

vital?

623. MR BLAINE: Yes.

624. MR CLIFTON-BROWN: Is there not drag on the tunnel wall?

625. MR BLAINE: There is drag on the tunnel wall which increases resistance and also cooling issues have been raised, but on balance because of the gradients and alignment we are talking about we believe this offers a very good compromise or counter to that.

626. MR MOULD QC (DfT): If the position of Mr Blaine, with his characteristic fairness, is that, broadly speaking, the increased cost of climbing and descending is essentially cancelled out by the increased cost of going through an extended length of tunnel, by definition the Committee does not really need to worry about it very much.

627. SIR PETER BOTTOMLEY: It will not be the determining issue.

628. MR MOULD QC (DfT): Quite.

629. CHAIR: Mr Blaine, you got through that very quickly, and like most engineers you actually answer questions, or try to. We are going to take a five-minute break, take one more of your witnesses and then a longer break before we begin the evening session.

*Sitting suspended*

*On resuming—*

630. MR STRAKER QC: Mr Paul McCartney has taken his place next to me. I will ask for slide 1180(1) be put up where the starting question as to the purpose of the evidence is shown. That is answered in the next slide to present the socioeconomic costs. The third slide, 1180, introduces Mr McCartney and gives us his qualifications and the fact he is director of economics with Peter Brett Associates LLP.

631. MR STRAKER QC: Let's get straight into the Chiltern economy, if we may.

632. SIR PETER BOTTOMLEY: Before you do that, may I just show off for a moment by saying that the book that nobody has read on social economics by Walter Hagenbuch starts with the sentence, 'Social economics is what social economists do.'

633. MR STRAKER QC: There is no particular answer one can give to that question or observation. In 1180(4) you run through over a number of slides, which we will be able to take reasonably quickly, what the Chiltern economy does, how it functions and who is there. It is home to 93,250 residents. I think the following slide tells us how many businesses there are?

634. MR McCARTNEY: Yes. Essentially, it is a strong diverse economy. By a number of metrics it is doing well; it is above the UK average. It has relatively high employment and relatively low unemployment figures; the industries are in the professional and technical sector. It is a strong and diverse economy that has done well. It is mainly small and micro-businesses with under 10 employees scattered across the district, so there is a lot of dependency on road traffic and cars moving within the district itself.

635. MR STRAKER QC: That is the 5,300 businesses there, and you also draw attention to the visitor economy in slide 6.

636. MR McCARTNEY: Indeed. It is very dependent on the visitor economy. We will come on to discuss that, but there are 55 million visitors per annum. They visit the AONB, which is higher than a number for the national parks. Ten million of them come from outside the area; they do a lot of spending which promotes and supports local economic activity.

637. MR STRAKER QC: Those 55 million come for all sorts of activities?

638. MR McCARTNEY: Yes. They are very much coming for what the AONB provides in terms of leisure, recreation, walking, relaxation – what you would expect to get from an AONB.

639. MR STRAKER QC: In 1180(7) you ask the question whether the economic performance of the area is influenced by the environment.

640. MR McCARTNEY: Very much so. As I just said, the visitor economy and the number of people who are attracted to the area provide a lot of economic and social support to the area. It is very much dependent on the visitor economy, and the environment is very much a generator of that.

641. MR STRAKER QC: That enables us to pass through 1180(9) in which you record

how the local economy works. You refer to its rural nature with a high dependency on the local road network for connectivity, because you have touched upon that.

642. MR McCARTNEY: Yes.

643. MR STRAKER QC: That leads to the question: will the construction of the line impact on people's travel? That is 11. In 12 you answer 'yes' to that.

644. MR McCARTNEY: Yes. From the environmental statement, it is quite clear that a lot of the work will impact on people's lives through the junction delays, the construction compounds, construction activity, satellite sites and uncertainty around utilities. All of that will be going on during the construction period and will impact on all sorts of movements, whether that is business, leisure or commuting.

