Transport Committee

Oral evidence: Urban Congestion, HC 760

Monday 9 January 2017

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Watch the meeting

Members present: Mrs Louise Ellman (Chair); Clive Efford; Robert Flello; Karl McCartney; Stewart Malcolm McDonald; Mark Menzies; Huw Merriman; Will Quince; Iain Stewart; Graham Stringer; Martin Vickers.

Questions 1-68

Witnesses

I: **John Elliott**, Vice Chair, National Transport Committee, Local Government Technical Advisers Group, **Andrew Hugill**, Director, Policy and Technical Affairs, Chartered Institution of Highways and Transportation, **Andrew Meaney**, Partner, Oxera Consulting LLP, **Dr David Metz**, and **Dominic Proud**, Chair, National Transport Committee, Local Government Technical Advisers Group.

Written evidence from witnesses:

- Chartered Institution of Highways and Transportation (CIHT)
- Dr David Metz
- Local Government Technical Advisers Group
- Oxera Consulting LLP

Examination of witnesses

Witnesses: John Elliott, Andrew Hugill, Andrew Meaney, Dr David Metz and Dominic Proud.

Chair: Welcome to the Transport Committee. Thank you for agreeing to come today and for managing to make it here, with the various problems at the moment. Are there any declarations of interest?

Robert Flello: I declare that the Road Haulage Association provides administrative support to the all-party group on freight transport, which I chair, and some administrative support to my office.

Chair: Thank you. Could you each tell us your name and organisation?

Andrew Hugill: My name is Andrew Hugill. I am here to represent the Chartered Institution of Highways and Transportation.

Dominic Proud: I am Dominic Proud, Chair of the National Transport Committee for the Local Government TAG.

John Elliott: I am John Elliott, Vice Chair of the National Transport Committee for TAG—the Local Government Technical Advisers Group.

Dr David Metz: I am David Metz. I am based in the Centre for Transport Studies at University College London.

Andrew Meaney: I am Andy Meaney. I am a partner at Oxera, the economics consultancy.

Q1 **Chair:** Why are some towns and cities more successful at tackling congestion than others? Are there any lessons we can draw from experience? Who would like to start on that one? Dr Metz, do you have any ideas?

Dr David Metz: To my knowledge, the comparative data on congestion in towns and cities in Britain is quite limited. You can look at traffic levels. I show some Department for Transport traffic data in my written submission. What we see is that in pretty well all the big cities, traffic levels are steady for the past couple of decades, so increasing congestion is not due to an overall growth of traffic; it is a more subtle effect. Looking across cities, one can see different amounts of overall traffic and different balances between public transport, the slow modes and pedestrian space. One gets the sense that some cities, with a sensible strategy for the place in which people are living, have been able to cope better with traffic than others. But I am not aware of any clear data that says some particular places deal better with congestion than others.

Chair: Mr Meaney, do you have anything to add on the differences?

Andrew Meaney: I agree with what Dr Metz said. What you are looking at is a mixture of public transport provision. In some places it is very good and very available; in other places it is less good. You need a strong degree of public transport available to people, but that is not sufficient to deal with congestion. Congestion is a phenomenon that is there and will be

more prevalent as urbanisation continues. What you need to be doing is dealing with congestion through small changes in people's behaviour. It takes very few cars, lorries or vans to be off the road at particular peak periods to reduce congestion. Getting those small nudges and better information to people can really help.

Chair: Would anyone else like to comment?

John Elliott: The difference between cities—they are so different in every way—is quite difficult to spot; I fully agree with David's comment. But over time, some cities have been more successful than others. Oxford has been very successful with its park and ride. Nottingham has been given various prizes for being successful. London has been a very great success, because it has swallowed 2.5 million more people over the past 20 or so years, and congestion—apart from today—is no worse than it was 20 or 30 years ago. It is a package of measures that cities that have been more successful have gone for over that period.

Andrew Hugill: All I will add is this. Bearing in mind that the factors behind congestion are incredibly complex, those places and cities that have the ability to deal with a range of different factors and recognise that congestion is not just a transport issue, but is linked to other policy areas as well—those places that have the ability through their governance structure to deal with a wider range of understanding those different policy issues and bring strategies forward for dealing with congestion as a whole, rather than just as a transport issue, are probably likely to be more successful.

Q2 **Chair:** What can be done to incentivise or encourage people to take journeys at different times, to address this issue? Are there any good examples of what can be done or any changes that should be made?

Dr David Metz: The general approach is to give people good information about estimated journey times before they set out, because then they can make sensible decisions. Broadly, you have two kinds of road users. There are some who are flexible because they can change the time they get to their destination, or even change the destination—if they are going shopping, for example. Others, on the other hand, are inflexible; they are going to work or going to a meeting. Both sorts of road users can use predictive journey time information—the inflexible people to know when to set out to avoid being late, and the flexible ones to avoid the peak traffic, where they would be wasting their time. That is win-win, because the more that flexible users can avoid the peak, the less traffic there is at the peak.

There are many new digital devices that provide estimated journey times—Google Maps, Waze and things like that—and Transport for London does that for public transport in London. My sense is that we should be trying to co-ordinate the public and private to optimise the overall system in order that people can make sensible decisions about how they use the network—both roads and public transport. I suspect that will have quite a useful effect on the scale of congestion.

Q3 **Iain Stewart:** I would like to follow up your comments, Dr Metz, which I very much agree with. There are many innovations happening in car technology and digital information technology, not just with partially or wholly autonomous vehicles but with real-time information. How far away do you think we are in a technological sense from being able to mesh all these different innovations together to arrive at the sort of reliable traffic management advice system that you are talking about?

Dr David Metz: It is not clear to me at the moment, partly because published information is quite limited. For example, the private sector businesses that collect traffic data and utilise them to give advice do not normally publish their findings, which would allow one to decide how good their routes were. As I have said, there is a lot of potential for public sector operators, whether road operators or public transport operators, to work with the private sector to get a better result overall. It would be very desirable for there to be commissioned a serious study of the potential of digital technologies to improve the working of the urban road system. That might conceivably be the kind of recommendation that you make to the Department for Transport, which would be an appropriate body to commission such a study. That could be quite illuminating, particularly given the rapid development of technology—computing power, data sources and meshing different flows of information together.

