments also apply to measures that attract vehicle drivers to other modes; they can unlock many benefits but will not solve congestion.

Congestion could be significantly reduced, particularly by targeted congestion charging, as discussed below, but it would it would be politically very difficult to implement – and sustain through future electoral cycles.

Many other cities have significantly improved their urban environment;1 they have achieved modal shift away from transport by car and towards public transport and active travel. London has been a good example of the former but has only just begun to do the latter. A European project in which I was involved, called EVIDENCE, provides what is probably the most comprehensive online database[[5]](#endnote-5) of what has been tried, what works and what we know and don’t know about causes and effects.

There is very little evidence about the long-term effects of any of these measures on congestion. My observations suggest that even the world-leading cities suffer from traffic congestion at peak times. It is not a problem that anyone has “solved”.

**5. How effective is the Congestion Charge? How should this scheme be modified?**

The Congestion Charge has had many positive impacts but reducing congestion is not one of them. The conventional explanation for this is that the potential gains have been eroded by reductions in road capacity to help walking and cycling.[[6]](#endnote-6) There is some truth in this but it would be wrong to conclude that if such reductions had not been made that congestion would now be lower within the zone. We do not know that. Behaviour adapts to new situations differently in the long-term than it does in the short-term. In an area such as central London, where demand for travel by motor vehicle has been very heavily suppressed, more road capacity might well be entirely taken up by more traffic in a relatively short time period (a recent example of this has been the immediate 10-13% increase in traffic which followed the increase in capacity of sections of the M25[[7]](#endnote-7)).

One of the reasons for the limited impact of the Congestion Charge is its flat-rate charging structure. Once you have paid for the day, there is no financial disincentive, and there is possibly a psychological incentive, to drive more. An appropriately-constructed Congestion Charge could have a much bigger impact on congestion, as described below.

**6. To what extent would a usage-based road pricing regime help reduce congestion?**

An appropriately-designed road pricing system could entirely solve the problem of congestion. The question is not whether it would work but whether it would be accepted by enough of the public to sustain it across electoral cycles. To illustrate the general point, consider a system with payments that varied between zero on uncongested roads and £1,000 per hour on the most congested roads. A pricing system which penalised peak users could maintain free-flowing traffic on those roads if:

* The system was flexible enough to react to changing patterns of congestion, and:
* The prices stretched high enough

Evidence from the railways and the existing Congestion Charge suggest that the prices would have to go very high indeed in order to reduce peak-time travel sufficiently. It is impossible to say how high they would have to rise until trying it (evidence from hypothetical stated preference experiments should be treated with caution). The long-term impacts are likely to differ from the short-term impacts; the railways and the existing Congestion Charge suggest that prices would need to rise faster than inflation in order to maintain the same dissuasive effect.

A more modest pricing scheme could have a modest impact on congestion. Again ‘how much of an impact?’ could only be established through a trial.

**7. How might the Ultra Low Emission Zone and Emissions Surcharge affect congestion levels?**

They would have a minimal impact in the longer-term; their main longer-term impact will be to accelerate the replacement of older vehicles.

**10. To what extent is an increase in minicabs contributing to traffic congestion, and how could this issue be addressed?**

Following the logic above, the main impact of the growth of minicabs will be to displace other forms of traffic rather than worsen congestion.

**11. What contribution can car clubs make to tackling congestion, and how can the Mayor and TfL encourage these?**

Car clubs are an important part of an integrated transport strategy for a congested city. They are particularly useful in areas where the density of housing must be increased without increasing parking. We have recently written a report with Carplus, which describes the process and potential of car club vehicles in new developments.[[8]](#endnote-8) Increasing car club provision will not significantly change levels of congestion, however.

**12. To what extent could greater efficiency in the provision of bus services help reduce congestion, and how?**

There may be localised benefits from rationalising concentrations of buses at certain bottleneck places but in general changes to bus services will not have any major impact on congestion for the reasons discussed above.

