

London Assembly Transport Committee – 10 July 2019**Transcript of Item 7 – London’s Transport Now and in the Future**

Florence Eshalomi AM (Chair): I will welcome our guests. We have before us Lucinda Turner, Director of Spatial Planning at Transport for London (TfL); Simon Nielsen, Head of Strategic Analysis at TfL; Silviya Barrett, Research Manager at the Centre for London; and Nicole Badstuber, Research Associate in Urban Infrastructure Policy and Governance at the University of Cambridge.

One thing we have been looking at on the Transport Committee is the growing nature of transport infrastructure in London, the fact that London’s population continues to grow and we want more and more people using public transport. We know that TfL does recognise the different scope of the changes, technology and how that plays, and so this morning we are going to be looking at how we make sure we have the right transport infrastructure for Londoners and people commuting.

We have a range of questions looking at those different areas and I will start off with the first section. This is a broad question to all of you as our guests this morning. How do you think London’s transport system will need to develop to keep pace with the growing population in London? I will come to you, Lucinda.

Lucinda Turner (Director of Strategic Planning, Transport for London): Clearly, the growth of London poses some significant challenges for us as TfL and in terms of delivering the transport system we need. There is a whole host of issues around the environment and health that we need to address. We need to make sure that we mitigate the impacts of transport on carbon dioxide (CO₂) and climate change more broadly and deliver improvements in air quality. That is a huge focus for the Mayor.

There is also the growing challenges of health. This generation of children in London is the first that will live more time in chronic illness than their parents. That is a huge challenge for us. Active travel is one of the crucial mechanisms for delivering greater levels of activity. Currently, only one in five children gets the levels of exercise and active travel they need each day. We need to make sure our transport system responds to that.

More widely, in terms of the nature of the population and the demographics, we have an increasing population of older people. Our transport system needs to develop further in terms of delivering step-free access and solutions for people with a range of mobility challenges and other challenges to make sure London is an inclusive city.

In terms of the growth of London in population and the number of trips that that puts on our system, by 2041 we are expecting at least 5 million extra trips each day that we will have to cope with on our transport system across the different modes. To make sure that they are as efficient as possible and that we can cope with that, we need to shift as many people to public transport and walking and cycling. The Mayor’s Transport Strategy (MTS) set out a really clear vision and an ambition for 80% of trips to be done by public transport, walking or cycling. That is the only way we will be able to make sure that the growth in London is sustainable.

There is also a whole host of challenges that are not linked to transport *per se* but transport is a means to an end. Delivering new homes and jobs in our city to support that growth in population is critical. Transport plays a fundamental role in that. We know that housing delivery is more viable and sustainable if we can deliver it in areas that are well connected to the public transport system. We know that we need to embed walking and

cycling environments from the outset. We know that there is a very clear relationship between density of development and good public transport and sustainable transport outcomes. There are some win-wins and there are some real opportunities here as well as challenges.

There was a lot of evidence done for the development of the MTS that considered all the different swathes of challenges, including changing technology, which again offers both opportunities and challenges. Disruptive technology has delivered many benefits for Londoners, but it also increases the challenges in terms of making us able to have a coherent and integrated transport system in the capital that does not have adverse incentives for people to switch back to cars. There are all those aspects.

Can I hand over to Simon perhaps to give a bit more of a flavour on some of the challenges?

Florence Eshalomi AM (Chair): Is there anything you wanted to add to that?

Simon Nielsen (Head of Strategic Analysis, Transport for London): Yes, to give a little bit more detail maybe on some of the key parameters that we need to take into account in the future, which are quite important. One of the things London has been experiencing for a number of years now, which is set to continue, is the growth of London and trying to cater for that growth. We have a population now of 8.9 million. New population figures were released two weeks ago, which show that London is still growing. The population between 2017 and 2018, despite the almost unprecedented levels of uncertainty in the economy at the moment, increased from about 8.8 million to 8.9 million people, which makes it still the fastest growing region in the United Kingdom.

We are expecting to see that increase to about 10.8 million people in 2041, which is two million more people. That is the equivalent of adding Glasgow and Birmingham to what is already a very large conurbation. We also know the distribution of that growth is not going to be evenly spread. We are expecting something like 40% of the growth to occur in east London.

As Lucinda mentioned, we are also expecting the population to age, which is important in terms of what we need to plan for in the future. Even between 2017 and 2018, the most recent data we have on population, we saw that the population of people over 60 increased by 2% compared to a 0.9% overall increase. You can see that starting to happen.

It is not just population; it is also jobs. We are expecting jobs to increase by over one million by 2041. The population growth combined with this employment growth is likely to result in five million to six million extra journeys every day on London's transport network. That is an enormous challenge for us to be able to cater with and we already have the crowding challenges, congestion challenges, air quality challenges and climate change challenges, but this is going to put a further burden on the system. We need to plan very effectively to do it. That is just a little bit more flavour on the growth.

I wanted to add a little bit more also on health, environment and safety, which are two very important aspects of the challenge we are facing. We know that there is over-reliance on cars and we know that the over-reliance on cars has important consequences because it results in inactivity. Inactivity is linked to heart disease; it is linked to cancer. If everybody in London was physically active every day, it would reduce the risk of things like type 2 diabetes by 35% to 50%, breast cancer by 20% and heart disease by 20% to 35%. I could keep going. There are lots of statistics like that. Activity is very important from a health point of view. We need to increase activity through travel and that is one of the things the MTS focuses on very clearly.

Traffic has lots of other consequences. For example, traffic leads to pollution and has a big impact on global warming as well. We know that roads result in something like half of the main pollutants that we see in London. Cars can contribute 14% of nitrogen oxides (NOx) and 56% of the smaller particulate matter (PM), which are harmful to health. We need to reduce traffic and we need to clean up London's vehicles.

The third area related to this general point is around road danger because traffic also leads to road danger. We have seen over the last 20 years a big reduction in people who have been killed or seriously injured on our streets, but most of that reduction has happened for people who were in cars. Much of the reason for that has been because vehicle safety measures have been brought in and because we have put a big emphasis on 20-mile-an-hour limits and on junction schemes at accident locations, but we are now left with a big issue for vulnerable road users. We know, for example, that motorcyclists per kilometre travelled are 25 times more likely than average to be killed or seriously injured travelling on London's roads. The focus now needs to move towards vulnerable road users. We have seen the risk for cyclists, for example, reduce very significantly, but with the growth in cycling we need to continue to emphasise that.

That was the detail I just wanted to add to Lucinda's points to give you a bit more context.

Florence Eshalomi AM (Chair): Thank you.

Shaun Bailey AM: You said 56% of particulates come from cars. Where do the rest come from?

Simon Nielsen (Head of Strategic Analysis, Transport for London): From a wide range of other sources. They come from other vehicles. They come from a construction. They come from boilers. They come from a wide range of other things. Those things are covered in the Greater London Authority (GLA) and the Mayor's approach to dealing with pollutants through the London Environment Strategy.

Shaun Bailey AM: Thank you.

Keith Prince AM: You mentioned the vulnerability of motorcyclists and as a motorcyclist I am fully aware of that vulnerability. What I do not see is anything whatsoever being done to help motorcyclists. In fact, it is quite the opposite.

Simon Nielsen (Head of Strategic Analysis, Transport for London): It is a key feature of the Vision Zero Action Plan that we are developing. We are very aware that we need to have a safe system approach that takes into account the unpredictable behaviours that can sometimes happen on our roads to reduce the impact of collisions when they occur and to make sure that all the people who have a responsibility for managing roads in London feel that they have a responsibility for reducing road dangers. That is very important.

There are five pillars of action set out in the Vision Zero Action Plan. The first is around safe speeds. The second is around safe streets and junctions, which I am sure is an important issue here. Then there are safer vehicles and then safer behaviours. That involves things like targeted marketing. There are --

Keith Prince AM: Sorry. With respect, none of that helps motorcyclists *per se*. I would be interested to see if you have any --

Florence Eshalomi AM (Chair): We will move on. Maybe you can take this up offline, Keith, because we have quite a lot to get through this morning.

Keith Prince AM: -- statistics on the accident figures for areas where motorcyclists are allowed to use bus lanes and where they are not allowed to use bus lanes. That is somewhere the Mayor has not made any progress at all.

Simon Nielsen (Head of Strategic Analysis, Transport for London): We might have to come back to you on that.

Keith Prince AM: Yes, that is fine. Thank you.

Florence Eshalomi AM (Chair):

I welcome our additional member of the panel, John Dickie. He is Director of Policy and Strategy at London First. Welcome, John.

Moving on, the other area I wanted to focus on, maybe coming to you, Nicole - and Lucinda has touched on it - is the fact that, yes, London's population is growing but also people's work-life pattern and commuting is changing as well. How do you think the transport service is going to respond to that change? We are seeing more people doing flexible working, setting up their own businesses and not having to commute.

Nicole Badstuber (Research Associate, Urban Infrastructure Policy and Governance, University of Cambridge): Yes. Since around 2014 we have seen that travel behaviour has changed. The number of trips the average Londoner is making has gone down quite significantly. In 2014 it was around 2.6 trips a day and we are down to 2.1.

Generally, the wisdom was that population growth would lead to more transport demand because everyone had a general basic travel budget. That seems to be changing. The reasons for that are not particularly clear. Some of that has to do with the flexibility around work arrangements. We have seen that people are switching more to four days a week in the office from a five-days-a-week schedule, but of course that varies a lot between what sorts of jobs people are doing.

We have seen the biggest drop in trips for leisure and shopping. Some of that may have shifted and so we may see some substitution of that with more people shopping online and getting deliveries. That is putting quite a different strain on the transport network than people going out, for instance, to Stratford Westfield or Oxford Street because, instead of the person going by public transport, we have freight delivery. Often they are not successful the first time and so we are seeing that there are more trips being made by freight. If you look at light goods vehicles, the percentage that they are making up of the traffic mix is also going up.

Looking ahead, what we know for certain is that most of the infrastructure we have today is also going to be there in the future and so, yes, we may get an extra Tube line and we may get Crossrail 2 but, overall, we are still going to have the same infrastructure network that we have today. If we are expecting growth, then we need to think hard about how we are going to make more efficient use of the infrastructure we have today. Of course there are competing demands on, for instance, road space, but if we want to make this growth happen and we want to enable people to get to work and have those agglomeration benefits of working nearby to other people in their profession, then we need to think about who is using the roads and maybe switch to high-capacity mode - buses, for instance - and prioritising those.

Florence Eshalomi AM (Chair): That is good. John, Silviya, one of the things that we have also been looking at is the technology and the role that plays in transport in terms of how people use a transport system. Are there any key technological changes that you think TfL should be looking at to respond to that?

Silviya Barrett (Research Manager, Centre for London): Yes, absolutely. Technology provides many opportunities but also many challenges in London's transport. For example, we know that digital technology is revolutionising the way that people move and travel around the city, enabling people to plan their journeys more easily and to personalise their own journeys, but there are also new mobility services that are enabling people to maybe take other modes than they would not have otherwise. For example, ride hailing has enabled people to make some journeys by taxi that they might have otherwise done by public transport, for example.

We are also seeing a shift from mobility as a product with a private car towards mobility as a service. This is a different dynamic for people than owning their own car. In many senses, that is very much a positive development because, when people own a car, it is proven that they are more likely to use it more often. If we move towards mobility as a service and car clubs, for example, there is lots of evidence that this reduces people's reliance on cars and using other modes instead.

However, if we are not careful, technology can produce challenges. For example, if it is much easier to hail a cab, then people might be tempted to use that more frequently. Therefore, we need to look at how we can encourage use of public transport for shorter journeys, look at mitigating some of the impacts of technology and reduce the impact on congestion and pollution in that sense.

Micro-mobility is another trend that can potentially revolutionise the way we move around the city. E-bikes are already on the streets and potentially there will be e-scooters as well introduced soon. That will pose new management and regulatory challenges for how we deal with the vehicles. How do we stop them from cluttering the pavements, for example? There will need to be regulation on where and how the vehicle can be used and parked.

Also, we need more regulation on how different role users behave towards one another because we have the Highway Code but that is a very old regulation that focuses on car users and to some extent pedestrians, but there will be many different types of road users in the near future that we need to consider and putting forward regulations as to how they should behave towards one another.

Florence Eshalomi AM (Chair): Regulation is important. All of us will have seen those random bikes slap-bang in the middle of the road. If you add electric scooters to that, it could be a recipe for disaster. John, is there anything you wanted to add on this?

John Dickie (Director of Policy and Strategy, London First): I will draw on one of the points that Silviya made, which is that it is uncertain quite what the aggregate impact of new technologies will be. We can make all kinds of forecasts about, for example, the interaction between shared vehicle use, electric vehicles (EVs) and autonomous vehicles, which are all trends we know are coming but we do not quite know when. We do not quite know what the consumer response will be and we do not quite know what that will mean for the transport infrastructure of the city.

However, the one thing we can say with some certainty, which we strongly believe and reflects the views of businesses in London, is that the importance of sustained investment over time in mass transit will remain critical to London remaining both a competitive city and also a liveable city. There are all kinds of very interesting questions around things like homeworking and things like shared use of cars. As you rightly say, if you do not own a car, you are likely to use it less because it is more hassle, but of course if you can share a car and you could not before, you are likely to use it more. How these things will interact is very uncertain, but the thing that is certain is that we do need to continue to invest in mass rapid transit infrastructure for the city.

Nicole Badstuber (Research Associate, Urban Infrastructure Policy and Governance, University of Cambridge): I wanted to reiterate something that Silviya was saying, which is that currently neither the boroughs nor TfL nor the City government has the powers to regulate micro-mobility properly. Looking at, for instance, scooters and dockless bikes, currently neither the boroughs nor TfL has the powers to manage them properly on the public space.

Lucinda Turner (Director of Strategic Planning, Transport for London): I will add a few thoughts. Thank you, Chair. I agree absolutely with John that the importance of mass public transport and efficient modes of transport is not going to go away. Road space is inevitably limited and cars, even if autonomous, still take up road space and are inherently inefficient. If they can be used in outer London in some form of sharing to switch people from owning a car, they could have an important role as a complementary measure. That is why the MTS set out a framework within which we were exploring technology and trying to maximise the opportunities it offered but to manage some of the potential impacts.

We sometimes need to remember that technology is great. My goodness, I wish I had a crystal ball. The things that have changed over the last 20 years that we have seen are unprecedented. There is a team in TfL specifically looking at this and Michael Hurwitz [Director of Transport Innovation, TfL] is coming to talk to you later. Some of the solutions we are talking about here and some of the most important solutions are actually pretty low-tech - walking and cycling - but the information revolution with technology can give us to help people make choices and to make those choices even better. Information is becoming ever more critical in our transport offer. With the information we have made available, there are 600 apps now that people can access and make use of. Simon's team has developed new modelling capability to try to understand and to be able to model scenarios with apps. As you say, it is inherently uncertain, but we need to try to understand some of those implications.

Florence Eshalomi AM (Chair): That is good. You touched on it briefly, both you and Simon, in terms of how we make sure that the transport system is resilient to climate and environmental change, but what do you think that TfL, the Mayor, Londoners and businesses should be doing to mitigate some of those risks?

Silviya Barrett (Research Manager, Centre for London): One of the main shifts that we need to see is cleaning up London's road vehicles as they are the main contributor to both CO₂ emissions and pollution. Transport is a contributor to the majority of CO₂ emissions and road transport accounts for 90% of that. In terms of pollution, the majority of both NO_x and PM comes from road transport as well. Cleaner vehicles would be very much required to make sure that we live in more sustainable and healthier ways.

