

Environment Committee – 15 September 2016

Transcript of Item 6 – The impact of Transport on London’s Environment

Leonie Cooper AM (Chair): That brings us on to item 6, which is the main item of business today, and that is why we have our distinguished guests with us. I would particularly like to welcome the Deputy Mayor for Transport, Valerie Shawcross CBE; Elliot Treharne, Air Quality Manager for the Greater London Authority (GLA); Lilli Matson, Head of Delivery Planning for Transport for London (TfL); and also Sam Longman, Policy Manager for the Environment for TfL. You are all extremely welcome.

We know that Val is slightly under a time constraint in that she cannot be with us for the full six hours that we are planning to run over! Ian [Williamson, Scrutiny Manager, GLA] is telling me I must cut that short and it can go for a maximum of only two-and-a-half.

Val, if we can perhaps start with you, then, I wondered if you might like to say a few words just to set out the position as you see it since you have come into post and as you see it going forward over the next three-and-a-half years.

Valerie Shawcross CBE (Deputy Mayor for Transport): Thank you very much, Chair, and thank you for the invitation today. I do, as you know, feel very strongly that the role of the London Assembly is really important. You keep us outward-looking, you keep us honest and you give us a healthy perspective on these issues. This is an issue where people can get buried and lost in the technology and lose sight of the human dimension of this and so it is quite important.

I am sorry that I am with you only for an hour. By way of apology, I will say - and I am sure Nicky [Gavron AM] will appreciate this - that I am having a health and safety assessment on my workstation because I have trapped a nerve in my back.

I will just start off by talking a little bit about the immediate work and then more general issues. It is, of course, a really important priority to the Mayor and to all of us that we improve and protect the environment in London and of course that impacts very much how we handle and try to manage and change the transport system in general. I know that one of the particular focuses you have today will be on the drive we have to improve air quality in London and so I will start off by just saying a few words about that and then move on.

The Mayor has set out a very ambitious package of measures to tackle air pollution and, subject to statutory consultations that have to happen, you will know that the first thing that is going to be in is this so-called “T-Charge”, the toxicity charge, which we are aiming to bring in from 2017.

That will be then followed up by the central London Ultra Low Emission Zone (ULEZ). We were consulting on whether or not we could bring it forward from 2020 to 2019 and then expanding the ULEZ as well, taking it - in the proposal - around to the North and South Circulars for cars and vans. A crucial fact - and I am conscious that not everybody absorbed this - is that the proposal is that the ULEZ goes London-wide for buses, coaches and lorries. I do not think that people have been fully aware of that and it is worth emphasising that.

Nearly 15,000 Londoners responded to the first round of consultation. It was overwhelmingly positive. There was about 81% support for the T-Charge proposal, 79% supported bringing the ULEZ forward and 71% believed that the Zone should be expanded, although there is a variety of views about the area of expansion.

The Mayor and I have both read the Environment Committee's own response and if you want to discuss any particular points there, we can try to engage on some of that detail with you today.

We are in the process of reviewing all of the responses that came into the consultation and that will inform the next round, including the statutory consultation - and so we are moving from the early informal to the statutory rounds - on the T-Charge. That material is being prepared for next month, October. It has not been completed and signed off yet, but we hope that we are nearly there.

I would also say more generally that we want TfL to lead by example. We have to walk our talk. One of the key things that we have to do is - and the Mayor is determined - that we transform the bus fleet in London. We can deliver significant air-quality benefits and carbon-reduction benefits by transforming London's bus fleet. An additional 3,000 buses will be retrofitted with abatement technology to reduce their nitrogen oxide (NO_x) emissions by 2020. There are about 800 today that have that technology. The ULEZ requirements for all double-deck buses in central London will be brought forward by a year to 2019. We also want to procure only hybrid or zero-emission buses from 2018.

As part of this commitment, last Friday I had the pleasure of launching two all-electric bus routes with 51 all-electric single-deck buses. This takes the entire fleet of electric buses in London to 73. I am told that that is the largest in Europe, but that is not the meaningful metric, is it? The real metrics are about what we can deliver in air quality. They are lovely buses. Go on the 507 or the 521. You can charge your phone on them as well. It is very good technology and it is a step forward in terms of how long they can run for, their resilience and the life of the batteries as well. It is very interesting.

We are also creating Low Emission Bus Zones. We used to call them Clean Bus Corridors. People found that confusing. Basically, we are trying to pick off the most polluted main road routes ahead of the ULEZ introduction and clean those buses up. That does not mean we are moving dirty buses elsewhere; it means we are taking them out and replacing them. We are not trying to pass the problem around but remove it. You have one in Putney, Leonie, coming up?

Leonie Cooper AM (Chair): Putney High Street, which I visited with the Mayor only a few months ago and it has already started, I am pleased to say.

Valerie Shawcross CBE (Deputy Mayor for Transport): Yes, that is beginning. It is starting. It is rolling in. For Florence [Eshalomi AM] and her constituents, we have the A23 around Brixton. These have been selected because of the level of bus-generated pollution. There are a lot of buses on those corridors and a lot of routes and so it is quite a complex job in its own right.

TfL will also play a critical role in supporting the transformation of other fleets - and you will have seen that in the Taxi and Private Hire (TPH) Action Plan, which was launched earlier in the week - through rapid-charging infrastructure for electric vehicles.

The Mayor has committed London to an ambitious target of becoming a zero-carbon city by 2050. He is establishing Energy for London, an umbrella brand for his energy and climate change mitigation programmes that will deliver a comprehensive range of initiatives to benefit Londoners and make significant progress towards the zero-carbon target.

TfL will play a major role in helping Energy for London reduce carbon dioxide emissions by maximising the use of decentralised energy where it is practicable and where it is clean and economic to do so. TfL will also use its

buildings and land to install solar panels, accommodate new energy centres and buy local power through the Mayor's Licence Lite initiative. It will harness its waste heat for use by nearby buildings and take advantage of developments in energy efficiency, smart technology and energy storage as well to further drive down energy use, reducing our costs and benefiting the environment.

We also have to ensure that London's transport system is ready to cope with climate change and the impact of extreme weather events. That is true of much public infrastructure in London now. We have to be serious about looking at the specifications for upgrade work to take account of things like heavy rainfall incidents. TfL has to understand, where possible, and manage risks such as flooding and extreme high temperatures across the network. TfL can use its own major schemes as mechanisms to use and promote best practice in sustainable drainage and green infrastructure. That is where we want to go.

Clearly, the Government has to play its role in all of this. We need vehicle excise duty reform and in due course devolution so that we can effectively incentivise people to switch away from diesel to low-emission vehicles. The reverse has been true and we have seen the very damaging dieselisation of vehicles in London. We need to move that back around the other way. We need a diesel scrappage scheme to get rid of the most polluting vehicles and to help Londoners meet the costs of the T-Charge and the ULEZ. We need a Clean Air Act to give the powers that the Mayor needs to tackle river and construction emissions.

This Committee will play a crucial role in helping the Mayor develop these best-practice policies in each of these areas and I hope will help us make the case to Government and to others to take complementary action.

I hope to make all of this transparent to the public and help carry forward leading public opinion on the necessity of all of these measures and their achievability because we can be confident that the technologies are there. It is with mass take-up that we will get affordability for many of these green technologies.

Those are just a few opening comments. I am very happy to try to answer your questions.

Leonie Cooper AM (Chair): Thanks very much for that. That probably answers all of our questions and so --

Valerie Shawcross CBE (Deputy Mayor for Transport): Let us go off and have a coffee then, shall we?

Leonie Cooper AM (Chair): We might still go into some more of the detail. On your last point about the role of this Committee in trying to make sure that the messages about the need to clean up London's dirty air and other environmental challenges that we face - perhaps beyond the remit of transport and the areas that we are looking at today - we are all committed to making sure that we do get those messages out.

Certainly, on the specific issue of the air quality consultation, not only did this Committee write to the Mayor, but I personally - and I know other Members of the Committee - were at great pains to make sure that as many individual people as possible responded. Apart from sending it out to people in Merton and Wandsworth, my specific constituency, I encouraged councillors across London from all boroughs to reply. In fact, I invited councillors who have transport, health or environment in their remits to come to City Hall to have a discussion if they wanted to do that and I have had several individual meetings with people. I know that Caroline was also --

Caroline Russell AM (Deputy Chair): That is right.

Leonie Cooper AM (Chair): -- making a lot of efforts to get people to respond. Obviously, I was responsible for most of the 15,000, but Caroline she says she was! It is telling that a lot of people were

interested. It is such a big issue and a lot of people have been engaging with us [City Hall] on this area. Given that there was the consultation - I held an event in the London Living Room and about 150 squeezed in to talk about air quality just as the consultation was launching - we have all been doing a lot to get those responses in and that was really important.

It is really interesting that so many people seem to be coming out in favour. I do not know whether you can give us any more detail than the headlines. You have said 81% were in favour of the T-Charge and 79% in favour of the ULEZ being brought forward. I wondered whether you have any detail on whether people said anything about the level of the T-Charge or anything about bringing forward the ULEZ to 2019 to September or did people want it even earlier than that? I do not know whether you can go into the details, obviously.

Valerie Shawcross CBE (Deputy Mayor for Transport): We have the full draft report here, Chair, and so I will let Elliot [Treharne] come back to you on that.

Just on your earlier comments, I will just say thank you very much for doing all of that work. If there is anything we can do to support you when you are doing that, I would be grateful because that has a double whammy. It is not just that we reach out more to the public, but you are in touch with local decision-makers and opinion-leaders and it is really important that they are very informed about what this is all about. There will be a moment when it gets difficult and that will be when we, as you say, start charging money. We do need the consensus of London that this is important to do. Elliot will give you some details.

Leonie Cooper AM (Chair): Thank you.

Elliot Treharne (Air Quality Manager, Greater London Authority): Yes, absolutely. Thank you very much for having us here today. We are very excited about the consultation and the overwhelming positive response. In terms of the way we structured the consultation, we had some very specific questions with which we were trying to understand the views of different Londoners. What we were able to do in addition to that, of course, was to have interactive conversations - some of the results of which are also included in the report, which I can see Caroline [Russell AM] is reading through and we can definitely make sure you have a copy of it - and to go to some of the specific points that you raised in those discussions that we had with the Talk London community.

A couple of really interesting themes did come out. You asked about the level of the charge and one of the interesting things that came out of that was a real awareness that it was important to have a charge that would persuade people about the need to change their behaviour to actually deliver emissions reductions. That reflects a lot of the logic in terms of the proposed rate for the T-Charge around going for a £10 charge.

There was also highlighted an awareness that that charge could affect different communities in different ways, which is why one of the things that you will see quite a lot in the stage two consultation is a re-emphasis on the Mayor's work around providing further support to Londoners to help meet that charge. You will have heard Val mention the diesel scrappage scheme, which is central to that.

On the date component that you talked about in terms of whether you might want to introduce the central London ULEZ earlier in 2019, again, that is something that we would expect to discuss further in the second round, but it is a message that has been clear from not only the respondents to the consultation but a whole range of stakeholders, especially the environmental non-governmental organisations (NGOs), who are really keen for very early action. Of course, again, as Val said, that underpins the Mayor's rationale for doing something next year with the T-Charge.

Leonie Cooper AM (Chair): It is not just the environmental NGOs. It is also the health NGOs. One of the reasons why people are saying, “Bigger, bolder, sooner” – and “sooner” particularly – is just because of the health impacts, which the Mayor has been very clear that he is very aware of. We do need to keep in mind all the time that this is not just an environmental issue. It is very much a health issue.

Elliot Treharne (Air Quality Manager, Greater London Authority): Absolutely. As you know, I have been heavily involved in all of the health analysis that was done for air quality and so I can absolutely second that point.

Leonie Cooper AM (Chair): Thank you. We might potentially be looking at even earlier in 2019 than --

Elliot Treharne (Air Quality Manager, Greater London Authority): That is something that we will be interested to hear views on as part of the second-round consultation.

Leonie Cooper AM (Chair): That is great.

Valerie Shawcross CBE (Deputy Mayor for Transport): Just to add to that, though, for major companies running things like coaches, there are practical issues about replacement cycles and so advance notice is very important when people are dealing with very expensive vehicles. I just want to say that we want to achieve this as quickly as we can, but there will be some real-world compromises that need to be made because this has to work and this has to work in a practical way as well. We are genuinely listening.

