

**Environment Committee****20 October 2011****Item 3: Update Briefing on Air Quality and Noise Pollution Around Heathrow Airport**

**Murad Qureshi (Chair):** Can I now return to our main item of business, which is Item 3, air quality and noise pollution around Heathrow Airport. We have quite an extensive panel of experts. We have Rob Gibson, Head of Environmental Strategy, London Borough of Hounslow; Councillor Corinna Smart, the Lead Member for Environment, London Borough of Hounslow; John Stewart, Chair, HACAN; Professor Duncan Laxen, our air quality expert for the day; and from BAA we have Matt Gorman, with whom I am sure many of us are familiar, and Rick Norman. Finally, we have a Transport for London (TfL) team, given that we are going to be talking about some of the surface transport issues and that is Lucinda Turner and two other colleagues in the public gallery. That is our panel.

We are dealing with the local environmental issues, the first of which is going to be air quality, which is the one which gets less coverage out of the two. So, if we could start with that and then progress on to noise, that would be a very useful way of going through the issues. Can I start on the air quality front by asking BAA to set out your overall assessment of the state of air quality at Heathrow?

**Matt Gorman (Corporate Responsibility Director, BAA):** Certainly, Chair. I will be very happy to do that. Actually, I have brought along a couple of publications that might help as we go through today, so if you are happy with that I will just circulate these around.

The first one I am handing around is a briefing that is available on our website that we published last year on air quality around Heathrow<sup>1</sup>. Part of the reason for circulating it is that it has quite a helpful map at the beginning. If you turn to the inside front cover, you will be able to open up the map which gives air quality data around Heathrow. It is quite helpful to orient us. The map shows the network of air quality monitoring sites that exist around Heathrow. If the little dots are green that shows that the site complies with the EU limits. If it is orange it is close to the limits and if it is a dark colour it is over the limits. Within the little pie chart next to each site you will see a breakdown at each site of where the emissions or concentrations of pollution at those sites come from.

Our overall assessment looking at this is that there are two sites in the zone around Heathrow that we focus on which are over the EU limits, just at the northeast end of the runway a site called Oxford Avenue and directly north from the airport a site at Hillingdon next to the M4. The Oxford Avenue site has, as you would expect being closer to the airport, more emissions from airport-related sources at it. The site at Hillingdon is dominated by road traffic, the purple part of the pie chart. Clearly, some of that is Heathrow-related. Much of it is not. Our latest estimates from the early 2000s are that around 21% of the traffic at the M4 is Heathrow-related, so around four in five vehicles are not related to the airport there.

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<sup>1</sup> *Towards a sustainable Heathrow – A focus on air quality*, BAA 2010; The map referred to is attached as Appendix 2 to the minutes.

Those two sites are clearly significant areas of focus because they are over the limits. At Oxford Avenue we have seen a downward trend in recent years with air quality monitoring and actually the same goes for a site which is not shown on this map but which is on the airport itself where we have seen a downward trend in recent years. The site at Hillingdon has seen an upward trend in emissions. As I said, that is largely driven by road transport. So our assessment is that there are sites in the Heathrow area that are compliant and there are two sites in the area that we look at that are over the limits.

It is worth saying that the Heathrow situation is not a unique one in London or in the UK. The other map that is in that foldout shows you the whole of London and any colour that is yellow, orange or red is over the EU limits. That is from 2004 but the picture is not hugely dissimilar in more recent years. It shows that there are significant issues caused by road traffic in central London and the same goes for other major cities in the UK and indeed the rest of Europe, so it is important to put Heathrow in context. That said – and I will clearly talk about this – we are committed to reducing emissions from the airport and I am sure in further questions I can elaborate more on what we are doing to achieve that.

**Murad Qureshi (Chair):** Thank you for your assessments. May I have other parties' assessments?

**John Stewart (Chair, HACAN):** Very briefly, our concern is that the air pollution levels are persisting. As Matt was saying, this map is from 2004 and things have not significantly changed. It is right, as Matt was saying, that it is only pockets which are over the EU limits and that needs to be accepted. But those pockets are persisting all the time. There is no sign so far that the authorities are getting on top of those pockets. There is no sign that things are going in the right direction. They may be not going significantly in the wrong direction, but we remain over the EU legal limits. At the moment, as far as I can see, there does not seem to be any clear evidence that suggests we are going to definitely get below the legal limits on a consistent basis.

**Professor Duncan Laxen (Air Quality Consultants):** Firstly, I would like to add a comment to what was said by BAA about the Oxford Avenue site. From the data I have looked at, concentrations of NO<sub>2</sub> have not been coming down at that site, which reiterates the comments you have just heard. We are struggling to reduce nitrogen dioxide (NO<sub>2</sub>) concentrations in general, not just in the Heathrow area but elsewhere in the UK as well. A large part of this problem is related to not succeeding in reducing emissions from road traffic as we expected to do. Heathrow is clearly adding a significant contribution of NO<sub>2</sub> to the atmosphere around Heathrow which is giving rise to the exceeding we are seeing in that area of the NO<sub>2</sub> standard. It is a complex position. There is no straightforward way to bring down concentrations but it is clearly an issue where measures still need to be rigorously worked on to bring about improvements in air quality.

**Murad Qureshi (Chair):** Finally, representing the residents, Hounslow Council.

**Rob Gibson (Head of Environmental Strategy, London Borough of Hounslow):** I would like to make a similar observation and draw the Committee's attention to the Green Gates site that is mentioned in the BAA publication. It says on that key that the Green Gates site is close to the EU limits. Even I have looked at the data and I see that in 2010 it has been over the limit value at 41.2 microgrammes per square metre (µg/m<sup>3</sup>). That is an increase over the previous years and there is an ongoing dialogue with BAA about the cause of this increase. I would speculate – and it is only speculation – that it coincides with the opening of Terminal 5. I do not want to put words into BAA's mouth but the explanation I am getting back is that there has been an increased number of still days and poor dispersion at the site. However, it is worth reallocating Green Gates site as being over the EU limits.

On the matter of the contribution Heathrow makes to our residents, that is a predominantly traffic-related issue with many of the surface access methods of transport to and from the airport that come through our borough via some of the busiest roads in Europe. Of course, because the ultimate objective for us to get pollution down is to protect our residents' health, we are very keen to see the EU directive limit values met in a timely manner.

**Corinna Smart (Lead Member for Environment, London Borough of Hounslow):** Just to add that one of the things that we as a council would like to see is a proper health impact assessment and another detailed social survey research quantifying the noise and pollution impacts on our community. If we had that, that would help enormously.

**Murad Qureshi (Chair):** Can I just ask a question of BAA? In some ways there are two parts to the air quality issue. There is the NO<sub>2</sub> and the PM<sub>10</sub>s (particulate matter smaller than 10 micrometres). I am going to leave the PM<sub>10</sub>s to my colleague Mike [Tuffrey] but concentrate on reducing the NO<sub>2</sub> levels. Can BAA tell us what measures they are taking to do that?

**Matt Gorman (Corporate Responsibility Director, BAA):** Certainly. Could I just respond to a couple of the points that were made by previous participants? There were some relevant questions there.

In terms of Oxford Avenue, I am very happy to share the data we have. As I said, the two sites that I pointed to as having a falling trend are LHR2, a site not shown on this map on the airport and we have data back to 1995 for that and it does show a downward trend over those 15 or so years, and Oxford Avenue. Likewise, we have data back to the mid-2000s and, again, our reading of that data does show a downward trend. I am very happy to pick up that discussion with Professor Laxen and explain the data as we see it there.

On the Green Gates site, the publication that you are looking at, as I said, was from last year so it does not include full 2010 data. Rob is right to say that in 2010 the Green Gates site did go over the limit for the running annual average. It has since fallen again. I do not think we do see that as linked to the opening of Terminal 5, because Terminal 5 opened in 2008 and for 2008 and 2009 we did not see Green Gates go over the limit. It was for a period in 2010 when we saw more unusual than normal weather conditions at Heathrow in terms of periods of fog. As the Committee will be aware, weather has a very significant impact on local air quality concentrations. We have correlated the periods when the Green Gates site exceeded with Meteorological Office data which showed greater fog concentrations at the west of the airport, so that is our understanding at the moment. Clearly, we will keep that under review. As I say, during the first part of 2011 the site has not been over the limit. We clearly need to wait to see the whole of this year and understand that, but that is important to say.

On health, from an air quality perspective, we are guided by Government regulations on this issue. The EU has set health-based limit values and our goal is to play our role in meeting those and I have highlighted the areas that we need to focus on.

That is a good lead into your question, Chair, on what we are doing on air quality. Let me just quickly outline our strategy. We requested that we come to the Committee in October because we are just finalising for publication our air quality strategy to replace the strategy which runs out at the end of the

this year and will cover the next five-year period. It will be published shortly but what I am aiming to do is give the Committee a quick overview of the elements of that strategy.

The overall objective of that strategy is set out very clearly and it is that Heathrow Airport will play its role in driving compliance with the EU limit values. That acknowledges that we do have a role, that there are airport-related emissions that contribute in the Heathrow area, but equally that we are not the only contributor to emissions and that others have a role to reduce emissions, particularly on the transport network around the airport.

There are three main objectives to the strategy. The first is to improve data collection and monitoring, the second is to reduce emissions and the third is to communicate and engage with stakeholders on what we are doing and to demonstrate that we are using the best practical measures for an airport to tackle air quality. So data, reducing emissions and demonstrating we are using the best practical measures are the three main objectives. I am going to focus particularly on the second of those because that is the area that will be of most interest to this Committee, what we are actually doing and planning to do to reduce emissions.

I will give you the headlines from the three main sources of airport-related emissions: aircraft operating on the ground at the airport; vehicles, particularly airside vehicles, so within the airport boundary; and also surface access to and from the airport, so how people get to and from the airport. Aircraft are the most significant source of emissions within the airport boundary accounting for about 46% of emissions within the airport boundary. Our main goal there is to incentivise cleaner aircraft to use Heathrow. We have set a goal that by 2020 all the aircraft at Heathrow will be - and I need to use a bit of jargon here - CAEP/4 (Committee on Aviation Environmental Protection) standard or above. This is an international United Nations standard for air quality or pollution performance of aircraft and engines. We are currently at just over 90% and we are aiming by 2020 to ensure that we are 100% at CAEP/4 or above in terms of aircraft.

It is worth saying that Heathrow is a premium destination for airlines and they will tend to use their newest aircraft which will tend to be the cleanest and quietest on Heathrow routes, so the technology penetration at Heathrow is around 60% higher than the worldwide fleet. We see significantly more newer aircraft being used at Heathrow. A good example of that would be the introduction of the A380, the new double-deck superjumbo, and Heathrow is one of the main destinations worldwide for that aircraft, which is newer, cleaner and quieter. So the fleet is important.

One of the tools that we can use to encourage cleaner aircraft is our landing charges. We include an emissions element to those landing charges. We have recently doubled that to send a message to airlines that by using cleaner aircraft they will pay less to land at Heathrow and, conversely, by using old and more polluting aircraft they will pay more, so there is a clear financial incentive. That is the fleet side of aircraft.

There is also an important piece around how aircraft are used on the ground and, whatever the aircraft type, how we can make its taxiing as efficient as possible. Actually, to pick up on the point earlier, Terminal 5 has significantly reduced overall taxi times at the airport because it is a much more efficient airport layout. Our view is it has contributed overall to a reduction in emissions across the airport. Equally, we have recently introduced new standards to tighten the amount of time that auxiliary power units, the little jet engines that burn at the back of the aircraft when they are on the ground to power them, can be run on the ground. We are seeing good levels of compliance with those limits and we are

looking to increase compliance with those limits in the coming years and the strategy will set that out. So that is aircraft.

I will just talk briefly about airside vehicles and surface access because it is important to cover this strategy and then open it up for questions. In terms of vehicles at the airport, there are a lot of vehicles around Heathrow and around 7,000 that operate airside, so it is another contribution to air quality. We already have age requirements for vehicles at the airport and we have an extensive clean vehicles programme which we have re-launched over the last year and which is designed to gather data from airport companies on the types of vehicles they are using and the emissions of those vehicles to encourage the uptake of both more efficient driving practices and newer technology. We have, for example, 600 electric vehicles at the airport already and we are trialling hydrogen vehicle technology. We are currently doing a piece of work which we will publish shortly which is looking at what kind of technologies we should be providing for at the airport in terms of airside vehicles over the next decade. Clearly, as the airport operator, we do not own all the vehicles at the airport but we need to provide the right infrastructure for hydrogen fuel, potentially, or for electric charging. We are just understanding exactly what we think that looks like over the next ten years.