EV infrastructure is part of that, providing incentives for people to move towards cleaner vehicles, enabling them to do that more easily. The report of the EV Infrastructure Taskforce was published recently and that was very much welcomed. Interoperability is a key part of that, ensuring that people can very easily charge their vehicles with technologies that are available from different operators.

Another key point in the report was about hubs, i.e. charging hubs, but also there should be wider mobility hubs providing access to some of those alternative solutions and mobility services that are now available, making them public spaces.

Crucially, we need not only cleaner vehicles but fewer vehicles overall. We will not be able to manage the challenges on our finite road space unless we have fewer vehicles. Road pricing can be a key part of delivering that.

Florence Eshalomi AM (Chair): Yes, we will come to that a little bit later. I am mindful of time.

We are moving on to our second area, which is looking at the challenges facing the capital. My colleague Assembly Member Copley is going to lead on that, looking at housing and economic growth.

Tom Copley AM: Thank you, Chair. My question is focused on how transport can support the growth of housing that we need in London. The first thing that comes to mind is Crossrail 2. In what areas does the transport infrastructure need improving to facilitate housebuilding? Can I start with Lucinda?

Lucinda Turner (Director of Strategic Planning, Transport for London): It is important that we look both at connectivity and at capacity in this regard. A lot of the potential areas for development in London are already reasonably well connected. Over half of the large site capacity is identified in Public Transport Accessibility Level 4 to 6 areas and so there is connectivity there.

Some of the challenges where there is connectivity relate to being able to get on the transport system and capacity at stations and on the lines, and so clearly that is an important aspect. We also need to think not only about the strategic but about the local. We need to make places work and we need to make places amenable to walking and cycling and those local journeys so that people feel able to travel sustainably. It is not just access to the public transport system but wider improvements there.

A lot of development on large sites is in Opportunity Areas. As I said, some of those are simply well connected, but some of them where there are the largest opportunities for delivering large-scale housing are not as well connected currently. We clearly do need to look at extending the reach of our transport system as well and we are looking at a number of projects around that including the Bakerloo line extension (BLE), the Docklands Light Railway (DLR) crossing into Thamesmead and all sorts of projects that we know could help deliver thousands of new homes. I guess the challenge there, as ever, we come back to funding.

On a more localised scale, my team specifically looks at supporting the delivery of housing and making sure it is in line with good growth principles. We established some years ago the TfL Growth Fund, which is about £500 million explicitly targeted at unlocking transport constraints on housing and regeneration. These are schemes that under traditional transport appraisal may not necessarily always make it to the top of the priority list because, interestingly, if you deliver a new station the impact on existing users is negative. Their value of time is impacted negatively, but we know it opens up and catalyses that development. The Growth Fund is explicitly targeted on schemes that deliver things like station improvements and enhancements and new stations even in some areas.

Tom Copley AM: Can you give an example of one of these projects?

Lucinda Turner (Director of Strategic Planning, Transport for London): One example is at Elephant and Castle. We have committed money to upgrading and expanding the capacity there because the growth in the area could not cope. The modelling shows that we would be having to shut eight lines regularly in a few years' time if we do not deliver that. We have White Hart Lane Station. We have a new station committed at Beam Park. We have transformational --

Tom Copley AM: Where is Beam Park?

Lucinda Turner (Director of Strategic Planning, Transport for London): Beam Park is in the Barking Riverside direction. It is a wholly new station that would be on the c2c line. It would not be on a TfL service. We have Tottenham Hale Station improvements linked to the significant growth in that area.

We also have in the Growth Fund transformational road schemes. Sometimes transport infrastructure is there and is necessary but not in sufficient condition. Sometimes it is about place quality and perceived viability that impacts. Places like Catford and the impact of the road, the Wandsworth gyratory and schemes like that are also in the Growth Fund. It is explicitly targeted on that. The other --

Tom Copley AM: Was moving the South Circular through Government funding? Lewisham got £20 million to move the South Circular.

Lucinda Turner (Director of Strategic Planning, Transport for London): It got £10 million from the Housing Infrastructure Fund (HIF). The Growth Fund is looking to match-fund and to complete a funding package because the other thing that the Growth Fund is targeted on is making best use of the money by leveraging third-party contributions so that the burden does not all fall on the public sector. There are many examples. At Canada Water's Surrey Quays Station, the major development happening there will be contributing a significant amount. At Thameside West there is a new station planned linked with the new development and, again, we are leveraging funding from the developers themselves to make sure that they bear an appropriate cost. It means that the Growth Fund goes much further. It is designed to do deals, to identify those opportunities and to make the most of that.

We are also bidding for the HIF. Catford is one example of the Marginal Viability Fund. Boroughs bid for that money and it is a maximum of £10 million or £20 million from that fund. We have been working to support boroughs in that, but we have also been working with the GLA to access the forward funding, which is a maximum of around £250 million, although that is a relatively soft cap. We have put together bids that are explicitly focused on supporting growth and unlocking housing. We have been successful, for example, in the DLR HIF bid, whereby we will get £291 million from central Government to direct to extra trains on the DLR system, to a new station at Thameside West, to looking at the opportunities around Poplar and to unlocking the depot site there for housing by investing in Becton Depot expansion.

Tom Copley AM: I have heard several complaints recently about how congested the DLR is. It is a number of years before we get the new trains.

Lucinda Turner (Director of Strategic Planning, Transport for London): We are working as fast as we can to get them. We appreciate the pressures in the meantime, but with the HIF bid and our business plan programme we will have 57 new trains being delivered there. That will deliver a 67% increase in peak capacity on the DLR, which is much needed but important, and it will deliver improved cross-river connectivity. We will have a train every four minutes from Woolwich and from Lewisham to Stratford directly, for example. It will deliver a significant and important boost.

I know that in transport we always face that. Transport investment has quite long lead times. We accept that.

Tom Copley AM: Yes. I am glad you mentioned the Bakerloo line, as a Lewisham resident. You also of course highlighted the funding challenges. Do you know? Is TfL doing any more work on land value capture? It seems ridiculous to me. For Crossrail, for example, so little money was raised from land value uplift. I know that TfL did the development rights auction model and then decided it would not work in London. I know that

KPMG came up with a whole range of ideas for TfL, to a lot of which the Government said, "Absolutely not". Is any more work going on in this area?

Lucinda Turner (Director of Strategic Planning, Transport for London): We are continuing to push. You flagged the work that we have done. We have published two reports on this in the past couple of years and have pushed central Government. It is right, though, that we need movement from central Government to enable us to do it.

It is definitely an area that we should be looking at. One of our studies showed that the estimated value uplift from a set of proposed schemes we looked at was £87 billion over 30 years compared to a cost of around £36 billion. It has to make sense.

I guess the note of caution is that there are no easy options, and particularly I will flag that quite a lot of the value uplift arises to residential properties and so politically that is always quite difficult, but we are continuing to look at it. We are very open to trying to work with central Government but we do need changes to regulation and legislation.

We looked at stamp duty land taxation, for example, as well and whether the Government would ringfence some of the uplift in that from areas from a zone around the transport improvements that were being delivered. As you say, they have not moved on that.

Tom Copley AM: Our likely future Prime Minister when he was Mayor [Boris Johnson] was a great advocate of devolving all the property taxes to London. Given his reputation for consistency and principle, I am sure that you will set to that immediately when he gets into office. Thank you very much, Lucinda. That was very comprehensive. I need to move on to some of our other guests and so perhaps if I could go to Nicole --

Florence Eshalomi AM (Chair): Are there any other points as well, Tom?

Tom Copley AM: -- do have any additional points on the transport infrastructure and supporting housing?

Nicole Badstuber (Research Associate, Urban Infrastructure Policy and Governance, University of Cambridge): Yes, maybe to highlight what Lucinda was touching on as well. When we have sites that we can unlock for new housing, it is so important that we develop them with general practitioners and with schools nearby so that all of those other trips, not necessarily your commute, can be catered for at a more local level and are not adding to the strain of the wider network into central London.

On options for funding some of these schemes, other cities might have some suggestions. Yesterday Berlin suggested that they were going to introduce a €365 annual ticket and some of that was going to be funded by having an employee tax. You would pay as an employer some small amount - I think it is a few euros each month - but that would contribute to the budget for investing in infrastructure for employees.

Tom Copley AM: That is interesting, but of course I do not know how congested the Berlin metro system is compared to London but I would imagine that if you did something like that here with vastly more people, we would not have the capacity necessarily on our current transport system. Would you agree?

Nicole Badstuber (Research Associate, Urban Infrastructure Policy and Governance, University of Cambridge): Yes. Of course, we have been talking about more generally capacity as a big issue, but it might encourage some of those smaller trips that you are doing maybe more locally, especially in the outer boroughs

where there is potentially a choice between getting a bus or getting into your own car. That could come under the heading of trying to get to this target of 80%. If you look at some of it, there does not seem to have a big change in the last few years and the modal split of general trips is still around 63%. It is quite an aspirational target and we do need to think of more radical ways of encouraging people to use public transport as the default after they have considered active travel.

Also, thinking about the connections around these new housing developments, do we have bus routes that are taking them to where the schools might be and to where the high street might be? These are important considerations so that we do not develop what I would call 'residential dormitories', where you are just having to leave where you are living all the time.

Tom Copley AM: Thank you. Simon, do you have anything to add from the TfL perspective? We had quite a comprehensive answer from Lucinda.

Lucinda Turner (Director of Strategic Planning, Transport for London): Sorry, I could talk for days on growth and housing.

Tom Copley AM: No, it was very interesting.

Simon Nielsen (Head of Strategic Analysis, Transport for London): I have a couple of points because it is Lucinda's specialist area. It is important to be aware that the whole MTS is relevant to this area because the 80% mode share target is about creating an environment where London can grow effectively without too many problems and consequences.

Things like the Healthy Streets approach are very relevant. Buses, particularly in outer London, which are flexible, affordable, accessible and can be scaled up or down quite rapidly, are very relevant to accommodating housing. At the other extreme, things like Crossrail 2 are also very important because they can generate large volumes of housing capacity. We know that Crossrail 2 could support up to 200,000 extra homes as well as increasing the capacity of the rail network and dealing with a number of problems. A very broad answer is required to answer a specific question.

John Dickie (Director of Policy and Strategy, London First): First, I suppose I should say how welcome it is that TfL does see its role now as not simply being a transport authority but looking at the role investment can play, not the usual systemic things a transit authority would look at --

Tom Copley AM: It is of course a developer now as well.

John Dickie (Director of Policy and Strategy, London First): That is exactly right. That is a very important and welcome development for the city.

Rather as Lucinda said, the critical thing around scale housing development is going to be new infrastructure that unlocks new parts of London because vital as, for example, the central section of Crossrail 2 is for capacity relief, it is not really going to unlock a huge amount of development because we are dealing with a very developed part of the city already. It is Crossrail 2 particularly in the Upper Lea Valley. It is the BLE. It is the ability of the DLR to unlock growth in Thamesmead for Peabody. Those are the kinds of developments that will make a big difference. Of course, with the extension of the Gospel Oak line, we are starting to see that happen in practice.

I would add a couple of points. One is of course the importance of TfL as a developer using its own land. TfL is going to provide 10,000 starts as a target. That is not going to solve London's housing crisis, but we need a lot of 10,000 starts to solve London's housing crisis.

The importance of developing at scale in these areas is also really important. We do need much denser development than has traditionally been the approach in most boroughs most of the time. That of course needs to be done well. It needs to be done with concomitant social infrastructure. There is absolutely no argument for building the slums of the future. However, we do need to be looking to see how we deliver the most housing we can particularly in areas that are going to be really well connected.

One of the things we have not got quite right with Crossrail is the scale of development around Crossrail stations in outer London, for example. That neatly segues into value capture. Value capture is not only an important way of financing and funding new infrastructure. It is an equitable way of financing and funding new infrastructure, but it is not a magic bullet. It is not a magic bullet because, exactly as Lucinda said, a great deal of the value uplift created goes to existing homeowners.

I was on the last iteration of the London Finance Commission. There are some very enthusiastic technocrats who want to capture all this and there are some people who run for and hold elected office who are running away from it as fast as they can. The message I would give to the Assembly is that if you want to be pushing this, you are the right people to push it because you are the people who will be facing the electorate and explaining how they will pay for it.

Tom Copley AM: I have been, yes. I do very much take your point. You are absolutely right. It is very challenging.

Florence Eshalomi AM (Chair): We have to move on, Tom.

Tom Copley AM: We have to move on. Can I ask quickly about mayoral devolution?

Florence Eshalomi AM (Chair): Yes, please do.

Tom Copley AM: Sorry not to come to you. Do you have anything?

Silviya Barrett (Research Manager, Centre for London): It was exactly mayoral devolution that I was going to talk about.

Tom Copley AM: In that case, could I ask you very quickly then about that and how that can support housing growth?

Silviya Barrett (Research Manager, Centre for London): Yes. It is a general point really that we support the Mayor's calls for devolving suburban rail, especially in south London, to TfL and to the Mayor's office. We published a report, which is now a couple of years old, looking at the capacity that this would unlock. Calculations done at the time show that we can achieve that twofold increase in capacity that would be required in 2050 in south London. Not only that, but it would of course unlock thousands of new homes and new jobs in the area. South London is really the area that is very much underserved by rail and existing capacity and so we very much support that. Also, to devolve the control of the infrastructure on rail, we agree, would improve efficiencies and the running of the network as well.

Tom Copley AM: Thank you. Very quickly, going to Lucinda, any progress on rail devolution?

Lucinda Turner (Director of Strategic Planning, Transport for London): We have submitted a compelling business case. We are feeding into the Williams Rail Review, which will be a key point in this, but we need metroisation. We want to go beyond that devolution.

In terms of the London Plan and housing delivery, suburban intensification is going to have to play an important role and metroisation is fundamental, we believe, to that. The business case outlines some of the improvements that we can deliver. They are very tangible and will help us integrate that land use and transport planning even more.

Tom Copley AM: I am going to have to leave it there, I am afraid. Sorry.

Florence Eshalomi AM (Chair): Thank you. Leading on to some of the other issues facing the capital, Assembly Member Russell.

Caroline Russell AM: Thank you, Chair. The Committee on Climate Change has today said that it does not feel the Government is making enough progress on transport emissions. I am wondering what they can learn from London. Lucinda and Simon, perhaps you could run through what TfL is doing to decarbonise transport?

Simon Nielsen (Head of Strategic Analysis, Transport for London): That is a very topical question with the report overnight, which was a little bit focused on the adaptability of the network.

In terms of what we are doing to try to decarbonise and clean up transport in London, first, we have the Ultra Low Emission Zone (ULEZ) and before that its predecessor, the Toxicity Charge. The ULEZ is now in place. The next stage of our plans is the Low Emission Zone with tighter Euro 6 standards, which will be coming into operation in 2020, and then in 2021 an expansion of the ULEZ to the North and South Circulars. Those are key elements of our strategy to reduce emissions and to clean up London's air.

There are plenty of other things that are going on. To give you a flavour of probably not everything that is being done but of the ones I am aware of, there are Low Emission Bus Zones, which are very effective. Seventy-five percent of all --

Caroline Russell AM: Are you talking about NOx and PM or are you talking about carbon emissions?