Leonie Cooper AM (Chair): Given that it was originally the last Mayor who started talking about introducing the expanded ULEZ in 2015, people have known since 2015 that it is going to be coming in. Tony wants to come in at this point?

Tony Arbour AM: Yes. Simply on the responses to your consultation, are you not a bit complacent about this? There were 15,000 responses out of a population of more than 8 million. It is not actually very many at all. I would be very interested to see your draft report. One would wonder how representative the 15,000 are, because, of course, they are self-selecting. How many of them were individuals? How many of them represented companies? I heard the Chair say that she prompted stakeholders, councillors and so on to respond but, even so, 15,000 is a pretty derisory response, is it not?

Elliot Treharne (Air Quality Manager, Greater London Authority): I have two points on that. First of all, you are quite right. When we do a consultation, it is not about just those who self-select to respond. We also do work to understand what a representative sample of Londoners feel. There are two pieces of work that we do. There was the actual consultation, but then there was a survey that we did, which had over 1,000 Londoners and was adjusted for all the various different demographics of population – age, gender, ethnicity – to give us a much more representative sample of London and their views on this.

What was very interesting was that while slightly lower than the 15,000 people who participated in the consultation, again we saw overwhelming support with 67% agreeing that London has an air pollution problem, 62% supporting the T-Charge, 58% saying that the ULEZ should be brought forward and 63% supporting expansion.

Just on the point around the consultation itself, I take your point that 15,000 out of a population of 8 million is quite small, but in terms of what we have done previously at the GLA the response has been very large and much larger than anything we have seen before in our Talk London system.

Tony Arbour AM: I wonder if that is true because Val will remember from her time on fire [the London Fire and Emergency Planning Authority] the consultation on the Fifth London Safety Plan (LSP5). There was a response in excess of 25,000 on something which was of much less immediate concern to Londoners than this.

There are two things here. You say that the 15,000 is good in comparison to other consultations conducted by the GLA, which suggests that consultation by the GLA is pretty derisory, is it not?

Valerie Shawcross CBE (Deputy Mayor for Transport): The point is that this is not the end of the story; it is the beginning. We have a number of phases of consultation to be moving through and people will be becoming increasingly aware on this issue. They will do as part of the process and media coverage will help with that. I do not dismiss this at all and this is a really useful first-stage exercise, but now we are moving ahead with the next stages, as I said, in October.

Sam Longman (Policy Manager for Environment, Transport for London): As Val said, the stakeholder engagement is critical because those stakeholders quite often represent large groups of people.

With the ULEZ, although it was for the central area, it then affected a lot of Londoners and the response was 16,500. That gives you the feel that, as Val said, this is the start of the consultation process and there is more to come, but it was still a decent response that we had.

Valerie Shawcross CBE (Deputy Mayor for Transport): Some of the industry associations represent very major industries and they have engaged.

Tony Arbour AM: I am not knocking it.

Valerie Shawcross CBE (Deputy Mayor for Transport): You know how it works, really, don't you, Tony?

Tony Arbour AM: I know how hard it is to get a response. However, by emphasising what a good response it was, maybe that does draw attention to the fact that we are not very good at getting any kind of response.

Leonie Cooper AM (Chair): I can see that Tony is going to be taking the lead on making sure that we get well more than this for the October consultation --

Tony Arbour AM: I shall tell all my followers!

Valerie Shawcross CBE (Deputy Mayor for Transport): Please do not mistake enthusiasm for complacency. It is enthusiasm.

Leonie Cooper AM (Chair): We were talking about the £10 T-Charge and that will sit alongside the existing Congestion Charge. I just wondered what appetite or what thoughts you have had on the potential for increasing the underlying Congestion Charge. Is that something that is subject to budget discussions at the moment?

Valerie Shawcross CBE (Deputy Mayor for Transport): The Mayor was quite clear in his manifesto that the Congestion Charge is going to stay as it is for this period. We have to start working on the Mayor's Transport Strategy because all of this sits within a broader transport strategy, looking at modal shift, looking at promoting cycling and walking and healthy transport, and those are very crucial parts of the picture. There will be a Mayor's Transport Strategy consultation which will be kicking off in the New Year. That is the

opportunity to have long-term conversations about where we want to take the transport system in London across the piece.

The T-Charge proposal, although it is going to affect a relatively small number of people, nonetheless is a very heavy charge for people to deal with in their daily lives and it will be a very educative process. To pick up the point that you made, Tony, people need to be aware that this is coming. This will work only if everybody changes their behaviour and either gets out of their car - which we prefer - or at least, if they need to use a car, has a clean vehicle. Behaviour has to change and it is part of a process of behavioural change.

Leonie Cooper AM (Chair): What about the concept of expanding the ULEZ and the actual dimensions of it? I saw that 71%, from what you were saying, Val, were in favour of the expansion, but there is this disparity between north and south London where the North Circular goes quite a long way north and the South Circular really does not come very far south. Is that something that you are going to be looking and trying to make that less of a disparity and perhaps looking at running it along the edge of the A232, for example?

Valerie Shawcross CBE (Deputy Mayor for Transport): All of those issues are still being worked on in the consultation. For the next round, I hope that we will be able to come up with more detailed proposals.

Elliot Treharne (Air Quality Manager, Greater London Authority): Yes, and Sam [Longman] may want to add a bit more on this as well. There will be more detail on the rationale for the boundary in the second round, but the real work on setting the boundary is done before the third round of consultation, which will be next year, the statutory consultation. You are absolutely right that it is so complex in terms of that scale of boundary, that you give proper notification so that once someone has had notification they are about to enter the zone they can turn off, that you do not create rat-runs. All these different factors need to be considered.

For the Congestion Charge, which is a much smaller zone, it was quite an undertaking. For the ULEZ being expanded to inner London, it will be a very sizeable piece of work, which TfL has started and will be completed in time for the stage-three consultation.

Leonie Cooper AM (Chair): Yes. The boundary issue, the people who live just inside and the people who live just outside and that whole area is something that has been raised repeatedly with me as being a concern.

Valerie Shawcross CBE (Deputy Mayor for Transport): Yes, it was a concern during the introduction of the Congestion Charge Zone, if people remember. TfL's modelling on that proved to be very accurate and it was a very good piece of work. Although that now is old technology, there are a lot of lessons that have been learned from that.

Elliot Treharne (Air Quality Manager, Greater London Authority): There are a couple of important things that we need to bear in mind when we are talking about boundaries. Firstly, our experience from the Congestion Charge and the modelling that we did for the ULEZ is that there is an offset effect. You will get some people who may divert and you will get some people who may not travel anymore and so they offset each other. Of course, people quite often do not start and end their journeys within the zone and so you will get those cleaner vehicles travelling through that outer area in order to get into the inner area. Our expectation - as was our expectation with the ULEZ - is that you will get air quality benefits outside the zone. With the inner zone, we expect to get air quality benefits in outer London. Of course, when you go down to a very local level, there is some variation and there may be some very local spots where we might see an increase, but the net effect will be an overall reduction. That is what we expect to see.

Leonie Cooper AM (Chair): Good. Finally, can I just ask you – before I bring in some others because we have some other things we want to move on to – about where we are on the diesel scrappage situation? What is the Government going to be doing? Is it going to help at all in this area?

Valerie Shawcross CBE (Deputy Mayor for Transport): Do you want to do this one, Elliot?

Elliot Treharne (Air Quality Manager, Greater London Authority): Yes. The Mayor has raised this with a number of Government Ministers. We have been told that they would like to see our proposals in more detail. As you will probably know, as part of the Government’s development of the air quality plan, it did do some assessment of diesel scrappage schemes but, from our perspective, was not looking at it in the way that we would choose to look at it. For example, there were certain assumptions made about like-for-like replacements of cars with cars, whereas we see this as a much broader opportunity. We might want to encourage car clubs or give public transport as an alternative to scrapping your car or provide funding for bikes. This is what we are currently doing: setting out some very clear and specific proposals.

We are also trying to do proposals that address the specific needs of different groups. What you might need to do for a van driver who is used by a self-employed businessperson is very different from what you might need to do for someone who owns a personal car. Again, the Government’s work has not looked at any of these specific issues. What we are doing is developing a series of proposals that are reflective of our broader aspirations to support mode shift and to support environmental objectives but that also take into account the specific needs of different groups.

We feel that when we complete that work, which will be done before the end of this year, it will be quite a compelling proposition. Then Government ministers have said that they are willing to have a discussion when we are ready to talk about it.

Sam Longman (Policy Manager for Environment, Transport for London): I would also to add to that the importance of considering what we are doing as a whole. If you are introducing a scrappage scheme just on its own, as has been previously done, that carrot effect does only so much. However, what we are trying to do here is to put in the emissions charging schemes when there is a real reason people need to upgrade their vehicles and then, with the diesel scrappage, we are supporting them in that transition so that it becomes much more affordable and reasonable as a whole.

Leonie Cooper AM (Chair): Yes. We would not want it as a separate initiative that is not within the context of all of the package because, otherwise, it then becomes either a perverse incentive or a marginal incentive towards people perhaps even misusing it.

Valerie Shawcross CBE (Deputy Mayor for Transport): If I could just add, for the taxis, because of course TfL specifies the black taxis very tightly, people say, “They are exempt”, but they are not. We have a very clear specification for a zero-emission electric taxi and we will be funding a partial --

Lilli Matson (Head of Delivery Planning, Transport for London): Yes, we have £65 million of support for enabling the transition of the taxi trade to the zero-emission-capable (ZEC) cabs. That includes both funding for scrappage depending on the age of the taxi and also top-up grants to help offset the higher costs of these cabs. It is exactly as Sam [Longman] said: it is a supportive package that will enable them to meet the new and very demanding requirements of taxi licensing from 2018.

Leonie Cooper AM (Chair): We are going to come to some questions on buses and taxis in a minute. Just before we do, Caroline, then Nicky [Gavron AM] wanted to come in just while we were on the ULEZ, the T-Charge and so on, and Tony [Arbour AM] again.

Caroline Russell AM (Deputy Chair): It is great to see all the data in here, in particular the support from people in outer London for measures. Given that yesterday and I think today Clean Air London has been tweeting images of the pollution in outer London being worse than the pollution in inner London, it is just an illustration of the need for us to think about people living in outer London and what they need.

My question, though, is about the ULEZ. We have heard about bigger and sooner, but are you also considering smarter and looking at a road pricing scheme, effectively, rather than having a separate T-Charge and then the ULEZ restriction separately to the T-Charge?

Valerie Shawcross CBE (Deputy Mayor for Transport): I am not sure that I quite understood that one.

Sam Longman (Policy Manager for Environment, Transport for London): Are you talking about combining schemes into a holistic package?

Caroline Russell AM (Deputy Chair): I mean one scheme where you pay by time of day, distance travelled and how polluting your car is, for instance.

Sam Longman (Policy Manager for Environment, Transport for London): That - and as a transport planner, I would be expected to say this - is the gold standard for where we want to be. We are constantly looking ahead to see where technology is and to see when it might be possible to start seriously thinking about those schemes.

At the moment, we are not quite there. What we really need is the national Government to lead on such a scheme so that the technology is required in all vehicles. Something like 25% of the vehicles that drive in London are not registered in central London. I might have that stat a bit wrong, but a lot of people come in from outside. It is all very well us mandating for our own residents, but it needs to be mandated nationwide so that we have the technology to enable such a scheme.

At the moment, the technology we are using is right, is the most efficient and is the most robust, but we definitely in the future want to move to a much smarter approach, just as you described.

Nicky Gavron AM: You are, in a sense, integrating the Congestion Charge with the T-Charge, are you not?

Valerie Shawcross CBE (Deputy Mayor for Transport): Yes. The T-Charge will be, basically, riding on the back of the Congestion Charge Zone technology. We are making use of what is there already.

Nicky Gavron AM: Yes, it is a first step towards that Holy Grail that we are all very interested in?

Valerie Shawcross CBE (Deputy Mayor for Transport): It is a first step, yes.

Nicky Gavron AM: It is a first step. Can I ask, then, just on the flipside of that, if you are looking again at the exemptions for the Congestion Charge so that you really incentivise those who have clean fuel? Remember that the Congestion Charge Zone originally, because it exempted certain vehicles, absolutely inadvertently and suddenly created a market for electric cars, which had not been there before. You could be doing more incentives, could you not, with your Congestion Charge exemptions?