Q4 **Iain Stewart:** I think I am correct in saying that Transport for London has made the data that it collects about its tube operations openly available, which allows app developers and lots of other people to use the data to design their products. Have you or any of your colleagues looked at that development from TfL and the possible read-across to road traffic?

Dr David Metz: What Transport for London has done is very commendable. It has done it for buses as well, so you have apps to tell you when the bus is coming. The question is the relevance to the individual car user who wants to make good decisions about when to use their car and what routes to take. Transport for London does not give that advice, but private sector providers do, and there are questions about consistency. For example, if there is a block on a particular road, the route guidance will tell you to go elsewhere, but if it tells everyone to go on that same route, that may not be the best outcome. Ideally, you want the authority responsible for the road network as a whole to work with individual private sector providers to optimise the spread of traffic in those situations. That is not being done at the moment, to my knowledge—my colleagues may comment on that—but it could be quite a useful approach for the future.

Q5 **Clive Efford:** Dr Metz, if I am right, the prevailing theory is that traffic congestion finds an optimum level depending on what the conditions are, so why do we bother with congestion? Why are we so interested in it if it is just going to find its own level? Why are we so worried about it?

Dr David Metz: Congestion arises naturally in densely populated urban areas where car ownership is quite high. What constrains travel is time; there are only 24 hours in a day and many things that we have to do. We allocate on average about an hour a day to travel. That has not changed in the last 40 years that we have been measuring it. If congestion builds up

and speeds drop, there is a behavioural response to that slower speed, which means that people who are flexible will take action to avoid the amount of time that they are in traffic congestion, so they might change the time of the trip or the destination. On the one hand, one could be complacent and say, "Let's not worry too much." On the other hand, our experience is that it is quite a burden and we would like to do something about it; hence, I imagine, the purpose of your inquiry. So the question is what are the small interventions we might make that will actually mitigate to a modest degree the overall level of congestion.

Q6 **Clive Efford:** If it is correct that building extra road capacity generates more traffic, should we give up building roads and just provide public transport?

Dr David Metz: In cities we have largely done that. There was a phase when we increased road capacity in cities to accommodate the growth of traffic. On the whole, I think the results have been disappointing in terms of the sense of place, and we have not avoided congestion. Generally, cities are now announcing they are not going to add capacity to the urban road system; we have to find other approaches.

Q7 **Clive Efford:** In London, modal shift has been quite successful in terms of shifting people from private vehicles on to public transport, but other stuff has filled it in, so congestion is not going down in London. Actually, what is congestion? Is it the speed at which traffic moves or is it the volume of traffic?

Dr David Metz: There are different definitions. It is usually the extra time over and above the free flow. What we are seeing in London is a rapidly growing population with a street system that has not increased in capacity.

Q8 **Clive Efford:** Private vehicles are down as a proportion of the traffic. Is it the Uber vehicles that are causing all the problems?

Dr David Metz: I don't think so. They have submitted evidence to you. You might want to hear what they have to say. At its peak, around 1990, the car was responsible for 50% of all trips in London. It has steadily declined to about 36% currently. It will go on declining as we build more rail—Crossrail or its equivalent—while capping the level of car use.

Q9 **Clive Efford:** This is a serious question. Should we stop measuring the problem in terms of speed of traffic or delay and measure the problem in terms of air pollution?

Dr David Metz: That is a separate but related issue. For example, if we switch entirely, in due course, to electric vehicles, we will have solved the air pollution problem in urban areas without affecting congestion necessarily.

Clive Efford: We will have cars on the moon before that happens.

Q10 **Chair:** Do any other members of the panel have comments on Mr Efford's question?

John Elliott: On the balance of where it ends up, there was a guy called Martin Mogridge who studied traffic. He was a very theoretical guy—a brilliant guy who is no longer with us. He had the theory that the speed of car traffic is ruled by the next competitive mode in the town. In London, it is tube, buses and rail, which are reasonably rapid. I was in Aylesbury once. Coming from the west of Aylesbury, the speed of traffic was about 4 miles an hour, because the next available mode was walking. It is slightly simple to have that theory completely, but there is more than an element of truth. Congestion is self-regulating in relation to the competitive mode that is available. So if you invest in public transport, you can increase the speed of traffic. But investing in roads probably does the reverse because it takes people away from public transport, which means that that gets worse—fares go up and frequency goes down—and depresses the whole lot.

Q11 **Chair:** Earlier on, Mr Meaney, you referred to public transport as dealing with this issue, but you said it was not only public transport because there were different situations in different places. Is public transport the answer? What is it that has to be added?

Andrew Meaney: It is a necessary condition for helping with congestion, but it will not solve it. It is not a sufficient condition. On congestion finding its own level and relationships between modes, it is useful. One thing that is important to add to that mix is the variability of travel time, because we can get our phones out and see how long we are expecting that journey to take and we can plan on that basis. If there is a bus priority scheme in place, for example, that gives us a degree of certainty about how long it will take us to get to our destination, but when the congestion is such that it is unexpected, that causes people difficulties. There are studies that link travel time variability to stress, for example, in commuters. I think we have all been worried about being late for that meeting and got rather stressed about it.

There is also the point about how people really value not only journey time, but the variability in journey time, which is a really big add-on to the overall journey time. One thing we should bear in mind in this discussion on congestion is journey time variability. Public transport can help with that where there are priority measures—where it is rail and it is getting you quickly to where you want to go to. In some parts of the country, that connectivity is not there. In other parts of the country it is there and it does help, but is not sufficient to deal with congestion.

Q12 **Robert Flello:** Many motorists will be very concerned that—I will use London as the example, because as I understand it there is more data—seemingly there has been a decrease in the level of traffic, but a quite dramatic increase in congestion. My colleague made the point about the link between pollution and congestion. As the roads are more congested, the pollution goes up as a result. Earlier, my colleague asked what measures can be brought in, but what about measures that can be removed? Surely if traffic is being slowed down because some of the available tarmac is being removed and put to other purposes, or some of the tarmac is not available because of roadworks or because it has been blocked off while some work is being done on pavements—whatever it

might be—surely one of the answers is to reinstate some of the tarmac that has been removed. It speeds up the traffic and perhaps does more for air pollution in places such as London than getting people on to pushbikes.