Simon Nielsen (Head of Strategic Analysis, Transport for London): I am talking about cleaning the vehicle fleet, which has an effect on both areas.

Caroline Russell AM: Of course.

Simon Nielsen (Head of Strategic Analysis, Transport for London): That is why it sounds a little bit more general. We have moved on from several years ago when the dieselisation of the fleet to deal with carbon ended up causing an air quality crisis. We are trying to deal with everything together. That is why I am covering these broader issues.

Seventy-five percent of all TfL buses now meet or exceed the ULEZ standard. The cleanest buses, for example, are in the central zone, but the routes cover the whole of London and that creates London-wide benefits.

The Low Emission Bus Zone air quality modelling that has been undertaken has shown that NOx emissions have reduced by 90%. Ten of them have been introduced to date and there are two more coming on stream. For example, in places like Putney High Street in Brixton, there has been a major impact on pollution levels.

There are also things going on to clean up the taxi fleet, which is another thing that is relevant here. We have been phasing out diesel taxis from 2018. There are going to be no new diesel taxis licensed in London and all new taxis are going to be zero-emission capable. There are financial incentives provided and something like 175 rapid-charge points have been put in place, some of which are focused on the trade. Consultation is underway at the moment to reduce the maximum age of some of the older diesel taxis to 12 years. That is happening. The idea behind that is to accelerate the uptake.

There are measures in place to clean up the air around schools, preventing idling, encouraging walking and cycling, cleaning up air pollution hotspots in London boroughs, and improving air quality alerts to help people reduce their exposure. There is information on something like 2,500 countdown sites now at bus stops and direct emails are being sent out to schools and other stakeholders.

We are reducing air pollution from other non-road sources. There are non-road mobile machinery low emission zones. There is the work we are doing on Heathrow, which is a key issue for air quality in London in terms of compliance and also carbon as well. Then there is the low-income scrappage scheme. There is a very wide range of things that are being done to address those issues.

Caroline Russell AM: That is a wide range of things. One of the areas is electrification of vehicles and the EV charging. TfL is committed to installing at least 300 rapid-charging points by 2020. Do you think this is enough to convince Londoners to make that switch to EVs and, if not, what else do you think needs to be done?

Simon Nielsen (Head of Strategic Analysis, Transport for London): It is something that will have to continue to evolve in line with the take-up of EVs and we need to monitor the take-up and try to put in more electric charging points if they are required to encourage more take-up.

Caroline Russell AM: You do not think that you should be trying to get people to do other things than driving cars?

Simon Nielsen (Head of Strategic Analysis, Transport for London): The crucial point is that the Strategy we have is about trying to reduce the amount of car travel. The MTS aims to reduce car travel or road traffic by 10% to 15%, which is quite a significant amount. Part of that as well is trying to get to this 80% mode share target, which is having 80% of all travel in London by 2041 done by sustainable modes: walking, cycling and public transport. That is an absolutely key element of the Strategy to address carbon.

Lucinda Turner (Director of Strategic Planning, Transport for London): To add to that, as well as those 300 charging points, they will be supported by 1,100 residential charging points. However, you are right. Even with the 80% mode share target, there will still be vehicle kilometres on the roads and so focusing on that technology and making those as clean as possible has to be part of the answer. More widely, it is about that mode shift we have talked about. It is about getting people out of cars and on to public transport, walking and cycling.

Caroline Russell AM: The Mayor's EV Infrastructure Delivery Plan looks at how the EV infrastructure is going to be delivered and it says, "With less public subsidy". What exactly does that mean? What is TfL exploring over that?

Lucinda Turner (Director of Strategic Planning, Transport for London): I probably do not know. We might have to come back to you on some of the detail. I know we are exploring delivering hubs, which make it more cost efficient to deliver and leverage in partnerships as well to get other people and businesses to deliver some of that charging infrastructure. I could follow up with you in more detail on that.

Caroline Russell AM: Yes. The other issue is the use of the pavement for vehicle charging infrastructure. It seems that TfL should presumably have a role in protecting the public interest and the public purpose of the footway, which is for people to walk, use wheelchairs or push buggies. The risk is that the pavements start to become littered with infrastructure that is for the purpose of selling fuel to private car owners. It is infrastructure that is possibly owned by companies other than TfL or the local boroughs, which potentially has problems going into the future. If you think about all those old telephone boxes around on the pavements, they are proving very difficult to get rid of in some cases, despite the fact that they are no longer used.

What public protection is there to make sure that the public interest is protected from all this rush to provide EV infrastructure in the boroughs?

Lucinda Turner (Director of Strategic Planning, Transport for London): It is funny you should mention the telephone boxes. My team has had to deal with thousands of applications for the Trojan horse of advertising. The Government has now changed the permitted development rights on those.

You are right to have a note of caution. It is absolutely right that the Healthy Streets approach talks about street clutter and making sure that our pavements and streets are fit for purpose. It is about getting the infrastructure in the right place. It is also about being a bit more imaginative. There are plenty of examples where the infrastructure is integrated into streetlamps or other things that are already there, which helps to reduce clutter.

That is another reason why there is a focus on hubs rather than sporadic dotting and there is a focus and, where possible, looking at where that can be off-street. There are things like retail carparks, for example, where there is space and they do not have those implications. It is inevitably a balance of all these things, but we do see a role in making sure that balance is struck.

Caroline Russell AM: There is definitely an awareness of that and protecting the interests of pedestrians?

Lucinda Turner (Director of Strategic Planning, Transport for London): Yes.

Caroline Russell AM: Thank you. What about the electricity that is being used by TfL to power the network in the first place, the electricity that is used to power the trains and buses? I believe TfL currently uses about 0.01% renewable electricity, which is not great. Do you know what is being done to move that on?

Lucinda Turner (Director of Strategic Planning, Transport for London): I know that it is certainly part of the Strategy to improve that. If I may, I do not know the detail and so if I can get back to you --

Caroline Russell AM: Could you come back to us on that?

Florence Eshalomi AM (Chair): If you come back to us, that would be helpful.

Lucinda Turner (Director of Strategic Planning, Transport for London): Yes, I will, certainly.

Caroline Russell AM: That would be very useful. We have covered quite a lot on the ULEZ already, but what support is needed from central Government to further improve London's air quality?

Simon Nielsen (Head of Strategic Analysis, Transport for London): Probably the main area, if we move into vehicle scrappage, is around supporting that kind of thing because it does need to be a nationally led scheme. Also, central Government needs to recognise that these costs cannot all be borne by regional or local authorities. It is probably around those two areas. It is important that central Government supports these areas.

Caroline Russell AM: Anyone else?

Silviya Barrett (Research Manager, Centre for London): If I can add to that, I very much support the scrappage scheme that the Mayor introduced at the beginning of the ULEZ. I know there is one for low-income Londoners as well that has not started yet and we are looking forward to getting some more details on that.

Yes, the role of central Government in funding vehicle scrappage would be important because other cities receive funding that London does not, for example, the Clean Air Zone implementation funding, the innovative city funding and various other pots of money that London has no access to. That would be a big area to look into.

There are things that we can do much more locally at the London level and the local authority level. For example, a lot of good work is happening in terms of training and supporting businesses to move to cleaner vehicles such as cargo bikes. Local support is very valuable there. Subsidised bike hire is another way to get people to shift to different modes if they may not otherwise be able to or are thinking about it. Subsidies and grants for EVs more generally play a big role and, again, deferring to central Government on that point.

Lucinda Turner (Director of Strategic Planning, Transport for London): More widely, beyond the transport planning system, it is having the right supportive planning policies in place via the National Planning Policy Framework and the London Plan to allow boroughs to deliver development in line with good growth, things around maximum parking standards. There are all sorts of aspects there that we do not often always think about when we think about transport, but that wider planning framework and policy is crucial.

John Dickie (Director of Policy and Strategy, London First): Can I emphasise the resourcing point before we finish this bit, which Simon touched on? It is of course right that we need a proper national scheme around scrappage. This is particularly an issue for smaller businesses that are relying on the diesel vans they were incentivised to buy to save the planet a few years ago, which of course are now killing everybody. Having a proper scrappage scheme in place that gives them the right incentives is important.

The other thing is the resourcing that TfL has as an operator. If we are going to have zero-emission buses across the whole of London, TfL is going to have to pay a substantial amount to get those zero-emission buses across the whole of London and it does not really have the money to do that now, given the current levels of bus subsidy and the general state of TfL's income. We do need to think, as with so many other things, about

quite how we get ourselves in a position where TfL has the resources both in operating and in investment terms to deliver the services that we need over time.

Florence Eshalomi AM (Chair): We are going to come to that section a bit later, John. Thank you.

Caroline Russell AM: Are you thinking there about road pricing are you thinking about vehicle excise duty (VED) being devolved?

John Dickie (Director of Policy and Strategy, London First): There is a whole range of ways you could give TfL more resources. The ULEZ generates some resource. Extending the Congestion Charging Zone, which we would support, would generate more resource too, as would modernising Congestion Charging Zone, having a system whereby you do not pay just once to come in and drive around all day but you pay per kilometre travelled and so forth. There are things that could be done already by TfL.

There are that transport-specific bits of central Government revenue like VED that could be devolved. There are other things that could be devolved. I am fairly relaxed about quite what particular devolution or charging package we introduce to give TfL greater resources. The importance is that those great resources come.

Caroline Russell AM: Thank you. Finally, going back to the Mayor's Healthy Streets approach, which is aiming to take a public health approach to transport planning, looking forward, are there things in particular that TfL should be building on?

Nicole, I was wondering if you could start us off. We have a Healthy Streets approach. When new junction designs come out, they come along with a Healthy Streets spider diagram. In order that Healthy Streets is properly embedded, what are the things that need to be pushed forward on Healthy Streets to help with this overall agenda of reducing carbon emissions, cleaning up the air and keeping our city functional so that the transport system is not grinding to a halt?

Nicole Badstuber (Research Associate, Urban Infrastructure Policy and Governance, University of Cambridge): Instrumental to achieving healthy streets and achieving the 80% target is shifting away from private transport on our roads and freeing up space to make some of these places rather than locations of movement. Also, of course, having funding is important. That funding can be given to the local boroughs to improve their streets. Road pricing is a good way of reducing demand for private vehicle usage in the city.

Another thing would be around freight consolidation. Consolidation is not something that makes financial sense for the companies themselves and so having consolidation centres dotted around the city might be something that really has to be city-led. One idea might be to do something like a franchising arrangement where one distributor or one delivery company bids to operate in a certain borough or in a certain part of the city. Instead of there being a lot of duplication with a lot of different delivery vans going out - and as I mentioned earlier, they are often not successful in the first instance - that would be consolidated into one. Looking on the streets, we also need to think of a loading bay strategy. Often a lot of the delays on the bus network are because people are parking in the bus lane or the bus stops.

What we need is a very holistic view on how we are going to achieve that. Healthy streets and places and good public transport are the goals but we need concrete actions now. This goal is very well articulated in the Mayor's Transport Strategy. What maybe now needs to follow more rapidly than is already in place are actions, and more radical actions, to make that happen.

Lucinda Turner (Director of Spatial Planning, Transport for London): Just a few thoughts to add. We are spending £2.3 billion on Healthy Streets over the course of our Business Plan. We take it very seriously. The centrality of health in our planning has definitely increased. The consultation on 20 mph zones, for example, is just coming to a close. A significant proportion of people are telling us that that could help them and encourage them to cycle and walk more. Our Cycling Action Plan indicated that the two biggest deterrents are around safety and too much traffic. We clearly need to tackle those issues. If we look at all car trips at the moment, 50% of all car trips across London could be cycled in ten minutes. There is huge potential here.

Just in terms of something very close to my heart, we have issued new guidance on transport assessments for new developments with a much stronger focus on Healthy Streets, ensuring that they assess not only access to public transport, as I mentioned, but active travel zones, and they look at how they integrate their developments into the cycle and walk networks. There is very specific stuff happening on the ground there and we have been out and offered training to both consultants and boroughs across London to help support them in delivering those new aspects of it. There are some very tangible things we are doing.

Caroline Russell AM: Silviya, did you want to add anything on that?

Silviya Barrett (Research Manager, Centre for London): Not particularly. The focus on quality public realm and attractive places is important to make people want to spend more time outdoors, as well as the safety aspect and less clutter from cars and vehicles.

Caroline Russell AM: Thank you.

Florence Eshalomi AM (Chair): Great, thank you. I am just mindful of time. We still have a few more sections. Could we be quite short in our replies and questions, Members? We are moving on to section 3, which is looking at people's experience of moving around the capital. Assembly Member Kurten.

David Kurten AM: Thank you. Good morning, everyone. I just want to ask you a few questions about people's experiences of moving around the capital and how you see that changing in the future. My first question is: what do you think, in the coming years, are going to be the big changes in how people move around the city? I know you have already said in your answers a little bit about modal shift and the Mayor's target of 80% public transport, walking and cycling by 2041 and I do not know if you have anything more to say that has not been covered. We are particularly thinking about the differences between inner London and outer London because sometimes there is a very big difference between life in different parts in the city. If you have anything to say about that, please do.

Nicole Badstuber (Research Associate, Urban Infrastructure Policy and Governance, University of Cambridge): I would just reiterate the points Silviya [Barrett] made earlier about new technology becoming available. Think of the ride-hailing apps. Because of the ease of it and the pricing that they have come in at, under the taxis and often very competitive with public transport if you are sharing with one or two people, that will take off and there will be more of them. We have seen that in the last few years on our streets. Obviously that is not the most efficient use of public road space. Generally, technology can be very disruptive. There is the potential of connected, autonomous vehicles. Again, Government needs to think ahead about how we are going to regulate that so that it aligns with wider aspirations and the wider vision for the city of how we get around.

Looking at outer London, there is potential and the opportunity for demand-responsive transport, which might be a good service to feed into the public transport system. It is also an opportunity to provide good access for people with mobility challenges. We have an aging community in London.

A summary would be that technology presents opportunities but also challenges and Government needs to be agile enough to respond to them with regulation.

Lucinda Turner (Director of Spatial Planning, Transport for London): We do recognise the differences between inner and outer London. I know some people think we are sometimes focused on central London and so on, but clearly there are differences. I would say also that outer London is far from homogenous and there are significant differences in potential there. If you look at Hillingdon, even 58% of the car trips there by Hillingdon residents could be cycled under our analysis, which already takes account of encumbrance and other factors. The London Plan and other policies do recognise that the context is rather different.

Some of the changes we will also see are around our bus network. We are looking to invest and increase the kilometrage in the outer London but also modernise the offer. We are looking at things like more express services and more modern buses. We will have six wholly new bus routes starting in outer London over the next six months: Kidbrooke; the X180; Harrow to Heathrow; 278, which is Ruislip to Heathrow; and a number of others. They are wholly new routes.

My colleague here mentioned demand-responsive transport. We have launched a trial in Sutton, for example, looking at how that might play a role. That will help our understanding. Will it be able to provide better alternatives to those in outer London who are more car-dependent? We have to recognise that there are fewer alternatives for some of those journeys at the moment. Will that be able to provide a good complement to the traditional bus network? We are due to launch a trial in Ealing as well. There are all sorts of things that will be changing over the coming years.

John Dickie (Director of Policy and Strategy, London First): Could I just add a couple of points, if I may? I am a bit like a broken record, Chair, but I will reiterate that in outer London, where densities are less, average costs are higher and cars are relatively more efficient for journeys than they are in central London, if we are going to affect modal shift again we return to the need for investment in new services to support that, particularly if we are going to do innovative demand-related things around the last mile to get people to and from transit nodes.