645. MR STRAKER QC: 13 shows the number of residents who travel to work using road vehicles, presumably cars principally, although no doubt some in vans.

646. MR McCARTNEY: Indeed. To go back a step, following on from the previous presentations, what we are trying to do is understand the economic impacts on the local economy from the scheme. The environmental statement had a narrow focus and looked at construction employment and the employment impacts from displaced businesses. What we were trying to do was understand the much wider economic and social impacts, which we will come to, on people's social wellbeing, amenity and visitor spend. One of the things we wanted to do was look at the impacts on travel. Without a detailed traffic model, which you would need to do this precisely, we undertook a high-level assessment, basing that on evidence we could provide on how many people travel to work, where they are travelling from and where they are travelling to and how many people are likely to be affected. It was at a fairly high level, but it was a much proportionate approach in line with DfT and Treasury's proportionate appraisal guidance.

647. The first thing we looked at to understand this, for example, was that 68% of residents travel to work using road vehicles. As to the travel patterns across the area, we tried to focus on how many would be affected by the construction activity, not just road closures and diversions but also time delays as that permeates across the economy. From that, we estimated the travel delay impacts.

648. MR STRAKER QC: 14, please.

649. MR McCARTNEY: It has been estimated at probably under £100 million, but we have estimated a figure of that scale. Slide 15 disaggregates that across travel types: £26 million in delays for commuters; almost £64 million for other non-work time; and £50.6 million for work-related travel. We undertook various approaches to arrive at those figures.

650. MR STRAKER QC: So the Committee has an idea, when you are talking about £63 million in non-work time, what sort of occasions are you here describing?

651. MR McCARTNEY: We are looking at residents in the area. We know from the national travel survey how many journeys the average person makes in a year. We look at how many of them are made by particular modes, and how how many of those trips would be affected by the works. In normal times people who travel within the peak times can shift their travel patterns to other times. We built up a picture of what these impacts would likely be generated, using values of time from the Department for Transport and calculating that through over an eight-year construction period and then discounting that back to present values. That gives us a figure of £63.8 million.

652. MR STRAKER QC: There is a similar exercise for these other categories: £26 million for commuters; that is, delays in people catching their trains, buses or whatever it may be?

653. MR McCARTNEY: It is people driving to work. 68% of people use a road vehicle to go to work. What is the impact on their travel through road closures, diversions, the delays at junctions and the movement of utilities? We built up that picture and looked at how many people were making commuting trips and multiplied that through a value of time. We discounted that to arrive at the present value of £26 million. Using those techniques, we arrived at a total figure got travel delays.

654. MR STRAKER QC: If we go on, you ask the question how these costs have been estimated. In part, your answer has explained that, because the next slide draws attention to the fact that you used Department for Transport recommended techniques and values.

655. MR McCARTNEY: Yes. We did not have a traffic model – I am not sure the

promoters have one either – to look at the precise quantification and monetisation of these impacts. What we did was build up a proportionate approach using, where we could, as recommended in the guidance, the secondary data and information we had access to in order to build up an understanding of these impacts.

656. MR STRAKER QC: Then you ask the question at 18 whether businesses are being surveyed. You answer that positively at 19, and at 20 you tell us what those surveyed had to say for themselves.

657. MR McCARTNEY: Using that as a sense check to understand the analysis we had undertaken, we looked at the business surveys to see what the businesses themselves were saying about the construction period and the impacts that would have and put it in a table here.

658. MR STRAKER QC: The table is at 21.

659. MR McCARTNEY: It very much summarises the messages received during that survey. 77% of businesses surveyed considered that the delays in the road network during construction of HS2 would negatively impact on the movement of goods and services, staff and business trips; 60% of businesses considered the construction phase of HS2 would negatively impact their turnover. We were using that evidence to support the analysis we undertook. Indeed, the last line of this is that zero per cent of businesses think HS2 will positively impact on their operations.