I note that some of your later questions talk about surface access, that is how people get to and from the airport on the ground, so I will cover that in a little more detail. But the main headline there is that we have made a significant investment over the last 20 or so years in surface access and around £1 billion in terms of infrastructure investment with the Heathrow Express and its extension along with the Piccadilly line to Terminal 5. Our current public transport mode share is around 41%, so four out of every ten people travel to the airport by public transport, which is the second highest in the UK after Stansted Airport. We will shortly be publishing a new sustainable travel plan which will set out over the next five years what more we are going to do both to encourage public transport but also to reduce emissions.

I am aware that I have put quite a lot on the table there in terms of what we are planning to do going forward, so I will pause at that stage and take any questions. If there are particular areas you would like to delve into, we can do that.

**Murad Qureshi (Chair):** Thanks, Matt, for outlining what the revised air quality action plan is going to contain. We were hoping to see it, actually, before the meeting. It was meant to be out during the summer.

**Matt Gorman (Corporate Responsibility Director, BAA):** Yes. We wanted to fully understand the Government's own application to the EU to meet the limits by 2015 as part of our application, so we have been working on that. But it will be available shortly.

**Murad Qureshi (Chair):** With what you are proposing, you are expecting to achieve reductions to the EU limits by 2015?

**Matt Gorman (Corporate Responsibility Director, BAA):** We are aiming to reduce airport-related emissions. The point I made earlier is that we are playing our role in reducing emissions. We do not have it solely within our gift to comply with those EU limit values because they are also affected by background emissions and by emissions from other sources, notably road traffic, much of which is not airport-related, around the airport. But we are aiming to reduce the emissions that we either control directly as an airport operator or that we influence through others at the airport.

**Murad Qureshi (Chair):** NO<sub>2</sub> is a particular problem. I did not hear anything specific there. What is being proposed to deal with those kind of emissions?

**Matt Gorman (Corporate Responsibility Director, BAA):** All the actions I have just described are focused on reductions of oxides of nitrogen to achieve reductions in concentrations of NO<sub>2</sub> at the sites around the airport. It is worth saying – and we will come on to particulate matter – that at the moment in Heathrow we are meeting the limit values and the target values for PM<sub>10</sub> and PM<sub>2.5</sub>. All of the actions that we take on NO<sub>2</sub> should also benefit particles, but it is a NO<sub>2</sub>-focused strategy.

**Murad Qureshi (Chair):** Professor, we just heard an outline of the revised air quality plan.

**Professor Duncan Laxen (Air Quality Consultants):** Just a very brief comment. I have been involved with Heathrow Airport for 20 years now at different stages and the issue is not a disagreement with the overall approach that BAA has adopted. It would be a requirement to ensure that what is being done is being done thoroughly and is being done fast enough. I know that a lot of these issues that have been described were being discussed ten years ago. I have not been looking myself at the extent to which they are being taken up, but the local authority should be able to comment on whether it is taking place fast enough.

I have just one specific comment. A point was made that new aircraft will be cleaner because they are going to have 100% agreement with CAEP/4 standards by 2020. That in itself is not a big step forward. The CAEP/4 standards have been in place for some time. As was indicated by Matt Gorman, 90% of the aircraft are already meeting that standard, so that is not a big step forward.

**Matt Gorman (Corporate Responsibility Director, BAA):** Just to clarify, I did very clearly say CAEP/4 and above, so that would include a significant percentage of CAEP/6 aircraft.

**Professor Duncan Laxen (Air Quality Consultants):** There are measures in place but what you need to focus on is the extent to which they are being taken up and actually delivering.

**Murad Qureshi (Chair):** Our local authority colleagues, there was quite a lot of emphasis on better communication. Are we getting that so far and do you envisage that in the future?

**Rob Gibson (Head of Environmental Strategy, London Borough of Hounslow):** On the communication side, we do speak regularly to BAA about air quality and I would suggest that the dialogue between the parties is good. Where it does fall down is precisely where Professor Laxen made his point. It is the speed and how quickly the measures are enforced. Professor Laxen and I sat around the table at the Terminal 5 Inquiry and we had very similar discussions to what we are having today. I find it very disappointing that we have not moved on a bit further.

I would also draw the Committee's attention to the surface access issues. Much of the pollution is caused by people and goods driving to and from the airport. There is a Heathrow area transport forum and for a while there was a subcommittee on air quality. But the local authorities sat around looking for solutions to the problem that would drive the air pollution levels down by an appropriate amount by 2015 and really the discussions around the table at those meetings were not going to ever do that. In the end, the meeting kind of fizzled out. So, from that side of things, I would suggest there is a disconnect between surface access protocols and air quality.

**Murad Qureshi (Chair):** We will come back to that.

**Darren Johnson (Deputy Chair):** Can we just ask John Stewart if that is HACAN's view as well: the right objectives but the wrong speed?

**John Stewart (Chair, HACAN):** That is right, Darren. It is exactly the right objectives but the speed is much slower than we would like to see.

**Murad Qureshi (Chair):** That is a useful conclusion. Rob, apart from the communications, is there anything in particular that can be done by BAA on NO<sub>2</sub>?

**Rob Gibson (Head of Environmental Strategy, London Borough of Hounslow):** There are quite a few things that have been suggested that have not been considered. Offering workers a free pass on public transport is a possibility. There are measures in relation to selling people a public transport ticket with their airline or including the cost of a free public journey. The landing charges were mentioned and I am glad to hear that the landing charge differential has increased. If we really want to drive it, the landing charge differential has to be increased further. We have not seen any particular improvement in the emissions from aircraft due to the differential in landing charges so far.

**Mike Tuffrey (AM):** Particulates are not really the problem here. The two go together and I just wanted to come in and back you up. The first thing to say is we are talking about EU limits as though they are some sort of technical thing. Those are health-based limits and what we have not drawn out is the extent to which the pollution in and around Heathrow is damaging people's health today and shortening their lives. Could we just have a piece of evidence from somebody stating the real health aspects of this problem first off? I do not know who is best placed just to summarise that for us.

**Rob Gibson (Head of Environmental Strategy, London Borough of Hounslow):** The point was already made by Councillor Smart that we have asked for health-related and health impact assessments from airport operation for a number of years and so far it has not been something that we have seen, nor are we in a position to be able to do it ourselves because of the cost.

**Mike Tuffrey (AM):** We know the London-wide position of which obviously this is a contributory factor in terms of the Mayor's own studies showing that something like 4,300 premature deaths a year are directly attributable to this and that air pollution is a contributory factor to many more in terms of coronary heart problems and so on. There is an awful lot of evidence now of the very severe health impacts of air pollution across the whole of London. The other point we need to put on the table is the legal limits from the EU. We should be complying by 2010, last year, and the Government has simply abandoned any attempt to extend that limit for London. The rest of the country is moving ahead to put in evidence to say, "Please do not fine us until 2015". They have simply abandoned in the last few weeks any attempt to push that back, so are we not facing the prospect of fines in London going back to 2010 because of air pollution of which Heathrow is a contributory factor? Is that correct?

**Matt Gorman (Corporate Responsibility Director, BAA):** I am happy to pick up on some of that and indeed to respond to some of the other points that were made. To start with the point that I heard you make to begin with on health-based limits, we see our role as an airport operator as playing our role in driving compliance with those limits. It is not solely within our gift but we need to do everything we can to reduce emissions and to help meet those limits. As I have said, there are two sites in the Heathrow area that are exceeding and we need to contribute to meeting those.

I would come back to the point I made at the beginning. The map in the publication I circulated is indicative. This is not solely a Heathrow challenge. This is a challenge in many city centres across the UK and Europe and certainly the centre of London at the moment, so it is important to put us in context.

In terms of the 2010 limits and fines, that would be a question for central Government to comment on because it is a central Government responsibility to meet those limits across the UK. Clearly, the Government is in the process of applying for a derogation. Again, the UK is not unique in this.

**Mike Tuffrey (AM):** It is not in relation to London. They have simply abandoned any semblance of an attempt to get to the limits by 2015 and are simply saying it is going to be up to 2025 before London complies.

**Matt Gorman (Corporate Responsibility Director, BAA):** In central London, which is not really a question that I can speak to, if you want to ask that question, you would need to get someone from the Department for Environment, Food and Rural Affairs (Defra) and ask their views.

**Mike Tuffrey (AM):** I stand to be corrected but of the 40 areas that the Government has submitted, London is not part of those areas where they have sought to have the time extended.

**Rob Gibson (Head of Environmental Strategy, London Borough of Hounslow):** Just a point of clarification. My understanding of the situation is exactly as you said it. All of the area for central London is going to be achieved by 2025 and the area for Heathrow is going to exceed up to 2020.

**Matt Gorman (Corporate Responsibility Director, BAA):** Yes, that is correct. I come back to the point that central London remains a bigger and longer lasting problem.

**Mike Tuffrey (AM):** What I am trying to establish is that the legal limits which are health-related apply for 2010, so the news that you are bringing us today is that we will miss the legal limits by a whole decade. So one can regard it as good news that the rest of London has to wait some more years, but basically I regard it as bad news that the limits the EU has set, which are based on World Health Organisation guidelines, should have been applied in 2010, we are already not meeting them and we will not meet them around Heathrow for another nine years.

**Matt Gorman (Corporate Responsibility Director, BAA):** Let me make two quick comments about that. I am not bringing you the news around the compliance dates. That is Defra's responsibility to map that out and they are doing that through their derogation process. Specifically on the Heathrow area, it is important to note for the Committee that we are engaged in a technical discussion with Defra on their modelling. We believe that their modelling techniques did not validate the data with actual concentrations and they have overestimated the contribution in the Heathrow area, so we are currently doing a piece of work ourselves to understand and model the impact of the actions that our strategy will set out and to model what impact we think that will have on concentrations in the Heathrow area. We will publish that as soon as we can and clearly make that available, but our view is that we have some disagreement with Defra on the approach that they have used and the conclusions they have reached on compliance in the Heathrow area. We do not have a firm alternative date to offer yet.



**Mike Tuffrey (AM):** If you come back and say that it will be earlier than 2020, so much the better. My point is we are already on overtime. We are already one year over what it should be and so I am just challenging or reinforcing the point that has been made.

**Matt Gorman (Corporate Responsibility Director, BAA):** It is a fair challenge. It is a challenge you could pose in many European parliaments, I would say.

**Mike Tuffrey (AM):** They are not in front of me today. You are. Can I pursue the question about what more should be done? We will obviously come on to reducing the surface access burden in further questions, but is it not the case that if the number of private vehicles, cars and taxis were dramatically reduced, that would have a very beneficial impact on NO<sub>2</sub> around Heathrow.

**Matt Gorman (Corporate Responsibility Director, BAA):** So, if I look at the area around Heathrow, the site that is furthest in exceedance in the Heathrow area, if I go back to the document I circulated, is just north of the M4 in Hillingdon. It is called the Hillingdon site. That is dominated by traffic on the M4, 80% of which is not related to the airport and 20% of which is airport-related traffic. If - I will come back on this word "if" because it is quite significant - there were to be a significant reduction in people using private transport to get to the airport or cars, that would make some contribution at that site. You would still be left with a significant four out of five cars on the M4 not airport-related. You would need to look at their contribution as well.

The overall challenge - and others on the panel would be as well placed as I am to comment on this - of meeting the EU limits is around the speed of introduction of vehicles meeting new EU standards across the whole of the UK and this is what is slowing this up. So there is a need for central Government to continue to focus on and drive measures to introduce cleaner vehicles as a whole. We do have a significant programme to increase public transport mode share. As I say, 40% already are coming by public transport to Heathrow. Our sustainable travel plan will outline measures to increase that. I do not think you would ever get to a situation where people are not using cars to come to Heathrow, so there is always going to be an element of car travel to the airport.

**Mike Tuffrey (AM):** Nobody is disputing that the M4 is not a motorway to Heathrow. It is a motorway past Heathrow but a lot - you are saying 20% but our briefing note said your Surface Access Strategy says that up to 30% - of all traffic on major roads is airport-related. But the map speaks for itself. The issue is not a great yellow-and-red stripe out west from the M4. The issue is a great blob all around Heathrow.

**Matt Gorman (Corporate Responsibility Director, BAA):** Let us be careful with the wording "all around". It is a blob at Heathrow but people do not live on the airport and these limits apply at residential sites. So the contribution of the airport reduces very rapidly with distance from the airport to around 250 metres where our contribution would be equivalent to background emissions, so planes taking off very quickly reduce their impact. The point at which the airport has a significant contribution in residential areas, which is the key test here, is a small one around the airport. Yes, there are high pollution levels on the airport but people do not live there.

**Mike Tuffrey (AM):** I am conscious, Chair, that we are delving into detail. But while particulates is a local issue, I was under the impression - and maybe our technical adviser can help us - that NO<sub>2</sub> is a London-wide issue and therefore a source of pollution created in a local area adds to the background across, effectively, the whole of London.

**Professor Duncan Laxen (Air Quality Consultants):** If I can respond to that, the emissions from Heathrow of nitrogen oxides will be making a contribution to the background but, as soon as you get any distance away from Heathrow, it will be a very limited contribution to the background.