I just want to make a slightly different point on some of the innovation and technology that is affecting the way people travel in the city. It is of course right that we need to have the capacity of city government to regulate innovation and we need to be agile and forward-thinking, which TfL has not always been in quite how it approaches that legislation, but we do also need to remember the extraordinary benefits this brings. We are too quick, often, to think of the disbenefits, which there are and which do need to be managed. I have teenage children and Uber has transformed their ability to get around the city safely at night when they return from the sorts of parties teenage children go to. This is of course an experience that I imagine most of us have had using ride-hailing apps over the past few years. We absolutely need to think about the holistic impacts on the city and we do need proper oversight and regulation, but equally we do need to remember how a lot of these changes are making a lot of people's lives a lot better.

Nicole Badstuber (Research Associate, Urban Infrastructure Policy and Governance, University of Cambridge): Just going back to what we were talking about earlier about scrappage schemes, it might be good if some of these schemes would also offer the option to trade in your car for an e-bike, which might be a

good solution for the last and first mile and a way to encourage mode shift, and also the challenge of how you get home from the Tube or bus station late at night in a less densely residential area.

Silviya Barrett (Research Manager, Centre for London): I have a couple of points to add here, if I may. On the scrappage point, what was suggested in our recent report was that we provide mobility credits that can be used across a wide range of services including public transport, bike hire and car clubs, whatever the person chooses, as opposed to purchasing a new vehicle. That provides a much wider choice of options that people would have then in how they move around the city.

Related to that, on John's [Dickie] point about mobility services, we have a proliferation of private sector apps, of course. If we had a TfL alternative that provides multi-modal journey planning services, that integrates public transport, private car hire, car clubs, bike hire and so on from a variety of operators, then that would make things much easier for customers and perhaps incentivise greater usage of those options. It would be able to compare the impact of that journey as well as the costs. For example, you would be able to see journey times and compare journey times, compare journey costs, but also perhaps the emission impacts that you might be able to make or not make by having a certain choice of mode. Perhaps there is a role for TfL there as well.

David Kurten AM: Thanks. Another question, following on from some of your answers. Buses obviously are a very important way for people to travel around, particularly in outer London, but bus usage is falling at the moment. What do you think is the reason for that and how should TfL respond to that? We can ask TfL to start with.

Simon Nielsen (Head of Strategic Analysis, Transport for London): Do you want me to start? It is a really interesting question and something that obviously we are doing a lot of thinking about at the moment. Bus usage increased very rapidly in the 2000s. The expansion of the network resulted in a very large increase in ridership. However, over the last two or three years bus ridership has been reducing. We also saw a flattening of Underground demand more recently, though there may now be a return to growth on the Underground.

There are diversions between those two modes of travel and our analysis suggests there are different sets of drivers affecting the demand in those areas. We think, for example, that Underground demand is affected by central London employment and we know from our other work that employment in London has continued to grow and jobs have continued to increase. Things like tourism and spending in higher-income households also affect the Underground, whereas bus demand tends to be affected by employment not just in central London but more spread across greater London and is also affected by consumer spending in lower-income households.

We know that there has been a squeeze on incomes with the uncertainty in the economy. We know that housing prices are high at the moment. We think those are the kinds of things that affect bus versus Underground demand. We also know that National Rail has been growing quite substantially. In 2018 we saw something like a 4.5% increase in National Rail in London and the southeast area, which has a little bit of a knock-on effect on the Underground. It was partly because of the massive amount of disruption that took place the year before so it is a bit of a rebound effect as well. We are carefully monitoring these trends. It is definitely linked to the uncertainty in the economy.

Lucinda Turner (Director of Spatial Planning, Transport for London): Just to add to that, we have also had challenges with regard to bus speeds and congestion. That goes back to needing that mode shift to

enable us to manage the network efficiently and help those essential journeys by freight and servicing on buses. We are also working closely with the boroughs to try to deliver enhanced bus priority to try to tackle that and ensure that bus users can have those reliable journeys with good journey times.

David Kurten AM: What journeys in London are particularly challenging for people to make? Also, are there any particular places that you think are really bad for people to travel between that need improvement?

Simon Nielsen (Head of Strategic Analysis, Transport for London): In the context of our strategy, which is trying to move people onto walking, cycling and public transport, the challenge is quite firmly or squarely placed around outer London, where the density of public transport networks is not the same as inner London. On the question I believe you asked a minute ago about the differences between different areas, that is very apparent in terms of the density of public transport. That is one of the key features really, from my point of view.

David Kurten AM: Yes. You mentioned obviously that the plan is to reduce the number of people driving cars and taking private vehicles but you need to offer choice for people to do that. You have mentioned that, and John [Dickie] and others of you have mentioned that. Are there any specific transport projects that TfL have that you think you need to prioritise in order to make that happen, to reach your targets?

Simon Nielsen (Head of Strategic Analysis, Transport for London): It is just worth reiterating a point Lucinda [Turner] made earlier about the opportunity to mode-shift, which is not necessarily entirely dependent on public transport density and availability. You mentioned the figure that 70% of car trips by London residents could potentially and realistically be walked, cycled or taken by public transport. If you break that down you find that more than half of car trips could be cycled in less than 10 minutes and more than a third could be walked in less than 25 minutes. This demonstrates this huge potential for mode-shift that is there. Some of that is not dependent on public transport services but on walking, cycling and active travel.

David Kurten AM: Are you talking about car journeys below a certain length? Are you talking below 2 miles or something? Is that your criteria for making that statement?

Simon Nielsen (Head of Strategic Analysis, Transport for London): We look at all car trips but we then try to look at the switchability of those car trips by trying to work out whether the journey was made carrying luggage or equipment, in large groups or late at night. We have something called the switchable trips analysis that enables us to make these assertions and calculate these sorts of figures.

Lucinda Turner (Director of Spatial Planning, Transport for London): Length is clearly an issue in that but if you look at just car trips in outer London, over one third of those are less than two kilometres. There is significant potential here.

Simon Nielsen (Head of Strategic Analysis, Transport for London): We are aiming in the Strategy to get 70% of people living within 400 metres of the London cycle network, for example. These sorts of things can have a very big impact.

David Kurten AM: When you talk about modal shift in terms of percentages, is that to some extent irrelevant because what is really important is the total number of vehicle journeys that are made? You have an increasing population so there will be more journeys made in total. You are talking about London's population increasing from nine million to 11 million, approximately. You mentioned modal shift and taking the number of private car journeys down to about 20%. You say 80% public transport, cycling and walking, which means 20% with

other modes of travel. What is that in absolute numbers of journeys? If you reduce the percentage but the actual total number of journeys by those modes does not change, you are not going to relieve congestion. You are not going to reduce the absolute number. What are your figures in terms of absolute numbers of car journeys or journeys that are not via public transport, walking or cycling?

Simon Nielsen (Head of Strategic Analysis, Transport for London): When we produced the Mayor's Transport Strategy we did produce an extensive evidence base where that information is. I cannot give you the specific numbers right now but just to give you some comfort about the sorts of figures that were coming out of that in terms of traffic, which is one of the key focuses of the Strategy because of the climate change, air quality, safety and health aspects of it, with the full Strategy in place traffic reduced by 10% to 15%. That is something that is being considered and tracked as part of the Strategy.

Clearly there is an increase in cycling. We need to accommodate that and we want to accommodate that because of active travel. There is an increase in walking for the same reason and an increase in public transport, which also has active travel benefits because for every public transport trip there is often a journey to the stop and a journey back from the stop. It creates active travel and it is a much more efficient way of travelling. We want to accommodate that but we do not want to accommodate car travel and that is why we have a target of a 10% to 15% reduction in traffic.

It is a really good point to make, actually. It is not just about percentages, which is what we say all the time; it is about absolutes. In planning for a city you need to plan on the basis of those absolutes. My team is responsible for building multi-modal models of London and forecasting what those demands are in the future. All the work we do has the absolute numbers in it and we are planning and looking at the crowding impacts using those absolute numbers, but for the Strategy it is sometimes easier to talk about the percentages.

Lucinda Turner (Director of Spatial Planning, Transport for London): It hits the nail on the head as to why it is even more of a challenge in a growing city.

David Kurten AM: OK. Thank you.

Navin Shah AM: This is a comment to our TfL colleagues on the panel. I am deeply disappointed that TfL has no plans to undertake a root-and-branch review of the outer London bus network in the way that a central London review was carried out only recently. Given the unprecedented level of development that there is in outer London and that there is going to be for years to come, there is no justification whatsoever for a strategic approach not being taken by TfL. Would you like to comment on this, please?

Lucinda Turner (Director of Spatial Planning, Transport for London): Yes, I can comment on that. The absence of a complete root-and-branch across outer London as a totality does not mean there are not strategic reviews going on. What we are doing is taking areas that are tractable and that make sense in journey patterns in terms of catchment areas to town centres and so on, and we have committed to doing a series of those reviews. We have started in Croydon, Brent and a few other places and we are committing to doing more.

My team also works on Opportunity Areas and master-planning those, and bus strategies are a core element of that. At Old Oak Common, for example, or Wembley, we have developed a bus strategy and we are also securing contributions from the development in that area to pay for those bus enhancements. There is strategic work going on and we are committed to continuing that.

Navin Shah AM: I see where you are coming from but I am still not convinced that the key linkages in terms of people's movement, which are not quite what they should be in outer London areas, are being considered in a strategic, comprehensive manner. It is something that needs to be developed. You mentioned Old Oak Common. You mentioned Wembley. Then you have Opportunity Areas in, for example, Harrow, Barnet, Brent Cross and so on. Those linkages are very important. Talking about other social infrastructure in terms of connectivity with hospitals, high streets and so on, those are not easy. They are complex at normal times. When you are looking at large developments, that is where I believe that sense of strategic planning for outer London is lacking.

I will pick this up with the Deputy Mayor for Transport [Heidi Alexander]. I am not convinced that you are looking at it in the way that it needs to be. I will leave it at that because this is unsatisfactory, in my view.

Caroline Pidgeon MBE AM (Deputy Chair): Just picking it up, as a Committee we had a briefing on the central London bus changes and we were then promised a strategic, borough by borough outer London bus review. When I met the Deputy Mayor for Transport last week I was almost told that that was not ever in the plan. We were told by Gareth Powell [Managing Director of Surface Transport, TfL], who is in charge of this, that that was going to happen, which we were happy about. Our report, now two years ago, about reviewing how you do bus planning and trying a new approach based on the evidence of people likely involved, was to feed into that, and it seems you are rowing back on that now.

Lucinda Turner (Director of Spatial Planning, Transport for London): We are committed to area planning. We did not necessarily say "borough by borough" because the network does not marry absolutely to borough boundaries but we have been looking at Croydon and other places. I can take that back and get somebody to follow up.

Florence Eshalomi AM (Chair): If you could. We will pick it up on our side as well.

Caroline Pidgeon MBE AM (Deputy Chair): We were told it would be borough by borough. We accept buses go beyond borough boundaries but that was how you were going to engage local politicians and communities.

Lucinda Turner (Director of Spatial Planning, Transport for London): We will follow up on that.

Florence Eshalomi AM (Chair): Thank you.

Gareth Bacon AM: A couple of quick points. First, on the statistics around bus usage falling, where is it falling? Do you have that data?

Simon Nielsen (Head of Strategic Analysis, Transport for London): Not with me, I am afraid, but we can provide that.

Gareth Bacon AM: Fine. The reason for the question - it is obvious, really - is that central London is very congested and journey times are very slow. In outer London, however, feeding into points that other Members have made, there is considerable scope to increase the bus service and if you are looking to displace some from central to outer that would be a bit of a winner. Perhaps if you write back to us afterwards with that information, that would be very useful.

The second point was picking up something Lucinda said a moment ago one third of all car trips being two kilometres or less. Simon mentioned earlier on that when you are doing your modelling that you look at the reason for the journey. Is that right? Within that statistic you have given us about one third of journeys being less than two kilometres, is that a factor you feature in? The reason I am asking is that, for example, I represent an outer London constituency and in outer London people tend to do a weekly family shop at a big supermarket. That is impossible to do on a bike. It is not even worth talking about. It cannot be done. It is not easy to do on a bus either because you have lots of shopping bags or whatever. People in that circumstance would use their car because there are very few public transport options in the constituency that I represent. Does that feature in the analysis that you do?

Lucinda Turner (Director of Spatial Planning, Transport for London): The switchable trips analysis takes account of encumbrance, whether you are carrying things, the type of journey and so on. The third of journeys that I quoted were less than two kilometres was purely on the basis of distance. The other figures that have been used have been about switchable trips.

Interestingly, nearly 50% of outer London shopping trips are already made by people walking and cycling. It depends. Clearly there are choices and clearly it varies by context and everything else, but there is still a significant proportion of people who do make those trips by walking and cycling.

For town centre vitality, the work that has been done by TfL and Matthew Carmona [Professor of Planning and Urban Design] at University College London (UCL) has shown that over the course of a month, the average spend in town centres of those arriving by walking, cycling or public transport is 40% higher than by those travelling by car, which is interesting.

Gareth Bacon AM: Do you look at topography as well in making your assessments? Again, outer London, particularly my constituency, is extremely hilly. When I was a teenager I used to go and have to have orthodontic treatment in Beckenham. My family lived in Sidcup and I would frequently cycle there. It was about ten miles and the hills were absolutely monstrous but in those days I was young and fit and I used to see them as a challenge. Now, I can tell you right now the outcome would be slightly different.

The other thing about outer London is that often you get non-transient populations. You get older people, lots more retired people, and you get people with young families. Public transport is useful if you are coming into central London because you have the radial option -- sorry, you have the -- I have used the wrong word. It is good at getting straight in but you cannot get around.

Lucinda Turner (Director of Spatial Planning, Transport for London): Yes, radial into --

Gareth Bacon AM: Yes.

Lucinda Turner (Director of Spatial Planning, Transport for London): Yes, and the orbital --

Gareth Bacon AM: Yes, "orbital" is the word I was searching for. Again, if I wanted to go from Bexley Village, which is in the middle of my constituency, to Orpington, which is a journey of less than six miles, I could drive it and it would take me 12 minutes. If I tried to do it by public transport it would either be two buses and take me an hour or I would have to get the train into central London and back out again. Those are the only options we have. It is either bus, train, or drive.

Lucinda Turner (Director of Spatial Planning, Transport for London): That is right. That is why I said that clearly outer London is not homogenous. There are different factors and different contexts that we need to be cognisant of. Even with the 80% mode share target, that still leaves journeys that will inevitably be done by private car. We do recognise that not all journeys can be switched. There are more that can be switched than we sometimes recognise, though, and there are a significant percentage of journeys that can be switched from private car in outer London to public transport without a time penalty. People may not be aware of them or they may be in a segment of the population that does not particularly want to take public transport but there is still some potential, even in areas where we think it is quite difficult. I do recognise that there are differences across and our transport planning and modelling do try to take as much account of those as possible.

Gareth Bacon AM: Thank you. Thank you, Chair.

Florence Eshalomi AM (Chair): Thank you. I am just mindful of time. We are going to move on to the next section. Assembly Member Pidgeon.

Caroline Pidgeon MBE AM (Deputy Chair): Yes. I am going to pick up the experience of using the transport network and I am going to come to TfL right at the end. I really want to hear from our other guests to get their views. What do you think would improve people's experience of moving around the capital? What things need to be done? John.