Andrew Hugill: I suppose, as I said in my introductory remarks, if you view congestion as purely a function of vehicular traffic and the delay to vehicular traffic, your outline would be correct, but in urban areas, of course, very often roads and the highway are a place as well. Giving more space over to road traffic may well have a detrimental effect on—

Q13 **Robert Flello:** What I am talking about is where road traffic has been restricted. Say three lanes of traffic were there and now there are only two, or two lanes of traffic were there on the Embankment, for example, and now there is only one—I am talking about when it has been removed, rather than widening roads.

Andrew Hugill: I think that the balance of the use of highway space for all the different modes that have a right to use it is the key question around congestion. Whether we get the balance right or wrong is a debatable fact.

Q14 **Robert Flello:** But does it not make pollution worse, for example? Is it not worse that there is a narrow lane being used by people emitting no pollution, but the lane that is still available for vehicles is emitting more pollution than it was before?

Andrew Hugill: It depends what the split between modes is, the other policies in place and how emissions policy on vehicles is going alongside that. I am not disagreeing; I am just saying it is a wider issue.

Q15 **Clive Efford:** On that point, surely it is about the efficient use of road space. If I stand next to a cycle lane out there on the Embankment, in one change of the lights I will see at least 30 or 40 bikes go past me at peak time. The speed of that road means that you would never see that many cars go past you in that time. Is there any evidence that handing over this space to cycle lanes, for instance, has resulted in more efficient use of the space and people shifting from their cars on to bikes? Are we seeing a gradual change in people's behaviour that is making more efficient use of road space?

John Elliott: That is exactly what has happened in London over a lengthy period. We might have perturbations around that, when they are building the cycle lanes or doing Crossrail and blocking things up, but there have been a lot of things that have—taken away capacity, in London;London has certainly reduced the total traffic. I did mention in the evidence—sorry to come with props—that there was some work done in the late '90s that showed that when you take away capacity, traffic goes away. I worked in Oxford Street at the time—

Q16 **Chair:** Are you saying that the removal of road space for cars actually reduces congestion or—

John Elliott: It can do—it won't everywhere—and it certainly did in Oxford Street.

Q17 **Chair:** Where has it done it? Where has that actually happened?

John Elliott: Oxford Street, when they took away the car traffic. Traffic now works much better in that area than before. There is a lot less traffic in the whole area—it has gone away.

Q18 **Karl McCartney:** Do taxi drivers think so?

John Elliott: They probably do, actually, because they can operate down Oxford Street.

Q19 **Chair:** What is the actual evidence? You are saying that in Oxford Street it did happen. We can't picture that now. We are interested in reading whatever information—

John Elliott: That looked at a number of cases, not just in England, where capacity had been removed and traffic had gone down more than the amount of capacity removed.

Q20 **Chair:** There are a number of cases where that has happened. Are there also a number of cases where that has not happened?

John Elliott: I am sure that there would be cases. I think that if you took away capacity in Telford and Wrekin, because it is a road-orientated strategy—

Q21 **Chair:** Does anyone else on the panel want to give us not an opinion, but information, on what has happened with traffic levels and congestion when road space has been removed in this way?

Andrew Meaney: If I could draw your attention to what happened in Liverpool when the bus lanes were removed—there was an extensive study carried out on the impact of the initial pilot on each road where the bus lanes were removed, looking at the impact on bus journey times and also the impact on general traffic as well. In some cases what Mr Flello said was correct—you took the bus lane out and there was an improvement in journey times for the cars because they had maybe two lanes instead of one. On other stretches of road, not only were the buses slower but the overall traffic was slower. That was a mixture of the bus lanes being taken out, a lack of parking enforcement when the bus lanes were taken out—so, effectively, everyone was having to try to dodge the cars that were in the inside lane—and also there was not the priority afforded to buses at junctions to enable the buses to get through quicker. There was a balance of evidence there depending on the precise circumstances of each road that was being looked at, but it was the case, in some cases, that you took the bus lane out and everyone was slower.

Q22 **Huw Merriman:** This may be a question for Mr Hugill, from looking at the CVs. Is there any evidence that commuters who have a bad experience of public transport—today being a very good example—are lost to the public transport system and then switch to cars?

Andrew Hugill: Not specific evidence that I could quote back to you, but clearly if people have bad experiences and feel that they are able to use cars, or in some cases have to use cars because there are no alternatives. There is some interesting work under way at the moment in academic

studies around transport poverty, where people are having to use vehicular traffic and private vehicles to get to work because alternatives are non-existent—not necessarily in places like London, but outside London.

I can't quote any evidence back to you that that is the case but there is an interesting move—I think we mentioned it in our evidence—towards the development of something called mobility as a service, where organisations are starting to think about the service provision to people who wish to use transport networks. There has been some work done on door-to-door journeys. Often journeys are not simple—"We'll get in a car and drive from A to B." Most people's journeys are a complex mix of different modes of transport. One thing we said in our evidence is that we believe an area for further work and further research is that complex mix of needs of people—actually, people have different needs. I can't answer your question directly. It is a hugely interesting area that would shine a lot of light on congestion and the reasons behind it.

Q23 **Huw Merriman:** It is perhaps the opposite point in a way, but is there any evidence that our desire to work with our iPads and our phones on the move will make us more likely to put up with poor public transport because, although it may not get us to where we want to be on time, we can carry on working, whereas in a car we cannot? I don't know who is best placed to answer that.

Dominic Proud: In relation to that point, there is a need for people to make the right choices about what travel they are making. Perhaps today people will undertake journeys that are quicker than they normally take or are perceived to be quicker, so it is about the information they have available to make proper choices about the mode they use.

Technology today allows us to work in different places and it is about trying to move people from travelling in the peak a lot of the time and trying to encourage work-based travel planning. Personalised journey planning is about trying to encourage people to work from home more or to travel outside peak periods with video conferencing and so on. Those are all nudge techniques that can reduce demand for car travel or other modes of transport and using them as a balanced package across the range of measures. It is not just about investing in public transport or a certain mode. You can build as much infrastructure as you want for cyclists or buses, but without availability of information, promotion and marketing of those modes, you will struggle to encourage uptake.