Valerie Shawcross CBE (Deputy Mayor for Transport): The issues that are in consultation are the ones that we are progressing. We will have the Transport Strategy review. However, if you look at the TPH Action Plan, you will see that we are just at the beginning of considering what we can do about the contribution that is being made to congestion with the enormous growth there has been in minicabs. Black taxis have been reducing in numbers but minicabs have doubled in numbers and so we are wondering about that. The issue of congestion is meaning that we are looking at a variety of ways that we might use to tackle that, but it is not part of this consultation package at the moment.

Nicky Gavron AM: No.

Valerie Shawcross CBE (Deputy Mayor for Transport): You always have to do blue-sky thinking, modelling and preparation and monitoring what is really going on out there as well.

Sam Longman (Policy Manager for Environment, Transport for London): Maybe I could just give a bit of insight into the logic behind why the T-Charge is an emissions charge to the Congestion Charge. It is simply because we want to do something quickly and having --

Nicky Gavron AM: I applaud it, but I am just wondering whether there should be exemptions to incentivise a switch.

Sam Longman (Policy Manager for Environment, Transport for London): Of course, there is already the Ultra Low Emission Discount for the Congestion Charge. Vehicles below 75 grams per kilometre of carbon dioxide (CO₂) do not pay the Congestion Charge and so we already have that. That is incentivising, as you said, the clean vehicles and then the T-Charge is trying to remove the oldest, most polluting vehicles.

Leonie Cooper AM (Chair): That is only if you can persuade TfL to agree that you are exempt, but that is a completely different issue.

Tony Arbour AM: Specifically on the boundaries, if I am right in thinking that the original ULEZ proposal simply for the central area said that it was going to cut in half the number of places subject to very high pollution, how many places, if you have the expansion to the North and South Circulars, will no longer have high levels of pollution? In other words, is it incremental?

Sam Longman (Policy Manager for Environment, Transport for London): We do not have those stats at the moment, but what I can tell you is that roughly speaking - and we are still working this stuff through and doing the analysis - we expect the expansion of the ULEZ in inner London will reduce emissions by about 40% in the inner London area. The London-wide heavy [vehicle] requirement for Euro 6 would reduce emissions by 30%. That is London-wide in 2020. Those two figures do not add up and so within that 40% for inner London is the heavy element, if that makes sense. London-wide the heavy [vehicle requirements], we reckon, will reduce NO_x emissions by about 30%. If we just look at the inner London area on its own, which includes light vehicles as well, it is about 40%.

What we are going to do as we move to the third stage of the consultation in 2017 is to work through in a lot more detail what the impact will be on the concentrations and what the impact will be on sensitive receptors such as schools and on people living in areas of exceedance to really understand the health impacts. It is not just about emissions; it is about where those emissions occur and the concentrations that result from them.

Lilli Matson (Head of Delivery Planning, Transport for London): I would also just point out that, in addition to that, there are targeted initiatives such as the Low Emission Bus Zones and other specific, locally focused actions, which can really concentrate on hotspots. Although these are aggregate figures that Sam is quoting, we will be specifically trying to target areas where we know there are particular pollution problems.

Tony Arbour AM: I understand that, but of course it is a zone and it is going to affect all of the vehicles in the zone. It is a fact, is it not, that the density of car ownership is far higher in the expanded zone than simply in the central zone? In other words, the number of vehicles that will be subject to this is going to be exponentially very much larger.

Lilli Matson (Head of Delivery Planning, Transport for London): Yes, that is true. That is correct.

Tony Arbour AM: Related to that, is it not also a fact that because of congestion charging and all of the traffic management infrastructure that there is, it is basically concentrated in the central area and so it will be comparatively cheap to introduce the ULEZ? Will it not, therefore, be vastly more expensive to have your control infrastructure put up in the new expanded area than it was in inner London?

Valerie Shawcross CBE (Deputy Mayor for Transport): My colleagues can give more detail, but that was my initial assumption, Tony. However, the point is that the old congestion charging camera technology is now 14 years old, nearly, and there are a lot more mobile, more affordable and cheaper technologies that can be used for detection and they can be more fluid as well in terms of moving around. We are looking at a variety of detection-type technologies. It need not be the same kind of peripheral post technology for the Congestion Charge.

Tony Arbour AM: The cost-benefit is likely to be very much higher in terms of cost and lower in terms of benefit by extending the zone than the savings and the improvements there will be in inner London.

Valerie Shawcross CBE (Deputy Mayor for Transport): That depends how much value you put on the health of the community, really. This is not a cash transaction.

Tony Arbour AM: No, looking at it as a hard economist --

Valerie Shawcross CBE (Deputy Mayor for Transport): This is about children's lungs and looking at the hard facts of people's health and life expectancy.

Lilli Matson (Head of Delivery Planning, Transport for London): I would also emphasise that we have had experience of running the Congestion Charge and other charging schemes now for a number of years and so we are learning and constantly seeking new technologies that will drive down costs, absolutely. Part of the design work-stream is about how we could do this scheme in a way that the practical management and operation costs are as low as possible and as acceptable to the public as possible so that we can get a really positive trade-off between the benefits we want to see, which are cleaner air and nicer places to live, and the costs of running and implementing the scheme. It is very much in the design stage now.

Sam Longman (Policy Manager for Environment, Transport for London): One of the things that the Committee can help with is lobbying the Government to provide much better data in order to easily enforce these schemes. We may have talked about this previously. At the moment, we spend a lot of money and time to pull together our own database from various sources so that we can determine whether a vehicle is compliant or not. The Government could do that itself in a much better way so that we could have data that is easily accessible and could, via registrations, be able to determine very quickly which Euro standard they are. I

know that they are looking at it, but we should keep the pressure up. It is something that will help across the country with the Clean Air Zones that the Department for Environment, Food and Rural Affairs (Defra) is planning to implement.

Tony Arbour AM: We are here talking about London. Can I ask so that I can understand this and so that I can explain it to my sceptical constituents who drive four-by-fours --

Valerie Shawcross CBE (Deputy Mayor for Transport): I am glad you are advocating for this, Tony.

Tony Arbour AM: I do not drive a four-by-four. It is a fact, though, is it not, that the costs set against the benefits in the outer zone are likely to be greater than in the inner zone?

Sam Longman (Policy Manager for Environment, Transport for London): The costs of compliance or the costs to people of upgrading --

Tony Arbour AM: No, the costs of the introduction.

Jennette Arnold OBE AM: Why?

Nicky Gavron AM: The take? The revenue in the end?

Valerie Shawcross CBE (Deputy Mayor for Transport): We will be completely transparent about the figures, Tony, on the investment and the cost-benefit. We will lay it out. Yes, this is driven by a desire to clean up the air in the political community --

Tony Arbour AM: Of course.

Valerie Shawcross CBE (Deputy Mayor for Transport): -- but we will make sure that you can see all of the figures. I have been increasingly impressed by how it is possible to do more with less using the smart new technologies that are out there. I am more optimistic than you are on this.

Tony Arbour AM: All right. Thank you, Chair.

Leonie Cooper AM (Chair): Jennette, you wanted to come in as well?

Jennette Arnold OBE AM: Yes, Chair, it is linked to what I think is the point Tony was exploring and it is about vehicle switching and affordability. I go back and reference the introduction of the Congestion Charge. We had all sorts of assurances from TfL at the time that the boundaries people could appeal and everything would be fine. It took years and a lot of distress, certainly for my constituents, who lived at the boundary. Therefore, I am just a little bit sceptical about the assurances I am hearing, especially when you talked about trying to ensure that there is no disproportionate impact on those Londoners who may well find themselves unable to make the switch over.

What sort of evidence came through on the impact in the equality impact assessment that you would have done on this that you have looked at? When will the mitigations that you are planning to implement be made available?

Valerie Shawcross CBE (Deputy Mayor for Transport): I am not sure who is going to pick up the detail on this, but in general it is pretty clear that low-income communities are disproportionately affected by poor air quality and so I know that it is important to recognise that.

Jennette Arnold OBE AM: No, I know that. No, Val, I am moving on from that and that stuff is already known. I am not talking about this in a critique that it is not going to benefit those disadvantaged communities living in inner city pockets where the pollution is high. We have agreed on that. It is a specific question.

If you like, let me be clearer. Have you done an equality impact assessment on this area? What mitigations were flagged up and are you on course to ensuring that those mitigations are part of your implementation?

If you are going to make reference to that, then the Committee should have access to the whole of that documentation. That would bring the transparency at this stage that is required. We do not need the gospel about what is good for our health. We have been advocating this. We are talking about TfL as an organisation required to carry out this assessment and to put forward mitigation. I want to hear where you are on that process.

Sam Longman (Policy Manager for Environment, Transport for London): For the consultation that is going to start, hopefully, next month, it will have an integrated impact assessment as with the ULEZ and that will be looking at --

Jennette Arnold OBE AM: I welcome that.

Sam Longman (Policy Manager for Environment, Transport for London): -- health, the environment, business and equalities. You are right to pick up on this issue and this is a thing we are constantly pushing. The stronger the charges and the standards we set are and the faster we try to push things, the higher the costs of compliance. What we really need to be careful about is whether that falls disproportionately across the population --

Jennette Arnold OBE AM: Of course.

Sam Longman (Policy Manager for Environment, Transport for London): -- as you said. That has very much fed into our thinking about the charge level that we are setting for the T-Charge and the emission standard that we are setting. This is why we do not think we can go to Euro 6 so quickly and why we are setting it at Euro 4.

There are some things that we take into consideration when we are looking at the impacts on equalities. The level of car ownership is much lower in those poorer groups. It does not mean that there are not people who will be affected. The challenge with all of this is always individual cases. It is about the net overall impact that we need to make sure we are managing.

We look at the costs of upgrading vehicles. With the Euro 4 standard coming in in 2017, you can change your vehicle if it is up to about 11 years old. That gives you a sense of the art of the possible. We look at the costs of vehicles in that range to understand the impact on a number of people who might be impacted.

This will all be set out in the forthcoming consultation. Exactly the same thing will be done in 2017 when we look at the expanded zone and bringing forward the ULEZ. All the detail will be there and it will be transparent. As we did with the ULEZ, certainly with the expanded zone, which is a much bigger proposal, we

will work with stakeholders and we will work with groups. It is a very collaborative process in developing this integrated impact assessment. We do not just go away, crunch the numbers and then tell people. We ask people what they think what the impacts are and we will work through our assessment with them to ensure that everyone is happy that what we have done is robust.

Jennette Arnold OBE AM: Thank you for putting that on record.

Valerie Shawcross CBE (Deputy Mayor for Transport): Can I just add, Jennette, one point there? We should, again, not see this just in the context of cars and like-for-like replacement of cars. The commitment to public transport and making public transport affordable is right at the heart of this administration's desires. The TfL fares freeze you ought to think about. By lunchtime today, we will have had 1 million journeys made on the Hopper ticket exemption. That is about making a bus journey affordable for low-income Londoners. There is a wider context and thinking about modal shift as well as technological transformation.

Leonie Cooper AM (Chair): That moves us rather neatly into some further questions that we would like to ask you about buses from Jennette.

Jennette Arnold OBE AM: Yes, thank you. Can I start by welcoming, Val, the statement you made at the start of the meeting? The work has been started on the first routes and the Brixton-Streatham route has been scheduled [in a bid] to clean up the dirtiest bits of the fleet.

Is there a way - or how advanced are you in the planning - to be signalling what other routes are part of the thinking? Again, it is good sometimes for people to actually understand, "Okay, these two routes have been done and so we are looking at the next six". From a constituency point of view, I just know that that is helpful because, invariably, you have mentioned two routes in the south and the whole of north London will be saying, "When are we going to be on the list?" Is that information available?

Valerie Shawcross CBE (Deputy Mayor for Transport): We have not published that. We are developing that. We should take that request away to try to make it more transparent to you what is happening when.

Jennette Arnold OBE AM: Just flag it up, yes.

Valerie Shawcross CBE (Deputy Mayor for Transport): Part of the problem, Jennette, is that we have been here three months and have been developing this policy and officers are looking at how we deliver it, talking to manufacturers and looking at contract timetables, and we do not have all of that here. The general aspiration, which we think is achievable, is to get the entire bus fleet for the whole of London cleaned up. We are aiming for the time when the ULEZ goes London-wide. There might be a slight overhang but we are trying to deal with that now. The objective is to make it cleaner everywhere.

The reason why we have had to go with the particular routes we have done on electric so far is because they are single-decks and we are trialling some double-deck electrics - we have five running out in east London as well - to see if that new technology is viable.