John Dickie (Director of Policy and Strategy, London First): Gosh. The thing in the conversation we have just had that springs first to mind is basically making buses work in the central zone of the city. I spend my entire life going around the central activity zone and there are very few times that I would think getting on a bus was a rational decision.

Caroline Pidgeon MBE AM (Deputy Chair): Yes, quite.

John Dickie (Director of Policy and Strategy, London First): I walk or I use the Tube but I do not use buses. Making the network work for the centre would be good. Of course, that would have very substantial implications for those people coming from outer London into the centre on the bus, doing a long journey.

In terms of the quality of journeys, there are two or three big things that could be done. The first big thing is of course air conditioning on those parts of the Underground that do not have it. Anybody who came in on the Northern line this morning will know exactly what I mean.

Secondly, the obvious point in terms of the quality of journey - it is one we have touched on before - which is capacity. It is seldom the case these days that you get on, say, the Northern line at pretty much any time of the day and it is quiet, but it is often almost impossible to get on the Northern line in some zone 2 or even zone 3 stations. That is a pretty poor way to start your day or indeed to finish your day but certainly to start it. Similarly, interchanging. Anybody who tries to change from the Northern line at Euston station to the Victoria line knows the meaning of pain. Capacity is a really important part of improving people's quality of journey.

The third thing I would add to that is improving connectivity and digital access on the Underground. There are understandable and different views about people being able to talk on the phone on the Underground, though in my experience in other cities where it happens it is not terribly intrusive and does not really cause a problem. The ability to have data would be fantastic and of course it ties in with the earlier discussion about being able to check your journey as you are going. That is helpful. I am sure we have all found ourselves in a situation

where that interchange you were going to make is not quite going to plan, and of course how do you know? Those are the ones that spring to mind.

The other one I would touch on is the point Silviya [Barrett] made earlier about greater synthesis of modal options. I am not sure this has to be provided by TfL. TfL being a wayfarer is great but equally TfL deserve credit for the amount of data they have put into the public domain, which allows innovation and others to come up with things. You can pick and choose whether you like Google Maps to tell you how to get through, or you like Citymapper, or you like Journey Planner. You can compare and contrast the often strangely different routes they suggest you take and that is great for choice. Being able to use data, being able to access it when travelling but also having a greater choice of apps that synthesise different data sets would be very powerful too.

Caroline Pidgeon MBE AM (Deputy Chair): Very helpful, thank you. Silviya?

Silviya Barrett (Research Manager, Centre for London): I absolutely agree with that point. Being able to make a seamless journey plan, amend your planning as you are going along and paying for that journey on a single platform would be really valuable for many customers. I do think there is a value to having a TfL planner in that way that integrates other operators, precisely for the point of keeping up-to-date with that journey as you go along and being able to pay on a single platform for all the different modes that you want to choose. Few people among us are just Tube users, just cyclists or just drivers. Many people choose to mix and match many modes as they go along. Having that seamless transition between modes would be really valuable.

Another point I want to make is about accessibility and improving access to Tube stations and public transport. There is still a long way to go. Thinking about people with different mobility needs and impairments, disabled people, there is a lot that can be done not only on public transport but also providing some integrated solutions. The Taxicard platform, the different subsidies and incentives that people have or discounts attached to certain underprivileged groups could do with more integration, thinking about it in more consistent ways. We have a project now on transport and equity thinking exactly about how we can integrate and improve the offer to those in underprivileged groups.

Caroline Pidgeon MBE AM (Deputy Chair): It is interesting, the single platform point, because Oyster kind of is that and now contactless cards, but for the new on-demand bus trial in Sutton you pay £3.50 and have to give your bank card. I cannot use my Travelcard on it. It is an interesting point because it might put people off using it if it is not part of one package. Nicole, what are your thoughts?

Nicole Badstuber (Research Associate, Urban Infrastructure Policy and Governance, University of Cambridge): Dockless or docked bikeshare also is not available on your Oyster card. That is also something that would be good.

I want to echo most of the points that my colleagues have made but I would like to focus on buses. There is quite a large correlation between bus speeds going down and bus usage on those routes going down. The data I have seen from last year would suggest that. This is a huge lost opportunity. Buses present an easy way of improving connectivity on routes and capacity relief on the Tube for central London. We may need to rethink the short-routing of some of the buses in central London. A lot of them no longer come into central London. In particular, in transport equity terms this is not good for people on low incomes who are reliant on buses to travel quite long distances.

What we need to do is revamp bus priority and look at bus frequency, which has been affected by congestion and slower bus speeds because you need more buses to run the same frequency if those buses take longer to take the route. It also has been affecting journey reliability and journey times and it is important to make buses competitive to other routes. We may have seen those people who can afford to switch to London Underground because there is higher journey reliability and quicker journey times, but of course those who cannot afford to do so or those who are living in areas where there is no rail-based alternative are stuck with buses that are running slower, less reliably and also less frequently.

Multi-modal transport interchanges are important to focus on to provide greater connectivity because of course if you can easily connect at any station there are many more places you can go to much more easily.

There was some new research out from UCL just two weeks ago on mental health and travel. In England, 25% of people have a mental health condition and 18% have one but it is probably not registered. That is a large percentage - nearly half of people have them - and anxiety is related to travel. Just to pick out one issue, the availability of toilets. Thinking of Crossrail, for example, which will be traveling quite long distances if you travel a large part of that route, it will not have access to toilets. This is important for people who are ageing, for women in particular and also those who have anxiety because of that. The availability of staff to help is an important one, especially at interchanges but also throughout the network for those who are new to the system, those who have problems with their card or their bank card not working or just need a guiding hand on where to go.

Air conditioning, capacity, these are all big issues but I just wanted to add those few to the discussion.

Caroline Pidgeon MBE AM (Deputy Chair): That is helpful, thank you.

Florence Eshalomi AM (Chair): I just want to welcome to our audience students from Dorothy Barley Junior Academy from Barking and Dagenham. Hello. How are you? This is a Transport Committee so we are looking at how people get around London. From Barking and Dagenham, I am sure you had a nice journey coming in to London Bridge, to City Hall. Welcome.

Caroline Pidgeon MBE AM (Deputy Chair): Fantastic. What I want to ask now - perhaps I can go back to you, John - is what changes you think, if any, need to be made to fares and ticketing to better reflect how people use the transport system. Can we use fares to try to deal with that overcrowding at peak times, to try to shift people?

John Dickie (Director of Policy and Strategy, London First): The answer to that last specific question is that there is more that could be done on the use of fares than TfL currently does, but it is quite difficult to see in practice how you would make a dramatic change. If you have to be in work at 9.00am, you have to be in work at 9.00am. We can make you pay a greater share of the cost of using the transport network than someone who does not have to be in work at a set time or has a bit more flexibility, but you are not going to price that many people off the market other than at the margin. That does not matter and there is more that could be done but I do not think it is likely to be a game-changer in terms of the pressures we face around capacity in aggregate.

More to be done but it is not going to solve the problem.

Caroline Pidgeon MBE AM (Deputy Chair): Are there any other things that you think need to change in terms of fares and ticketing to reflect businesses you represent, modern-day working and life?

John Dickie (Director of Policy and Strategy, London First): I suppose the other thing on fares and ticketing is around season tickets and the nature of the pattern people have. It is a while since I have thought it wise to invest in a season ticket. I know plenty of people in the same position.

There are twin challenges for TfL around this. One is whether the model we are used to around the discount you get for buying a season ticket - which favours those people who do routinely, five days a week, traipse in and out of their work but also, of course, favours those people who can afford to pay it and does not give the cash upfront benefits, in a world of 1% and 2% interest rates, that it used to - is still fit for purpose, both from the demand side and from the supply side.

While we are on this, I do think we could do well to question, from a range of perspectives, whether the range of concessions offered by TfL remains truly fit for purpose. I have never really understood the transport logic of giving people who are 60 and two months a free journey in to work, because that is what people who are 60 and two months old are doing on the network at 8.30am. We have had our discussions about the quality of that journey experience. That is what they are going to do. Quite why we give it to them for free and make other people in different ways pay for it, I am not certain.

There are a range of issues about quite how we run children, buses, school and fares, which get you into a whole range of interesting transport policy questions but also public health questions. Perhaps we ought to be encouraging children to walk to school rather than giving them free bus fares and so forth. That is an area, in a time of straitened circumstances, we might look at, not necessarily simply to reduce it. There are good arguments around things like, for example, job-seekers, giving people the ability to get to interviews. I am not suggesting we should not have concessions; I just wonder whether - I think it is £300 million, the cost of concessions now on the network - that money is optimally targeted.

Florence Eshalomi AM (Chair): It is about £330 million.

Caroline Pidgeon MBE AM (Deputy Chair): It is a brave politician who tries to get rid of things like the 60+ card now.

John Dickie (Director of Policy and Strategy, London First): That is what we need at this hour.

Caroline Pidgeon MBE AM (Deputy Chair): That is what you need, a brave politician who is going to do that. That is for next year's elections. Silviya, do you want to come in on the issue of fares, ticketing and so on?

Silviya Barrett (Research Manager, Centre for London): I do not have much to add on that. Looking at concessions will be part of our project on equity and that will be an important issue to consider.

Caroline Pidgeon MBE AM (Deputy Chair): Nicole?

Nicole Badstuber (Research Associate, Urban Infrastructure Policy and Governance, University of Cambridge): On the point around the 60+ pass, the costs of providing that are going to escalate quickly. We have an ageing population and some of the figures I have looked at suggest that around 85% of those 60+ pass holders are using it to travel to work, in particular the male population. There are questions around if this is targeting the right people and achieving what it set out to do. Of course, for those who are retired, the idea behind giving them free public transport access is that it will help encourage them to be part of the

community, get them out and also discourage car use. The bracket just below that, 60+, is still going to work and maybe it is not correctly targeted there. On the student pass, the free pupil passes, they might be good to keep because it will encourage people not to use the car to get to work and those who are independent.

What I would also like to pick up on is fare capping. The audience may be aware that if you use your bank card or even your Oyster card that can give you a daily, a weekly and even a monthly cap. Moving towards also offering a yearly or season cap would be a way of overcoming the challenge for those who cannot pay the upfront costs of a season pass so that they can also reap the benefits. It also avoids having to make that decision at the beginning of the year. If you are changing your job or you are changing the location of that job you may not be able to anticipate that, and the benefits again are only to those who are in the position to anticipate that and have the upfront cost.

Just looking at other cities, I mentioned Berlin but also Vienna was a trailblazer. They offered a season ticket for only €365, only €1 per day, to use public transport. It has really encouraged people to take up public transport and encouraged people to buy a season ticket even if they are not using public transport that much. In particular, they have seen increases in the night public transport offered to residents in the city. Thinking of how radical the steps need to be to get to this 80% goal, this might be something to do around fares.

Caroline Pidgeon MBE AM (Deputy Chair): The annualised cap is really important, actually, and to have it available on Oyster as well because not everyone wants to use their bank card. It is important to start recognising that people work annualised hours, term times only, two days one week and three the next. The ticketing possibly needs to reflect that. Is that something, Lucinda, TfL is looking at?

Lucinda Turner (Director of Spatial Planning, Transport for London): I have to say I do not know. I will come back to you on that.

Caroline Pidgeon MBE AM (Deputy Chair): Shashi [Verma, Chief Technology Officer and Director of Customer Experience, TfL] I am sure can answer that. I am going to leave that section there. Thank you, Chair.

Florence Eshalomi AM (Chair): Thank you. Just moving along, we will bring forward section 5. We are looking at how we pay for all these improvements we would like to see. Assembly Member Bacon.

Gareth Bacon AM: Thank you very much, Chair. Yes, there has been lots of talk about how London's roads should be funded. I will throw it open to all of you but leave TfL colleagues to the end because you will be the ones making the decisions, apart from the Mayor, of course. I do not know who wants to start on this. Silviya, would you like to start?

Silviya Barrett (Research Manager, Centre for London): Yes, of course. We recently published a report on road user charging or road pricing in London. It is looking at moving towards a more distance-based system of charging as the next logical progression from the Congestion Charge, which is now 16 years old and desperately needs reforming in order to be more responsive to the ways that we travel around the city these days, as well as the ULEZ, which of course is very welcome in addressing pollution.

We think that with the proliferation of charges - you have not only those two schemes but potential tolling on the Silvertown tunnel, the Blackwall tunnel and at Heathrow, and the Londonwide Low Emission Zone - if we were to replace all those schemes with a single scheme based on distance we believe that would be the next

logical progression, not from a revenue-raising perspective but more as a way to address local congestion and pollution pressures.

The scheme that we are suggesting would be a staged scheme. It would not be covering the whole city from day one but focusing on the most congested and polluted areas of the city. We are suggesting that as well as distance the charge can be variable by many other factors including vehicle size, vehicle emissions and the local congestion and pollution levels of where the journey is. For example, if you are travelling at peak times on a very congested road then you would naturally be charged more than if you were travelling at night or in places in outer London where there are no alternatives. The availability of alternative ways to make that journey and whether that journey is switchable the modelling would be another factor, and you would be able to vary the price accordingly.

As I said, the Mayor has the power to introduce charging but for congestion and pollution purposes only, though it will help towards making roads funding more sustainable. The issue that we have now is that roads funding is not sufficient. The income and the revenue we receive from roads is obviously not sufficient to maintain our roads and having a scheme such as that would make sure that every journey is priced according to the impact it is having in terms of network wear and tear but also in terms of the people and the environment around it.

Gareth Bacon AM: OK. John, your thoughts?

John Dickie (Director of Policy and Strategy, London First): I am just going to add a couple of points to that. My start point would be that there is simply something wrong with the way in which we do transport funding that TfL receives no money for roads. That just makes no sense. In terms of quite how that should be fixed there are a variety of ways that one could do it, but it is simply a ridiculous situation and we should all take every opportunity we get to make that point to central Government.

It is important we are clear about quite why we are doing things with Londoners. It is very important that a Congestion Charge is run to reduce congestion and that people can see the benefits of more reliable and shorter journey times where the Congestion Charge is introduced. Ideally, it would command legitimacy before it was introduced because people would believe it will work. The lesson of not quite doing that is Manchester a few years ago, where people did not think there was congestion so why should they have a congestion charging system? That demonstrates that point.

A similar point is the case with the ULEZ. It is very important that is focused on reducing emissions and it is not focused on other things. Again, that is how you command public legitimacy and trust with those people paying it.

That said, there is a case for further charging to provide revenue to pay for the upkeep of London's roads. My start point would be that the first and best way of providing revenue to pay for the upkeep of London's roads is that the existing, substantial tax paid by Londoners should be in part channelled to this. That could be through the devolution of some of the vehicle excise duty or it could simply be by some kind of grant, I am not precious about it, but my first thought would be that it should be central Government returning some of the tax revenues that London pays already to pay for roads.

Gareth Bacon AM: I personally would not disagree with a word of that. Nicole?

Nicole Badstuber (Research Associate, Urban Infrastructure Policy and Governance, University of Cambridge): Yes, it is important that TfL and the Mayor make a strong case to central Government that they need some level of grant. Without that, it looks like we are heading toward an unsustainable funding future.

As Silviya [Barrett] has already summarised, the current Congestion Charge is very simple and it is maybe not fit for purpose anymore. The only thing I would have to add there is that we also look at charging based on road damage. For instance, heavier vehicles and lorries would pay more because they are requiring a more frequent maintenance schedule.