Q24 **Huw Merriman:** I guess the point I am trying to get at is that car drivers can sometimes be quite a militant team, and it perhaps brings out the Jeremy Clarkson in them when they hear about removing road and pricing. Do you think there is a better way to sell public transport in the ways we talked about—that it is the way to travel and to work at the same time, for example? Do you think we do that well enough right now?

Dominic Proud: The availability of evidence and the information, and the way we present modelling and the business cases are quite complex. The ability for people to take decisions on that basis and to understand why we are trying to put in a bus rapid transit scheme or bus lanes, and the wider

economic benefits of that are quite complex, so in some cases we need to simplify the way we make decisions in terms of our investment.

Andrew Meaney: I have a couple of points. Some surveys have been done on people's activity while they are using public transport, particularly the train. In one survey people suggested they are more productive on the train than in their office, which supports what you were saying. More seriously, nudges can be made to enable people to think differently about public transport, such as working with housing developers so that when people go into their new home there is already information on local bus routes, for example. Work of that ilk is going on, as well as work on trying to present information differently. I opened Google Maps out of interest with the stuff going on today and looked at a trip from here to our London office. It puts the car first. If it offered bus and train fares, the evidence is there that the information would nudge people into behaving differently. There is a lot about how this evidence is presented and telling people that the car would cost 10 minutes rather than saying there would be a benefit of 10 minutes on public transport—putting things into frames that people understand and will react to. There is a lot of work going on at the moment to help us to understand how people really behave rather than how some of the transport planning models tell us they should behave.

There is a tube strike today. A paper published last year looked at the tube strike in 2014 and found that 5% of people changed their route permanently as a consequence of the tube strike kicking them into doing something differently. You can use that notion to ask whether we can get people to use the bus free for a day to try it out and to get them to change their behaviour slightly and perhaps to move to a better alternative.

Q25 **Karl McCartney:** I am going to think back towards some of Mr Flello's questions, but first, would any of you like to admit to feeling that urban congestion is good or bad?

Dr David Metz: It is a bad thing in that we get stuck in it and we do not like it, but I would argue it is a more or less inevitable thing that arises in densely populated urban areas where there is a high level of car ownership.

Q26 **Karl McCartney:** Do you think TfL have used it as a good or a bad thing? Do you think they have used it as a tool?

Dr David Metz: I think from their point of view it is a bad thing, because it slows the buses, for which they are responsible. Of course, the big advantage of rail in urban areas is that it is fast and reliable compared with any vehicle on congested roads. If you take Canary Wharf, where 100,000 well paid people work, there is very little car parking space and therefore very little car traffic; people go by train and that works well. That, I think, is the future of densely populated urban areas: rail, or bus rapid transit, which if executed properly looks like a bus but behaves like a train in terms of speed and reliability. So I do not think you need to nudge people too much in these circumstances, if you have an offering which is faster and more reliable.

Q27 **Karl McCartney:** But if that offering is not good enough—and some would say that maybe the tube system has not been good enough—do you think TfL have used, to use your parlance, nudge factors of getting people off the roads by creating as much congestion as they could?

Dr David Metz: No, I wouldn't agree with that. The tube system, in terms of frequency, has been improved a lot recently, on account of new signalling.

Karl McCartney: And with the "teacup" service, et cetera. There are various things they have done, but to get people off the roads, do you not think TfL have—

Dr David Metz: You can say the congestion charge does that, as do kerbside parking controls; but with digital signalling on the underground, now you have up to 36 trains an hour—a train every 100 seconds—increasing the capacity of existing lines by 30%. That is a very sensible kind of investment in capacity which would not be worth doing in surface roads because of the way that they would be filled up with new car traffic.

Q28 **Karl McCartney:** But do any of you believe that traffic should be flowing as quickly and as best as it can be, to negate the amount of pollution in an urban area—and therefore urban congestion is bad in that case?

Witnesses: Yes.

Q29 **Karl McCartney:** So how well do you think London is doing at that, at the moment? I am putting you on the spot because initially you were asked about some good places—Nottingham and Oxford, I think, were the two examples—but we are going to centre on London because that is where we all are at the moment and where most of us live and work most of our time.

John Elliott: I think it has done remarkably well, considering it has gained 2.5 million population since the 1980s, and congestion, as David Metz said, is inescapable. Minimising it: yes—but we have got to keep it in step with other modes, otherwise we get the Mogridge situation. Bicycles are part of it, but they are not a big part, in England. Buses, trains and everything else—and walking is very important for the last bit of a journey, from wherever the train ends.

Q30 **Karl McCartney:** But currently would you walk down Embankment without a mask on—every day, twice?

John Elliott: On the riverside, with the clean air off the river.

Q31 **Karl McCartney:** But with the amount of traffic that is there?

John Elliott: Air pollution is a problem not just in London but in a lot of cities, on a lot of roads. If we get electric cars we can do it but otherwise the only sure-fire for big cities is to try and reduce traffic volume.

Q32 **Karl McCartney:** How are we going to get all our services in? How are all our restaurants going to get their food delivered? You are not going to get much in on bikes, are you?

Q33 ***John Elliott:*** No. Deliveroo? I think we are all saying there are lots of little bits that can be done. We are not going to have nirvana immediately. Travel planning has been amazingly successful for the firms that have gone for it. I managed to get rid of 20% of high-paid people in Pfizer from driving to work. London succeeded, and even Telford managed quite well with travel planning, but this is just one of the tools. It is buses, travel planning, bicycles. At Victoria, the pedestrian signals are still timed to optimise traffic flow. There are 40,000 pedestrians an hour going through there, and if they are delayed they miss a train, and there are 4,000 vehicles. If we changed the timing of the traffic lights to encourage pedestrians—

Karl McCartney: I think enough has been done across London in the last 20 years.

Q34 **Graham Stringer:** Can I take you back to bus lanes? What are the right criteria for measuring the effectiveness or lack of effectiveness of bus lanes?

Dominic Proud: In terms of performance?

Q35 **Graham Stringer:** Yes. Often, it is bus times or car times, whereas I would have thought a better measure is the number of people and the time it takes them to get somewhere, as a combination. It is not very helpful if you have an empty bus going more quickly. When I look at the way the effectiveness of bus lanes is measured in Manchester and Merseyside, which I probably know better, it seems to me they are not measuring the right things.