A comment that I failed to make in my introduction was that we would not be sitting around this table talking about Heathrow if it was not located in a major urban area. There are many airports that are now located outside urban areas and they will not create problems for air quality in the local area. Because Heathrow is adding to what is already a high background concentration from all the emissions across the whole of London, that is what has added to the challenge for Heathrow. But it is there and it has plans to continue to grow to the limits that it has presently been set for passenger numbers, so it is right that air quality is being looked at in the Heathrow area.

In terms of the discussion we have just had on motor vehicles, it is right to focus on motor vehicles and it is also right not to point the finger at BAA for the problem that we are having nationally, which is that motor vehicle emissions have not been controlled in the way we expected them to be controlled by the EU limits on motor vehicle emissions. This is something that Defra has now become aware of and discussions are taking place at the EU level. The motor vehicle manufacturers have not delivered effectively what was promised in terms of motor vehicle emissions. There are cleaner vehicles that will, hopefully, be coming onto the road from 2013 and 2014 to the next set of motor vehicle emission standards called Euro 6 standards and there are electric vehicles that also would reduce emissions.

Perhaps the question to look at is what BAA could do to help encourage cleaner vehicles to come on the road earlier. We know that current vehicles are not cleaner. This mainly focuses on diesel vehicles. It includes diesel cars and it includes diesel buses and taxis. They have not been delivering as promised and we need to move a step beyond the current vehicles to the next tranche of vehicles to really bring about an improvement. That may be a factor that the Committee might like to consider.

**Mike Tuffrey (AM):** I absolutely take the point that, as it were, Heathrow is not responsible for London's pollution and that there is a limit to what you yourselves can do. But you can also lobby government, just as everybody else can. Is it part of your strategy to lobby national Government to bring in the sorts of limits that we need if we are to tackle this problem across the whole of London?

**Matt Gorman (Corporate Responsibility Director, BAA):** It is part of our strategy to engage with Government and we do that regularly. Certainly we are conscious as we look to the sustainable travel plan that will replace our current Surface Access Strategy from next year for the next five years and we are actively looking to tackle both local air pollution NO<sub>2</sub> emissions but also CO<sub>2</sub> emissions as part of that and we are currently considering the kind of measures that we might take, so we will certainly be continuing to consider this whole agenda.

It is worth in terms of what we are already doing just to give a couple of tangible examples. We are part of the GLA's plugged-in places initiative. If you come to one of the short-stay car parks at Heathrow, there are now electric charging facilities for you, which is good in that many people in West London who travel to the airport are likely to be early adopters of that kind of technology. We will encourage people by saying, "If you come to the airport, maybe you are dropping someone off, you can charge up your car". Equally, for the Olympics, we are part of a hydrogen taxi trial providing fuelling facilities for hydrogen taxis. These are small and early examples, I acknowledge, but they give an indication of the direction of travel that we are embarked on.

**Mike Tuffrey (AM):** Just to be clear, your strategy that you are about to publish will include a section detailing what needs to be done nationally and by others? It is one thing to say that you are always in constant dialogue but it is quite another to say, “We can do our piece. This is what needs to be done”, and setting out very clearly what others need to do.

**Matt Gorman (Corporate Responsibility Director, BAA):** Yes, but just to be clear, there are two strategies. One is our overall air quality strategy shortly to be published. That includes some discussion of surface access but most of our surface access measures will be in our sustainable travel plan published next year.

**Mike Tuffrey (AM):** My point is that for the cleaning up of the engines and the stuff we need a national government to do, you need to be lobbying very hard and vociferously. Otherwise, your protestations that, “We want to prepare”, ring hollow.

**Matt Gorman (Corporate Responsibility Director, BAA):** I absolutely agree. Whether we are going to be more powerful in lobbying central Government than an authority like the GLA is a question that is worth asking, but we will play our part, happily.

**Mike Tuffrey (AM):** On that point, can I just ask to what extent have you been involved with the Mayor’s air quality strategy which was produced at the beginning of the year, given that your action plan is scheduled to come out very soon? How do they tie up, if at all? You have mentioned a few examples of things being done, but just in terms of the air quality strategy.

**Rick Norman (Head of Noise and Air Quality, BAA):** We had some sight of that strategy and some of the modelling as well. Matt referred earlier to some concerns around the data in the modelling that was used for the production of that strategy. We fed our comments into that and most of those were taken on board in terms of the final strategy that came out. So, yes, we had lots of early dialogue on that strategy and the modelling behind it.

**Murad Qureshi (Chair):** I notice the TfL heads nodding. It would be useful to hear TfL’s views, particularly given one of the things Mike was saying earlier. It appears in terms of air quality that things have been improving with the PM<sub>10s</sub> and not necessarily nitrous oxides and that is not likely to happen for another nine years. Are there any particular things to be learnt from what has been done at Heathrow for the rest of London, particularly central London, with PM<sub>10s</sub>?

**Lucinda Turner (Head of Sub-Regional Strategy and Policy, TfL):** It is a two-way learning process. We would acknowledge a lot of the issues that have been raised today. NO<sub>2</sub> is a particular challenge and the performance has not been as good as many of us would have expected partly, as Professor Laxen said, because of the performance of Euro 5, particularly for diesel cars, so that is a very real issue.

In terms of what can be done and where ourselves plus BAA plus central Government, etc, need to play the role, there are a number of issues. Firstly, the issue of road transport more generally has been raised and there are two strategies here. One is in relation to shift to more sustainable modes, so much more investment in public transport, delivery of projects like Crossrail, delivery of the cycling revolution that the Mayor has talked about, walking facilities, etc, so there is a whole range of objectives and work that

needs to be done on that, much of which is in place but we are always needing to do more. Funding is a very real constraint in that regard.

The second aspect is in relation to cleaner vehicles, so where people are continuing to drive and where freight is still being delivered. What can be done to improve the emissions performance of those vehicles? We already have in place the Low Emission Zone (LEZ) across the whole of London which mainly focuses on PM<sub>10</sub> but there are also benefits from that for NO<sub>2</sub>. You will be aware that we are introducing a further phase in January next year plus tightening the standards for the existing vehicles. One thing that we have set out and have been working with GLA and central Government on is a potential for a further phase of that scheme specifically focusing on NO<sub>2</sub>. That is in the Mayor's air quality strategy but is dependent on both funding and administrative and technical support from central Government. What we need is a national certification scheme for NO<sub>2</sub> abatement standards and equipment in order to implement that. There has been some progress by central Government in that regard. They recently published a technical feasibility report but there is not yet what is necessary to implement that in 2015.

We are working on no idling across London. We have new taxi age limits coming in which should give a boost both in central London but also in the Heathrow area given the volume of taxis serving that area. We have heard about the electric vehicle infrastructure, etc. We are aware that particularly buses are an issue in relation to NO<sub>2</sub>. We are actively seeking funding from central Government in order that we can retrofit the outstanding Euro 3 buses within the fleet. There will be about 2,700 buses remaining between now and 2015 that we would want to retrofit but we do need funding for that. We are actively lobbying central Government to try to secure that.

In terms of what can be learned both ways, there is possibly more we can learn in relation to taxis. I know for the taxis serving Heathrow there is a differential charge on access for LPG for the cleaner taxis and there may be more to explore in that regard. We have done quite a lot of work on local hotspots on PM in central London in relation to business awareness, no idling, etc. Probably idling, again, is an issue that is pan-London and can deliver some reasonable benefits with relatively low cost, so behaviour change around that.

The surface access issue is a very real one, particularly, from our perspective, from the west and south. I know we will be coming on to that so we will cover in more detail then. And it should not be forgotten that there are other sources as well, domestic gas, etc, for NO<sub>2</sub> which are significant sources. I know the Mayor's team is looking at programmes for that and trying to reduce those emissions and from construction as well.

But central Government definitely has a role to play. As we have heard, this is not only a London issue. This is an issue facing lots of cities in the UK and also other cities elsewhere. They have a role to play both in persuading European governments to make sure those Euro standards that we have heard about are more effective. A lot of our policy levers rely on those Euro standards and so the LEZ is linked to those, so we need to make sure that they work and are effective. We have heard about the funding but also there are things central Government could do with taxation in relation to vehicle excise duty and diesel and whether they can build in air quality to that. They focused on CO<sub>2</sub> emissions but more could be done around air quality and potentially around the scrappage scheme. It was a very short-lived vehicle scrappage scheme and that can help fleet turnover.

**Rob Gibson (Head of Environmental Strategy, London Borough of Hounslow):** I have four very quick points. Firstly, on the modelling, every modelling exercise I have seen done in the last 15 years has shown Heathrow exceeding in the future. I do not think we should get too bogged down in the methodologies. Whether we do it, BAA does it or the GLA does it, it all shows exceedances in the future. The Mayor's air quality strategy shows exceedances in the area for 2015.

Secondly, on overall responsibility, I take the point that BAA cannot look after the whole thing. There is surely a role for somebody to get a grip in the area, basically, to look at the area holistically and try to get the problem of the area sorted out. It is an area that happens to have a major airport in it but BAA is right; there is a role for the roads operators including ourselves to take part.

There is a silver bullet. It is a very unpalatable silver bullet. You could reduce the numbers of aircraft at Heathrow. The cap is at 480,000 and we are at 470,000 at the moment. If you brought the cap down, you would inevitably reduce the pollution problem.

Finally, going back to Mike Tuffrey's point on the EU, an application for a derogation of a time extension has not been made but neither has an amendment been made to the Environment Act, so the Government still holds the responsibility for meeting the limits in the required time. The local authorities still have a responsibility to work towards the achievements of the limits. I have seen nothing in my work programme that says that should change, so I do think there is an important statutory element there that needs to be not forgotten.

**John Stewart (Chair, HACAN):** I was going to say something very similar to what Rob said so I will not take too long but it is around this silver bullet question. We are operating at 99% capacity. If there could be fewer planes, not significantly fewer but some fewer planes at Heathrow, then we are beginning to deal with the air pollution question.

The problem - and this may come on to the capacity question a bit later on - is that it does not really matter how many planes are using Heathrow from an economy point of view. It is how many passengers are using it. But to bring more passengers in would need bigger planes. You could have fewer, bigger planes and that would help the air quality as long as there was a modal shift in surface access so these additional passengers were not using more cars. I am aware that we are possibly straying into capacity, so maybe I will just leave it there.

**James Cleverly (AM):** One of the things you mentioned was about the passenger capacity. Matt and Rick, I would like to draw you in on this one because my understanding is that we are currently around 66 million passengers a year. Once refurbishments are up, you are looking at a 25% or 30% increase in capacity throughput of people. Is that the right kind of order of magnitude that we are talking here? Is it around 90 or 95 million a year?

**Matt Gorman (Corporate Responsibility Director, BAA):** It is important to go back to the Terminal 5 Inquiry on this and what that said. That put a capacity on air traffic movements at the airport of around 480,000. We came close to that in 2007. With the recession we have seen a slight fall but we are within those limits. The Terminal 5 Inquiry considered that that level of aircraft movements could eventually lead to passenger movements of up to 90 to 95 million but we are not yet at that level. John is right. That would come through a combination of two things. One would be higher load factors on aircraft at Heathrow, so more passengers on each plane, although we are already high at Heathrow at

75% to 80%<sup>2</sup>, and also through bigger planes and things like the A380 superjumbo were designed exactly for capacity-constrained airports like Heathrow. But in terms of capacity and some of the questions there, the existing permissions at the airport and the planning permissions allow for that level of movement and potential passenger capacity.

**James Cleverly (AM):** Yes, indeed. The thing that strikes me is we have done a bit of blue sky thinking – excuse the pun – around reducing overall aircraft numbers. It strikes me, particularly making reference to what both Professor Laxen and you were saying earlier about how quickly the airframe contribution to air quality trails off outside the airport itself. I know we are coming on to surface transport but it is how the people get to and from the airport and how the catering trucks get to and from the airport because all these things are directly based on the number of passengers, more so than the number of aeroplanes to a large extent. If we are looking at possibly up to a 30% increase in passenger numbers, all else being equal, are we going to be looking at a 30% increase in the air quality contribution made by the non-aircraft part of your activity? If that is the case, all else being equal, how do we make sure that we do not have that all-else-being-equal situation? What can you do to mitigate that?

**Matt Gorman (Corporate Responsibility Director, BAA):** There is a lot in that question. It is worth saying that because Heathrow is a hub airport those 90 to 95 million would not all be extra passengers travelling to and from the airport. Heathrow is the only hub in the UK and it operates with short-haul flights from the UK and Europe feeding long-haul flights, typically, and vice-versa. So a proportion of any increase is going to be people who stay within the airport and do not need to get to or from it.