With any expansion of road pricing or congestion charging we need to make sure that there are good public transport alternatives or cycling alternatives there because without that obviously we are giving people a disadvantage and no alternative.

I would be strongly in support of expanding the coverage of road pricing and also making it, rather than just a daily charge, something that captures the impact on the road network, is either distance-based or time-based and also reflects the congestion levels where you are currently driving and the availability of alternatives.

Gareth Bacon AM: Would you be in favour of doing that in the absence of any other changes?

Nicole Badstuber (Research Associate, Urban Infrastructure Policy and Governance, University of Cambridge): As I said, we need to invest in public transport. The success of the Congestion Charge here in London has only been because more buses were run, more bus routes were run and there was bus priority. They need to come hand in hand.

Gareth Bacon AM: So, more public transport provision. Going back to something that John [Dickie] said a moment ago, motorists do not travel around for free. London has 2.6 million motorists and they contribute £1.9 billion in taxes through using their vehicles. The vehicle excise duty is around £500 million that is paid to central London and not a penny of it is spent on London's roads. If that were not to change, if there was no change to vehicle excise duty, there was no lowering of fuel taxes and road pricing was introduced on top of that, do you think that would be a fair approach?

Nicole Badstuber (Research Associate, Urban Infrastructure Policy and Governance, University of Cambridge): It should be reflecting the impact on the road network that your car has. You taking a bus or you cycling has a much lower impact. Your footprint is smaller in emissions but also literally how much space you are taking up. Therefore it should reflect that if we have congested roads in London.

I am fully in support of the idea that central Government should be devolving vehicle excise duty to London but we also need to think ahead. We will need to think how we are going to be charging for that. A lot of the taxes paid for your cars are based on the emissions and if we move to a future where cars are emitting less, how are we going to be funding our roads? National Government is also looking at road pricing so London should step ahead and think about how they are going to do that.

Silviya Barrett (Research Manager, Centre for London): Can I add something on that point? The way that I say that central Government can be using road pricing for revenue-raising purposes. Obviously Her Majesty's Treasury has the power to tax vehicles and drivers in order to pay for the network, whereas from a city perspective it is very different and focused on managing the negative impacts of driving, congestion and pollution. The Mayor has the power to charge drivers in order to address those impacts and not to raise revenue. To me, those things should be separate in a sense.

In London a new distance-based scheme would replace the existing Congestion Charge and ULEZ charges, at least in the proposal that we have put forward. Therefore, it will not be an additional burden and cost on many drivers. In many cases it will be fairer on drivers because they might be paying less for a journey which may be shorter. Rather than paying the set daily fixed charge you would be paying for the journey you are making, mitigating those impacts and capturing the impacts that you are having.

Gareth Bacon AM: Your report is based on a pan-London introduction of road pricing, is it not?

Silviya Barrett (Research Manager, Centre for London): Pan-London as a long-term ambition. It should not necessarily be boundary-based, as the Congestion Charge and ULEZ currently are. It is possible to cover a wider area but only charge for journeys that enter certain congestion and pollution hot spots, for example town centres or main commuting routes and motorways.

In terms of technology, yes, that would be more complex than a cordon-based scheme but the technology is there. We have new technology that enables that distance-based charging through GPS in vehicle devices, even through your smartphone. You would not even need cameras to cover locations very densely because they would just be used to capture those people who have not registered for the scheme.

Nicole Badstuber (Research Associate, Urban Infrastructure Policy and Governance, University of Cambridge): Just something I want to underline is that the scheme that you design depends on your objective. I may not have made that clear earlier on. If your objective is to tackle congestion, you design a scheme in a certain way. If your objective is to generate funds, you design it in a different way. London may decide that they want a composite of that but the two components will be different. Yes, a congestion charge to tackle congestion will generate funds but that is not its main objective, and a road pricing scheme designed to generate funds will have congestion benefits but that is not its main objective.

Gareth Bacon AM: In terms of a legitimate policy decision, I am quite struck by what John [Dickie] said earlier on about people needing to believe things are being done for a particular reason. In your report, if I am correct, you proposed as an example a price of £0.08 a mile. Is that right?

Silviya Barrett (Research Manager, Centre for London): I do not think we set a specific price.

Arup did some modelling for us for the report. Basically we devised a scheme where you have your base charge, which is your distance-based charge depending on your vehicle size and vehicle type. Then you have a multiplier on that depending on what type your vehicle is in terms of emission levels. You would have a separate multiplier for where that journey takes place, the geographical aspect to it, whether it is in central, inner or outer London. It might be based on Travelcard zones, for example. Then you would add on for congestion. That would be based on recent observed levels of congestion on that specific route as opposed to having a charge that is ticking like a meter, and it would be predictable and transparent. You would have a multiplier for, for example, whether or not there are alternative options for that journey.

It is a complex way of setting a charge, which is why we cannot say a certain journey would cost X. The amount of charging would obviously be a call for the Mayor and for more complex TfL modelling, but to the customer it would be a simple set charge. You would be able to enter your start and end point and you would be given a set price that you would then be able to compare to other modes to make an informed decision as to what choice you want to make for that journey.

Gareth Bacon AM: You talked about the customer as well. One of the problems with the Congestion Charge is that the legal definition of a charge is a fee that you pay in exchange for a service. A great number of the embassies in London have refused to pay it. They say, “We are not getting a service. This is a tax”, and because they have diplomatic immunity they can get away with that. How would you package this in such a way that people believe they are receiving a service?

Silviya Barrett (Research Manager, Centre for London): A scheme like that can deliver many benefits. One of those is providing a level of service on the roads. For example, you will be ensuring that road maintenance is captured within the charge. You would be able to say, “For the money that you pay, we are delivering a good quality network”. At the moment there is a --

Gareth Bacon AM: I am sorry to interrupt you but the pushback on that will be, to go back to the point I made earlier on, that London’s motorists are paying the best part of £2 billion in taxes already and what are those taxes for if they are not for maintaining the roads?

Silviya Barrett (Research Manager, Centre for London): Not much of that goes to the London level.

Gareth Bacon AM: Indeed, but this is the problem that you have. This is why I asked Nicole [Badstuber] the question earlier on. In the absence of any changes, would she be happy to support road pricing being introduced on top of all the taxation that motorists already pay? The answer was broadly yes. Are you in the same position?

Silviya Barrett (Research Manager, Centre for London): Ideally, yes, we would like to see some money devolved from Government. It does not necessarily have to be VED devolution. It could be having access to other, broader funding pots. For example, other cities receive Clean Air Zone implementation funding in order to implement schemes in city centres. They could be charging or non-charging. That is an example where central Government is supporting cities in that sense.

You could argue that London should receive similar types of funding to implement the ULEZ or whatever the next stage of that is. It does not necessarily have to be VED or VED devolution. There is still a case to be made that the current system does not capture the impact that driving has in terms of negative impacts on the wider population. It would be a fair system where you are paying for the impacts that you are having but you would also have the benefit of improved traffic flow, reduced congestion, and drivers benefiting from increased efficiency and productivity in that sense.

Gareth Bacon AM: That would only apply if they could still afford to use the road, of course, would it not? OK.

Turning to TfL fares then, Lucinda, how do you think the roads should be funded?

Lucinda Turner (Director of Spatial Planning, Transport for London): Firstly, a broader point on the importance of stability and sufficiency of funding to enable us to invest across the system, including roads. I am grateful to John [Dickie] for reiterating that point, and the business community has been key in helping us make that case. VED devolution would be eminently appropriate. We have made the case for that and we will continue to do so, and we would welcome other people --

Gareth Bacon AM: Yes. On that subject, it is one of the very few issues on which you will get unanimity from just about everybody in this building and all of the GLA family groups, so you are on to a winner with that one.

Lucinda Turner (Director of Spatial Planning, Transport for London): Yes. We need to persuade the Government.

Gareth Bacon AM: Yes, indeed.

Lucinda Turner (Director of Spatial Planning, Transport for London): We are also targeting particular sources of funding like the Major Road Network funding. We welcome the fact that some of London's roads were included in that. We have made bids. We are looking at trying to progress Gallows Corner, for example, and a number of other schemes. I would say that, welcome as it is, it is *ad hoc*, and we actually need that sustained investment and stability of it.

In terms of road user charging, proposal 21 in the MTS does have the policy framework for that. At the moment the focus in London is on the expansion of ULEZ and using pricing in that context to tackle the imperatives around air quality.

Silviya Barrett (Research Manager, Centre for London): May I add a quick point on the attractiveness of a system like that? What we have said in the report is that you would accompany road pricing with that multi-modal system and journey planning application that I talked about earlier, and that would have benefits not only for drivers in terms of making their journeys fairer, easier to pay and simpler, so replacing the current scheme where we have separate payments for congestion, for pollution and potentially tolling. The experience of the driver would be simpler and easier. You could integrate parking as part of that, for example. The potential is quite large.

A scheme like that can have benefits to other users as well, and it is important to offer mitigation to that point. Obviously you would not be paying for journeys where you would have little alternative than driving, but secondly, with an individual account you can offer targeted discounts, targeted exemptions, a scrappage scheme or alternatives and rewards in the form of mobility credits, so offering incentives to people to make a journey in different ways. Having that comparability within a single platform where you can compare the different costs, the journey times and the impacts of a single journey would have lots of benefits so that you can then have an informed choice of how to make that journey.

Gareth Bacon AM: I am trying to translate that into my own life experience. People are busy: they get home from work, they have things they have to do. I drive less than 6,000 miles a year. I would not dream of driving in central London, not least because it is the most inefficient way to get to central London from where I live. Most of my car journeys are around the locality that I live in. I might be taking my daughter to training or doing the family shopping, whatever it is.

Most of the time, do you think it is realistic that people would sit there and look at an app to work out the various different journeys that they could do when they have a car on the drive?

Silviya Barrett (Research Manager, Centre for London): The option would be there if you need it, but the technology can be such that it can recognise when you are getting in the car, so you would not need to input your details every time you get into the car in order to use the system in order to be charged for it. Yes, the option would be there.

In terms of affecting poorer people that might not have other options, there is also the point that poorer people drive less, proportionately, and they tend to use buses more. If you were to charge accordingly, and investment that you put into public transport and buses, so poorer people would benefit disproportionately as well. In terms of the impacts of driving, there is evidence that poorer people are more affected by pollution and road danger. The scheme that would --

Gareth Bacon AM: That is an average, though, isn't it? That is a bit of a sweeping generalisation because a lot of that is based on where people live. That assumes that poor people live exclusively in inner-city areas where there is high congestion, and of course poor people live everywhere. There are lots of poor people living in my constituency in outer London. Many of those people do have cars, contrary to a lot of what the averages tell people. This would make their lives very much worse.

Silviya Barrett (Research Manager, Centre for London): My point is that any intervention that improves congestion and pollution would benefit poorer people disproportionately, so the benefits of that would outweigh any disbenefits to people that might not be able to --

Gareth Bacon AM: Yes, but again that is an average, because large parts of my constituency do not have huge amounts of pollution. It is not in central London. It is not in the Congestion Charging Zone. It is not where we know most of the air pollution is. It is in outer London and the borders of Kent, and the air there is generally quite good. There are still poorer people living there and, as we discussed earlier on, there are a very limited range of public transport options. If road pricing were introduced on a pan-London basis, this would make their lives much worse.

Silviya Barrett (Research Manager, Centre for London): No, but in that case, in the scheme we are suggesting, the charge would be variable depending on real congestion and pollution levels as well as availability of alternatives. The journeys that you are describing would not be charged at all, or very little if at all in the scheme that we are suggesting. If it is on a pan-London basis, then you would not be capturing areas like that that are not affected by congestion and pollution.

Gareth Bacon AM: OK. I am slightly conscious of time, Chair, and this is one of those subjects where you could probably spend an entire morning doing a seminar on it.

I will move on to the next section, which is around the spending review so it is a sweep-all question for everyone. The Mayor has sent his Christmas list in to the two candidates, one of whom is going to be Prime Minister in two weeks' time, and his transport asks were to restore TfL's operating grant of around about £700 million a year, committing to funding Crossrail 2, funding infrastructure such as the Piccadilly line upgrade and the BLE, and transferring suburban rail services to TfL. I will start with you, John. Do you think those are the right asks? If you do, what should be the priority order?

John Dickie (Director of Policy and Strategy, London First): Those are pretty much the right asks. The priority we have organisationally is around the National Infrastructure Commission's plan for infrastructure for the country as a whole based on the current Government's 1.2% planned public expenditure on infrastructure. That would be enough money to both deliver the Northern Powerhouse Rail Programme and the associated investment needs of the Northern Powerhouse and Transport for the North and to deliver High Speed 2 (HS2), assuming HS2 stays roughly where it is, which is an assumption. Critically, from the point of view of London, to provide both the resources to deliver Crossrail 2 and also what one might describe as the routine capital

programme for TfL around things like signalling, network enhancements, rolling stock and so forth. That is our top ask of Government and I would certainly put that right at the top.

In terms of other transport asks, it would of course be a good thing to see a return of some subsidy from the taxes Londoners pay to deal with the charges Londoners pay. It is extraordinary if you look at comparatively the performance of TfL that it is getting close to making not only an operating surplus on the Underground, but an operating surplus that would cover its financing costs. There must be no network in the world, certainly no network in the world of the age and complexity of the London Underground, that is coming close to that. That is of course one of the reasons why charges in London are high for those of us using the network. Some shift in the balance of that is right. We are not going to get it in the near future, but it is right. I would probably, if I was prioritising, put that behind the further devolution of rail services.

The further devolution of rail services is a difficult issue to think about in isolation. There are two levels of complexity on this that I might touch on. One is devolving rail services to TfL without devolving resourcing to TfL. There is a risk that people will think this new bit of the Overground is going to be like the North London Line, and the North London Line was transformed by TfL taking over and £1 billion or £2 billion of investment in both rolling stock and the track. I do think we need to be a little bit careful how we position this as a city. I am in favour of greater devolution but I do worry a bit about setting expectations and not being able to resource them.

The other thing we always need to be conscious of and clear about is that we devolve services in a way that does not disadvantage those people commuting from a bit outside of the London travel zone. It is as important to business that people who are commuting from Brighton or Leicester or wherever are able to get into London just as easily as people living in outer London or people living in inner London. That is perfectly doable. This is not a barrier, but it is a sensitivity that when we talk about rail devolution we always need to be very mindful of. I know it is something that does, perfectly understandably, worry, for example, Members of Parliament from the home counties because they see the great might of TfL and they see its accountability to the Mayor and to the Assembly, and what do they have? We need to be mindful of that.

Gareth Bacon AM: Lucinda, what would be the key ask for TfL?

Lucinda Turner (Director of Spatial Planning, Transport for London): Fundamentally, sufficiency and stability of funding. We have to be able to make long-term committed investments. We need to make them in a sensible way that delivers efficiencies through our supply chains. We cannot do that at the moment.

Gareth Bacon AM: Are you talking about capital funding or revenue funding or both?