Dominic Proud: As local authorities, we measure the punctuality of services and the excess time—either getting there too soon or getting there too late. How we measure the number of passengers that services are carrying at specific times is probably quite data-intensive. Normally, a bus punctuality survey captures it across a set period, in terms of the reliability of a service, but that is an interesting question in terms of our monitoring the right services.

Q36 **Graham Stringer:** It is rather more than an interesting question. If you are measuring the wrong thing—if you are just measuring what you can, in terms of whether a bus arrives on time—you are not measuring in terms of the investment put into bus lanes or whether more people get to where they are going more quickly, which is surely the objective. That brings me to the obvious question: should there be a national scheme for how bus lanes are assessed, to decide whether they remain or are put in place?

John Elliott: I am probably just being ancient, but I was involved with bus lanes back in the mid-'70s. I worked for a consultancy then for the GLC. The way bus lanes were measured and justified was on cost-benefit—on time saving for the number of people going down the road.

Q37 **Graham Stringer:** In buses and cars?

John Elliott: In buses and cars. If the cars were delayed slightly, that would be negative, and if buses were improved a bit, that would be

positive. Bus lanes were shown to have very, very high cost-benefit returns—factors of 10 better than building roads in the countryside, for instance.

Q38 **Graham Stringer:** But those criteria are not used now, are they?

John Elliott: It was quite a sledgehammer to crack a nut. Generally, they were shown to be good—not every bus lane is good, but the majority were.

Q39 **Chair:** Can anyone on the panel tell us how bus lanes are measured for effectiveness now, or indeed if they are?

Andrew Meaney: That principle will still hold: you look at the costs to other road users and the benefits to bus passengers. What any of these schemes that take capacity away from one type of road user and favour another are doing is trying to incentivise people to use that particular mode of transport, whether it is a high-occupancy lane or a bus lane. You can demonstrate that the people using that particular mode will be able to get to their destination not necessarily any quicker, but at least with a more reliable journey time. They can say, "If I get this bus, I know that nine times out of 10, it's going to get there at this point in time." It's not just bus lanes that enable that; it is bus priority at particular intersections. A set of tools can be used in order to enable the bus to be a more reliable and more attractive mode of transport, and to help congestion in that context.

Q40 **Graham Stringer:** My first question went on longer than I expected. What I really wanted to ask was, are trams a more effective way than buses of encouraging modal change?

Dr David Metz: I would say the evidence is that they are, because they are more reliable. They command the road space, so they broadly have the reliability of rail, which is what they are. We have not been very forward in building trams in Britain, certainly compared with countries on the continent—France in particular. My view is that we do not take enough account of the development benefits—the urban development you get from the access provided by a reliable rail service. The methodologies take account of time savings for users, but that is only one of the impacts. So yes, we should look more favourably at urban rail, and trams in particular.

Q41 **Graham Stringer:** Isn't one of the inhibitions that the Department for Transport have in supporting tram schemes that they really compare apples and oranges? They compare the immediate capital cost of a tram system with the annual subsidy of a bus system, whereas if they compared it with the subsidy over 20 years, they would probably come out in favour of a tram system. Do you think that is a fair comment?

Dr David Metz: There is a lot to be said that is critical of the Department for Transport's standard approach to investment appraisal, particularly of urban rail schemes. It is a topic in its own right, but it needs to be reopened. Increasingly, transport planners generally are concerned that we are biasing investment decisions as a reflection of the economic methodology.

Q42 **Chair:** Does anyone else have any views on how the benefits or otherwise of trams are assessed?

Andrew Hugill: This is a simple answer, and it is not going to answer your question, but I point the Committee to a piece of work that we did among our membership called CIHT FUTURES, which is referenced in the evidence we have given. In essence, that asked transport professionals about how we plan our transport systems, and some very interesting things came out of that. To summarise it greatly, because I realise we do not have much time, there was a degree of concern among our membership about how we look at planning transport systems around those very issues that Dr Metz talked about—how we go down the route of trying to justify what we start with rather than looking at the different scenarios we might have to deal with. It is a very complex area.

Q43 **Graham Stringer:** And particularly the economic benefits, as opposed to just the time saving—the point that Dr Metz made.

Andrew Hugill: Yes.

Q44 **Robert Flello:** I may have misheard an earlier comment, but my understanding from what was said earlier is that increasing congestion serves as a nudge factor, perhaps to persuade the motorist to leave their car and take another form of transport. But of course, the more that traffic congestion increases, for example, the more delivery vehicles need to be sent out on to the roads. As congestion increases, there is a need for more vehicles and there is therefore more congestion. You get into a sort of spiral of despair as the freight company has to send more and more vehicles on to the roads to try to get 10 parcels, or whatever, delivered. You are not going to be able to nudge those on to push bikes when you are delivering pallets of croissants that someone might want to have for their breakfast on their nice little walk into work or whatever, or you are delivering a load of steel and cement to a site on a just-in-time basis. How do you balance those out? You cannot nudge them on to other forms of transport. What can you do?

Dr David Metz: You mention just-in-time delivery. I am not an expert on this, but my sense is that that has been a great success for the road haulage companies. They can contract with their clients to deliver within quite tight time slots. For example, a road haulage company working for a supermarket, delivering from a central warehouse to the stores, might typically contract to deliver within 30-minute time slots. They can do that because they understand and can predict congestion, and they manage their fleets. I recall once asking the chief executive of one of these road haulage companies to what extent unanticipated traffic congestion detracted from contractual performance, and he said it was actually less of a problem than unanticipated delays at customers' premises. So the question is: is this a general effect? Does just-in-time delivery really work? If it does, it is saying that the practical problems of congestion for efficient haulage companies are actually much less than you might have supposed.

Q45 **Robert Flello:** But surely if the same firm know they have to be there in half an hour's time and know that their vehicle is going to get caught up

in traffic, the subsequent delivery that it was going to go on to after that—they are going to send two vehicles rather than one.