**James Cleverly (AM):** A proportion is anywhere between 1% and 99%. Roughly?

**Matt Gorman (Corporate Responsibility Director, BAA):** It is around 35% transfer traffic at the moment at the airport. Clearly, looking forward, as part of the sustainable travel plan that I have talked about and our longer-term planning for the airport, we need to understand how quickly we expect those passenger numbers to increase within 480,000 movements and what the appropriate Surface Access Strategy would be linked to that. As I have said, that work is underway at the moment and we will be publishing our sustainable travel plan shortly.

**James Cleverly (AM):** One of the things that you said, tying into that, is that by the nature of the routes that Heathrow services and by the nature of your landing charges you err towards the newer planes. The newer planes tend to be larger planes, so would it be fair to assume that as the newer fleets come on stream and are being fed through the Heathrow routes, that increase in passenger number per airframe is likely to be quicker at Heathrow than the rest of the south east airports? That would be tying together the various discrete elements that we are talking about.

**Matt Gorman (Corporate Responsibility Director, BAA):** It would be different, probably largely because Heathrow is already capacity constrained, so any growth at Heathrow necessarily has to come through larger aircraft. That is the main difference with the other south east airports.

Just to pick up on your other point, it is a point well made. You have heard not just from me but from Professor Laxen that the contribution from aircraft falls rapidly with distance from the airport, so I am certainly not convinced that it is a silver bullet to propose reducing the number of aircraft to meet the air

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<sup>2</sup> Clarified by Matt Gorman following the meeting: the latest figures are around 75%

quality challenge. As we have already covered, we are not likely to hit it in central London and other cities largely because of a road vehicle issue, so we would need to assess very carefully whether reducing aircraft movements at Heathrow would have that impact. The only site that I can conceivably think that might be the case is Oxford Avenue, which is the closest to the airport, but as I have said that is on a downward trend. We have data going back to the mid-1990s for the on-airport monitoring site which shows a downward trend which is showing that, despite an increase in movements and an increase in passengers, we are reducing airport related emissions and that includes emissions from aircraft.

**James Cleverly (AM):** OK, we are saying about two-thirds of the passengers going through the books at Heathrow will be travelling to and from, so there is an associated vehicle move and I am guessing that unless they come in through Heathrow and go out from somewhere else that, at some point, either on their homeward leg, or their outward leg, there will be a matching transport move.

We are looking at the potential for an increase in total passenger numbers and whilst I appreciate, as you say, they do not all have associated transport moves, we are still looking at two-thirds of what is going to be a larger figure. So we are looking at a 25% to 30% increase in associated vehicle moves with those passenger moves.

With that in mind, we are already looking at the challenges of meeting the EU targets, the Mayor's aspirations based on where we are at the moment and, as you say, we are in a downturn, so there is a bit of a market suppression going on there. What are we going to do when the economy picks up and, therefore air traffic movements will look to increase and there is increased capacity through the refurbishment and the new fleet? So we are getting a bigger pool of people and we are already struggling to hit the targets that we need to hit. I am still trying to see what you are saying there. What has changed? What is going to be the big difference to mitigate against what we know to be an increase in passenger numbers with associated vehicle moves?

**Matt Gorman (Corporate Responsibility Director, BAA):** We are moving, by the sound of it, on to the surface access question there. So one caveat I was going to say upfront; we have a Surface Access Team headed by a colleague of mine, our Surface Access Director at the airport, so it is not directly my own responsibility. I can give you an overview of our approach. He and his team would be very happy to come and explore these issues in more detail, but I can give an overview. The question you have posed is a fair question to ask. It is a longer-term question because 90 to 95 million is a longer-term growth in passenger numbers at the airport. It is clearly something that we are considering and will need to keep under active review.

The immediate answer is that in the sustainable travel plan that we publish next year covering a five-year period, we will be looking at what are the measures we need to take over that period to continue to increase public transport mode share at the airport given the likely forecast that we expect to see. It is worth saying something very briefly about what we have done to date on public transport and then something briefly on the future, because that will pick up both of the aspects we have covered.

In terms of progress today, I have mentioned the 41% figure, so in terms of public transport, it is worth saying that of the 60% who are using either cars or taxis to get to the airport, some of those will be driving by car, parking at the airport, going on their trip and coming back; what we call 'park and fly passengers'. Some will be what we call 'kiss and fly passengers', where you get two return trips, so someone will take you to the airport, drop you off and drive home and then when you come back, will come and pick you up and take you home. Clearly, part of what we are looking at is how we can reduce

the numbers of passengers that kiss and fly; by promoting public transport will help with that, taxi use and also encouraging people through the right kind of incentives to park at the airport as well because from a pollution perspective, that will reduce the total number of journeys in an out.

I have talked about our investment in the Heathrow Express and Piccadilly line which continue to support the increase in public transport mode share. It is worth saying, picking up on the point around Euro standards, that our new bus contracts for all of the bussing operations between the car parks and hotels at Heathrow now specify Euro V standard, so higher than the LEZ requirements and include a no idling policy, so there are steps we are taking there.

That is passengers; staff are also important; Heathrow is the largest single site employer in the UK, so close to 80,000 people coming to and from the airport to work each day is a big number. The target there is reduce single car occupancy use which has fallen from 71% to 61% over the last five years through both promotion of public transport but also our car share scheme which is the largest, we think, in the world in numbers of people involved and clearly, it is a virtuous circle. The more people you have in the car share scheme, the more likely you are to find a lift on your way into work, so there have been some very positive steps there.

Looking ahead, one of the big areas that we are looking at is a strand of work which I can give you an overview on – as I say, colleagues can provide more detail – called the Wider Heathrow Integrated Rail Strategy and this is focused on working with Network Rail, the Government and other stakeholders because again, we are not the only player in this to promote an integrated rail access solution for Heathrow. We were pleased that in the Network Rail Route Utilisation Strategy earlier this year, they identified Heathrow as a strategic gap in the rail network and we are working with them and they will be studying options to plug that gap and that will include, in the short term, the connection to Crossrail at the airport, which is planned. So our goal is to ensure that that provides the right level of service to meet passenger expectations but equally, connections to the west of the airport. So there is interest in the idea of a western connection to Heathrow and connection in the future to the south of the airport as well. High speed rail is also a part of that vision although it is fair to say over a longer-term timeframe. There is active work going on to look at how Heathrow could integrate more effectively as part of the rail network.

**Tony Arbour (AM):** You talked about car share and the importance of Heathrow as an employer. Do you prohibit your staff from going to work by private car or by taxi? Have you thought about it?

**Matt Gorman (Corporate Responsibility Director, BAA):** We are one of 300 companies operating at the airport. I can only really speak, at the moment, on behalf of BAA which employs around 10% of those 70,000. As far as I am aware, we have not ever taken the step of banning people from using their own cars. We turn it round I guess and look to incentivise people to use alternative ways of getting to the airport.

**Tony Arbour (AM):** Have you considered talking to the other employers, the 63,000 other people who are employed at the airport and seeing that their staff do not come by private motorcar?

**Matt Gorman (Corporate Responsibility Director, BAA):** Part of our overall approach is working very actively with other employers at the airport, so the 71% to 61% single vehicle occupancy reduction is across the airport as a whole, and that is through promoting car share schemes and public transport for the airport employment community as a whole. I suspect that is a significant reduction if you compare



us to single-occupancy travel to work in the UK as a whole. I do not have the figures there but it is quite impressive.

**Tony Arbour (AM):** I merely suggest this is something that perhaps you have more control over than passengers. I have to say, I live just off this map and I can tell you that there are people who work at the airport and travel to the airport who park their cars so that they can get on the public transport nearby and it strikes me – perhaps this is a question for TfL – that if employees who work unsocial hours at the airport were prohibited from going by motorcar, many more of them would use the night buses, like the 285 which goes direct to the airport from the west, and it will make them much more economic routes to run. Perhaps I can ask TfL, what sort of capacity do you have on the night buses to Heathrow?

**Lucinda Turner (Head of Sub-Regional Strategy and Policy, TfL):** There is capacity there; there is also the N9 as well that serves the airport.

**Tony Arbour (AM):** Are they full?

**Lucinda Turner (Head of Sub-Regional Strategy and Policy, TfL):** They are not full.

**Tony Arbour (AM):** But they might be fuller if you did what I suggested. There must be vast numbers of people who work at the airport, despite the absence of night flights, who work shifts.

**Matt Gorman (Corporate Responsibility Director, BAA):** There is clearly a significant percentage of people who do work shifts. As part of the sustainable travel plan, clearly we will be considering a whole range of measures. To date, we have focused more on what we need to encourage people, so, carrot rather than stick, it is fair to say.

**Tony Arbour (AM):** I could see you were nodding, Corinna, about the point I was making about people parking on the bus route. I have to say, I have done it myself. I live on the bus route but I will still drive into Feltham and park to go to the airport on maybe the 285 or, if I am very lucky, on the X26. What does Hounslow think about that? It must be a terrible problem.

**Corinna Smart (Lead Member for Environment, London Borough, Hounslow):** It is not so much parking on the bus route itself; it is parking in the side roads, the residential roads.

**Tony Arbour (AM):** To catch the bus.

**Corinna Smart (Lead Member for Environment, London Borough, Hounslow):** To catch the bus or sometimes go to the railway station and that does go right across Hounslow. I am very aware, obviously, that a considerable number of our residents work at the airport and that is one of the reasons why we are not ever against the airport because we cannot be. We just go on about it being a better one than a bigger one but I have to say you are absolutely right, Tony, on that issue and it is a problem. One of your suggestions really has to be something that has to be done with the whole thing of encouraging those that work there, as you are quite right. Obviously BAA has more control over that and your companies you work with.

I would like to throw one in for you. What about free public transport for all the employees? That is a possibility. I know it sounds a bit cloud cuckoo land but has it been thought about? Remembering the

economic situation of a lot of the people who work at the airport, who in fact do earn less money than lots of other places, perhaps the free transport is something that could be considered.

**Matt Gorman (Corporate Responsibility Director, BAA):** I do not know if it has been considered and I am going to be wary of saying too much on surface access for the reasons I outlined earlier that my colleague, the Surface Access Director, will not be comfortable if I start making commitments on his behalf.

**Darren Johnson (Deputy Chair):** Can you also confirm whether they have to pay to park their cars as well, staff working at the airport?

**Matt Gorman (Corporate Responsibility Director, BAA):** I am not sure of the exact arrangement.-- I believe that employers will pay for permits for staff, rather than staff themselves.

**Darren Johnson (Deputy Chair):** If you can pay for the cost of the permits, you could afford free public transport.

**Matt Gorman (Corporate Responsibility Director, BAA):** As I say, I will just come back to our sustainable travel plan which we will be developing and I am sure it will be looking at a range of measures and I know because I talked to him yesterday, Allan Gregory, who is our Surface Access Director, would be very happy to come to this Committee and answer exactly these kinds of questions in more detail as part of developing that strategy once it is published.

**Murad Qureshi (Chair):** That is something we could take up.

**Tony Arbour (AM):** What we are perceiving is that BAA seem to - and I represent both Hounslow and Richmond - not to take into account the ripple effect of traffic generated by Heathrow and I have already indicated about the cars parking and so on, but there is also the overall increase in traffic as you increase the number of passengers and, in this area of discussion, sort of indicate you are making very, very low inroads into the number of people who travel by private car. That is creating, and this is the matter for this Committee as a whole, increased pollution of one kind or another for an area covering a very substantial part of West London and it does seem to us that there is some sort of responsibility there and that ought to be taken up by public transport. Perhaps I should ask TfL. Why do we only have one X26 route? I am not talking about saying we should have lots of routes called the X26 but I meant more express coaches going to Heathrow operated by TfL.

**Lucinda Turner (Head of Sub-regional Strategy and Policy, TfL):** That is an issue that has been raised with us and we have done some kind of exploratory work into other potential express orbital services. The initial work on that did not suggest that they would be that feasible. The X26 has the potential to be enhanced though, saying that, in relation to the number of buses serving it. That and probably a lot of the other issues that we will be covering today are a question of funding and how much money we have to spend on it and we do not have the money available within our business plan which is, as you know, being cut and we have been finding savings and efficiencies across TfL. We do not have the funding at the moment to enhance those services.

**Tony Arbour (AM):** Do you not think, and I return to my silver bullet which relates to the people who actually work at Heathrow, that if more employees, people who work at Heathrow, no matter what bit of the business they are in, were aware of the X26, they might use it?

**Lucinda Turner (Head of Sub-Regional Strategy and Policy, TfL):** That is a point we should take in relation to the promotion and information and some of the softer aspects around those services which are not that costly but could help in that regard. So there are perhaps things that we need to look at further with BAA in that regard.

**Tony Arbour (AM):** Finally, and this relates to the point that TfL make about the cutback in public expenditure, how do you think the downturn in the economy has affected public access to Heathrow? Clearly Airtrack was part of that but has there been anything else which the economy is stopping you from doing which you otherwise might have wanted to do, that might even try to help there?