**13. How can TfL further encourage a shift from private car use to public transport or active travel modes?**

There are many ways to do this. As the density of London’s population continues to grow, the main aim of transport policy should be to enable people to continue moving around by sustainable modes. The book1 and the website5 mentioned above describe many examples of how this has been done in British and European cities. A few key points include:

* Constraints on car/van use are more effective than improvements to alternative modes; those improvements are more important for ‘customer service’ reasons, than for behaviour change reasons.
* Pedestrianisation and filtered permeability (separating sustainable modes from general traffic in order to give the latter a short-cut advantage) are methods that constrain motor traffic and improve the urban environment. The Mini-Hollands are an example of area-wide filtered permeability (unfortunately presented as a cycling measure, which limited public perceptions of their wider benefits).
* Reducing the availability of parking is probably the most effective means of achieving modal shift, providing the levels are set low enough and controls are effectively enforced.
* London has a growing quantity of ‘car-free housing’ but has never tried European-style ‘carfree development’,[[9]](#endnote-9) another idea that combines modal shift with big improvements in the areas where people live.
* Segregated cycle routes, like the Cycling Superhighways, can have a big impact if they provide a joined-up network that takes many people to places they want to go. The process of extending and joining-up those routes should be viewed as a long-term priority. Note that much of the modal shift may come from public transport rather than private cars (unless they are separately constrained). This may be just as important in areas where the tube is reaching capacity or buses are contributing to air pollution problems.

**14. Can new road infrastructure help reduce traffic congestion? What specific new infrastructure is required in London?**

No; in a city where demand substantially exceeds the available capacity increasing road capacity in some places will simply make congestion worse elsewhere. The only new road infrastructure that can be justified in a city such as London is to enable access to new developments or to facilitate pedestrianisation or road closures elsewhere (although they can achieve greater modal shift where no alternative is provided1).

**15. To what extent is there a risk of new roads encouraging more people to drive? How can this risk be avoided?**

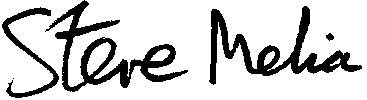
Where demand substantially exceeds the available capacity, any additional capacity will fill up with additional traffic[[10]](#endnote-10) very rapidly. The M25 provides one example of that.7 The most cost-effective way of avoiding that problem is: **don’t build new roads!** If London’s leaders are determined to spend more public money in that way, thena usage-based road pricing scheme, as described above, could limit some of the damage.

**18. What effect has the additional space provided for cycling and pedestrian infrastructure had on congestion?**

This is impossible to answer with any certainty but the evidence above suggests that the broader impacts of these changes have been small. In the longer-term behaviour adapts, so whatever changes are made (apart from a usage-based congestion charge) will make very little difference to congestion in the longer-term.

London should continue to provide more space for cycling and walking road capacity cannot be expanded sufficiently to match rising population. They are also essential to improving the quality of the urban environment. That is an achievable objective, whereas the political price of “solving congestion” may be too high to make it feasible.

Yours faithfully/sincerely,



Steve Melia

Senior Lecturer, Transport and Planning

<http://people.uwe.ac.uk/Pages/person.aspx?accountname=campus%5Csj-melia>

1. Melia, S. (2015) Urban Transport Without the Hot Air, Volume 1: Sustainable Solutions for UK cities. (1) Cambridge: UIT Cambridge. [↑](#endnote-ref-1)
2. DfT (2016) Flow Weighted Vehicle Speeds. Tables CGN0206a and CGN0206b. The table above compares the unweighted sums of the (weighted) monthly totals for each year [↑](#endnote-ref-2)
3. ONS (2016) Regional Gross Value Added (Income Approach) Table 2: Gross Value Added (Income Approach) per head of population at current basic prices [↑](#endnote-ref-3)
4. See for example: Downs, A. (2004) Why Traffic Congestion is Here to Stay.... and Will Get Worse. Access. 25 (Fall), pp. 19-25. http://www.uctc.net [↑](#endnote-ref-4)
5. See <http://evidence-project.eu/> [↑](#endnote-ref-5)
6. Buckingham, C.; Doherty, A. R.; Hawkett, D. C. L.; Vitouladiti, S. (2010) Central London congestion charging: understanding its impacts. Proceedings of the ICE - Transport, Volume 163, Issue 2, 01 June 2010 , pages 73 –83 [↑](#endnote-ref-6)
7. Local Transport Today (2016) Surprise as traffic jumps 10% in year on M25 all-lane running. February 5th. [↑](#endnote-ref-7)
8. Melia, S. and Parkhurst, G. and Carplus Trust (2016) Car clubs in new developments. Project Report. Carplus, Leeds. Available from: <http://eprints.uwe.ac.uk/28762> [↑](#endnote-ref-8)
9. Melia, S., Parkhurst, G. and Barton, H. (2011) Carfree, low-car - what's the difference.World Transport Policy & Transport, 16 (2). pp. 24-28. ISSN 1352-7614 Available from: <http://eprints.uwe.ac.uk/11196> [↑](#endnote-ref-9)
10. SACTRA, (1994) Trunk Roads and the Generation of Traffic. Report number: 11.London: Department of Transport Standing Advisory Committee on Trunk Roads Assessment. [↑](#endnote-ref-10)