660. SIR PETER BOTTOMLEY: Did they say anything about the channel tunnel Bill? Did their predecessors 300 years ago think the same thing about the building of canals, or the Chiltern line?

661. MR McCARTNEY: I don't know.

662. SIR PETER BOTTOMLEY: The higher lines are probably more robust than some of the lower ones. I am not saying they are not factual.

663. MR McCARTNEY: We just used that as a sense check to see whether the results were real in terms of speaking to businesses. Does this align with their thoughts? That was the information we received.

664. MR STRAKER QC: In 22 you refer to national connectivity being improved by HS2, or its construction creating significant disconnectivity and severance at local level, and then we see the words in brackets.

665. MR McCARTNEY: There is no difference. What we were looking at was that one of the key drivers for HS2 was to improve connectivity to spread wealth across the country. At the same time, locally it has the opposite impact, in that it creates significant disconnectivity during the construction period, not necessarily during operation, and that will subsequently have an impact on the performance of the local economy.

666. MR STRAKER QC: In 1180(23) you ask a question about the impact on road maintenance costs.

667. MR McCARTNEY: These have been estimated.

668. MR STRAKER QC: That is 24.

669. MR McCARTNEY: These have been estimated at £7.3 million. Essentially, that is caused by considerable heavy lorry movements on the local network.

670. MR STRAKER QC: That is as described in 25.

671. MR McCARTNEY: That excludes the impact of displaced traffic during that period.

672. MR STRAKER QC: In 26 you ask about the importance of visitors to the AONB. You answer that question at 27.

673. MR McCARTNEY: And it goes on to 28.

674. MR STRAKER QC: We have seen that figure before.

675. MR McCARTNEY: Yes. The 55 million visitors per annum is a big number. There are 10 million visitors from outside the area.

676. MR STRAKER QC: That is slide 29.

677. CHAIR: How do they arrive: by road or by train?

678. MR McCARTNEY: I do not have that information.

679. MR STRAKER QC: In 29 you tell us that the 10 million from outside the area spend almost £200 million.

680. MR McCARTNEY: That creates a lot of demand throughout the economy, through recreation, leisure, food and accommodation. There are a number of businesses dependent on these visitor numbers.

681. MR STRAKER QC: In 30 you ask about the loss of land in the AONB.

682. MR McCARTNEY: We have heard from previous witnesses that there will be a loss of land, and we go on to discuss what that will be and the implications of that.

683. MR STRAKER QC: That gets us to 32: the loss of 200 hectares.

684. MR McCARTNEY: Yes.

685. MR STRAKER QC: In 33 you refer to rights of way. There is a loss of 1,603 metres.

686. MR McCARTNEY: And 1.3 kilometres in the cycle way.

687. MR STRAKER QC: 34.

688. MR McCARTNEY: The ancient trackway is almost 5 kilometres.

689. MR STRAKER QC: 35.

690. MR McCARTNEY: Ancient woodland: 8.2 hectares, and agricultural land temporarily lost. That comes to 200 hectares.

691. MR STRAKER QC: Let's catch up at 37. We had a question earlier about the amount of agricultural land lost. 197 hectares are temporarily lost; and 38 hectares are permanently lost. It is 100 hectares?

692. MR McCARTNEY: Yes; those are the figures we have been given.

693. MR STRAKER QC: In 39 you ask the question whether it could have an impact on the popularity of the visitor destination, and hence its long-term performance

economically. We see the answer at 40.

694. MR McCARTNEY: What we wanted to do was clearly understand the loss of this land and the impact it would generate, which has not really been captured in the environmental statement. I confess this is not easy. In theory, it is not particularly straightforward. What we wanted to do was use the evidence we had gathered and pull that together to try to quantify, and to some extent monetise, what these impacts would be. The first was the loss of amenity due to the loss of woodland and agricultural land. What impact would this have on people's house prices? People value the amenity where they live. That is one of the measures that leads through to house prices. The negative impact on the land is reflected in a reduction in house prices. There is evidence and research from the UK national ecosystems assessment, referred to earlier, to demonstrate that a 1% loss in woodland or farmland can impact property prices. We used the information from that and looked at the mapping of property to arrive at a present value of £6.2 million.