**Matt Gorman (Corporate Responsibility Director, BAA):** From the perspective of BAA, overall the answer is that we continue to invest in our Surface Access Strategy and many of the measures that I have talked about. Airtrack was a combination of two factors. The technical and operational issues that the proposal had particularly related to level crossings and also a reprioritisation through the comprehensive spending review of DfT priorities which meant the public sector support for it was not there; but on the positive side, looking ahead, that reprioritisation through the spending review has also focused on and continues to support Crossrail, for example, and high speed rail as a longer-term solution and, as I have said, we are actively engaged in discussions over a Wider Heathrow Integrated Rail Strategy which could include western and potentially, in the future, southern connections as well. As I have said, Network Rail has identified the airport as a strategic gap, so it is something that they are actively considering, which is a positive sign.

**Murad Qureshi (Chair):** There are one or two things which have occurred to me when I travel every few months up to Heathrow. One of the things I picked up is staff in Hayes would like to take the train, Heathrow Connect, into Heathrow but the prices are so prohibitive that it is not an option; it is bus or car. That is something that has always struck me as quite strange regarding staff, people working at Heathrow to get in and out. That is probably one of the best routes.

**Matt Gorman (Corporate Responsibility Director, BAA):** We have, this year, negotiated a 75% discount on the Connect rail service for staff which has seen a tripling of usage, so I do not know if that is since your last visit. I am not sure of the exact details there.

**Murad Qureshi (Chair):** That is encouraging. We have heard about the increase in passenger numbers. A third of them will stay within the parameters of Heathrow but two-thirds of that will still essentially come into central London. We are only expecting 1% modal shift between cars and rail there. What are your views in maximising Crossrail, given one of the big arguments for it at the beginning was always establishing better links with central London?

**Matt Gorman (Corporate Responsibility Director, BAA):** Chair, I am not going to comment in detail for the reasons I gave earlier. It is not a project that I am personally responsible for and it would not be right for me to comment on that. The figure of 1% is not one that I have seen before. We are committed to maximising the benefits of the Crossrail connection to the airport as part of the Wider Heathrow Integrated Rail Strategy that I mentioned, but from all the questions the Committee has asked, a session with our Surface Access Team would be a useful investment of your time because they would be able to provide a lot more detail and respond to many of the questions you are asking.

**Rob Gibson (Head of Environmental Strategy, London Borough of Hounslow):** I just wanted to put a couple of clarifications again on what has been discussed. The 1% modal shift comes from the Air Transport White Paper for 2003, so that was previously given in policy. We have spoken a lot on the free public transport for passengers. I visited Frankfurt a few years ago – and it is a few years ago – so I do not know whether they still do it, but at that time, they were just introducing free public transport for their workers.

The other thing I would just like to throw into the melée is when we were considering a third runway in 2007, BAA did commission a report on surface access which explored all of the possible measures on surface transport in order to get a resolution to the air quality problem and I would hate to think that they were going to waste their money and do all that work again, because it was a quite comprehensive report. It did consider a lot of quite radical options, including closing the perimeter roads, putting the M4 in a tunnel; trying to put an airport forecourt charge on, so there are lots of other things that can be done and have been considered by BAA in the past that perhaps we would like to see rolled through.

Just while I have the floor, I would just like to say that what Hounslow would also like to see is an upgrade to the Piccadilly line. We are trying to find out from TfL at the moment what the status of the upgrades is because on the website, it says they are going ahead but we hear rumours that they have been cancelled and that refers to Tony Arbour's point about what is happening at Hounslow and the Piccadilly line has been an ongoing problem for us for a very long time.

**Lucinda Turner (Head of Sub-Regional Strategy and Policy, TfL):** The Piccadilly line upgrade is likely to be the first of the next generation of upgrades, so it is definitely not being shelved. We are still committed to it. It just depends on the funding settlement and negotiations with central Government as to that next stage of upgrades. Post upgrade, that would deliver 18 trains per hour up from 12 trains per hour to the central terminal area and increase from six to nine trains per hour for Terminal 4 and Terminal 5, but we are still committed to that.

Just in relation to the Crossrail issue, that 1% is the overall share, so it probably under-represents the kind of share from that particular corridor so it will affect that but clearly, the precise figures will be dependent on fare structures etc which are still to be decided. A key aspect of our delivery of Crossrail is making sure we deliver to the operational performance that we need to maximise that and those discussions are ongoing.

**Tony Arbour (AM):** Just very briefly about the increased capacity on the Piccadilly line. Now that presumably includes exactly the same pattern of stops as there are now. We are always told that the problem on the Piccadilly line is signalling and things like that because, as you know, there is a view that the Piccadilly line during daytime should stop at Turnham Green and there are very many people who want to go to the airport from Turnham Green and they get very cross when they see the Piccadilly line train going straight through.

**Lucinda Turner (Head of Sub-Regional Strategy and Policy, TfL):** It does not assume any stopping at Turnham Green. The conclusion, so far, are that the dis-benefits would outweigh.

**Mike Tuffrey (AM):** Chair, just before we leave this, can we just summarise where we are at? The numbers you gave us is in the last decade, the proportion of passengers going to the airport by public transport has risen from 35% to 39% in ten years, so a 4% increase. You were talking about a new strategy. What is the shift that you anticipate over the next ten years if we have to think in decades?

**Matt Gorman (Corporate Responsibility Director, BAA):** We have not confirmed that yet. The current figure is 41%, so I do not recognise the historic trend there.

**Mike Tuffrey (AM):** It is 39.2%, so 2001, 34.8%, I rounded it up to 35%; 2010, 39.2%, so anyway, whatever it is, the point I am trying to make is nothing dramatic this year, helpful modest, good, but nothing dramatic. The precise number, you are telling us we have to wait for the strategy report but in round tens, what sort of degree of ambition are you showing?

**Matt Gorman (Corporate Responsibility Director, BAA):** As I say, the strategy is under development. It is not my responsibility within the company, as I have said. You are welcome to talk to my colleagues on that. I cannot give you a figure.

**Mike Tuffrey (AM):** I am perfectly prepared to accept a question of detail but BAA should be able to tell London and their elective representatives what is your ambition for shifting the proportion of passengers going to the airport by the public transport. That must be in your existing plans and you must be able to tell us something about that.

**Matt Gorman (Corporate Responsibility Director, BAA):** As I have said, our existing target for 2010 was 40%<sup>3</sup> and the current figure that I have for our performance is 41% which I suspect is for the first part of this year, so it will not be a complete year's data yet, so we have hit that existing target and that is a published and longstanding target. We are currently working on a sustainable travel plan to take us forward over the next five years and the targets associated with that, so I am not in a position to give you that number now but we are working on it and we will be very happy to share that in more detail.

**Mike Tuffrey (AM):** Just to repeat; I am not asking for the number that is in a strategy that has not been published yet. I am asking for a statement of your ambition; what you actually want to try and do as an airport in terms of shifting the proportion because the point being, Chair, if I am interested in a discussion about staff and Piccadilly line and so forth, that leaves me with no sense of whether there is a shift possible or not possible in what you are trying to achieve and the point has been made that there are all sorts of ideas out there, one of which, and I am sorry, I did not want to go into detail, but you own the land, so it is open to you to say, "You cannot come on to our land in a private car". It would be open to you to do that. I appreciate that might have some implications for your passengers wishing to fly, but you have the power to achieve a dramatic shift if you had that ambition. I just want to get something out of you today as to what is your ambition in this area?

**Matt Gorman (Corporate Responsibility Director, BAA):** I am sorry. I am almost certainly going to disappoint you by saying that our target for 2010 was 40%<sup>3</sup> which we have hit, and that our sustainable travel plan is under development. It is not my area of responsibility within the company. I was invited here particularly to talk actually about noise and air quality which I am responsible for and am happy to talk long and hard about. The detail of surface access is a big area of work for us. I have given a high level picture. I cannot give you any more detail on that today I am afraid.

**Murad Qureshi (Chair):** We hear clearly what you are saying. We will take up your offer of your colleagues discussing the surface access issues in a separate meeting; not necessarily a full Environment

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<sup>3</sup> Clarified by Matt Gorman following the meeting: the 40% target was for 2012 not 2010, ie. the target was reached early,

Committee meeting. I just want to know really when BAA is going to tell us what they are going to do with the Heathrow Express after Crossrail comes into operation. That is going to be a critical matter to determine the level of service that we could get into central London. I suspect you are going to say you will not be able to answer that.

**Matt Gorman (Corporate Responsibility Director, BAA):** You have done it for me, Chair.

**Murad Qureshi (Chair):** The sooner that is made, the better and the sooner we can make the most of Crossrail facilities going into Heathrow.

**Matt Gorman (Corporate Responsibility Director, BAA):** Yes and there are active discussions ongoing as you would expect and yes, my colleague will be able to tell you all about that.

**Murad Qureshi (Chair):** At that point, I am going to move on from surface access issues relating to air quality to noise.

**Darren Johnson (Deputy Chair):** Yes, let us look at aircraft noise now. I am going to start off with Hounslow and also get responses from HACAN and BAA but, just to start off with, what is your assessment of the impact of aircraft noise on residents? In a similar vein to the previous lines of questioning, what do you think should be the airport's main priorities in terms of attacking this?

**Corinna Smart (Lead Member for Environment, London Borough, Hounslow):** Rob is here to do all the technical stuff, so he is going into detail on that and I can tell you what it is like to be a resident living under the flight path because I do, along with everybody else. Basically, noise is our top priority and we are aware that the European Environment Agency say that 27% of people within the 55 [decibel] contour suffer high levels of annoyance and all of Hounslow is, in fact, in within that 55 contour.

Under the heading of noise, night noise is our greatest concern and we commissioned an independent peer review, literature review on aviation night noise and health which we are happy to make available to you should you wish to have that.<sup>4</sup> The most important thing about that particular report is that nocturnal aircraft noise exposure is potentially associated with considerable public health impact and impact on quality of life for residents living near major airports. That is known possibly for most of us who do live there. That is almost like an understatement but it is true.

We are also very, very clear about the effect noise has on our schools and aircraft noise compromises people's ability to learn. Our stance on this is based on fact that noise directly affects our residents' health including the often overlooked areas of mental health. Clearly, we have to live with a noise mitigation scheme that is less generous than other comparable airports. [Hounslow] Council recognises that the proposed new scheme is more generous than the current one but believes the boundary is not wide enough to fully redress/mitigate/compensate the effects of aircraft noise upon the local community.

Then we obviously can move on to Cranford and the Cranford Agreement. Residents in the Cranford area bought their houses on the basis that the Cranford Agreement was operating. Revocation of that agreement means their noise environment has unexpectedly deteriorated. That is the need for

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<sup>4</sup> *The Effect of Nocturnal Aircraft Noise on Health: a Review of Recent Evidence* by Charlotte Clark and Stephen A Stansfeld, Barts & the London School of Medicine, Queen Mary University of London, September 2011.

appropriate mitigation compensation. We feel that the trigger levels that BAA suggests are actually too high and we would like them to be lower and we have something in the region of 15,000 households which will suffer one decibel or greater increase in noise disturbance. So again, we are looking to increase the mitigation for them. Obviously we are concerned about the increase in ground noise levels resulting from aircraft taxiing off the eastern end of the southern runway as this is a new operating practice. We would like that change fully assessed and fully mitigated.

We really emphasise the school situation because we believe that no child in Hounslow, or beyond, should suffer any educational deficit due to the fact they are educated in a school that is affected by aircraft noise and that mitigation package, we feel, should include installation of ventilation, windows and roofs comparable to other airports. If we do not have ventilation in our schools, it does not matter how much double glazing you have because you would fry. Sorry, my ex-school teacher side is coming out here. In schools with lots of glass, you freeze in the winter and you fry in the summer if you do not have adequate ventilation, and that has increased for our schools that are under that flight path.

We also would look to have the installation of material that could reduce sound reverberation in those classrooms and finally, we would love to have an examination of the use of an increased arrivals' glide slope.

**Rob Gibson (Head of Environmental Strategy, London Borough of Hounslow):** I just want to put in a small clarification on the 55 contour. It is the 55 Lden<sup>5</sup> contour not the 57 Leq contour which is possibly the Committee might be more familiar with. The 55 Lden contour is a lot wider and has a European trigger level at which the European noise directive requires a certain level of assessment.

**Darren Johnson (Deputy Chair):** So that is a European trigger rather than the trigger that is used for noise.

**Rob Gibson (Head of Environmental Strategy, London Borough of Hounslow):** There are a lot of arguments about where people start getting disturbed or annoyed by noise. I am sure John [Stewart] has some views on this as well, but the local authorities and communities around Heathrow have long held the view that the level of annoyance, the onset of annoyance is a lot lower than successive Governments have recognised and now there is a lot of emerging research backing this up, not least the work done by the European Environment Agency. There are various papers floating around at the moment, but the European Environment Agency, as Councillor Smart says, states that 27% of people are highly annoyed at 55 Lden and the 55 Lden is a very wide area.