It is a changing scene, but we have the broad aspiration that we think we can achieve. If you want more detail on the rollout, as we get that developed, we can let you have it, Jennette.

Jennette Arnold OBE AM: Yes, good.

Valerie Shawcross CBE (Deputy Mayor for Transport): It would be good if people were more aware when they do have a clean bus. Quite often people are sitting in a hybrid and they do not know that they are on a clean bus.

Jennette Arnold OBE AM: I think you would notice the journey on a hybrid once the changeover takes place. You will be able to get used to the driving on it.

I would commend you to think about that. It does not have to be anything grand. For instance, if I can say to my constituents, "Go on TfL's site and look at the Deputy Mayor for Transport's briefing", or a conversation that would be there that is ongoing, because there is a general respect for your integrity and this new face of TfL, it is worthwhile banking on that.

Valerie Shawcross CBE (Deputy Mayor for Transport): If we could publish the rollout of the cleaner buses by route, it would be a good thing to do. Of course, having people demanding change is part of the process of change happening.

Jennette Arnold OBE AM: Yes. Thank you for that. In the Committee's response to the Mayor's July 2016 consultation, we just wanted to know a little bit more about the pledge to buy only zero-emission buses from 2020 and, again, to receive further assurance that this will be fully implemented.

Valerie Shawcross CBE (Deputy Mayor for Transport): That is the issue about the double-deck electrics.

Elliot Treharne (Air Quality Manager, Greater London Authority): You have heard already about 2018 and that the Mayor wants all new buses that join TfL's fleet to be hybrid, electric or hydrogen. From 2020 the manifesto does refer to making that electric and hydrogen. The Mayor is very keen to do that.

However, one of the key issues is about the performance of the technology, which, as Val has explained, is currently being tested with the five double-deck buses. The issue then becomes around the comparative cost of that and any premium that might have to be paid.

The key to be able to achieve the 2020 target is to work with other cities around the world to say, "The type of buses that we need are electric and hydrogen buses". The Mayor will be hosting in November a zero-emission bus summit, which will bring together representatives of the bus manufacturers, the finance industry and the cities who will be using these buses to start that process of ensuring that the default bus manufactured and used in cities in the future will be zero-emission.

Jennette Arnold OBE AM: Lovely.

Valerie Shawcross CBE (Deputy Mayor for Transport): Yes, I am very pleased with it. There has been a coming together of new Chinese battery technology and money and some of the existing bus industry developers like Alexander Dennis [Bus and Coach Manufacturer] involved in these current single-decks. That is a rather good blend because we are getting the best technology and great investment coming in but also the understanding of bus design because London is a difficult place to run buses in terms of the street patterns and the different needs and demands. Those things are coming together rather well at the moment and so we are hopeful of that.

Jennette Arnold OBE AM: Do you have anything to add to the Mayor's announcement about the initial programme of air quality alerts using over 2,000 buses and countdown signs as well as roadside displays? I

think I can speak for asthmatics and I know that Members and guests will know that the key information anyone with any sort of lung dysfunction needs is as much warning as possible.

Elliot Treharne (Air Quality Manager, Greater London Authority): Absolutely. There are a couple of components to that. As you know, TfL during a high or very high air pollution episode will use its considerable infrastructure across the city to disseminate information about those pollution episodes. We have 2,500 bus countdown signs. We have information in Tube stations. Also – and this is quite crucial in terms of some of the behavioural change – we also want to influence the variable message dot-matrix signs that are next to the busiest roads to encourage people to not idle, to switch off their engines and to take some positive action.

You highlighted a very powerful point. As you will all remember, the last time I was here we had a representative of the British Lung Foundation here who said, “It is great that you have these alerts, but it is no use to us whatsoever if we get an alert at 8.30am when everyone is already on their way to work”.

Jennette Arnold OBE AM: It is too late.

Elliot Treharne (Air Quality Manager, Greater London Authority): One of the things that the Mayor is doing as part of the package of alerts is funding airTEXT to extend its forecast range from three days to five days. That will be a crucial tool for getting better information, making it available much earlier and then empowering people to make a change.

Jennette Arnold OBE AM: That would appear like a week ahead?

Elliot Treharne (Air Quality Manager, Greater London Authority): Yes, five days. It gives you more time to plan. It gives us, crucially, more time to work not only with things like the alert system but – a bit like the Heatwave Plan – to work with the National Health Service (NHS), schools and other partners to get that information. That is the crucial first step that will then enable us to do much more on the alert side.

Jennette Arnold OBE AM: That is to be welcomed. Just for information, do all boroughs have the airTEXT or is it just some?

Elliot Treharne (Air Quality Manager, Greater London Authority): airTEXT is London-wide. It provides specific information for each borough and you can sign up in your borough to get specific information for your borough, yes.

Jennette Arnold OBE AM: The sign-up is from the borough in terms of what is available?

Elliot Treharne (Air Quality Manager, Greater London Authority): Yes. There is a number of ways of signing up but one of the options is to do that on a borough basis and you can do that on the website.

Sam Longman (Policy Manager for Environment, Transport for London): That is for the individual saying, “I would like information about my borough”, but you can also do central London as well.

Elliot Treharne (Air Quality Manager, Greater London Authority): You can do central, inner, yes --

Jennette Arnold OBE AM: Central, like zones?

Elliot Treharne (Air Quality Manager, Greater London Authority): Yes. You have a whole range of information, which is also broken down on a borough-by-borough basis.

Jennette Arnold OBE AM: Of course, if you are moving from your own borough to the rest of London, it is nice to have that.

Caroline Russell AM (Deputy Chair): I am just very quickly picking up on the air alerts. Val, you were talking earlier about how it is not just about people shifting to new, cleaner cars. It is actually about people shifting to using public transport, walking and cycling. Have you thought about using your TfL air pollution alerts to also encourage modal shift? If you have a high-pollution coming up, it is partly about warning people with asthma to make sure that they are carrying their inhalers, but it is also possibly about asking Londoners to help keep the air pollution down by leaving their cars at home.

Valerie Shawcross CBE (Deputy Mayor for Transport): Leave your car at home. Yes, that is a good message.

Elliot Treharne (Air Quality Manager, Greater London Authority): That was actually perfectly said. That is what we will have in our information that we will be putting up on some of the information boards and in some of the information we will be tweeting and putting up on our website. That is intrinsic to the approach.

Caroline Russell AM (Deputy Chair): Fantastic. Then just a follow-up big-picture one from that and everything we have said and everything we are going to go on to say. When does the Mayor expect us to meet our air pollution limits? One of the issues has been that we have been breaking the law. Do we have a goal that we are aiming for?

Valerie Shawcross CBE (Deputy Mayor for Transport): We do. I cannot remember what it is.

Elliot Treharne (Air Quality Manager, Greater London Authority): Yes. As you know, the Government has set a date and it believes that we will be compliant by 2025. The Mayor has clearly said that he wants to bring that date forward. As you know, there is the judicial review that will be taking place in October and we have been doing some work for that.

However, the critical bit of information we need before we can finalise what that date will be will be informed by the next rounds of consultation in terms of what the exact size of the ULEZ will be, what date it will be introduced and what the charge level may be. While we have a good internal understanding, we are not at the stage where we can say what that date is until we have completed all of this consultation and have a specific package of measures. We will of course, then, as Val said, make that available and that information will be very transparent.

Caroline Russell AM (Deputy Chair): To sum it up, perhaps if we are definitely going towards bigger, bolder and sooner, then we can, hopefully, hit 2020 being in compliance?

Elliot Treharne (Air Quality Manager, Greater London Authority): It will definitely be well before 2025. How about that?

Caroline Russell AM (Deputy Chair): Great. Thank you.

Valerie Shawcross CBE (Deputy Mayor for Transport): I was just going to go and so can I leave you with one thought, Chair? It is to say that the significant technology shifts in zero-emission capability - in particular, electric batteries - are going to be transformational and I would urge you to have a ride on the buses.

For my generation, all we knew about electric vehicles was from our memories of the old milk floats. However, increasingly, as Londoners see electric and ZEC taxis and buses, there should be some more understanding. These batteries are going to have longer lives - I think possibly 35-year lives - and they are going to be cheaper over their entire lifespan to run. You could run an entire bus fleet for a whole day without having to recharge during the day. They will have greater range. Things are going to get better and it would be really good if people started thinking about it if they are buying a vehicle. Basically, they should be looking at the cost over the entire life of the vehicle because it will increasingly be the case that the technology becomes not just necessary from an air quality point of view but much more affordable.

The last word is that this is quite a nice moment here for Elliot and me because, in my first year as an Assembly Member in Romney House, my first intern, who was 15 years of age and from school, was one Elliot Treharne and here he is, sitting as a first-class air quality manager for the GLA.

Jennette Arnold OBE AM: Well done!

Valerie Shawcross CBE (Deputy Mayor for Transport): If ever you have any doubts about the value of having work experience students in, I can just say: here is its value demonstrated. Thank you very much.

Leonie Cooper AM (Chair): Thanks very much for coming, Val.

Valerie Shawcross CBE (Deputy Mayor for Transport): Thank you very much.

Leonie Cooper AM (Chair): If we move on now to active travel, which were just touching on, actually, and getting people out of cars altogether, one part of the whole issue of encouraging people to be more active in their travel is making the roads safer so that people feel more encouraged to cross them on foot, with buggies, as pedestrians, not with anything at all, but also getting onto bicycles. One thing that has been particularly close to my heart that I was just revealing is that it has taken five-and-a-half years for one of the two Councillors in the Merton and Wandsworth area to agree to go for a borough-wide 20-mile-an-hour limit. That has finally been just agreed. That is a really good way to persuade people and to make roads so much safer in areas where people live - children can come out to play, cats and dogs can cross the road or whatever it is - and bicycling much safer.

However, of course, one of the issues that then gets raised by people continuously is enforcement. In certain cases, if most people slow down to 20, it has an effect in any case. The people behind them also then have to slow down to 20. However, on the issue about enforcement when people are not adhering, is there anything that can be done? Can we do anything with the boroughs to try to improve enforcement?

Lilli Matson (Head of Delivery Planning, Transport for London): Thanks. Maybe I will pick that up because road safety is one of the areas that sits in my remit. I totally endorse everything that you say about the impact that lower speeds have on the perception of safety and also on the actual casualty risk in those zones. London has gone a long way in recent years, actually, introducing 20-mile-an-hour limit zones and TfL itself is now trialling 20-mile-an-hour limits on a number of TfL Road Network (TLRN) main road sites. There is a programme that will roll out further from that.

However, enforcement is the key. Some of it is achievable through road design and through creating the kind of environment that makes it obvious that you as a road user are going to slow down. There has been quite a lot of success in that, but there are still some challenging areas where we need to go back and look at enforcement and look at messaging around the whole issue of speed.

In recent months, we at TfL have been refocusing some of the way we are approaching road safety and, rather than talking to individual road users and saying, “Do not cross here. Watch out”, addressing the actual sources of danger and why collisions occur. Speed is one of them. You will probably see more messaging around speed and slowing down.

Also, we have been working with local communities on things like Community Speed Watch and using the local Metropolitan Police Service so that communities themselves can get more involved in actual speed watches and making it a non-acceptable behaviour to be speeding, particularly in your local area where you might know people.

There is both a behavioural change element and, absolutely, an ongoing programme of investment in engineering to get more roads designed appropriately for 20 miles an hour.

Nicky Gavron AM: Yes. Just on active travel, I thought that I could take walking and maybe Caroline [Russell AM] takes cycling, if that is OK. In that opening we had, there was not anything about walking. I am just wondering now. First of all, can we just hear what role walking is going to play in the overall TfL priorities?

Lilli Matson (Head of Delivery Planning, Transport for London): Walking is fundamental to moving London and I say that as a former Board Member of Living Streets when it was The Pedestrians’ Association’.

Within the whole approach that TfL - and indeed from our conversations, the Mayor’s Office - is taking to [understand] how London accommodates the growth that it is going to have, moving more people both by public transport and by very space-efficient modes - cycling and walking in particular - will be crucial to enabling London to move and flow. Walking is already the second main mode in London after the car. There are more entire journeys by foot in London than there are by public transport. From a transport planning point of view, it is central.

The Mayor has made clear through his ambitions around Oxford Street and also in already giving the go-ahead to a number of cycling schemes over the summer - the North-South Cycle Superhighway is an example in its second phase - there is an absolute commitment to pushing ahead with investment and improvement for both walking and cycling. Just on walking, I would flag that the Oxford Street pedestrianisation is a flagship scheme, but walking is integral to all of the street designs that we do for any of the cycling schemes as well.