Dr David Metz: No, the implication was that they could plan the routes in the light of a realistic appreciation of traffic conditions, which they understood because it was their professional activity. It is a topic on which I am not an expert—colleagues may have a view—but I am citing this as a counter to the prevailing feeling that congestion is a big cost to industry. People often come out with big numbers which estimate the cost to industry and argue that we need to invest more in roads, but my sense is that that may not actually be the case at all. Again, that is possibly a topic for your Committee to ask further questions about.

Andrew Hugill: One of the things we said in our evidence was that there is no doubt that understanding the different needs of groups who use our networks is a key area for moving forwards. Freight is a good example. The white van man, if I can use the phrase—the small, self-employed tradesperson—is, from an anecdotal viewpoint, a significant factor in making up the traffic on our roads. Clearly congestion has a direct impact on how those businesses work. If the Committee were to exert any influence, understanding that range of very different needs across all those groups would be a very good place for it.

Q46 **Mark Menzies:** How has modern technology, such as GPS, sat nav and all the various things that come with them, impacted on the management of congestion? It is not that long ago that a vehicle would be heading down the road and would get stuck in a traffic jam. Now, the supermarkets particularly—the big boys—will have a very sophisticated mapping system that will be able to reroute vehicles live, in order to miss congestion hotspots and so on. How has that technology had an impact on congestion management?

Dominic Proud: Perhaps, as an industry, from a highways point of view, we have not invested in technology or have not got the basics right. We might have put traffic signals in 10 years ago, but they have just been left there, essentially to deteriorate, and we have not gone back and looked at changing traffic patterns. There have been massive technological advances in urban traffic management centres, but a lot of authorities still do not have communications with their traffic signals to see if there is a simple loop detection failure, and that can cause significant problems with queues. I do not think we have adopted different technological advances as well as we should have, in terms of using journey time information to change variable-message signs. We have done it on the trunk roads, but in terms of local authorities, I do not think we have tapped into that information as much.

On sharing data from sat navs and using urban data, as was mentioned earlier, a lot of work is starting to be done on how we can use that data to influence apps and websites and make better journey choices.

Martin Vickers: Mr Hugill, you spoke earlier about how authorities deal not just with transport planning but with planning in the wider sense. Do you think that it is probably a fair criticism that local authorities have not

taken sufficient note of the impact on traffic congestion when approving, say, a new housing estate?

Andrew Hugill: I would not use the word "criticism". I would suggest—I think we did so in our evidence—that the link between planning and transport is not as strong as it might be. Others on the panel might wish to comment on that. We have a range of different structures of planning and transport responsibilities across local government, and indeed at central Government level. We have an understanding of how development impacts on transport in its widest sense as opposed to the specific link on to the network. There is room for improvement there. I would not use the word "criticism"; I would say it is a function of the responsibility that different authorities have.

John Elliott: TAG is an organisation of district authorities, metropolitan authorities, London boroughs and unitaries. We do not include many counties. ADEPT is the equivalent organisation for the counties. There is definitely a tension in two-tier authorities between the districts and the counties. The districts are charged with providing housing. The targets of housing are very stretching for the districts at the moment. They have no responsibility directly for transport, so, "Hey, we can put some housing in there; the counties will have to deal with the transport implications of it," and vice versa. There is a definite tension organisationally, but we try and get over it. That is one of our roles.

The other thing is that when a developer comes forward, he has to satisfy the county and the district that he has dealt with the safety implications and the traffic at that particular point. A little bit down the road, you have got a few extra vehicles, but there is a cumulative effect, and the amount of housing that is being poured into south-east England is causing problems.

London is managing better than anywhere else because it has an excellent public transport system, and that has changed the level of travel. But most of these new housing developments are on the periphery of relatively small towns where the alternative modes are not there, and we are getting a lot more congestion from this extra housing that is not solvable with the present strategies in place.

Q47 **Martin Vickers:** You mentioned relatively small towns. Understandably, a lot of our discussion has been about London and big cities, but the provincial towns, such as in my constituency and in Mr McCartney's and others, can suffer greatly from congestion. Admittedly, relative to London, it is not on the same scale, but nevertheless it impacts on economic activity and is to the detriment of town centre retailers and so on.

Do you think there are any better solutions that our provincial towns should be using, rather than traffic management in a wider sense, which tends to deter people from going into the town centre at a time when the retailers are doing all they can to attract people there?

John Elliott: All of us have mentioned that travel planning is a fairly powerful tool. At the moment it is quite difficult to do travel planning for

workplaces in small towns. A lot of people drive into the small towns when there are other ways and they clog up the town centre. The cars are in the centre and get used during the day. Again, it is lots of little things.

At the moment, if you drive into a town, you get a free parking place if you have got workplace parking. Travelling by bus costs you quite a lot of money outside London. It does not feel right that, effectively, we are subsidising people to drive to work. The companies are doing it—fair enough—but they are not subsidising their workers that walk, cycle or use a bus. Those little things can make quite a big difference in small towns. It is absolute chaos in Tunbridge Wells. The roads are not wide enough to put in bus lanes. There is an excess of development in the centre that encourages people to drive in and park. It is workplace parking that is causing the problem.

Q48 **Martin Vickers:** I have one more question. Any member of the panel may wish to comment. Do you think that the move over the last 20 or 30 years to more and more out-of-town shopping centres has made transport congestion worse, or, because it reduces the amount of traffic that wants to get into town centres, that it has been a good idea?

Andrew Hugill: I think it comes back to the question of planning. I probably can't say whether it is a good thing or not. Clearly, if you are planning a development of any sort and not properly considering transport in a holistic sense for that area, you may well end up with consequences that you hadn't thought of. I think that is the point we were making in our evidence: that thinking about where development should go in the round, as part of the consideration of the overall transport needs of an area, is very, very important.

John Elliott: Out-of-town centres definitely increase car dependency, because you can only get there by that mode. With town centres, even small town centres, there is only about 60% car use, but the out-of-town centre is 100% or nigh on. Also, lots of towns have these centres on each side of them. In Canterbury, where I live, there is a lot of crosstown traffic going from the edge of the town on one side to the shopping centres on the other side of the town, and vice versa. So I think the out-of-town centres do generate more traffic and more congestion.

Q49 **Will Quince:** I have a couple of questions about technology in particular. The first is about autonomous vehicles, or driverless cars. There is a Government report out this week that suggests that driverless cars may increase congestion in the short term, because of the cautious nature of the vehicles versus manual driving, and that until we have 50%-plus automated vehicles on the road congestion may increase. So I would be interested to hear your views on that and how we might be able to mitigate it.