Lucinda Turner (Director of Spatial Planning, Transport for London): Both. We have had since 2011 a 46% cut in our sources of external funding. It is very difficult. We have taken a lot of action to prepare for that and to respond to it in terms of making savings, so £111 million of recurring savings each year. We have reduced the operating deficit, as John [Dickie] said. John has put much of it very eloquently. I absolutely agree with most of what he has said. It also combines with the difficult macroeconomic circumstances where we have seen a softening in revenues as well and we are more exposed to that. We need that sufficiency and stability. For example, on the Piccadilly line, we have ordered the new trains. We have been able to do that. We have not been able to commit to the procurement of the signalling upgrade, which would deliver that 60% uplift. Without that sufficient ongoing investment, we cannot do so. I absolutely agree. That National Infrastructure Commission was established by this Government, and it recognised that investment in London made sense economically and in many different ways. As you say, its recommendation would equate to about

£4.8 billion a year shared between us. To deliver the MTS in its entirety we have estimated would cost about £3.3 billion plus some for renewals. That would be manageable within that context.

Shaun Bailey AM: To Lucinda and Simon initially, what options did TfL submit to the financial review to pay for Crossrail 2 during the construction phase?

Lucinda Turner (Director of Spatial Planning, Transport for London): In terms of Crossrail 2, we have identified a number of different sources. There was the original discussion and the 50% London, 50% central Government. That is very challenging, but we have assumed the use of Mayoral Community Infrastructure Levy (CIL) when it is finished being used for Crossrail 1. We have assumed the continuation of the business rate supplement but also a potential uplift in that ahead of the construction period to enable us to fund that. I am trying to think what other sources.

There is a critical challenge not only in the scale of investment we are talking about but also the timing of it. A lot of the sources that are identified tend to come on-stream or ramp up most after construction and after opening, so there is a financing challenge as well. I can follow up with you in more detail if you would like to go into the specifics of the different sources identified, but definitely those are some of the sources.

Shaun Bailey AM: I would really like to follow up because I want to understand how optimistic you are being about this uplift and how tight the timing is because cash flow in these things is all -- what would be the impact of the delay on our ability to deliver Crossrail 2?

Lucinda Turner (Director of Spatial Planning, Transport for London): It is something we are looking at at the moment. Most tangibly the use of mayoral CIL has moved backwards because we now have had to make an assumption that that will not become available for, say, around eight years from when we were expecting to be able to transfer it to Crossrail 2. There is a job for all of us to do to continue to make the case for that investment and to show that we are capable of delivery. We are getting our hands around Crossrail and that will be delivered and open as soon as possible, but that has made people ask, are we able to deliver? I absolutely believe we are, and if you look across the rest of our investment programme, we are. It is a hugely complex project.

For business to support us, fundamentally, Crossrail would not be happening if the business community had not backed that case for investment, etc. Continuing to have that lobby, that joint working, is going to be fundamental to it.

John Dickie (Director of Policy and Strategy, London First): We have done a fair amount of work over the years on how we might pay for Crossrail 2, looking both at the 50% funding target the Government set and then the 50% financing target, which of course is providing money upfront, which is an even greater challenge than paying for it over the course of its life, the 50% funding challenge. It is certainly the case that the delay around Crossrail has hurt us in two ways. It has hurt us firstly in terms of credibility around delivery, and there is no point claiming otherwise. Equally, we can be confident that, bad as the delay in Crossrail 1 is and bad as the cost overruns around Crossrail 1 are, it is still the case that when Crossrail 1 opens it will have a transformative impact on the city. It will be a great addition to our infrastructure. Nobody will be quibbling about the extra cost in ten or 20 years' time, a little bit like the way the Jubilee line has been received once constructed. We do need to remember that, as I say, as bad as those things are, it will be a great transformative benefit to the city.

The fact that it is going to be of the order of £1 billion to £2 billion over has £1 billion to £2 billion taken out of the Crossrail 2 --

Shaun Bailey AM: You say £1 billion to £2 billion as if it is a trifling amount, and clearly it is not, and --

John Dickie (Director of Policy and Strategy, London First): No. Honestly, £1 billion to £2 billion is real money. I get that.

Shaun Bailey AM: Yes. Is there a possibility then that it stops Crossrail 2 because money earmarked for Crossrail 2 is now being used to do other things?

John Dickie (Director of Policy and Strategy, London First): It certainly sets a challenge to everybody involved in it. We are awaiting the Government's response to the [Mike] Gerrard review, which has looked at ways in which we might be able to deliver the scheme which may or may not produce either some cost savings, some phasings, some stagings or some ways of making it more affordable, and we will have to see what they have said and how the Government responds. Our view is that the delivery of Crossrail 2 remains an essential need for this city. The question is, if we are going to still have to find that order of magnitude of funding from London's resources, I am afraid we need to look a little bit more widely. We would not rule out using the limited powers the Mayor does have: council tax, the fare box. There are interesting and innovative things one could do around pricing parts of Crossrail 2. There are things one could look at around, for example, its ability to deliver housing and quite how one could use some of the resources generated by housing to pay for it differently. There are a whole suite of things we could do.

There will be no easy way of doing this. I can see no circumstances, much as I would like to, where central Government is going to let, as it were, the people who make decisions about tax and spend in London off the hook by funding Crossrail completely or nearly completely. In the circumstances we are in, if we want it, we are going to have to find ways to pay for it. We will have to find those ways and we will have to do that in a way that is equitable across the people who will use it, the people who will benefit directly and the people who will benefit indirectly.

Lucinda Turner (Director of Spatial Planning, Transport for London): If I can add to that, that compelling case for investment in Crossrail 2 and things like the BLE is still absolutely there. The other source of funding that we submitted, the net operating surplus, again, clearly comes later in the day, so the financing issue is still there. Crucially, also income from over-station development. That is a fundamental part of the planning of it but also part of the funding package for it.

John Dickie (Director of Policy and Strategy, London First): I should also add that we have been supportive of the notion that the current business rate supplement would extend to part-finance and fund Crossrail 2. We would not rule out other ways in which business might contribute as part of a balanced and sustainable funding package. We are not terribly attracted by the model that the only people who pay extra are businesses in London. Funnily enough, we do not think that is a fair package.

Shaun Bailey AM: That is my question, how saleable this is to business, because we made the comment earlier on that this has been a loss of confidence in our ability to deliver. Obviously you will be going back to businesses now, asking for more, and they will point out that you did not deliver last time or, "Will my business even still be here by the time we finish this next one?"

John Dickie (Director of Policy and Strategy, London First): There can be no question that the delays in Crossrail have had an effect on the credibility of any funding scheme we put together. That does not diminish the need for the project, and business absolutely gets that. A real challenge for all of us again over the next year or two as we move towards Crossrail opening is to make sure that we have thoroughly learned and embedded in the next project the governance and operational learnings from what went wrong with Crossrail 1 in its later stages.

Shaun Bailey AM: Lucinda, you alluded earlier on to new, innovative ways you are looking to find this money, which is a considerable sum of money. As has been said by John, everybody around this arc will agree that Crossrail 2 is imperative and we want that, we need it, and it would be good for London and indeed the country. Can you focus again on what other things you have done to look for this money? Are there any real, cutting-edge ways you are looking at now to finance this project?

Lucinda Turner (Director of Spatial Planning, Transport for London): There are no magic bullets on this, unfortunately. We are definitely maximising every bit we can from the over-station development. We have learned in that context from Crossrail and there is much that can be delivered that way. We go back to potential for land value capture and the exploration of that, but at the moment that is not on the table from central Government. We are continuing to work with business and with others to look at the sources that we have identified so far and to maximise what we can get from those. Inevitably, central Government will have to step up and play a part. With Crossrail, London bore a large share of it. There are many places outside London that are benefiting, and that will be the case too for Crossrail 2. A sharing of the burden of this is going to be essential.

Shaun Bailey AM: I suppose part of the mood music behind this ability to get Government to step in and help is to explain how damaging the loss of Crossrail 2 would be to London. Have we detailed that anywhere? Have we been able to say to parliamentarians in and outside of London what a damaging prospect it would be not to have Crossrail 2?

Lucinda Turner (Director of Spatial Planning, Transport for London): Yes. A lot of that is set out in the strategic outline business case that we have resubmitted to Government following the affordability review, so that reemphasises the compelling nature of the case. It ranges across from dealing with systemic and capacity constraints at places like Clapham Junction, at Euston with HS2, at Waterloo, all sorts of places that Crossrail 2 delivers those benefits. It delivers the agglomeration benefits, that uplift in capacity for extending the job market and access for businesses to employees. It delivers the housing and the growth that we talked about earlier. It also delivers benefits way beyond London's boundaries in terms of access for people. We have set out the case, we think, in a compelling way. If there are any other aspects we should be incorporating --

John Dickie (Director of Policy and Strategy, London First): It is a broad national case. You talked about Southeastern trains and train passes going into Waterloo, where Crossrail 2 is really the only viable way of giving Network Rail more capacity, but of course it is also true for a wider part of the country than people might think. If we build HS2 out to Manchester and Leeds, and people from Manchester and Leeds come into Euston Station and they come in in great trains and it is a quick journey and it is a reliable journey, and they find themselves in holding pens at Euston because it is going to take them 45 minutes to get on to the Victoria line, they are not going to think that is such a great transport experience. If we do not get extra capacity at Euston to deal with the full HS2 build, then we are going to have enormous problems about the ability to run an integrated transport network in London.

Gareth Bacon AM: One tidying-up point for you, John. You placed great emphasis on the word “just” a moment ago when you said, “Not just business should pay for Crossrail 2”. Government, obviously. Is there anyone else that you had in your sights with that?

John Dickie (Director of Policy and Strategy, London First): I was thinking of the percentage of the scheme which is paid for by London. My start point would be that London already pays a large amount of taxation into the British Government and it is only reasonable that some of that taxation is returned to provide the infrastructure that not only supports continued economic growth that supports increased taxation payments to central Government but makes the lives of those people delivering that economic return tolerable within London as they get around. It is clearly the case that Government is not going to provide 100% funding for this project. Some funding will have to be delivered by London.

I would have a broad approach to how that should be provided. As I said earlier, the people who directly benefit should be paying for it, so they will of course pay through the fare box and that will be the fare box surplus. There may be pricing issues that should be thought about and particular parts of the route which could increase revenue. We should be thinking about the network as a whole, because of course the network as a whole benefits from increased capacity and the fare box there. We should be thinking about those people who benefit indirectly. At the moment, pretty much the only way the Mayor can provide resources from London is through the council tax precept. I would not rule out the contribution from the council tax precept as part of paying for this.

Then there are a range of other ways we might be able to raise more revenue. Lucinda [Turner] has talked about greater over-site development revenue, which is possible but sort of baked into the assumptions already. There may be some value capture possibilities. I am more sceptical about the scale of those than some people for the reasons earlier when we talked about quite where value capture occurs, but we should be looking at those. If London is serious about Crossrail 2, it will have to make some uncomfortable choices as to how we pay for it.

Gareth Bacon AM: The trouble with value capture is that you can only realise the value when you liquidate the asset, in other words, sell it.

John Dickie (Director of Policy and Strategy, London First): I agree. Again, there is more that could be done around new commercial development. There is more that could be done possibly around housing development. One of the difficult decisions that will have to be made is quite what the mix of housing development is going to be and how much revenue we wish to extract from housing delivery to support the infrastructure provision that enables that housing delivery. These are all difficult trade-offs. They will have to be made.

Gareth Bacon AM: Thank you very much, Chair.

Florence Eshalomi AM (Chair): Thank you. I am mindful that we have one more section, and if Members and our guests could keep comments and responses quite short so we can finish this in about 15 minutes. Looking at developing the transport system for the future, Assembly Member Prince.

Keith Prince AM: Thank you. Good afternoon. The first question is, what in the Transport Strategy needs to be prioritised to ensure London’s transport system delivers for Londoners, is resilient to future constraints and plays a role in addressing the challenges facing the capital? John, do you want to kick off?

John Dickie (Director of Policy and Strategy, London First): I am going to repeat myself, but the thing that matters most to us is increased capacity. It is increased capacity that creates the context for greater stability, greater certainty, higher-quality journeys and so forth. Maintaining investment, delivering the critical upgrades we need, delivering the extensions to the network that will both unlock housing and support jobs and make it easier for people in different parts of London to get jobs. Those are the critical parts of the Strategy from business's perspective.

Lucinda Turner (Director of Spatial Planning, Transport for London): The MTS sets out a whole package of interventions we think are necessary in the timescale to 2041 to deal with the challenges London faces. Inevitably, you can say it is a broad and ambitious package, but necessarily so given the scale of London's growth and given the breadth of the issues that we are facing and the diversity of London. We are looking in this timeframe to 2041 to deliver the MTS as a whole. That is not just us who deliver it, though. It is important to remember that Network Rail, the boroughs and others are crucial partners in delivering what is needed. Then we have the business plan that prioritises in the next five years what will be delivered within that framework.

Nicole Badstuber (Research Associate, Urban Infrastructure Policy and Governance, University of Cambridge): I would reiterate making better use of our infrastructure. On the road, prioritising road users that are high-capacity public transport, looking at taking away residential parking on streets, looking at shifting people away from private car usage and private vehicle usage. On the rail-based network, looking at signalling. How can we increase frequency of services and how can we increase capacity on those services with new rolling stock? We have discussed at length just now the challenges to building new infrastructure. Looking at the short and medium term, we need to make best use of our existing infrastructure.

Simon Nielsen (Head of Strategic Analysis, Transport for London): We are quite fortunate in London because we have strong political leadership and we have an integrated planning framework which has the MTS, the London Plan and the London Environment Strategy. Lots of parts of the country do not have that supportive set of conditions to help us deliver it, and we do need that because of the strength of the challenges we face. Really, from our point of view, the most important thing is to transform London through the 80% mode-share target, through tackling health and through implementing the Healthy Streets approach which puts human health and wellbeing at the heart of everything we do. That is a completely different approach to what has been done in the past and it is something which will transform London over the next 20 years.

Keith Prince AM: Moving on from that, Simon, in a number of areas on the MTS we have seen slow progress on that. What do you think we need to prioritise? Which projects would you prioritise in the MTS to bring them back up to speed?

Simon Nielsen (Head of Strategic Analysis, Transport for London): We do try to review areas where more acceleration is needed. We produce a document called *Travel in London* every year, and *Travel in London* is an assessment of how London is changing and how travel is changing in London and how we are moving towards the MTS in a variety of different areas. Within that we try to identify the areas where acceleration is needed, and that then feeds through into the business plan. The approach which we adopt enables us to identify where acceleration is needed and then to make sure through our business planning work the areas which we need to focus on. The areas within the business plan take that fully into account.

Keith Prince AM: Which projects would you prioritise then, Simon?

Simon Nielsen (Head of Strategic Analysis, Transport for London): It is the projects which are set out in the business plan. Lucinda, do you have the list of them there?

Lucinda Turner (Director of Spatial Planning, Transport for London): Yes.

Keith Prince AM: You can pick that up, Lucinda, if you like.

Lucinda Turner (Director of Spatial Planning, Transport for London): Some of them we have talked about. Delivering the Tube upgrade, so the 33% frequency uplift on the Circle, District, Hammersmith and Metropolitan lines. We are committed to completing that. Finishing schemes like Bank Station upgrade, tackling pinch-points on our network, completing the Northern line extension to Battersea, for example. Rolling out those new trains on the Piccadilly line but trying to persuade central Government to provide sufficient funding to allow us to do the signalling as well. Continuing the Healthy Streets delivery programme. Accelerating the Safer Junctions programme. We are at about 21 out of the 73. We want to get to having delivered 41 of those schemes by 2020. Continuing all the improvements on bus emissions. There are a whole series of priority schemes which, as Simon says, have been distilled into the business plan. The MTS is relatively unconstrained by finances, as we have discussed. We need further investment to deliver it. The business plan distils that into the priorities for the next five years.