695. MR STRAKER QC: That is 1180(41): woodland.

696. MR McCARTNEY: Yes.

697. MR STRAKER QC: There you are monetising a loss of woodland of £6.2 million?

698. MR McCARTNEY: Yes. Looking at proximity to the loss of woodland and farmland and how that transfers through to the impacts on property prices, we value that at £6.2 million. That is the present value over a 60-year period from the construction period through its operation. I think that is a very conservative estimate. Using the analysis, that is what we came up with.

699. MR STRAKER QC: So we get it clear in our minds, in the study that you carried out we have a variety of areas with which we are concerned. We have the Chilterns themselves; we have the Chiltern District Council area; we also have within the AONB part of the town, as it has been described, of Aylesbury Vale District Council. Your study was in connection with what?

700. MR McCARTNEY: Chilterns District Council.



701. MR STRAKER QC: Just Chilterns District Council?

702. MR McCARTNEY: The focus was very much on the economic impact on the Chiltern districts specifically.

703. MR STRAKER QC: If one is looking beyond that, these figures will necessarily be upwards.

704. MR McCARTNEY: They would certainly be upwards, taking on board the impact outwith the Chilterns district area.

705. MR CLIFTON-BROWN: Can I ask how you made that calculation of £6.2 million, because the permanent loss of 100 hectares of agricultural land is not anything like £6.2 million?

706. MR McCARTNEY: The research that we looked at showed that a 1% change in farmland and broadly woodland had an impact on property values. The research undertaken had been done for London. We adjusted those property values to look at the Chilterns. We looked at the value for each property in its proximity to the loss of land. For example, there was broadly a 5% loss for woodland and 50% loss for enclosed farmland. We multiplied that by 5% and 50% and applied that to the properties affected. We did not apply it to all properties, just to those affected.

707. MR CLIFTON-BROWN: The market value of 100 hectares would be about £2.5 million, or £24,000 a hectare.

708. MR McCARTNEY: This impact is over 60 years; it is the impact of the loss of woodland and farmland over a 60-year period, discounted to present value, which gives us the figure we arrived at of £6.2 million.

709. SIR PETER BOTTOMLEY: Geoffrey is absolutely right on his figures. If I do not own farmland but live in a house that looks out over farmland, are you counting the loss to me of the value of that amenity land to my sight rather than ownership?

710. MR McCARTNEY: Yes, that will impact on your property price.

711. MR STRAKER QC: Just so that we can take this a step further, this slide 41, where the reference is made to the £6. 2 million and there is reference to agricultural

land within this slide, the valuation which could be made by an estate valuer of that agricultural land as to what someone might buy from the farmer for that agricultural land, is that a step which you have taken or have you done something different?

712. MR McCARTNEY: No, we've done something different. The proximity to agricultural land and woodland has an impact on your property price. If that land is then removed and you are within proximity, that can then have an impact on your property price. It is the removal of land.

713. MR CLIFTON-BROWN: What you have effectively done is to put a net present value on a view over 60 years?

714. MR McCARTNEY: So, to a large extent, that is incorporated within it.

715. MR STRAKER QC: Incorporated within it and other matters as well?

716. MR McCARTNEY: Yes, it's the benefits that you will receive from a proximity to that affected land. If that land is then removed it has an impact on you as a property owner. So, what we did was to look at all the property owners within proximity to that land and reduced the potential price of their property. There were about 2000 properties. We reduced the price of that property to reflect the loss of the land roundabout.

717. CHAIR: Can I ask, why 60 years?

718. MR McCARTNEY: That is the appraisal period that we undertake for the Treasury Appraisal Guidance, which suggests that we carry out an appraisal over a 60-year period.