Dr David Metz: There is the question of how autonomous vehicles will behave relative to regular vehicles. There is also the impact on parking, because one possibility is that if you could go to work in your car and then send it home driverless for your family to use in the day, that would save parking at the workplace. On the other hand, it would be an extra trip, so

there are different trade-offs, and again in the evening it would come back the other way. So it's quite complex.

In urban areas, kerbside parking is in any case quite limited and in any event you need kerbside space to pick up and set down, whether it is goods or people. There is not much scope for relieving parking there through driverless vehicles. So the relief of parking will be in car parks and in residential suburbs, where the space will be useful but not critical.

It is really quite early days yet to take a view on the impact of autonomous or driverless vehicles on congestion. Of course, congestion is the big problem for the road system and so for any new technology we should ask what impact it will have on congestion. Electric vehicles won't have an impact, because they're just vehicles. With driverless vehicles, it's not clear yet, but they may not have much impact. So, in terms of your present inquiry, it seems to me that probably driverless vehicles in themselves are not likely to be that important.

What will be more important potentially is shared use of vehicles, because you can get more efficient use of the road system if you can get more people into vehicles. An interesting model here is Uber's approach, called UberPOOL, whereby they incentivise people to share their taxis by offering lower fares, and that seems to be proving quite popular. That may be a more interesting and more relevant way forward than driverless, as such. I mean, in due course Uber wants to go for driverless, shared vehicles, but it would be the shared part that would be more important for congestion than the driverless part.

Q50 **Will Quince:** Chair, we touched on another issue earlier, which is around sat navs and other technology within a vehicle. I have it within my own car, so it advises me on my route if there is congestion ahead and it will ask me if I want to detour, but I am just conscious that it is probably telling hundreds of other people, if not in some cases thousands of other people, exactly the same information, so I wonder how much sat navs and other technology of that nature actually lead to more congestion in certain areas.

Dr David Metz: Certainly on detours, where the capacity of the detour is less than that of the main route, the anecdotal evidence is that you can get big tailbacks there. The point I made earlier was about the desirability of optimising the overall system, by not giving everyone advice to go on one route. That would be desirable, but to do it one's got to have some kind of relationship between the road authority and the providers of this information.

Andrew Meaney: I don't think anyone is saying that more information is worse. It should be giving you the choice, whereas historically we haven't had that choice, so that there are benefits being presented through the system. What it perhaps is not taking into account is being able to predict that, if 100 other vehicles are also going down that road, that is going to get congested.

Q51 **Clive Efford:** Just going back to the questions about planning for development, I am sure you are all aware of the ongoing debates about

whether we should have more river crossings in east London. Would you build public transport crossings or road crossings in London?

Dr David Metz: Road crossings would increase traffic because any kind of road in a congested urban area will attract traffic, whereas public transport crossings would not, because public transport is a finite resource. The decision is quite clear. Interestingly, I think the policy of the current Mayor is to build public transport crossings, whereas the previous Mayor was exploring the possibility of road crossings.

John Elliott: I am sorry, Chair, but I cannot resist that one, because I led the GLC's case against the east London river crossing, and I have been involved in the issue ever since that time for Friends of the Earth and the Campaign for Better Transport.

I have difficulty—the east has not got as many crossings. Whether that could be dealt with by boat and so on, I do not know, but the biggest gap is around Rainham-Dagenham East. They are adding extra capacity at Blackwall, and I do not think that that is going to help one iota. I am not expressing a TAG view, because London TAG authorities are on both sides of the fence on this one.

Silvertown is going to add capacity at that point and create additional real pollution problems north of the Thames and create more congestion further back. At the moment, Blackwall is very much inner London, where providing a capacity increase will make traffic worse - that close into central London. We have got all the evidence to show that you cannot build your way out there. It is the first point where you have got a delay coming in on that arm of London. On every other approach into London, you are queued up as you come in and you get bits of delay. At Blackwall, it is all in one place. Silvertown is the worst proposal I have seen so far, wearing my own hat, Thames Gateway bridge is better, but we should be looking at Belvedere if we are short of road crossings.

Q52 **Clive Efford:** Taking Silvertown as an example, what sort of measures could be put in place to stop the generation of additional traffic to fill the extra road space?

I will give you an example. You might remember this, given your history, but the Rochester Way relief road was the replacement for the old A2, and when we built it, because of the traffic management measures that were put in place, the old A2 became a residential road. It did not just fill up, as we have had in other major road schemes of a similar nature where the new road is built parallel to the old one. What measures could we put in place, whether that is using technology, restrictions or charging, to reduce traffic generation with a scheme such as Silvertown?

John Elliott: They are proposing charging at Blackwall and Silvertown in order to limit the amount of extra traffic. I think they made it very clear that without charging, it would be pretty awful.

Q53 **Clive Efford:** Do you think that will work?

John Elliott: I am not confident that it will work, because it is only at a single point. It is a bit like the Dartford crossing—there is only one charge

on one link of the M25. I know CIHT have been very clear that they believe in road pricing. I think we believe in road pricing, but we do recognise the political difficulty of road pricing. The M25 boundary lends itself to a congestion charge inside there, because Londoners may think, "Keep the nasty long-distance car commuters out." It probably—I do not know how this will be reported—hangs well politically with the public in London, but it could hang well. Some sort of traffic congestion charge for the whole of London is probably needed now.

Chair: I am going to bring in Mr Stewart now, who wants to pursue the question of road charging in a more general way.

Q54 **Iain Stewart:** I would rather the responses were on road pricing generally, rather than numbers specifically. It is fair to say that road pricing has not commanded public support in recent years, with heavy referendum defeats in Manchester and Edinburgh. Do you think there is a potential for public opinion to change if it was designed in a way that was fiscally neutral for the average motorist—in other words, if there was a reduction in fuel duty, road tax and so on to compensate for the cost that road pricing entails? If we had a dynamic pricing whereby driving into London or any city at 8 o'clock in the morning was three times the price of driving in at 1 o'clock in the afternoon, it would achieve a more efficient pattern of traffic movement. Is there the potential for public attitudes to change if that was presented in the correct manner?