**Darren Johnson (Deputy Chair):** Is that the Council's view that it should come down as such?

**Rob Gibson (Head of Environmental Strategy, London Borough of Hounslow):** We are currently taking the view that the 57 Leq contour that has been relied on in the past is out of calibration, mainly because it does not take into account the vast numbers of aircraft versus the amount of noise that each aircraft emits. We feel Lden is a better measure. It encompasses a wider area but with all noise metrics, there are problems with it.

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<sup>5</sup> Lden is the 24-hr Leq calculated for an annual period, but with a 5 dB weighting for evening and a 10 dB weighting for night. Leq refers to 'continuous equivalent noise level' [source: Civil Aviation Authority, [www.caa.co.uk](http://www.caa.co.uk)]

**Darren Johnson (Deputy Chair):** That is helpful. Can I just clarify is that the position of the local authorities within the 2M group generally?

**Rob Gibson (Head of Environmental Strategy, London Borough of Hounslow):** It is generally the position. I cannot speak directly for all 27 local authorities.

**Tony Arbour (AM):** Could you explain that to me in simple terms? Are you effectively saying that quiet aircraft, so-called 'quiet' aircraft are going to wake you up?

**Rob Gibson (Head of Environmental Strategy, London Borough of Hounslow):** We are talking a different metric there. The Lden covers the 24-hour period and gives a wider contour than the existing 57 Leq which is a daytime contour. If you are into looking at individual aircraft, it is probably better to consider the noise footprint of that aircraft rather than a noise contour because of the averaging effects. The Lden tries to do that and tries to put an assessment on the night time activity because within the metric is a 10 dB penalty for flights in the night period. As I said to Darren Johnson, there is a discontinuity between the two measures but in terms of night noise, we would expect to see them all banned because certainly in Hounslow, it is quite likely that even the less noisy aircraft could potentially disturb you; not necessarily wake you up but disturb your sleep pattern. This is what our research has shown. You do not have to be woken up to be disturbed.

**James Cleverly (AM):** Rob, we do not have a map with these. Could you give me some idea just in terms of like one mile, two mile, three miles; what the difference between that 55 and 57 contour represents?<sup>6</sup>

**Darren Johnson (Deputy Chair):** Shall we bring John in on this, because certainly we do get planes that go well beyond the official designated contours and it clearly is affecting far more people than the official figures recognise.

**John Stewart (Chair, HACAN):** That is right. The traditional contour, the 57 Leq contour; the boundary is around Barnes or Fulham; it does not even quite reach Fulham. Clearly, people living in Fulham are affected by aircraft noise yet officially, using the 57 Leq contour, they are not affected. It does not make any sense but when the European Commission required noise action plans to be drawn up, they required not the Leq contour but this Lden contour that Rob [Gibson] was talking about and it is the one that BAA used.

Lden is, in our view, a more accurate measurement because Leq averages out noise over a 16-hour day. What Lden does is averages out noise over a 12-hour day and then separately, a four-hour evening period and because the background noise is quieter, they add 5 decibels to the measurement and during the night because the background is even quieter than that, they add 10 decibels, so it is a more accurate reflection of how people actually hear noise which is the key thing rather than noise that is being made by the planes.

**Darren Johnson (Deputy Chair):** So it reflects the actual day as it is lived by people.

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<sup>6</sup> Rob Gibson circulated a copy of a map from the *Heathrow Airport Environmental Noise Directive Noise Action Plan 2010-2015 supporting annexes*, published by BAA, December 2010. A copy of the map is attached as Appendix 3 to the minutes.



**John Stewart (Chair, HACAN):** It tries more accurately to reflect noise as heard and lived by people. Your question about the difference in boundaries is interesting but, first of all, the difference in numbers. Around 250,000 people are estimated to live within the 57 Leq contour, the traditional one, maybe just a little bit more. With the Lden contour, the 55 Lden contour recommended by EU and used by BAA in the noise action plan, there were over 700,000 people affected and the geographical difference is that the 57 Leq contour stops roundabout Barnes. The 55 Lden contour takes you to somewhere between Vauxhall and the Oval, so there is a significant difference.

Related to one of your questions there, Darren, there is a whole area outside the 57 Leq contour which has not really been looked at. There are figures quoted still by the Department for Transport when they say, "Ah, well, noise climate is getting better because a number of people within the 57 Leq contour has been reduced". It has, but the number of people affected beyond that has increased and we have done some work with BAA and British Airways and NATS [air traffic control provider] which we are submitting as a joint paper to the Government in response to the scoping document around this issue. What has happened is the joining point for aircraft has moved further east, which means that planes which used to join roundabout Barnes or Putney are now beginning to join their approach path further east; Vauxhall, Oval, Camberwell and there is a whole box there where planes are crisscrossing and joining and that is why this 55 Lden contour is showing little difference and it is also why the 55 Leq, because this joining point has moved, is now completely out of date.

Matt [Gorman] or Rick [Norman] may say more about this later, but BAA are now going to publish Lden figures rather than Leq annual figures which we very much welcome. There does remain this issue and it is what we tried to explore in this paper with BAA that there have been mitigating measures for those areas newly affected by noise in Vauxhall, Oval, Brixton and Clapham once this joining point was moved further east. People in West London get runway alternation and that is hugely valuable and it is why there are concerns about the trials at the moment; but people further east are not getting any mitigating measures, so you can actually have more planes throughout the day if you live in Clapham or Brixton than if you live in West London. What we have been pushing for and what is interesting about the report we have done with BAA is that there is now a general recognition, not just from residents and local authorities, but also from the industry that there is a problem there.

The solution may be quite difficult but one of the things we would like to see is some sort of solution, some sort of mitigation, some sort of alternation so people in those areas also get relief.

**Darren Johnson (Deputy Chair):** That is really, really helpful, John. Can I just check as well in terms of what HACAN is demanding; clearly mitigation measures you both mentioned. Presumably noise reduction is part of this role as well, so what would you like to see BAA doing in terms of that?

**John Stewart (Chair, HACAN):** This comes back to our 'silver bullet' again. It may or may not be a silver bullet for air pollution but I do think a reduction in the number of planes is probably the silver bullet for noise because what people are saying now compared with say 20, 30 years ago because individual planes have become quieter, is it is the sheer number of planes which is the problem.

BAA, as we mentioned, are now operating [Heathrow] at 99% capacity. We think there would be advantages for air pollution, for noise and commercial advantages because we do not believe any airport should be operating at 99% capacity. So we would like to see ways of reducing the number of planes operating at the airport and we think it has advantages in terms of air pollution, noise and advantages to the economy.

**Darren Johnson (Deputy Chair):** Thank you. We have a clear list of issues there in terms of the contour mapping, mitigation measures and noise reduction measures in terms of overall capacity.

**Matt Gorman (Corporate Responsibility Director, BAA):** We have. There is a lot there. I am going to invite my colleague, Rick, who is our expert on noise contours to come in initially on that whole point of measurement which is a critical one and I will pick up on a couple of the points around night flights and capacity.

**Rick Norman (Head of Noise and Air Quality, BAA):** Yes, so we had a bit of discussion there around the Lden metric and Leq metric and John is quite right to point out that we have committed in our noise action plan, which is one of the things that falls out from the mapping process that the European Union asked us to do, to publish these maps with the Leq as we get that from Government and a night time Leq as well, so there is a suite of contours that we will be publishing and as John pointed out some are bigger than others and some have more people inside them as well. So, there are around 720,000 people inside of the Lden contour and as John said, 220,000 odd people inside of the Leq contour. So, there is a big difference within that.

What I would say is that those contours are used for planning and policy purposes typically, so caps on development, with our Terminal 5 expansion, for example, we had a cap of the area limit; the 57Leq contour had to be within 145 square kilometres. If we had an Lden cap it would just be a different number that would come with that. So, for example, that is somewhere around 240 square kilometres.

In terms of the mitigation measures I am glad John brought up the work that we have been doing with BAA, NATS and HACAN and the Aviation Environment Federation. We are looking at those areas; we have received complaints over the last 15 years from both inside and outside of the 57Leq contour and that has not driven what we have tried to do in terms of mitigating aircraft noise. So, we have heard about incentives from an air quality point of view, and we also have incentives around the noise charging that we have. So, there is a charge for night time flying, there are bands of charges for different aircraft certification levels as well and we have just re-evaluated that and put a big incentive in for moving towards the quietest types of aircraft that operate today and that will help to bring the contour down. So, there is work that we are doing.

The point that John [Stewart] has brought out around joining points I will just clarify. This is not a single point that has merged and John will be aware from having looked at the graphs. But what has happened is there has always been around about a 10 mile distribution of aircraft joining the final approach as they come into Heathrow. There is a minimum point at which they need to be established on that final approach; in the daytime that is about 7.5 miles from touch down.

As the airport has got busier and [improved adherence to] the requirement under the Department for Transport noise abatement procedures to ensure aircraft are established before that level, these two things combined have meant that the frequency with which individual points along that final approach that aircraft join has shifted and this is the two-mile shift that John [Stewart] has talked about. So, previously the most common place at which aircraft have joined was about 12 miles out; more recently we are seeing that at about 14 miles out. So, there has been that shift there. As John has pointed out it is a complex issue to try and resolve; some of the things that we have done in the past and continue to do; what we call continuous descent approach for arriving aircraft, is aimed at getting aircraft higher for

longer so that they come down and then meet that final approach; the work that we have seen over the last 10 to 15 years of doing that is that aircraft will be higher over whichever area you want to choose.

**James Cleverly (AM):** Just quickly, a simple yes or no will suffice. This is about the implications of aircraft circling over beacons, because in my neck of the woods, in south east London, there is a beacon over Biggin Hill. People complain about it; I am not sure how much of that is a slight projection, knowing that they are up there you kind of say, "Oh, I can hear them all the time". Is there any modelling? Do we know what the contour lines look like for those beacon aircraft?

**Rick Norman (Head of Noise and Air Quality, BAA):** In those areas they would be well outside of the 55 or the 57 contours.

**James Cleverly (AM):** That is fine.

**John Stewart (Chair, HACAN):** Regarding contours – and I know you are looking at City Airport in December, but a development has happened over the last few years is that there are areas in east London, Docklands and one or two other areas, which are getting both increased levels of City Airport aircraft and Heathrow aircraft, and yet the contours are measured separately. So, there are separate contours for City Airport aircraft and for Heathrow aircraft. Now, that is clearly not how people hear noise.

**Darren Johnson (Deputy Chair):** Yes, but there was a big discussion about that when we visited local residents near City Airport.

**John Stewart (Chair, HACAN):** That is right and it seems to me that for those areas where you get a significant number of both Heathrow and City aircraft there has to be joint contours, otherwise it completely underestimates the actual noise that people are hearing in the area. It applies to possibly parts of south east London as well, Lewisham and so on.

**Matt Gorman (Corporate Responsibility Director, BAA):** Just to build on what has been said, there is a really important point about contours and the discussion we have had with HACAN, Aviation Environment Federation has been very valuable here. Contours do play an important role, in our view, and you can measure over time the introduction of quieter aircraft technology through significantly shrinking contours. The Leq contours for the latest year, 2010, at Heathrow are the smallest ever and that is a reflection of quieter aircraft. Equally, we know that they do not reflect all community concerns because there are more aircraft and people will say, "Well, the shrinking contour does not reflect how I perceive noise". So, one of the challenges for us is looking at this whole question and the word we have landed on is 'predictability' of noise. Certainly what we have heard from John and from our regular interaction with communities is how predictable noise patterns are around the airport is quite important, so we have identified a number of practical next steps in this dialogue that we are submitting to the Government, one of which, to give you a practical feel, is on departure routes where we currently have a three kilometre-wide noise preferential route.

Now, we have got very good at complying with the Government policy and fly almost every aircraft now down the middle of that three-kilometre swathe but of course if you live under the very middle that means almost every aircraft is going over you. So, one of the things we are looking at is its operation; is it practical to say, "One day you might use one half of that route and the next day you might use the

other". So, still within that preferential route you are spreading the burden and giving people predictability of when planes will be over them.

But Rick's point is really important. In terms of our overall plan of action on noise, and we have set out a number of actions in line with a balanced approach of quieter aircraft, quieter procedures, land use planning and mitigation, and operating restrictions, the standard ICAO (International Civil Aviation Organisation) international approach, that has not been driven solely by reducing noise impacts in the 57 contour, say, that is a wider programme of action that will have benefits beyond that and that has always been the case in terms of what we have set out to achieve.

**Darren Johnson (Deputy Chair):** Hounslow, HACAN, is there anything you want to come back on in terms of what we have heard from BAA just there?

**Rob Gibson (Head of Environmental Strategy, London Borough of Hounslow):** Just a point on the shrinking noise contours, BAA are right that one of the reasons that contours have shrunk in 2010 are that some of the aircraft are quieter. There were less of them though within the year.