Nicky Gavron AM: Yes, that is really interesting. There will be implications for the London Plan because you are looking at it spatially and physically, are you not?

Lilli Matson (Head of Delivery Planning, Transport for London): Absolutely. The modal priorities do change across London, particularly in the centre where we are so space-constrained. Enabling mass-transit access by Crossrail and by public transport is the key, but surface access by foot and by bike will be crucial to making London work as an effective city.

Nicky Gavron AM: I want to talk now about local areas and neighbourhoods. What role is air quality going to play - and we have talked a lot about health here - in your plans for more healthy, walkable streets?

Lilli Matson (Head of Delivery Planning, Transport for London): The idea is that it is a joined-up and coherent plan. The spatial approaches to improving air quality - and we have talked about the wider ULEZ - will have area-wide improvement effects and will make the air quality better in those areas.

However, there are a number of targeted local initiatives. We have talked about Low Emission Neighbourhoods, an initiative for which we have received funding from central Government - from the Office for Low Emission Vehicles (OLEV) - to work with a number of boroughs to develop specific targeted programmes to reduce emissions in those areas. This will allow them not only to deliver real benefits in those locations but also to showcase to other boroughs how they could go about it by bringing together --

Nicky Gavron AM: Just on Low Emission Neighbourhoods, is that coming out of something come forward?

Lilli Matson (Head of Delivery Planning, Transport for London): You correct me. I think I had that wrong.

Sam Longman (Policy Manager for Environment, Transport for London): Yes. We have five Low Emission Neighbourhoods --

Nicky Gavron AM: You already have them?

Sam Longman (Policy Manager for Environment, Transport for London): We have given the green light to them. They cover eight boroughs. That is paid for through the Mayor's Air Quality Fund. The idea with those is very much as you said. They come out of the Transport Emissions Roadmap as one of the other things we could do to reduce emissions. We have these big, heavy-hitting schemes and on a local level there is a lot we could do.

The important thing about it is that it is not just about putting in charging infrastructure and encouraging people to get into clean vehicles. It is very much about a holistic scheme and saying, "What can we do to encourage walking and cycling and make it more attractive to do that?" This has now developed into the Healthy Streets approach that we want to take forward with the new Mayor's Transport Strategy. We want to transform our streets in terms of what people want from a street in order to make it easy for them to walk and cycle and to reduce the impact that that has.

Nicky Gavron AM: That is really interesting.

Lilli Matson (Head of Delivery Planning, Transport for London): Could you just correct my mistakes?

Sam Longman (Policy Manager for Environment, Transport for London): The Neighbourhoods of the Future is the other one.

Lilli Matson (Head of Delivery Planning, Transport for London): It is a separate programme.

Sam Longman (Policy Manager for Environment, Transport for London): It is funded by the OLEV. The reason for the difference in the name is because they are primarily interested in driving the uptake of low-emission vehicles. Whereas in Low Emission Neighbourhoods we are interested also in vehicle kilometre reduction, they just wanted to focus on the clean vehicles. We changed the name and kept a similar holistic approach but really focused on --

Nicky Gavron AM: OK. Can I just get to the nub of what I really want to talk about? This is all preamble and good for me to know and good for us, but I want to know. We know that the Mayor is very committed to doing something about the fact that there are over 1,000 schools that are on or near polluted roads and there are about 400 schools in communities that are in relatively really very deprived neighbourhood. It is not

necessarily those people who have the cars or the parents of those kids. There is a lot that can be done through citizen science projects and behaviour change projects to make the link between air quality and inactivity and driving less.

I wonder what you are going to do about that. I know that we have the electric revolution coming. I know that all that is coming. However, we have an emergency and a public health crisis now with our children's lungs and of course asthmatics, other vulnerable people and so on. We can just focus on neighbourhoods and children as catalysts for change and the Mayor's own manifesto commitment to promoting and seeing implemented cleaner air walking routes to school --

Lilli Matson (Head of Delivery Planning, Transport for London): If I can just give you some of the first parts of a response, Elliot [Treharne] or Sam [Longman] might want to jump in.

The biggest impact we can have is by reducing pollution overall; hence the importance of the broader consultations that we have talked about. TfL already has a very active engagement programme with all London schools, which has been working for a number of years on mode-shift to walking and cycling. It is a perfect platform to dial up this kind of work with schools, focusing the messaging even more strongly around air quality and the importance of not driving your kid to school, dropping them off at the front gate and leaving the engine idling and getting across those messages right through schools about the importance of mode-shift.

There was also the commitment in the Mayor's manifesto to developing a programme about healthy routes and clean routes to school. There is thinking going on now about what that kind of programme could encompass and how that could perhaps more specifically target the kinds of areas that you are talking about. You would be not only addressing the issue at a pan-London scale but, again, looking at the specific problem facing a number of locations, which the Mayor himself has highlighted.

Nicky Gavron AM: That is great. In my experience, there are two sorts of areas. There are the ones where you can find a cleaner air route to school and then you have to really work with the kids, work with the parents and empower the community and it will happen. It does happen and there are examples in London. The other is where there are no cleaner air routes to school and there you have to think about where the clean air spaces are and that is difficult. They are probably in parks, if there is one nearby, and you have to educate about that. You also have to think now - and this is TfL - not just about idling but about congestion and about rerouting traffic. Do you see?

Lilli Matson (Head of Delivery Planning, Transport for London): Yes, I agree with that.

Nicky Gavron AM: I am wondering. Is that part of the thinking?

Lilli Matson (Head of Delivery Planning, Transport for London): The whole programme is in development. We definitely should be thinking about what we would do in a targeted sense to minimise emissions in those areas, yes.

Sam Longman (Policy Manager for Environment, Transport for London): The Mayor's Transport Strategy is a great opportunity to really reset how London is going to develop moving forward. We are getting to that point now where it is becoming quite critical and we need some bold action and more people who can engage in the process of developing that Mayor's Transport Strategy. It cannot be everything to everyone. We have to prioritise. Health should be central to that and the things that you are talking about are very important.

The key thing that we must always keep reminding people of - and I know that you understand this - is that you are better off from a health point of view walking and cycling anyway. We need to be careful that we do not scare kids back into cars. Wherever there is an opportunity to get a cleaner route, let us try to make that more attractive and get people to use it but, as you say, there are some schools where it is just not possible. The important thing is that you are still better off walking and cycling and so let us enable them to do that more.

Nicky Gavron AM: That is a really important point. Of course, then you have to do more citizen science work and show you do not benefit by sitting in your car. It works. There is also health and obesity. There are all those advantages. It is not just about driving less and walking more. It is all about the health co-benefits. Thank you for that.

Can I just ask one more question? What is the division of accountability - if it is possible to answer this - between the team in the GLA working on health, the environment and air quality, and TfL?

Elliot Treharne (Air Quality Manager, Greater London Authority): Absolutely, we work very closely together, as, hopefully, you have seen today. We provide a lot of input into designing some of the transport policies that are implemented by TfL and we support the Mayor and his team in taking those forward.

There are also a number of programmes that we implement. For example, we do a lot of work on the non-transport side, which is stuff we take forward on some of the awareness and behaviour stuff. Schools are a really good example. Increasingly, there is a whole amount of activity around schools, which Lilli has just been talking about. Perhaps one area where we can add value is about supporting some of the education activity within the school community and also thinking about, as Sam [Longman] was saying, if there is a school in the location where it is not possible to put in place a clean air route, what other interventions might be required within the school to help address some of those things.

Lilli Matson (Head of Delivery Planning, Transport for London): I would say that not only on a day-to-day, week-to-week basis do we work together but there are a number of governance meetings where both the GLA and TfL will be represented, both meetings that take place here at City Hall, where there will be policy direction given by City Hall, or at TfL, where we would talk about the active implementation and the responsibility for implementation flowing down through those. It works well in practice but can be confusing.

Nicky Gavron AM: It is integrated teamwork.

Lilli Matson (Head of Delivery Planning, Transport for London): Yes.

Elliot Treharne (Air Quality Manager, Greater London Authority): Absolutely.

Nicky Gavron AM: Thank you.

Caroline Russell AM (Deputy Chair): Just delving back a little bit further into active travel and making active travel a choice that more people want to make because it becomes more convenient than using a car and more pleasant, we need the long-distance routes right across London so that people can get from outer London in to work in the centre, if that is where they are going, or between different places in outer London safely. If you visit there, the roads are terrible and huge and it is really intimidating to even think about going to the shops on a bike. I absolutely understand why people just get in their cars.

There is all the work around that, but I want to ask about - and I am sure you will be doing lots of work to make sure there are good long-distance routes - some of the smaller things that can make a difference, such as storing bikes. Lots of people in London are living in shared flats where they have nowhere safe and secure to store a bicycle. Things like bike hangars give a really positive message. They take up a car parking space, but half a car parking space provides covered parking for six bicycles and so it is a good message in terms of shifting. Is that the kind of thing? Also, bicycle maintenance workshops are not that expensive to run but can really empower people, if you run them in community centres, to know how to repair their own bikes. That makes cycling more affordable and doable, particularly for people on low incomes. Are those measures things that look like they may get funding and support?

Lilli Matson (Head of Delivery Planning, Transport for London): What we have learnt in recent years is that you can only grow cycling or grow a mode shift if you support it not only with new infrastructure but also with complementary measures that encourage that behaviour change. I would say that, particularly with cycling, overcoming the fear of cycling through cycle training is a really important measure. There has been significant success in really ramping up the number of people, adults and children, being trained in London. That kind of activity needs to continue.

Similarly, with cycle parking, we are soon to meet the target that we had set, which was to have another 80,000 cycle parking spaces by the end of this year. London has done quite well with that. I live very near the Borough of Lambeth and it has had an amazing programme with those bike hangars on the streets. It is ensuring that boroughs are encouraged to respond to the population's demand for those kinds of bike parking and they are able to fund that, whether that is through their existing Local Implementation Plan (LIP) funding or new cycle parking funding.

In terms of overseeing where we would direct investment, it cannot just be in new routes. It has to be in the complementary measures that overcome barriers and enable people to feel safe cycling and feel safe to leave their bikes somewhere.

Caroline Russell AM (Deputy Chair): Will we be seeing some of this in the Transport Strategy when it comes out?

Lilli Matson (Head of Delivery Planning, Transport for London): In terms of the overall policy to encourage active travel, yes. There is work ongoing with the TfL business plan, which will be published later this year, and that will provide more of the financial information that you would be interested in.

Caroline Russell AM (Deputy Chair): Great. The other thing is this --

Leonie Cooper AM (Chair): Just before we move on, can I just check? We were just referring to schools and now we are talking about training and workshops. One of the things for getting children on to cycles is for them to have training. Is that something that you are doing a lot of in schools or planning more of in schools?

The other thing that puts a lot of people off cycling is when their bike is not properly adjusted, which is quite often. I have seen people go from being really uncomfortable cycling to having their bike properly adjusted and then bombing around a housing estate or a playground or whatever it is, very keen to beat everyone else on their bikes and that sort of thing. Is that something that you are doing?

Lilli Matson (Head of Delivery Planning, Transport for London): Just to pick up on the first point on children's cycle training, it is generally the case that Year 6 children in London are offered cycle training, and then also there is the opportunity for adults to contact their borough through its website and to book on to

cycle training. We really encourage adults to do that. Also, some boroughs have family cycle training and they especially arrange sessions where you can go with your child at the weekend. That is quite a nice thing because it is often the parents who are holding back the children and they can be trained together. That is being funded by TfL but led by the boroughs, and it has been a success and we really want it to continue.

Similarly, it is funny with those little burrs, like when your seat is too low and it is monumentally uncomfortable. A lot of boroughs have run bike festivals or engagement days with local populations, and then you can get people fixing their bikes. That does not necessarily always need TfL's support. We try to work collaboratively with the boroughs and encourage them to do these local engagement exercises because they are much better placed to talk to their populations.

Leonie Cooper AM (Chair): I agree, but there is sometimes a bit of a danger that the boroughs might put in a bid for some huge amount of LIP funding to do lots of hard changes to the roadscape, yet some of these things may not be sufficiently being done. I do sometimes wonder if we spend more time on those kinds of projects. We know that if people are actively walking, actively cycling, eating well and leading a healthy lifestyle from a much younger point, they are much more likely to stick with those things as they get older.