Andrew Meaney: Economically, there is no price for using the road at a particular point in time. It is important for us to remember that congestion is not just about a particular location; it is about the time of day as well. The sort of mechanism you are talking about that adjusts the price—as long as people know what they are going to pay before they make their journey, it will encourage those few people who are potentially causing congestion to travel outside of that time and move people outside. That would be economically an improvement on the situation today.

Whether it could be presented as people having more choice about how they pay for using the road—at the moment, you pay for the fuel you are putting in your car and the vehicle tax. Whether you could put that together, so that people say, "Instead of always having to pay that, I've got a choice about how I pay for using the road. If I use it when it's less expensive, I've actually saved money." If we give people those choices and it is presented well and is distributionally fair, so that the people who have to travel at a particular time to get into work do not find themselves paying a lot and so that people who have the flexibility to choose don't have to pay so much, I think that might work.

Dr David Metz: To introduce road pricing on a revenue-neutral basis would be difficult, because you would have to do it nationally. In London, you have road pricing—the congestion charge—on top of fuel duty. We should consider that the Government's intention to implement the climate charge targets means switching to electricity as the motive force for all road travel by mid-century. Electric vehicles do not pay fuel duty. They pay 5% VAT, so the question is: how will road users pay for the cost of the road system? That, I think, will take us in the direction of some kind of

road user charging, probably initially for electric vehicles, so that they begin to pay their fair share.

But once you have charging for electric vehicles for revenue raising, to fund the road system, you have the scope for flexing the charge to reflect local traffic congestion. You can imagine this being done in conjunction with city authorities on some sort of shared revenue basis. That is a long-term perspective, which may be inevitable in one way or another, because of the need to fund the maintenance, operation and development of the road system in the absence of fuel duty in the long run.

Q55 **Iain Stewart:** Thank you—you have anticipated my next question. Certainly in this country, and I think in most western countries, the revenue raised from fuel duty—the equivalents—exceeds the road expenditure. It is a net revenue win for the Exchequer. I absolutely agree that the move to ULEVs will prompt Governments to change the funding structure. From your perspective, how far away from that are we? There will be a major hit on Government revenues from the uptake of ULEVs. Is it five years away? Is it 10?

Dr David Metz: Transport Ministers have said that they envisage that by 2050 pretty well all new vehicles would be electric. So you have a trajectory to get there, which will involve a substantial shift to electric vehicles. It looks as though the car manufacturers are moving quite rapidly in that direction, under the pressure of worldwide regulation to reduce pollution and accommodate climate change targets. So on the back of that, one would plan the rate at which one would hope to generate revenue from electric vehicles to supplement that from fuel duty. I have not done the detailed numbers, and a lot would depend on the rate at which the cost of electric vehicles came down, particularly the batteries, to give you some headroom to actually raise revenue from electric vehicles to fund the road network. But by 2050 you would be there. It is quite a long timescale, but it seems to me to have a kind of inevitability, if electric vehicle technology can be delivered.

Q56 **Chair:** Dr Metz, your proposal there is presumably about a national scheme, linked with a different way of transportation operating. Is there any evidence that anyone has that people locally would ever vote for a local charging scheme? It appears not—*[Laughter.]*

Q57 **Robert Flello:** I have two questions. The first is just a bit of clarification. We already have road pricing in London—a congestion charge—yet while the number of vehicles has declined the congestion is increasing. So that is not really a very good advert for congestion charging, surely?

Andrew Meaney: I think you have to look at what would have happened if the congestion charge wasn't there. As we know, you increase road capacity and more people come in to use it. As you change road capacity in London, people know that if they are coming in at the peak times they are going to have to pay for it. You can say that congestion may be increasing, but I think probably most of us would agree that if that congestion charge wasn't there congestion would probably have increased by much more, given the population increase we have talked about.

Q58 **Robert Flello:** So all the effect is is to slow the rate of increase of congestion.

John Elliott: I think it did drop a bit. We got rid of 35% of the cars. Now only 1 in 20 journeys in central London is by car, whereas it was 1 in 10 when I was working in London 30 years ago.

Q59 **Robert Flello:** But congestion is still rising, even with the congestion charge.

John Elliott: Yes, but some of it is because of Crossrail and the super-highways and the number of statutory undertakers' works. There are a lot of holes being dug in London and a lot of chaos as a result.

Q60 **Chair:** How much of the increase in congestion is due to roadworks of one sort or another?

John Elliott: I am afraid I can't answer that, but TFL have got better monitoring—if we can get hold of them. TFL are a member of TAG, but they could not share any information with us until it had gone through their committee, even at a technical level.

Q61 **Robert Flello:** That is a shame, because roadworks are not something that has been invented only in the last few years.

John Elliott: There are a lot of roadworks now, I think—a lot more than there has been—but I cannot say how much more.

Q62 **Robert Flello:** But that is only a perception, because there is no data for it.

John Elliott: Yes.

Q63 **Robert Flello:** My other question is about where cities outside the UK do it better, or have an answer or a possible solution. I seem to remember something about Barcelona having an interesting sort of grid system. Does anybody on the panel know of cities that have got this right, places around the world that are moving in the right direction? Or not?

Chair: I think we have beaten you all into silence. Are there any examples anywhere?

Dr David Metz: My general impression is that there is a conflict between cars and people. Good interactions between people generate economic benefits—conglomeration benefits, technically. And there are similar social and cultural benefits that make cities with fewer cars more attractive places for people to work, study and live, and you get the kind of urban revival. Cities that have succeeded are pushing back cars by having better public transport—more reliable surface transport—and more pedestrian space and are creating a sense of place that makes the city a good place to be. It is quite hard to have your cars and have everything else you want in the same place. That is the general impression I have.

Q64 **Robert Flello:** So basically, if you live in a city with a really good public transport system you've got a chance, which rules out places like Stoke-on-Trent.

John Elliott: Change the public transport system. The recent report from this Committee will hopefully have some impact on public transport outside London.

Robert Flello: I won't hold my breath.

Chair: Thank you very much for coming. You have given us a lot of ideas, if not solutions, to follow up.

John Elliott: If there are any more queries, please don't hesitate to contact us.

Chair: Thank you.