**Matt Gorman (Corporate Responsibility Director, BAA):** There is a very clear and long-term trend of reducing noise contours which is linked to the introduction of cleaner technology. If you look back to the early 1980s there were 2 million people within the 57 contour around Heathrow, many fewer aircraft, they were a lot louder. We now have more aircraft and a much smaller contour, around 250,000 people<sup>7</sup>. So, there are fluctuations year on year and the long-term trend is absolutely clear, but what I am not standing here and saying is that contours are the only way to describe noise for local communities because clearly even for people who work in the industry and observers like John it is a pretty complex and technical thing to measure and understand, so what we are saying is there need to be supplementary ways to communicate noise to people, "Where I live, how many aircraft are going to be over me each day? Roughly how high they are going to be, when is the first one in the morning? How loud are they going to be?" Those kind of metrics are much more relevant to people and we need to look at how we can manage noise in a more predictable way for people.

**Murad Qureshi (Chair):** Just on the noise factor, some people have suggested that some planes are coming down lower than they have done previously. Is there any basis of that at all in Clapham, for example? There may be another explanation for why we are having more frequent noise instances of aircraft in other parts of London.

**Rick Norman (Head of Noise and Air Quality, BAA):** You are always going to see some variation in terms of the height of aircraft over particular locations. The evidence I was indicating around the continuous descent approach analysis that we have done has shown that the height of aircraft has generally risen. So, that scatter, if you like, around the average height in any area that you choose to pick will have increased.

When you get to places like Clapham and closer in, the aircraft are on a three degree approach onto the runway, so you have very little scatter there. The aircraft are lining up, so I would say it is not that aircraft are lower. What you do have is larger aircraft, so the silhouette of a Boeing 777, for example, a 2-engined aircraft against a 737 is very different and so people will look at that and think it is lower, but

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<sup>7</sup> Clarified by Matt Gorman following the meeting: 220,000 people

actually it is at the same height; it is just a much bigger aircraft. Not everybody knows what a 777 is or a 737. So, that is the sort of factor that will play into that.

**Murad Qureshi (Chair):** Can I just be clear then? So, we were told that we are getting larger planes because within the limits of 480,000 flight movements and hence more passengers. So, with air quality it is improving things, but not with noise. That is what I thought you were suggesting.

**Rick Norman (Head of Noise and Air Quality, BAA):** No, they can improve noise as well, so just going back to Rob's point around the 2010 contours, we saw more movements in that time period higher than the 2009 period and what that change was largely driven by was the retirement of some Boeing 747 aircraft. So, we saw 12% reduction in that large aircraft. We saw more Airbus 380s in that contour as well, so that is a larger aircraft replacing an older, larger aircraft and that is really what you will see changing. As the older aircraft, larger aircraft start to phase out you will see shifts in the contour. Equally, if you have a high volume aircraft in terms of frequency of flights, an A320 for example, that will contribute to the contour quite significantly as well, just purely on the basis of the numbers that operate. So, again, replacing that aircraft by a quieter variant as time goes on will also impact.

**John Stewart (Chair, HACAN):** Just three quick points. Firstly, we do very much welcome this idea of BAA and hopefully the Government will eventually take up this idea of complementary metrics to explain to people in clearer language what the noise problem is and that is part of the joint work that we have done.

The second point is on predictability. We welcome this idea of spreading the noise a bit for take-offs and it is harder, but our eventual aim, and probably BAA's and NATS' as well is trying to give some sort of predictability, some sort of relief for this new area that we are talking about that is affected by noise. You are quite right, Chair, a lot of complaints come from the Clapham area, the Brixton area and so on. They do not have this predictability, there is no time of relief and one of our main aims over the next few years is to try to find ways, hopefully working in conjunction with BAA and NATS and British Airways to get some sort of predictability, some sort of alternation, because at the moment life in those areas is very difficult indeed.

Finally, this question of larger planes. Rick is right, the larger planes that are replacing the existing big planes are quieter. The difficulty may be in people's perception and we do not know this yet. When people see a much larger plane coming over them, are they going to believe it is louder than the plane it has replaced? I am not sure. That may happen initially but my own feeling is that in due course we do need to look to fewer, larger planes because I will repeat the point that was made and that James [Cleverly] made as well, it is the number of passengers which seems to me is critical for London's economy, not the number of planes necessarily that is bringing them in.

**Darren Johnson (Deputy Chair):** Okay, that is helpful. There are just two final points I wanted a comment on. Night flights: there is the consultation on changing the restrictions on night flights and also runway alternation as well.

**Corinna Smart (Lead Member for Environment, London Borough, Hounslow):** Hounslow's position on night flights is that we would like to work to a point where there are none between the hours of 11.00pm until 7.00am. That is our ideal and that is our position. That is cross party, I do hasten to add. Just so you know there is absolutely no differential in Hounslow Council about that point at all.

Clearly, as someone who does live under one of the flight paths I have to be totally honest there are mornings when I do get blasted out of sleep, or even when I am light sleeping you will wake at weird times, so I do know the effect that has on me personally but I also am more than aware of what that is. I would rather John talked about the night flights a bit more because there is no differential between us, we are in total agreement on that as well, but he can do much more on that.

**John Stewart (Chair, HACAN):** As most of you know we produced this report, which we commissioned from the Dutch consultants CE Delft who are economic consultants.

The interesting thing about night flights is no one is justifying night flights on the noise or the pollution or disturbance they bring. Night flights have always been justified on the alleged benefit to the London economy, to the national economy and we have questioned this from a common sense point of view, particularly the night flights before 6.00am. There are 16 of them and from a common sense point of view, is the London economy going to collapse if those 16 night flights do not come in before 6.00am? This is what we asked the consultants to look at. We did not look at the flights between 6.00am and 7.00am; that is more complicated and that would have cost a lot more to look at, but for many residents if you get a ban on flights before 6.00am, perhaps in addition with a progressive reduction between 6.00am and 7.00am, that would be a big step forward.

What the report showed is that because of the huge number of people living under the night-flight flight path to Heathrow, estimated by the Government to be over 500,000<sup>8</sup>. Now, the cost of sleep disturbance on those people of their health, of their performance at work, on stress, the consultants estimate outweighed the benefit that night flights bring to the wider London or UK economy. They said they had looked at a whole lot of variables there and they had discussed the report with the Department for Transport who may not quite accept all their figures but accept the thrust of the report. Our view is now that it is really up to companies who say that the night flights are essential to the economy to counteract these figures.

**Darren Johnson (Deputy Chair):** So, you are saying if we set aside the environmental concerns altogether the economic costs outweigh the economic benefits?

**John Stewart (Chair, HACAN):** Yes, that is exactly right and we put this to the Department for Transport. We have spoken with Theresa Villiers, the Minister, about it and we are hoping this will be taken into account in the forthcoming consultation.

**Matt Gorman (Corporate Responsibility Director, BAA):** It is clearly a significant issue around the airport and we hear regularly from communities that night flights are a particular cause of concern. Ultimately that balance between the benefits of flying at night and the community and environmental impact is one the Government needs to strike and it is Government's role to do that and they have invited questions in this consultation; they will be reviewing the night flights regime next year.

Our role is to provide the evidence of what we see as the benefits and the importance of those flights and equally set out what we think is possible to reduce their impacts and we are committed to exploring ways to reduce the impacts of those flights because we recognise the community concerns around them.

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<sup>8</sup> Following the meeting, BAA stated: "We are not aware of any Government figures that quote this number. The 2006 Night (2300-0700) contours quote around 207,000 and for the 2300-0600 (the period of the '16 night flights') the figure was around 138,000. Also, if the arrival SEL contours for the noisiest aircraft type are added up they add up to a figure less than 100,000, based on the 2004/05 fleet. More recent contours would be smaller for any of these metrics."

**Murad Qureshi (Chair):** Are you pushing for a change in the current night flights regime?

**Matt Gorman (Corporate Responsibility Director, BAA):** At the moment we are continuing to gather evidence both on the benefits of those flights and what is possible in terms of reducing their impact and we will be making our full contribution as part of the night flights review next spring. What I would say is that we were clearly interested to see the CE Delft report. It is a recognised economic consultancy and it is an important contribution to the debate, so we have commissioned a study ourselves to understand the economic value of night flights which is currently nearing conclusion, and equally to review the approach that CE Delft took and to understand that in a bit more detail. We do have some detailed questions about the methodology that they have used and which our report will address.

Broadly, in terms of the benefits, it is the early morning arrivals that get a lot of attention – although and we will touch briefly in a second on late running departures at the other end of the night which are a factor as well – there are 16 early morning arrivals. We believe that they do bring significant economic benefits both in terms of jobs and in terms of Heathrow’s role as a hub and its contribution to the economy, and our report will outline those benefits. They are all long haul arrivals, and there are a significant number of Asian arrivals in that period and that is partly because of the way the time difference works with Hong Kong and Singapore and Bangkok. That is a good time. It means a very late night departure from Hong Kong, but an early morning arrival here to arrive ahead of a full day in London, so they are predominantly long-haul arrivals and they have a significant percentage, many of them are transfer traffic, so it is flights that are arriving to catch the first wave of short haul departures from Heathrow, which will begin after 6.00am and as Heathrow, as you will all be aware, functions as a hub airport with long-haul flights feeding short-haul traffic and vice versa; they are an important part of that operation.

Equally we clearly acknowledge the impacts that they have. The picture that we have painted earlier of quieter aircraft technology coming in; it is particularly important in that period, so to give an example, the A380, the new double-decker aircraft, was designed specifically to be able to meet night arrival limits at Heathrow and is significantly quieter than the aircraft it replaces, the 747, in terms of the Government’s banding system. We are starting to see more newer and quieter aircraft being introduced in that period, so the number of the airlines that operate A380s into Heathrow fly them in at that time of day, Qantas, being an example. We expect that trend of quieter technology to continue. One of the things that we are doing as an airport is working with our customers to understand, as they are planning to invest in new aircraft, what routes will they be used on, and we can understand what difference that will make in the night period.

Equally, the work that John [Stewart] talked about in terms of operating procedures potentially has some benefits there. Just to respond to that point, John is absolutely right to highlight the predictability, as the operational procedures that could make noise more predictable are probably going to be easier on departure routes than arrivals because there is a significant volume of traffic being sequenced onto effectively just one runway at any time of the day at Heathrow. However, in the early morning period, between 4.30am and 6.00am because the volumes are lower, 16 flights, we believe there may be an opportunity to trial arrival routes which you could alternate from day to day so that rather than planes always arriving over a certain population you could say, “On Monday it will be this arrival route over London, on Tuesday it will be another one”. Now, that clearly does not eliminate the noise impact completely, but it does give predictability of when those impacts will happen. So, I guess those are the

main conclusions that we have drawn at the moment; that the flights have significant benefits but we are committed to exploring creative ways to reduce the impacts of those flights.

Late running departures are worth talking about. From the feedback we have had they tend to get slightly less focus and I can understand that flights that arrive from 4.30am are perceived to be more disruptive, but we are committed as well to trying to reduce the number of late running departures at the airport; the South East Airports Taskforce, its resilience work programmes, better performance management of our schedule and trialling some operational freedoms at the airport we believe offers some opportunities to do that. I can talk more about that and how that would be regulated and monitored but we are keen to understand other opportunities to reduce flights after 11.30pm at night, effectively.

**Darren Johnson (Deputy Chair):** Thank you very much for that. We are running out of time so I am going to move swiftly onto the issue of runway alternation. So, we will hear from Hounslow first.

**Corinna Smart (Lead Member for Environment, London Borough, Hounslow):** The first thing I have to say is that we are just so unhappy with the way that BAA have handled the so-called consultation on operational freedoms.

We know that the Minister, Theresa Villiers, said that there should be full transparent consultation with local authorities around the area and stakeholders and the community; and the first contact we have had with BAA was last week, and I have to be honest the technical details there were very limited in discussions. Rob, I am sure, can talk about that a bit more if he wants to but I have to say that I cannot believe for one minute that was what the Minister had in mind when she made that statement in July and I have to say that we are very, very concerned about how these trials are undertaken because it has to be in a robustly scientific fashion so that a proper reasoned decision can be made and the worry is that our points of view I do not think have been considered.

I think there has been a decision made, it has gone through, BAA told us what they were going to do and I do not think that is consultation in my book and what worries us of course is that we are aware that additional disturbance will happen with this happening to our residents and I feel that at the moment, as you probably know, with the runway alternation we have relief and it really is treasured, it has to be said. You know that if they are flying in in the morning you know you have the afternoon where it is going to be quiet and vice versa. We are very aware of that. We know that during these trials this is not going to happen. We could quite easily understand why it is being offered as a trial, what we are saying is we really ought to have been consulted properly about this and we are still worried about the fact that 1 November this is coming in and we feel that perhaps a delay should be offered here. We have written to CAA about this but we have not had a reply yet from them. I cannot remember when we wrote. August, was it?