Lilli Matson (Head of Delivery Planning, Transport for London): That is right and I think back to the Mayor's Transport Strategy. The whole emphasis on this agenda will be really important because that will then be reflected in the local plans that boroughs will prepare in response to it.

Leonie Cooper AM (Chair): Sorry, Caroline, I completely invaded your question.

Caroline Russell AM (Deputy Chair): You did. Anyway, yes, environment and transport connect up and so both the Transport Committee and the Environment Committee are looking at air pollution and how to tackle it. I was just wondering whether you can expand a bit on whether the two bits are working together. In terms of making decisions, under the former Mayor there was a huge emphasis on moving vehicular, motorised traffic around our streets. I am just wondering if the work to tackle air pollution and get us compliant by 2020 - or 2025 at the very latest - is going to mean a significant shift in the way that TfL makes decisions about the kinds of things that happen on its roads.

Lilli Matson (Head of Delivery Planning, Transport for London): If I pick that up, the Mayor made absolutely clear - because it was his first major announcement - that air quality was his priority and TfL is absolutely listening to that and understands, which is why it has responded so quickly around improving the bus fleet, for example. It is a direction that we very much understand and are totally committed to delivering.

In terms of the day-to-day practicalities at officer level, Sam [Longman], my officers and my team are basically one team. Although there may be someone in my team looking specifically at a transport issue, there is someone sitting right next to them looking at an environment issue and so this is not a separate function in any way.

In my mind, I keep going back up to the overall objective that we are trying to achieve on behalf of the Mayor for London, which is a successful city that is able to move efficiently and sustainably, which will mean more public transport and more movement to active travel. As the organisation responsible for delivering that, we are now absolutely turning our minds, whether it is through the Transport Strategy or whether it is through what will appear in the new business plan, to how we can make that a reality.

Sam Longman (Policy Manager for Environment, Transport for London): We are experiencing and have experienced mode shift since the formation of TfL and we are very much transforming London, but what

we need to do is accelerate that. That is not just for air quality reasons; we also have a CO₂ challenge and a traffic level challenge, and if we want to transform the streets we need the space to do that. There are a lot of benefits from getting that modal shift, and it is about how we can all work together to encourage London to be the way we need to be in order to meet those challenges that we face.

Caroline Russell AM (Deputy Chair): Assembly Member Arbour raised much earlier in the meeting the issue of people who were going to want to buy a different car and not able to afford it, perhaps. Are you saying then that the focus from TfL will be about encouraging people to see other ways of getting around as an alternative to replacing their old polluting car?

Sam Longman (Policy Manager for Environment, Transport for London): It will be and it always has been, yes.

Caroline Russell AM (Deputy Chair): Thank you.

Leonie Cooper AM (Chair): We can now move on. We would like to ask you a few things about taxi and private hire vehicle emissions. There has been a bit of a proliferation - which is adding to congestion and so it is not, in my view, a good thing - of private hire vehicles particularly. You have just released some plans this week. I just wondered if you could talk about those in a little more detail, and then we will probably ask you some questions about that. I do not know who wants to start.

Elliot Treharne (Air Quality Manager, Greater London Authority): The TPH Action Plan was a comprehensive vision for the future of both the taxi and the private hire vehicle industries. It contained a statement about the Mayor's commitment to deliver the greenest fleets possible for both taxis and private hire vehicles and set out a number of different policies that are going to be implemented to achieve that. As you know, historically we have already had age limits for both taxis and private hire vehicles, which have been important mechanisms for driving through change in the fleet and getting churn, which then enables us to bring new vehicles into the fleet. There is from 2018 a requirement that new taxis joining the London fleet will have to be ZEC. Lilli [Matson] earlier referred to the funding that has been made available through a combination of TfL funding, but also with support from the OLEV, to make that transition a reality.

On the private hire vehicle side, you also have similar requirements which come in in 2020 to reflect the different dynamics in the two different industries. Taken together, these interventions will deliver a very significant change in the fleet and, therefore, very significant reductions in emissions from these vehicles.

Something else that we have committed to look at as part of the TPH Action Plan is recognising that some of those transitions to ZEC vehicles will take a longer time, whether there is potentially any role for other technologies or other fuels as bridging technologies to help reduce emissions in the short term. That work will now commence.

Leonie Cooper AM (Chair): Caroline wanted to dig in on a few questions on taxis and private hire vehicles.

Caroline Russell AM (Deputy Chair): It was more for the taxis and phasing out diesel. As I understand it, if you have a 15-year-old taxi, you can get up to £5,000 to trade it in. What happens if your vehicle is 13 years old? Are you perversely incentivised to hang on to it until it is 15 so that you can get your £5,000?

Elliot Treharne (Air Quality Manager, Greater London Authority): It is actually the other way around. What happens is, if you get rid of your 11-year-old vehicle, you get more money than if you get rid of your 15-year-old vehicle, precisely for that reason.

Caroline Russell AM (Deputy Chair): OK, thank you. Sorry, I had completely misunderstood that.

Elliot Treharne (Air Quality Manager, Greater London Authority): In fairness, it is a new policy and it is quite a challenging set of information.

Caroline Russell AM (Deputy Chair): Are taxi drivers pleased with the way that you have organised it? Do they feel that they are able to trade in their old vehicles?

Elliot Treharne (Air Quality Manager, Greater London Authority): The feedback we have has been overwhelmingly positive in regards to two things. First of all is with the new technology, the ZEC taxi, which they just think is a very good product in terms of the position of the market in terms of being able to offer it to their customers, but also in their user experience as drivers who spend all day in the vehicle. They are very positive about that. There was a very extensive process of engagement with the taxi industry, which went on for about two years and ended up with the agreement around the funding package that has been put in place by TfL and OLEV, and I think they are satisfied with that now.

Caroline Russell AM (Deputy Chair): Say someone has a Euro 5. Also, for a Euro 6 taxi, the way these vehicles are performing in real life is worse than the tests might have suggested. Are we still going to have Euro 5 and Euro 6 taxis driving around in London and, if so, for how long?

Elliot Treharne (Air Quality Manager, Greater London Authority): Exactly as you said, we now have in place a 15-year age limit for taxis, but we have put in place this decommissioning scheme to accelerate the transition of the fleet to these new ZEC taxis. You are quite right that one of the potential issues is that you will still have this - for want of a better phrase - tail of more polluting vehicles that are not yet ZEC yet are not quite eligible for the decommissioning grant. That is exactly the additional piece of work that we now need to do and the Mayor has asked us to do to make sure that we assess what options for those vehicles are available, in the same way we have done the retrofit programme with the buses. What options are there? Which are affordable and effective?

Caroline Russell AM (Deputy Chair): Thank you.

Leonie Cooper AM (Chair): Can I just come in there on the zero-emission taxis? Val Shawcross introduced the Putney High Street situation. The Council has done one thing to tackle the flow of traffic by introducing loading restrictions on shops and then had to fine a large supermarket that begins with T that I will not name. Other supermarkets are available that possibly might not contravene the restrictions quite as frequently. They had to be fined several times in January of this year before they decided to comply. That has helped with the congestion. The Mayor is now introducing, first on one route and now several further routes, the lower-emission buses. There are also two taxi ranks in Putney High Street and quite often and frequently you can see more taxis parked than should be on the rank and it is a TfL red route, but enforcement of the number of taxis on the rank is a grey area, shall we say. Nobody wants to take it up particularly.

Let us say that those taxis suddenly stopped sitting there belching out endless amounts of diesel fumes, which is effectively what they are doing on those two ranks at the moment. They need some sort of charging infrastructure then, do they not? I just wondered. How confident are we that the charging infrastructure for taxis is going to be ready to facilitate their zero-emission capabilities across London, and particularly for me in Putney High Street?

Lilli Matson (Head of Delivery Planning, Transport for London): Let me see if I can help with that question. As part of the initial proposals for the zero-emission cabs, for a couple of years now we have been working on how to deliver at scale rapid charging across London, and I would say we are now at quite a confident place. We made an initial invitation to the market to come forward and tell us exactly what the barriers were to this coming forward, and we have now devised a scheme whereby we have identified sites. Some are on the TLRN, some are on private land and a number are on taxi rest ranks. They would not necessarily be on the taxi ranks where they are moving ranks because people need to stop to charge up. You do not want them to be blocking a moving rank.

The aim is that these will be rolled forward in tranches for the installation of rapid chargers. In the current programme, the first chargers are due to go in in summer next year and so some are 2017, which will be well in advance of the requirement for ZEC taxis as part of the licensing in 2018. That programme is now in full flow. It has a high degree of confidence of delivery.

Leonie Cooper AM (Chair): That sounds very good and I would like to find out more about what your preliminary install points are likely to be. I could give several other examples. At Balham Station, for example, there is a taxi rank there. There is also a bus stand behind, in between the active rank and the bus stand, where the buses wait and then turn around and go back out. Is that the kind of place where you might be putting in a charging point or two because there is already a point where buses are waiting?

Elliot Treharne (Air Quality Manager, Greater London Authority): Absolutely. The TPH Action Plan sets out the aspiration to look at zero-emission ranks as a way of incentivising people to have this kind of taxi. The other component - which links back to Putney High Street or to Oxford Street or a number of other very highly polluted locations - is about where we can utilise the zero-emission capability of these new taxis through geo-fencing and other technologies. A bit like the low-emission bus zones, there is a piece of work and analysis to understand about where that could have the greatest impact and of course there is an engagement with boroughs to understand their priorities and concerns as well.

Leonie Cooper AM (Chair): That brings me on to the wider concept of the electric vehicle charging infrastructure. A number of points have been raised with me by representatives from a number of boroughs and from people who are not looking at the domestic charging but also looking at commercial vehicles. If we are trying to encourage people out of their diesel, polluting vans and so on and so forth and into less-polluting vehicles - hopefully fully electric vehicles - we need an infrastructure that is going to work for people who live across London, but also people that work across London.

I just wondered if you could give a bit of an update about how that install programme on the domestic side - moving away from the taxis or the bus charging points - is looking because a number of people have been - let us just say - not so complimentary about Source and BluePoint and having dedicated charging points. Surely they have to be open for all to use, preferably for any kind of electric vehicle, whether domestic or commercial. I just wondered if we can dig into that a bit, please.

Lilli Matson (Head of Delivery Planning, Transport for London): Yes. This is an essential part of the jigsaw in helping us move to zero carbon and also in tackling our problems in London. As you say, London has probably a higher take-up of electric vehicles than many other parts of the country and so we are early adopters as a city. There is a demand there for charging points. Source London has come into criticism but does provide quite a good base for around 1,400 initial charge points, which are now in the hands of the French company Bolloré. They have significantly improved the performance of those charge points.

Moving in from there in terms of what our role is in trying to improve matters, London was successful in securing £13 million worth of funding from OLEV through quite a unique partnership where we are working jointly with London boroughs through the London Councils and GLA in a tripartite programme to deliver a number of different programmes of new charging infrastructure. One is the residential programme and there is funding in there for 1,000 new charging points. More significantly, what the programme will deliver is an operational model for the ongoing delivery of residential charge points, making it easy for boroughs to get residential charge points and access to the charging providers. We want to provide a one-stop shop by working together and jointly setting that up so that there can be an ongoing, running programme much beyond 1,000 points.

There is also funding in there for electrification of car club bays and charging points because car clubs are a key part of the mode shift transition that London will go on. It may well be that using an electric car club vehicle is the first experience people have of using an electric vehicle, as using an electric taxi might be as well. It is all part of the education and the process of Londoners falling in love with electric vehicles that we really need to go on. There is further funding within the Go Ultra Low City Scheme programme for rapids and so we are providing for commercial vehicles.

We are very mindful that for commercial vehicles, like taxis and vans, rapids and high-voltage charging is important because they do not want to spend six to eight hours charging their vehicle when they are making their money from that vehicle. We do need to have a variety of different charging infrastructure in place. The Go Ultra Low City Scheme programme, by bringing together all the key delivery channels, will help overcome a number of the barriers that maybe Source has faced previously because we are now working collaboratively with the boroughs as joint partners on this.

Leonie Cooper AM (Chair): Can I just ask you about the rapid charging points? We talked about some of them being on the TLRN and also near ranks but not in ranks so that the active rank continues but perhaps there are some charging points nearby. As you may know, one of the energy companies - not one of the "big six" - is very committed to using renewable electricity particularly and has installed charge points in service stations on motorways.