Keith Prince AM: Which areas would you say have made good progress on the MTS?

Lucinda Turner (Director of Spatial Planning, Transport for London): We have seen good progress across a lot of the areas. We have talked a lot about the delivery of improvements in emissions. We are now at 75% of our bus fleet meeting Euro VI emission standards. I mentioned the Safer Junctions improvement programme. We have completed a significant number of schemes there and are finishing at Highbury Corner, for example. Step-free access: the 78th step-free station on our Underground network opened earlier this year [2019] at South Woodford. We are working on Harrow-on-the-Hill, Mill Hill East and a range of others which we are committed to delivering. I talked about the roll-out of new trains as well. The London Overground trains are being rolled out. We will be seeing the new trains coming on the DLR.

We are making good progress, some of which has already crystallised, some of which will crystallise over the next few years and deliver that step-change. As John [Dickie] said, when Crossrail opens, there will be that step-change in capacity. When the Circle line and other line upgrades happen, that will deliver a further step-change.

Keith Prince AM: You mentioned Safer Junctions. Are we seeing any shift at all towards the Mayor's Vision Zero? Recently I saw a report where there had been a number of deaths recently on our roads. As Simon [Nielsen] pointed out, we are not tackling the issue around motorcyclists. Are we any nearer Vision Zero?

Lucinda Turner (Director of Spatial Planning, Transport for London): We are seeing progress and we are committing to doing more action to deliver Vision Zero. Every single death on our roads in our system is regrettable and we wish we could avoid it. There have been a number of incidents in recent months with cyclists as well, so we are doing everything we can to deliver that in practice. There are definitely improvements, though, and the trends are going in the right direction, but we clearly have more to do.

Keith Prince AM: We saw a trial of a system that reduced accidents on buses, which has been very successful. The Mayor has chosen not to roll that out across the rest of the network.

Lucinda Turner (Director of Spatial Planning, Transport for London): I am afraid I do not know that specific detail.

Keith Prince AM: It is called Mobileye. Perhaps you could look into that.

Lucinda Turner (Director of Spatial Planning, Transport for London): I will.

Keith Prince AM: Finally then, we see that in 2017/18 30% of Londoners reported that they had less than a ten-minute period of active travel every day. What do you think we could do around that? Are there any quick wins we could do around that?

Lucinda Turner (Director of Spatial Planning, Transport for London): It is certainly a challenge, and some things take time to deliver. On that front, I mentioned the consultation that we have had on 20mph zones, for example. Some of the responses to that are clearly indicating that by lowering speeds and making less traffic-dominated environments, people would be willing to walk and cycle more. The Cycle Action Plan sets out significant measures to improve things. I mentioned safety and too much traffic being issues there. Across our programme, rolling out that Healthy Streets investment, that £2.3 billion over the course of the business plan is going to fundamentally shift some of the willingness of people to walk and cycle and the comfort they feel in doing so. We need to deliver the environments that support people to walk and cycle.

Keith Prince AM: Nicole [Badstuber] mentioned something earlier - you can come in after Lucinda, if that is all right - about the fact that we are not able to -- "legislate" was not the word you used, or "control". It might have been you as well. Control what is going on. For instance, we have innovation, like we have the electric scooters, we have the guys who go up and down Oxford Street in their pedicabs, electric pushbikes that we have now, and then there is the arrival of the dockless bikes and so on. It seems the main problem we have is that there is no legislation to enable TfL or any other regional body to react to these rapidly changing innovations.

What I would ask is, how can we overcome that? Perhaps a system whereby the Government gave TfL or regional bodies an overarching power to introduce bylaws or other laws to react to these things more quickly, rather than every time something happens we have to go to the Government to get primary legislation which takes so long and clearly most of the time they have other priorities. There is even something ridiculous about black cabs having to carry bales of hay in the backs of their vehicles for the horses. We had no power to overcome that. What do you think around that?

Lucinda Turner (Director of Spatial Planning, Transport for London): That is a very interesting proposition and one that I will definitely take back and discuss, because you are absolutely right. We have significant challenges that things develop really quickly and can sometimes catch us on the hop, if we are honest. We have done a lot to try to make sure that we are doing that horizon-scanning and understanding some of the changes potentially impacting, but again you are right that a lot of our levers and regulations are quite old, centuries old some of them. It is a very interesting potential option to tackle this.

At the moment we currently identify particular regulatory changes etc that we think would help us to tackle some of these issues, but something more flexible and quicker would certainly be of interest. I know Paris is struggling particularly with e-scooters. There is a big debate in the city there and they have even fewer regulations to manage that.

Keith Prince AM: I can tell you in Brussels it is working very, very well. There are three or four scooter providers, they are all parked up very neatly, and people are really getting around. I use them myself.

Nicole, did you want to come in, and I will come back to you, Simon?

Nicole Badstuber (Research Associate, Urban Infrastructure Policy and Governance, University of Cambridge): Yes. On the topic of dockless bikes or e-scooters, it is really important to give cities the right powers to manage this new mobility or any new tech that comes along. It is really key to the success of those schemes. The idea is really around virtual bays, so places where you can leave these vehicles and not present clutter on the footpaths. If cities can go to the operators and say, "Hey, we are going to give you some space to do that but you have to abide by our rules", then that is a way that you can make a success of them, rather than them being clutter, rather than there being a lot of negative emotions associated with these new innovations.

Keith Prince AM: That works within the app, because when you park up the e-scooter in Brussels, if you do not park it in the right place, they penalise you. If you park it in the right place, they will thank you very much for parking it in the right place. It can be done, but again it is the point about the Government giving us overarching powers to make smaller regulations to react more quickly to this stuff.

Nicole Badstuber (Research Associate, Urban Infrastructure Policy and Governance, University of Cambridge): Yes. I know that national Government was probably eight or nine months ago looking into having some legislation on in particular dockless bikes, but that seems to have stalled because of I guess the focus on Brexit.

Keith Prince AM: That is about dockless bikes. My point is about giving broader powers. It is not just dockless bikes. It could be e-scooters.

Nicole Badstuber (Research Associate, Urban Infrastructure Policy and Governance, University of Cambridge): No, exactly. I am completely in support of your point.

Keith Prince AM: Simon, do you want to come in?

Simon Nielsen (Head of Strategic Analysis, Transport for London): I wanted to add a point about active travel because we have seen some very strong growth in cycling in 2018 and that is very relevant to this topic. Since 2016 we have had something like 140 extra kilometres of cycle route put in, and the monitoring which my team does is starting to show that there are some very substantial changes happening. We have had 5% growth between 2017 and 2018 in cycling across the whole of London, and that means we have reached 4,000 kilometres cycled, which is the highest level it has ever been. This is quite substantial growth. All of the satisfaction surveys that have been done with the new routes have been positive. Perceptions of safety have been positive. Everywhere that we have monitored where there is a new route has been above that background trend. There are some very positive things coming out about activity in the cycling frame.

Florence Eshalomi AM (Chair): Thank you. Assembly Member Shah.

Navin Shah AM: Thank you. I have questions on two major development projects. HS2 we will start with. What will be the impact of HS2 on London? Who wants to take that one? Lucinda?

Lucinda Turner (Director of Spatial Planning, Transport for London): I can start. There are a number of significant aspects. Clearly, there is a huge focus on Euston and Old Oak Common in terms of stations and interchange and managing those impacts. More widely, there are clearly so many issues about the interaction with our system, about construction traffic, about managing the delivery of that project. Our focus is very much on ensuring that the impacts on London are mitigated and that the opportunities are maximised.

If we take Euston, for example, it is important to bear in mind that Euston is a hugely complex scheme. You have HS2, you have the conventional Network Rail station project, and you have the wider associated development and master-planning. These are three projects that need to be integrated and come together because they all interact with London's transport system and local transport systems. We are working with all partners to ensure that, for example, London Underground infrastructure is improved and enhanced and made adequate to deal with the increased flows, so the tunnels and the station, everything else. HS2 needs to ensure that it provides the funding for that and the mitigation for that.

We are working to ensure that we can maintain a really effective bus interchange there. There is a sense that whenever you get new development in London, they tend to want to move buses and bus stations and bus standing out. We know that it is a fundamental interchange and forms part of the onward distribution for passengers, but also it is hugely important for local communities. We are working with HS2 to design an improved interchange, because I do not think anyone would argue that the environment at Euston Station at the moment is particularly pleasant. We need to get improvements there.

We are looking at Healthy Streets. Euston Road will have closed lanes for quite a few years, so we are looking at the opportunities to improve north-south connectivity and crossings for pedestrians and all sorts of things so that we can take advantage of the opportunities that are presented to that to really transform the area.

For Old Oak Common, similarly, we are looking at provision of walking and cycling connections to the HS2 station. We are doing a bus strategy. There is a lot of master-planning involved in those areas, but the implications for local communities in terms of the levels of disruption and trying to encourage as much material by rail and minimise lorry movements etc is a really important part of our work more widely. Also, persuading and making sure that HS2, for example, implements the Direct Vision Standard in all its contracts and in all the work we do.

We can follow up with you in detail about all the work we are doing with HS2. There is a huge programme of work to make sure that London is not impacted adversely and that on the flipside we can take advantage of the opportunities. As John [Dickie] mentioned, that onward distribution from Euston, for example, that Crossrail 2 delivers to make sure that we have that Tube capacity is key.

Navin Shah AM: That would be helpful if you can give us information. Also, how do you work with not only HS2 but in terms of planning preparations, etc, with the mayoral development corporation (MDC) when it comes to Old Oak Common and Park Royal?

Lucinda Turner (Director of Spatial Planning, Transport for London): Yes. We can follow up with you on that in detail.

Navin Shah AM: Does anybody else want to come in on this? OK. The architect of the MDC and the one who supported HS2, we believe, Mr [Boris] Johnson [former Mayor of London], has said he would prefer investment on infrastructure projects in the north of the country and call for the review of economic benefits of HS2. Indeed, there are a number of reviews being considered from different levels. What will be the impact

to London if HS2 is scrapped? What work is being done on that? That seems to be a realistic risk that we are facing, and that is going to change the whole story in terms of what we are trying to deliver.

Lucinda Turner (Director of Spatial Planning, Transport for London): Our work with partners in HS2 at the moment is assuming that the project goes ahead. There is a significant focus on cost reduction and value engineering and trying to ensure that it is within the funding envelope, but at the moment we are working with partners on the assumption that it is being delivered and we need to do everything we can to make sure the impacts on London are managed.

Navin Shah AM: I know that the Mayor has said that he will be engaging with the new Prime Minister, whoever it is going to be. More than likely, obviously, as you know, it will be Mr Johnson. The Mayor is hopeful, but again, should you not be working with all partners to look at this plan B, which is risk of HS2 being scrapped? John, do you want to come in?

John Dickie (Director of Policy and Strategy, London First): Can I emphasise the importance to which the northern cities attach to HS2? If the Government were to materially change the plans around HS2, that would have a terrible effect on the sense of trust that the northern cities have, particularly Manchester and Leeds but more broadly, and that would play into the whole credibility of the Northern Powerhouse investment suite.

This would have two big implications. The first one is it would be very divisive within England, which would be a very bad thing, obviously. Also it would be very bad for London, because there are no circumstances where the current Government, a new Conservative-led Government, is likely to go ahead with Crossrail 2 and not be investing substantially in other parts of England. This is why we are so strongly in favour of the National Infrastructure Commission's approach because it does provide a suite of funding meeting the needs of different city regions of England. An approach that disrupts that is going to be pretty bad for pretty much every city region.

Navin Shah AM: Does anybody else want to come in before I move on? OK. The last question from me is on the matter of Heathrow expansion. If the Heathrow expansion does go ahead, what are the key projects which will need to be delivered to ensure high-quality surface access to the airport? Obviously we need to address issues of severe overcrowding as well as encouraging modal shift, which is so essential for sustainable transport.

Simon Nielsen (Head of Strategic Analysis, Transport for London): Do you want me to have a go at that? We are currently at the stage where the National Policy Statement (NPS) has been designated by the Secretary of State. The Mayor has appealed against that with a judicial review. That was turned down. We are now appealing the judicial review outcome. Meanwhile, the Development Consent Order is progressing. There is a statutory consultation that has just been launched by Heathrow. Our concerns are around air quality, noise and surface access. Your question is particularly about surface access but they do link together, particularly the air quality aspect of it.

To explain why we are very concerned about this, you need to understand that Heathrow currently has something like 75 million passengers per annum passing through it. In 2031, after it is opened, it would have something like 132 million passengers passing through it. In terms of surface transport demand, that is something like 130,000 more trips per day going to and from Heathrow, which is already a major, major, major traffic generator.

The NPS has some targets in it, and the targets are to have a 50% passenger mode-share by 2030 and to reduce employee car travel by 25%. Our analysis suggests that if you did that you would still be generating a lot of traffic every day, 30,000 to 40,000 extra vehicles per day. We do not think the NPS goes far enough.

There is another pledge, which is around no more vehicle traffic in the expanded Heathrow. We think that is really important that that is achieved and is achieved in a realistic, sensible way. The problem with that, of course, is that if you do achieve no more car traffic coming to the airport, you end up having a lot of extra public transport journeys. You need the no extra traffic for air quality reasons. At the moment we have 90,000 public transport trips going to Heathrow every day. With no extra traffic, it could be as high as 240,000.

The proposals as they currently stand have absolutely no additional public transport rail-based capacity to accommodate that enormous uplift in demand. That is at the heart of our surface access objection. We think that - and we have been saying for many years - the southern rail link to Heathrow is an essential scheme if you are going to expand Heathrow to this scale.

I was fortunate enough - or misfortunate enough - to be involved in the Heathrow Terminal 5 inquiry a little while ago. All the way through that we were told that we did not need to have a condition that the southern rail link was required to enable the fifth terminal to be built because it would come along anyway and it had a schedule opening date of 2003, and it is still demonstrating no progress. We are still at the stage of trying to identify objectives with the Department for Transport (DfT). Getting a realistic commitment to a southern rail link is important. Also the western rail link is very important as well.

At the moment what we see is that schemes which were designed to accommodate London's wider growth - things like Crossrail, things like the Piccadilly line extension - are being relied upon to absorb the effects of this expansion. That is not what they were designed to do and it compromises their ability to do what they were designed to do. This is a big issue for us. We want to see improvements to bus corridors. We want to see improvements to walking and cycling access to the airport. None of this is materialising as we speak.

Navin Shah AM: I am mindful of time. Unless any other Members want to come in --

John Dickie (Director of Policy and Strategy, London First): Being mindful of time, I would emphasise that we support, of course, the expansion of Heathrow, but it does need to be accompanied by improved surface transport access.

There are two obvious things that should be done. The first is we need to increase public investment in connectivity to Heathrow, most obviously in the short term through Piccadilly line signalling, which would increase capacity. The other is the DfT has looked at ways of attracting private investment to fund things like Southern Rail, but it has done so in what one might describe as a not very effective way. The DfT needs to get its act together about providing a framework which will enable the private sector to deliver the kind of increased capacity around Heathrow that can be delivered that we need.

Navin Shah AM: Thank you.

Florence Eshalomi AM (Chair): Thank you very much, and apologies that we did overrun. Just to thank our guests for a really interesting discussion this morning, John, Lucinda, Nicole, Simon and Silviya, who had to leave early.