**Rob Gibson (Head of Environmental Strategy, London Borough of Hounslow):** We wrote in September to the CAA and as yet we have not had a reply.

**Corinna Smart (Lead Member for Environment, London Borough, Hounslow):** But the problem with that obviously is that is all to do with noise and we are concerned. So, I will leave it there.

**Rob Gibson (Head of Environmental Strategy, London Borough of Hounslow):** Just to reiterate the point that this community sets great store in runway alternation, as Councillor Smart said, and



regardless of the assurances we receive we do see operational freedoms as a potential precursor to mixed mode operation which could have an absolutely horrendous effect on the area.

We were accused of BAA bashing at the recent meeting and we are not. We started out here saying we are not anti-airport but we operate in the context where always around the corner is runways, terminals, it is unremitting and so I think we are quite justified in being suspicious when changes like this are mooted and as Councillor Smart says, we do not feel as though we have been properly consulted. If we do not do the trial properly and scientifically, the implication of taking that forward could lead to a very poor decision being made later on.

**John Stewart (Chair, HACAN):** Just to reiterate what Corinna and Rob have said on runway alternation. It is critical to residents in west London, this period of relief. There is this concern, as Rob said, that this may lead to some sort of mixed mode and I know that the Minister has made it very clear that that is not her intention and so has BAA but for residents who are losing a period of relief that is the concern.

My last point is that the concern is magnified by one of the criteria. If residents were going to get the odd plane which was running late on, as it were, the wrong runway, it is not a big deal, but one of the criteria is that if an individual plane is running ten minutes late it might land on the wrong runway. At the moment the average delay for planes at Heathrow coming in is 12 and a half minutes.

**Darren Johnson (Deputy Chair):** It could become just common place.

**John Stewart (Chair, HACAN):** It could become just common place and that is what the worry is about, not the odd plane but the fact it becomes common place.

**Matt Gorman (Corporate Responsibility Director, BAA):** A couple of points just to open. I will hand these around because not all of you will have constituencies in areas that will necessarily receive this information, just so you can see how we have been communicating at a high level on the operational freedoms trials.<sup>9</sup>

So, the first point to make is that these trials are part of a resilience package of work that was recommended by the South East Airports Taskforce, a taskforce chaired by the Minister for Aviation, Theresa Villiers, with a membership from the industry, but also including the CAA, NATS, community groups represented by the Aviation Environment Federation, a broad taskforce that recommended a package of measures to improve resilience at Heathrow.

Three important parts of that of these operational freedoms are one: better scheduling. We are scheduling over time more evenly through the day so we are not bunching the schedule at particular points of the day, which has happened as a result of how the schedules evolved over time at Heathrow.

Secondly, better performance management of the schedule with airlines so that we understand the reasons why aircraft might be delayed on the ground and look to improve that, and the third part is operational freedoms.

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<sup>9</sup> *Trial at Heathrow to explore the potential to reduce delays and late running flights*, BAA, October 2011. A copy is attached as Appendix 4 to the minutes.

So, these were recommended by the taskforce and we were asked then to develop, working with NATS, a process to trial these but very clearly to trial them under the oversight initially of the Civil Aviation Authority, as our independent regulator and ultimately of the Government. So, this is a trial independently monitored.

The answer to some of the questions and some of the issues that have been raised is that, until we trial these, we will not know exactly what the impact of these trials is, both on the efficiency of the airport and equally locally, and that is why it is important that we do engage and would be keen to pick up with Hounslow and see how we can improve that.

The potential benefits are a more efficient operation, reduced delay at the airport, which has benefits for the airport operation and for the economy as a whole. Equally, reduced stacking because delay generally is inefficient and will lead to increased emissions so there may be benefits there and as I have discussed there may be benefits in terms of late running departures. We recognise that it will mean some aircraft out of the usual runway alternation pattern. Until we have done the trials I do not think we know how often that might happen and we need to trial that and understand the response to that.

It is really important to say this is not mixed mode because it is all within the 480,000 cap at the airport. It does not change the capacity, it does not change the schedule, it does not change the fact that segregated runway operations remain the normal mode of operation at Heathrow. It is really important to state but we understand there will be concerns.

**Darren Johnson (Deputy Chair):** With those assurances, how would you deal directly with John Stewart's issue that if the average delay time is 12 and half minutes then allowing a changeover for anything up to 10 minutes would be fairly common place?

**Matt Gorman (Corporate Responsibility Director, BAA):** I do not have the average delay figures with me now. In terms of the operation over the year at Heathrow it is probably helpful for me to describe what that looks like: 300 days when operations are broadly normal, 50 days when we have moderate disruption, 10 to 15 days of severe disruption and the operational freedoms trials are targeted particularly at avoiding delays which get to either moderate or then into severe disruption. So part of this would be, through some tactical interventions, can we avoid delay building up to the kind of levels that we have talked about, which may be possible?

The short answer is until we have actually done the trials we will not have a full understanding of how often it will be used and what the impacts will be, but we are going out to get local feedback and we would expect to gather that through normal routes, through the noise complaints line that we have, and through other channels. So, clearly we will be actively monitoring and publicly reporting on the progress of the trials as we go through. These are trials, the ultimate decision on should they be continued in the long term will be one for Government and one that Government would need to consult on. So, that is a further step down the line.

**Rick Norman (Head of Noise and Air Quality, BAA):** Can I just add one point quickly on that as well, just to reassure John [Stewart] again on that? Even if we were to start sending aircraft down both runways for arrivals the airport just would not work for very long like that because you would build up a big load of departures on the ground then that would not be able to get off. So, we need to understand that just because the trigger has been met, that does not mean to say that you will use the freedom. There will be other factors that will be taken into account about like what is the build up of delay on the

ground, is this going to alleviate the delay enough? It is just a trigger point at which you say, "Can we do something now to bring one out of alternation?" I do not think it would be a big number. I do not know what that number would be but it is not going to be two streams of parallel approaches coming in. It is just not going to be that. I have ten years' worth of alternation patterns here, that show this already varies. At extremes it has been 60% odd on some particular months but typically we are somewhere between 88% and 98% adherence to alternation so there is already some out of alternation operation that has gone on and it has been going on for several years.

**Darren Johnson (Deputy Chair):** Okay. We will look carefully at this but we note that, as Councillor Smart says, this respite time is absolutely treasured by residents.

**Rick Norman (Head of Noise and Air Quality, BAA):** Yes, and we recognise that, as well.

**Tony Arbour (AM):** Can I just say I have had this leaflet. There is universal suspicion that this is the thin end of the wedge. It is all very well for you to say that of course it is not alternation, it is simply your use. It really does not wash. I do not think your PR machine on this has worked terribly well and the suspicion and expressions that you have heard from Hounslow I can assure you apply to Richmond too.

**Matt Gorman (Corporate Responsibility Director, BAA):** Well, we take that on board. We would certainly encourage you to feed into the trials. I would just reiterate it is within the existing cap at Heathrow of 480,000 movements and it is not mixed mode because it does not result in an increase in that cap.

**Tony Arbour (AM):** I understand that because you have explained it here to us that it is not mixed mode, but to the man in the street who is having his afternoon disturbed which he thought he was going to have free he is saying, "That is mixed mode". He is not going to know it is for the reason that you have given.

**Matt Gorman (Corporate Responsibility Director, BAA):** Well, that is part of our challenge and we will continue to communicate that and I will clearly take that message back from today.

**Murad Qureshi (Chair):** Okay. We have come to the end of all the ground that we wanted to cover on air quality and noise. I will give you a last opportunity to say a last few things that you think are pertinent to this whole discussion of localised environmental issues around Heathrow. Can I start with Professor Laxen and what you feel are the key things we have to look out for for future air quality management around Heathrow?

**Professor Duncan Laxen (Air Quality Consultants):** It is recognition of the benefits of working on the road traffic aspects of Heathrow, and what I would like to see is BAA encouraged to incentivise the introduction of cleaner vehicles and this has a wider benefit than just for Heathrow itself because those vehicles will travel long distances to the airport and they will be clean throughout their journey, so they will be spreading the improvement in air quality across London and an important proviso to this is that it is genuinely cleaner vehicles. We have had these problems with motor vehicles not being as clean as we thought and so care needs to be exercised in deciding what is a clean vehicle.

Mention was made earlier that Euro V buses were now being introduced. I am not convinced they are as clean in operation as we believed they would be and so maybe that measure is not going to be as

productive as we thought. There may be issues with Euro VI vehicles not delivering what they are promising but at the moment they are promising big improvements and we need to look at that and other ways of getting cleaner vehicles on the road.

Incentivising partly by financial measures, reducing costs for car parking and the like, and one other minor thought I had is I do not know whether BAA charge for cars that are dropping off passengers at Heathrow, but I know that Bristol Airport, which I use reasonably frequently, now charges people just to drop someone off and this is going to discourage people from delivering people to the airport.

**Murad Qureshi (Chair):** Thank you very much for that. Can I come back to our friends from Hounslow Council and can you just outline what key outcomes you are looking for in the present context.

**Corinna Smart (Lead Member for Environment, London Borough Hounslow):** We will go on the night ban. Air quality problem needs to be resolved to protect residents' health. We want better overall mitigation and mitigation for the loss of the Cranford [Agreement]. Thank you, TfL, for saying about this but we do want the Piccadilly line upgraded and we would like a health impact assessment.

**Rob Gibson (Head of Environmental Strategy, London Borough of Hounslow):**

I have one additional one. We have heard a lot today about operational freedoms, loss of Cranford Agreement, concentration and dispersion of aircraft. What we really need now is a proper up to date social survey of the effects of all of these measures on the community, particularly in relation to noise.

**John Stewart (Chair, HACAN):** Four things make me a happy man. One is an improvement in the noise climate, not just remaining steady; secondly is noise relief for areas a bit further away from Heathrow; thirdly, a reduction in air pollution levels, and finally a ban on night flights. That is all.

**Murad Qureshi (Chair):** That is all. That is not much!

**Lucinda Turner (Head of Sub-Regional Strategy and Policy, TfL):** We have to say we recognise our role in the important challenge of tackling air quality; it is a big challenge. There are lots of measures we have been putting in place already, delivering improvement but lots more are needed. We have committed to more and will continue to enact those but we are seeking additional action from central Government and funding to support that as well. All parties clearly need to play their role. On buses we do have a bit more leverage, we do London drive cycles to replicate more fully the real world conditions but we have that control over buses. We do not necessarily have that control over private cars etc so there is a big role for those Euro standards to deliver more effectively than they have.

**Matt Gorman (Corporate Responsibility Director, BAA):** I will try to be brief. There has been a huge amount that we have covered here today. One thing we have not really talked about, and let me just frame a minute of closing comments about that, and that is the importance of Heathrow as a hub: 70% of the UK's long haul travel is from Heathrow and that is because it is a hub airport, it is the only one in the UK. So, part of the reason that we are effectively full as an airport is because of the value that we bring to the economy as a whole and it is important to put everything we have discussed in that context. Our challenge as an airport is to deliver those benefits and to do everything that we can to reduce the environmental impact of the airport and meet environmental limits. So, that for us is sustainable development.

On air quality we are committed to playing our role in driving compliance with the EU limits. What I wanted to try to do today is to put us in context. It is not solely within our remit but we are committed to playing our role. Had I realised the strength of interest in surface access I would have suggested that Allan [Gregory] be sitting alongside me rather than Rick [Norman] probably, but he will doubtless come and talk to you about that. There is lots that we are doing and planning there.

One thing that links air quality and noise is new technology and we come back to the figure of 60% higher technology penetration for new technology at Heathrow than the worldwide fleet. That is important and that will continue. That said, on noise in particular we do recognise that quieter aircraft, while important, do not respond to all community concerns because there are more aircraft and we need to find better ways of communicating in ways that residents can understand and relate to and equally of making noise as predictable as possible and we are committed to doing that. It has been a very positive discussion with John [Stewart] and colleagues on that. There are any number of points I could respond to but I am going to call it quits there and leave that as a summary.

**Murad Qureshi (Chair):** That is much appreciated. As you can well understand we are an environment committee and our main concerns are quality of life issues around that for London. The Economy [Culture and Sport] Committee, if they so wish could call you in to hear those arguments.

We are actually, as members will know, the only committee that regularly deals with aviation issues from the environmental perspective which explains why our next meeting is also on aviation looking at some of the issues around City airports. I do not think it is because we have any particular obsession, it is just that we have an expertise amongst the members and the officers to grapple with some of the technicalities of the issues around airports and we will no doubt return to these issues regularly, just to keep an update on the effects it is having on local residents as we see some new operational changes through operational freedom as well as you communication plan, particularly on air quality and surface transport changes, as and when they come to fruition.

So, thank you very much for attending and putting your perspectives. It is very much appreciated by the committee.