Are you looking at things like installing rapid charging points in petrol stations, for example, so that the people who want to go and pick up petrol or diesel go to one part of the forecourt and the people who want to go and charge up their vehicle go to a slightly separate part of the forecourt?

Lilli Matson (Head of Delivery Planning, Transport for London): As part of the exploration to find as many sites as possible, we are talking to exactly those kinds of private operators, as well as supermarkets and other locations where we might find space for these. It is also worth saying that there is an active private industry that is developing on its own to deliver chargers and so this will not all be publicly driven. Some of this will come by enterprising companies deciding to set up charging facilities themselves, and we really welcome that diversity in the market because --

Leonie Cooper AM (Chair): There is a tipping point in the market when the number of vehicles demands this and then people realise that it is a good thing to do to install them.

Lilli Matson (Head of Delivery Planning, Transport for London): It is a good business, yes.

Leonie Cooper AM (Chair): It becomes part of business.

Nicky Gavron AM: Just on this exploration, I am very aware that there are cities - I am not sure about in the United Kingdom (UK) but there certainly are international cities - that use lampposts for a variety of innovative technologies, including charging points, Wi-Fi and sensors, and some link it up, having a light-emitting diode (LED), not just charging the LED light at the top but actually charging the lamppost. I am just wondering - because TfL has a huge strategic road network and then there is the local borough network - whether lamppost technology is being looked into at all and whether you could include charging points in this. I am interested in sensors being on lampposts and Wi-Fi being on lampposts, but here is another use.

Lilli Matson (Head of Delivery Planning, Transport for London): It is a really exciting technology area in that it is evolving so fast, but there is absolutely an option of lamppost charging, and the London Borough of Hounslow has been trialling a very small scheme with that. It is not appropriate in all locations because sometimes the lampposts are set to the back of the pavement and you cannot have the wires dripping across where people are walking, but there are locations where that might really be the solution. What we need to do in setting up this sort of partnership, which I talked about for delivery, is to make sure that we are not limiting ourselves to one technology because different boroughs will find that there are probably different technologies that are appropriate for their streets across London.

Leonie Cooper AM (Chair): Yes. There are a number of other potential fuels that are at various stages of technological development, and people have talked about hydrogen buses, hydrogen taxis, hydrogen domestic vehicles, potentially, and then there is also liquefied petroleum gas (LPG) and various different compressed and liquefied natural gas, biodiesel, city diesel and so on. Could you set out for us where we are on all of those? Are any of these going to be extensively replacing electric vehicles, would you suggest?

Elliot Treharne (Air Quality Manager, Greater London Authority): To put this into context, what we are trying to achieve - and the gold standard is - around zero-emission vehicles. We have been looking at that in terms of what we want to achieve in our taxi fleet, in terms of what we want to achieve with our bus fleet, and increasingly through congestion charging or through putting in place infrastructure, encouraging other vehicles to get to zero. The reason for that is although they still - from a CO₂ perspective - have some emissions in terms of the power grid, in a local air quality context these vehicles do not emit anything at tailpipe. That is very exciting and potentially transformative in the experience of living in a big urban area.

That said, while we transition our fleets we are looking and considering about what role there may be for some of these transition fuels. One very good example, of course, is the work that TfL has been doing with biodiesel in terms of its fleet and using a B20 blend of biodiesel, which has a CO₂ benefit, and that blend has no detrimental effect in terms of air pollution. I have already mentioned as well with the taxi fleet we are now exploring what other fuel options there may be as a bridging fuel while we work towards the transformation of the entire taxi fleet to ZEC, which, as I said at the beginning, is definitely the gold standard.

Hydrogen has a huge amount of potential, especially for the heaviest vehicles, which may not be as appropriate for electric, although the industry is moving forward very quickly. Here at City Hall we have a hydrogen team who have received a very large amount of funding to deliver both hydrogen vehicles and hydrogen refuelling infrastructure across the city. The answer is that while we are technology-neutral and the objective is to get to zero, we have our fingers in a number of pies to enable us to take advantage of any technology as it emerges.

Leonie Cooper AM (Chair): At the moment you have not mentioned LPG or liquefied or compressed natural gas (CNG), and those are not ones that you are looking at because they are not on your route towards zero?

Elliot Treharne (Air Quality Manager, Greater London Authority): To go back to the TPH Action Plan, LPG is one of the options we would be considering for taxis. A number of cities around the world have used CNG very effectively - for their buses, for example - but where we are with our bus fleet is that is not the right answer at this time because we are so close to the gold standard I was referring to.

Sam Longman (Policy Manager for Environment, Transport for London): More widely with LPG there might be a role, as Elliot says, for specific fleets, but in this country we do not have any vehicles that are sold as LPG vehicles. They are not manufactured and so they end up being conversions. Quite often with something like LPG, there is no real benefit over and above a petrol vehicle anyway in terms of air pollution. Given that, we need to be careful not to put too much effort into encouraging the infrastructure in place and encouraging the uptake of these vehicles in the wider fleet, only for it to be a transition to something that is much cleaner. Things are accelerating so fast that we can skip that step for a large amount of the fleet in the UK.

Leonie Cooper AM (Chair): As I was saying, it is not on your route to zero.

Tony Arbour AM: Yes, simply on the point that you have just made about being technologically neutral. How can you be technologically neutral if the charging points are all electrical? That is going to mean the most considerable entry barrier for anyone who wants to provide any other kind of alternative fuel and so you cannot conceivably be said to be neutral on the matter.

Elliot Treharne (Air Quality Manager, Greater London Authority): When I say "technology neutral", what I mean is that our policy objective is zero-emission at tailpipe. There are a number of different technologies that do that, electric being one and of course there has been a role for us to put in place electric charging infrastructure, but hydrogen is another. Therefore, we are also putting in place a number of hydrogen refuelling stations as well, which are at strategic locations around the city. I guess, in the old phrase, it is not putting all of your eggs in one basket.

Tony Arbour AM: When you say that you are introducing these hydrogen points, how many do you anticipate having? I have a prompt here. By 2025, you are envisaging an additional 1,000 electrical charge points. How many charge points in total will you have for hydrogen?

Elliot Treharne (Air Quality Manager, Greater London Authority): Refuelling stations. I think this is the correct number, but --

Tony Arbour AM: It is likely to be on the fingers of one hand, though, is it not?

Elliot Treharne (Air Quality Manager, Greater London Authority): Well, two hands, but I will come back and confirm the precise number. I need to confirm that.

Lilli Matson (Head of Delivery Planning, Transport for London): It is important to say that the hydrogen is likely to be for certain service fleets for which that level of provision might well be appropriate, such as buses, as opposed to private vehicles.

Sam Longman (Policy Manager for Environment, Transport for London): They tend to have a longer range as well and that is one of the advantages of hydrogen.

Tony Arbour AM: I take that point, yes. OK, thank you.

Leonie Cooper AM (Chair): Thank you very much for that. Caroline just wants to come back to the overall, overarching issue of air pollution, and then we have some questions about green infrastructure and then probably something about power consumption and generation.

Caroline Russell AM (Deputy Chair): Val Shawcross was asked before she left when London was expected to meet air pollution limits, and we had 2020 or at least by 2025. Just digging into that a little bit further, in order to meet these compliance limits, are you dependent on national Government and action from national Government, or do you think you can do it entirely within the Mayor's powers?

Elliot Treharne (Air Quality Manager, Greater London Authority): The entire point of the judicial review is to emphasise that the Government has a central role to play in achieving compliance. It has access to some of the most cost-effective and powerful levels and fiscal incentives like vehicle excise duty (VED), company car tax, fuel tax. It also has the resources to support the implementation of key infrastructure like the funding we have already received from OLEV for electric vehicles but also, critically, to address some of the policy choices it made in the past which led to the dieselisation of the vehicle fleet, which is why the Mayor is building this case for a diesel scrappage scheme.

The answer is, absolutely, it is critical that the Government plays its full role if we are to achieve compliance as soon as possible. If the Government chose not to do that, the Mayor would still take all this action that he could and that would still bring forward compliance but, clearly, unless everyone is pulling in the same direction, unless things like the ULEZ are properly aligned with the fiscal incentives at the national level, you are not going to achieve compliance in the quickest possible timeframe, which is why the Mayor is participating in the judicial review.

Lilli Matson (Head of Delivery Planning, Transport for London): Or you do it at a higher cost, because it is back to the point that Sam [Longman] was making. There are even simple things that the Department for Transport (DfT) could do to support us, such as updating the Driver and Vehicle Licensing Agency (DVLA) database so that we do not have to do the tracking of vehicle types, which is exactly what Sam was saying. At every level they need to be aligned with what we are trying to achieve, and that will reduce costs for us, make it easier for us and make it quicker for us.

Elliot Treharne (Air Quality Manager, Greater London Authority): Crucially, it would enable other parts of the country also to take the same kind of action to improve air quality everywhere.

Leonie Cooper AM (Chair): Yes. We are clearly the London Assembly, but air quality problems, for example, in Birmingham, with its ring road and spaghetti junction and so on, have to be at least as bad as here.

Sam Longman (Policy Manager for Environment, Transport for London): I have another one for the list.

Elliot Treharne (Air Quality Manager, Greater London Authority): We have been thinking about this, as you can tell.

Sam Longman (Policy Manager for Environment, Transport for London): It is giving us the right powers to enforce. The Mayor is calling for a new Clean Air Act to enforce against construction vehicles and be able to do more on river traffic. I would not be able to sleep unless I had said this.

Caroline Russell AM (Deputy Chair): Great. Hopefully this is a super-speedy one. When do you expect to publish a new Air Quality Strategy?

Elliot Treharne (Air Quality Manager, Greater London Authority): As you are probably aware, under the Localism Act 2011 the previous separate strategies that we had for things like air quality and biodiversity and noise have all been rolled into one London Environment Strategy. That is a very exciting opportunity for us because it enables us to address things more holistically. We have been talking about health and the environment. We have been talking about how this is all underpinned by more active travel and addressing the number of vehicles and the amount of mileage done by those vehicles. The way that you start addressing those in a coherent way and then having benefits in terms of air quality, climate change, noise and health is by thinking about them together at the same time and with the relevant teams all sitting around the same table. That is a positive thing. The timetable for that is still being agreed with the Mayor's Office, but next year there will be the opportunity for you to start feeding into that process. As always, we would love to have your input and ideas.

Leonie Cooper AM (Chair): I am very impressed that you managed to give that answer without mentioning one of those key phrases, "joined-up thinking".

Caroline Russell AM (Deputy Chair): Will you be able to publish the modelling for the impact that the Mayor's new measures are going to have on air quality, and when can we expect that modelling to be published?

Elliot Treharne (Air Quality Manager, Greater London Authority): There are a couple of things there. As was said earlier, we have to finish the consultation process to fully understand what the committed package of measures is. Sam [Longman] set out some of the work that has already been done, which gives us a very good understanding of the potential of the various different options, but clearly we need to hear from Londoners and the different industries and then the Mayor needs to reach a final decision. At that point, we can then do all that modelling which would be shared with the Committee and be publicly available and will answer those questions. That will be after the consultation process is complete.

Caroline Russell AM (Deputy Chair): Great. OK. Finally, on the PM_{2.5} (particulate matter 2.5) limits that came into force in 2015, is London compliant?

Elliot Treharne (Air Quality Manager, Greater London Authority): It is a very good question. The complex thing about those is that they are rolling averages. We are not yet at the position where we can understand whether we have achieved compliance with them. Quite rightly, there is a very big focus on nitrogen dioxide (NO₂) because of the 2010 targets, but we need to continue addressing PM_{2.5} and bringing down reductions because, even though the legal standard, depending on how you look at it, is met, there is no safe level of exposure. It continues to have really detrimental health impacts. There is a lot of work that the World Health Organisation (WHO) has done about this, and the return in terms of health benefits of every microgram of PM_{2.5} you reduce are considerable. In terms of the London Environment Strategy, you will see a lot more on PM as an important area of work.

Nicky Gavron AM: Thank you. That is very good.

Leonie Cooper AM (Chair): I have in fact written to Rt Hon. Justine Greening MP [Secretary of State for Education], who, among the rest of Putney, represents Putney High Street and a lot of schools that recent work has shown are in very highly polluted areas. I have asked her to take up the cause of trying to see diesel scrappage implemented because it is just too serious. It is a problem for adults, but the problem for children is even worse for their developing lungs. Nicky, you wanted to come in on the green infrastructure.

Nicky Gavron AM: I do, but I just realised that it fits in with the modelling. I just want to ask a follow-up on what you have just said, Caroline [Russell AM], or just that question and answer. Following on from the total integrated [London] Environment Strategy, are we going to have an action plan? Will there be some sort of action plan in terms of air quality?

Elliot Treharne (Air Quality Manager, Greater London Authority): In effect, you already have that. As Lilli [Matson] said, the Mayor's first policy announcement was around air quality, and he set out very clearly some of these very big-impact, London-wide schemes that will have a huge impact on air quality. We are not waiting for the strategy to start taking action on air quality, and if you look at some of the documents that will be coming out for second-round consultation, in effect they are proposals for an action plan on air quality. Clearly, there are other elements which need to be included for it to be comprehensive and they will be picked up in the strategy, but that is a very good initial set of action on the topic.

Lilli Matson (Head of Delivery Planning, Transport for London): My remit is a bit broader than just air quality. There are these complementary action plans - that are either in delivery or will be strengthened and go further - around walking and cycling and what the Mayor's plans for that are in future, and also on electric vehicles. What you will see is everything captured by the Mayor's Transport Strategy with a clear aspiration for where London should go, but action is already underway on air quality. What is the further action around the modal shift that we need to achieve? What is the further action we need to take London to be that zero-carbon city and [to have] the electrification of the fleet or the zero-tailpipe fleet that we need?

Nicky Gavron AM: I think so, because just for the public, having strategies is fine, but they are pretty high level, and what one needs is something that actually says, "This is what we are doing, and this is what we are working towards in four years and in eight years". That is what action plans are about. It is good for the public because you see momentum and you can join in.

One other thing I did not ask. What weighting do health and environmental have in your appraisal system when you are looking at your transport projects?

Lilli Matson (Head of Delivery Planning, Transport for London): We certainly are able to quantify and take on board health benefits within environmental appraisals; they are within the cost-benefits. For example, the business case set out for the initial investment in cycling in TfL's previous business plan had a very large amount of benefits allocated to the health benefits of that kind of mode shift that would result. It is something formally within what we call our Business Case Design Manual. It is incorporated, and it is certainly reflected in discussions. However, as with all decisions, I think why you are raising it is how much weight is given to it? Weight is given to it, but often decisions are a balance between a lot of different objectives that we want to try to achieve, either on the road network or on the transport network, so it is one of the considerations.

Sam Longman (Policy Manager for Environment, Transport for London): Also, you have the overall business plan that allocates the money to the different projects and the areas of work, but then, on a project-by-project level, all projects go through a process where we seek to maximise the environmental improvements that can be gained from those. Can you add something into that scheme to improve things for the environment and health further? It is at that very top level and right down into the day-to-day level.

Nicky Gavron AM: Someone could take a case and follow it. If we wanted to as a Committee, we could take an example and see how you weighted it and how you came to that decision.

Sam Longman (Policy Manager for Environment, Transport for London): Yes, you could do that. Yes.

Nicky Gavron AM: We could. Thank you. On the green infrastructure, there is a big question. We do not have much time, do we? Narrowing it down, is anyone prepared to say something about TfL and your plans for green infrastructure?

Sam Longman (Policy Manager for Environment, Transport for London): Yes, of course.

Nicky Gavron AM: That is great. You own lots of properties, but you also have a big development portfolio at the moment.

Sam Longman (Policy Manager for Environment, Transport for London): Yes. Let me give you some statistics that will reinforce your point about the opportunity. There is huge opportunity for green infrastructure, and I know I am talking to the converted here about the multiple benefits you get from it in terms of mitigating the impacts of climate change, cooling, helping to encourage walking and cycling, improvements in air quality, etc. It is a massive opportunity in London when 14% of London's surface area is transport-related land, roads, paths and railways. That increases to nearly a quarter in central London and so it is a huge opportunity there.

Nicky Gavron AM: Gosh. Central London, is it?

Sam Longman (Policy Manager for Environment, Transport for London): Yes.

Nicky Gavron AM: Not the whole of London? OK.

Sam Longman (Policy Manager for Environment, Transport for London): No, 14% of the whole of London. If you just look at central London, it goes up to a quarter.

Nicky Gavron AM: I see. OK.

Sam Longman (Policy Manager for Environment, Transport for London): Yes. Around trackside alone is 10% of the wildlife habitat in London. That is 4,000 hectares. We have 20,000 street trees just on the TLRN alone, 550 plant species, 42 birds and 14 mammals. There are lots and lots more statistics there. It is a huge opportunity. We have some good examples of work we have already done around green walls for Elephant & Castle Station and Edgware Station, as I am sure you are aware, and green roofs on Broadway, Palestra offices, the West Ham Bus Garage, Ruislip Train Depot, Northern line control centre, Stratford crew accommodation and Rotherhithe Station. All right, they are my lists. Sorry.

Leonie Cooper AM (Chair): Clearly, we can take as much time as we want. I only suggested we finish at 12.15pm because I know that we all have many other things to do. Perhaps you could send us that list because that sounds extremely interesting and valuable. Most people only ever visit one part of London or limited parts of London. Nobody goes absolutely everywhere because it would take the whole of your life. You might have seen the Elephant & Castle installations but you might not have seen West Ham or vice versa. It would be really great to get your list.

Sam Longman (Policy Manager for Environment, Transport for London): It is something we could do more to promote just how much we have done on green infrastructure, but there is still a lot of opportunity to do more. We are currently consulting on a design guide for how to incorporate sustainable urban drainage schemes (SUDS) - and green infrastructure can be a valuable part of that - into road schemes. That is one of the things we can really do to help not just with TfL's own schemes, but boroughs as well. This stuff is not

that difficult to put in. Sometimes there are real challenges, but you can end up with such an improved scheme, particularly when you are talking about climate change and the need for more resilience to flooding with SUDS, with so many multiple benefits. That is how you need to think about it.

Nicky Gavron AM: I wanted to home in on that because we know that we are very stressed in terms of water, but we also know that we have a huge flash-flooding issue. We might be building the [Thames] Tideway [Tunnel] but it is not going to be enough and we need SUDS all over London. One of the key things is, as we concrete over London - and you already seem to have covered a large part of the surface - you cannot do much about the buildings, but the minute you have other surfaces, courtyards, forecourts, pavements and roads, they can be permeable so that the water can soak away. What are you doing about making your surfaces permeable, porous or whatever?

Sam Longman (Policy Manager for Environment, Transport for London): The design guide that we are consulting on at the moment is to look at all the different innovations that that can be achieved. It is arming existing engineers and new engineers with the tools to reach the potential for SUDS on those hard surfaces, and the more we can educate and support people, the more we will see it across London, not just on TfL's network but on borough networks as well.

Nicky Gavron AM: Yes. You are trying to educate people to do it, but is it being done?

Sam Longman (Policy Manager for Environment, Transport for London): Yes. We do install SUDS. Let me give you some examples: the District line, Upminster Bridge, Swale and Aldgate gyratory. SUDS have also been installed along the Talgarth Road adjacent to the Hammersmith flyover. We do consider SUDS as part of all London Underground (LU) infrastructure development schemes.

Nicky Gavron AM: It says you are replacing the pavements with porous roads?

Sam Longman (Policy Manager for Environment, Transport for London): There are all sorts of opportunities and ways that you can achieve it.

Lilli Matson (Head of Delivery Planning, Transport for London): It can be the actual design of the site to reduce the amount of asphalt, but it can go as much as reducing the amount of parking. This does relate also to the London Plan and the kinds of policies that might be set out within there to make sure that the overall design is climate change-resilient, basically.

Sam Longman (Policy Manager for Environment, Transport for London): Yes, rain gardens, green roofs, slow the run-off of the water, as well as just permeable surfaces, so that you do not have the green infrastructure but the water can soak through into the ground below.

Nicky Gavron AM: That is good.

Sam Longman (Policy Manager for Environment, Transport for London): There are a whole range of approaches that can be taken. It is about choosing the right approach for the right location.

Nicky Gavron AM: Chair, I could go on, but we need to look at this as a Committee, perhaps.

Leonie Cooper AM (Chair): It could very well be something that we come back to.

Nicky Gavron AM: We have an exemplar. We have an organisation here that is a potentially huge exemplar for London and what it is doing and how it is doing it.

Sam Longman (Policy Manager for Environment, Transport for London): We very much welcome the opportunity.

Nicky Gavron AM: It would be good to understand that better. Can I just say on air quality? We know that a lot of the pollution comes from construction sites, in fact about 50%. You are a major developer now. What are you doing about construction sites and air pollution?

Sam Longman (Policy Manager for Environment, Transport for London): Probably the starting point is the London-wide regulations that have been put in as part of the London Plan in order to reduce emissions from construction vehicles and using all tools to suppress dust and reduce the emissions that are emitted in the first place. We are part of the Considerate Contractors Scheme I do not know the details about all the specific policies that we have in place as a developer because there will be a range of types of construction we will do. We will do construction on our own road network using contractors, but then, as a developer, we would contract building firms, etc. We would always seek to maximise the benefits in terms of reducing emissions through both contracts and our own work.

Elliot Treharne (Air Quality Manager, Greater London Authority): If I can just jump in, exactly as Sam [Longman] said, in the London Plan we have various different requirements about best practice on construction sites and emission standards for the equipment used on construction sites. What is quite exciting - and TfL has been a very good partner for us with this - is that with projects like Crossrail, in the future Crossrail 2 and outside of TfL projects like High Speed 2 (HS2), we have the opportunity to use them, as you say, as exemplars, where we can trial new technologies like fuel cell generators or alternatively hybrid generators. They are very good partners in terms of being the test bed for the technologies we expect to become the standard across London.

Nicky Gavron AM: Good. OK.

Tony Arbour AM: Only very briefly. You are enormous consumers of energy and you are also enormous producers of energy. How are you maximising your income from producing energy, and equally how are you minimising your use of energy?

Sam Longman (Policy Manager for Environment, Transport for London): Yes, different perspectives are looking at this. As a customer, as you said, we are the largest user of energy and so we want to be as efficient as possible and reduce our use as much as possible: installing LED lighting through our streetlights, regenerative braking in the Tube, improving the efficiency of our buildings and stations. With our Tube upgrades, we are pursuing a zero net increase in energy consumption. With those new Tube trains that we are installing and the increase in capacity, we will not see an increase in energy use as part of the New Tube for London (NTfL) programme.

You talked about earning revenue from generating electricity. The first port of call for our decentralised energy generation, whether it is on a bigger scale, such as Greenwich Power Station, or a more local scale, such as solar, should be to use that energy that is produced onsite, because that is where you get the best savings. Selling it back to the grid, particularly with the reduction in feed-in tariff that they have introduced, means the business case there has greatly reduced. The first port of call is to reduce the energy that we use in the first place and become more efficient. If we are going to generate it ourselves, use it as quickly as possible onsite. If you are charging electric buses in a bus garage and you put your solar panels on the roof, for example, use

those solar panels to charge those buses. As a generator, I have mentioned the Greenwich Power Station. There we will have low-carbon combined heat and power (CHP) engines onsite, but also the GLA is working with the Royal Borough of Greenwich to develop opportunities to use the heat that is generated in a local heat network, and we are looking for opportunities across our land to support CHP generation.

We also have a RE:FIT programme which is to look at improving the energy efficiency of our buildings, head offices, etc, and also looking at some more innovative stuff around what we can do around battery storage, whether we can use some of the energy that we produce to charge electric vehicles and not just drive the Tube network. The last piece of the puzzle is, if there is waste heat, because that is obviously a sign of inefficiency, what we can do to use that. We have the Bunhill District Housing Scheme, which is a pilot that will be completed next year, to reuse the heat and we are looking for opportunities elsewhere in our network.

Tony Arbour AM: OK. Thank you, Chair. You must be very glad I came!

Leonie Cooper AM (Chair): That was a very comprehensive reply. There are a number of other heavy energy users across London that are taking exactly the same perspective: if you use the energy near to where it is being produced to reduce your own energy consumption, it is possibly better than trying to sell it on and move it around. Certainly, I had the pleasure of visiting the Beddington Sewage Works and they are doing exactly that and are massively reducing their own running costs, which is a very good thing.

We have come to the end of our questions and detailed points of discussion with our guests. I would particularly like to thank Elliot [Treharne], Lilli [Matson] and Sam [Longman], and also Val [Valerie Shawcross CBE, Deputy Mayor for Transport] for her contribution for over an hour at the beginning.