719. MR STRAKER QC: Thank you very much. We then move on away from that agricultural land to the loss of land impacting on people's health, at 42, where you ask the question there and you answer it at 43.

720. MR McCARTNEY: Using similar evidence, research has been undertaken which suggests that if you live in close proximity to land where you can exercise it has an impact on your health and well-being. You are more likely to exercise and to undertake physical activity. So, going through a similar process, we looked at the loss of land in

particular areas, and how many residents would then be affected by being in proximity to that land. There is a correlation which suggests that they are more likely to undertake a level of exercise because the opportunity has then been removed. Then that reduces such things as levels of obesity and other types of health problems. So, there is a value, again, that can be applied to that to understand what the health and well-being facts are from the removal of the land.

721. MR STRAKER QC: So, this is no more than the person who lives next to Hyde Park is more likely to exercise in Hyde Park than the person who is some distance from it?

722. MR McCARTNEY: There is a strong correlation. The evidence shows that if you live within close proximity to an area where you can exercise, you are more likely to do that, such as walking along a canal.

723. SIR PETER BOTTOMLEY: It that a direct effect of actually using what is available to you or is it that healthier people tend to be richer and to to buy homes closer to nice places?

724. MR McCARTNEY: No, I think there is a correlation. That may happen but there is evidence to suggest that if you have the opportunity to do that, you will take that opportunity. If you live next to a canal, you may go and walk along the canal, you might walk your dog or cycle along the canal. I think the same thing would happen with farming and woodland in the countryside.

725. MR STRAKER QC: That is 43. At 44 you ask the question about impact on the productivity of businesses and you answer that affirmatively at 45. The productivity loss you estimate at 2. 7 and you arrive at this.

726. MR McCARTNEY: Again, looking at the evidence that was available, the evidence does suggest that work places which are connected with greener and more attractive environments tend to have a more productive workforce. They take more exercise during the day and businesses are more likely to be able to retain staff if they work in a good environment. That means that the costs of recruiting are reduced and they are more able to maintain the most productive staff, so there is less turnover. On that basis, if we look at the level of sickness and leave that people take for sickness, CBI

studies suggested that businesses with a more active workforce have 0.4 days less sickness leave. We then applied that using the average salaries within the Chiltern district area and factored that up to arrive at the productivity loss estimate of £2.7 million, again over a 60-year period down to the present value.

727. MR STRAKER QC: Thank you. Then we look at the question of whether there will be a loss in visitor spending at 46 and you answer that affirmatively at 47 and you arrive at an estimated figure.

728. MR McCARTNEY: Yes, it is quite clear that tourism is a key component of the Chiltern district without any doubt, particularly it being a major draw for visitors and how much they spend. The approach we undertook here was to value the Chilterns as an AONB and an economy within the Chiltern district area. We then estimated an amount of spend per hectare to the local economy. We assumed that each hectare provides a similar level of attraction and visitor spend. We then took off the loss of the hectares that would happen under the proposed scheme and multiplied that up to a figure of £31.5 million. Again, that was over a 60-year appraisal period discounted. I cannot remember precisely what the annual figure was but roundabout £4 million or £5 million each year we discounted to arrive at £31.5 million. The value per hectare was £7,500 and we multiplied that through 250 hectares and then arrived at £31.5 million.

729. MR CLIFTON-BROWN: Is that a linear relationship? If you take a town that has a bypass put around it, its spend drops dramatically in the first two to five years and after that it picks up and eventually goes past what it was originally. Wouldn't that be the case here that your spend would drop for a period of years and then pick up once the whole thing had bedded into the landscape and everything else?

730. MR McCARTNEY: We couldn't find any evidence that that was actually happening. There was a suggestion that people will still continue to come to the Chilterns. They might go to a different place. We were looking at the impact on the local economy, so if they go to a different place outwith the Chiltern district, that has an impact on them. Now, there may be some visitors where their activity is displaced but we are not saying that everyone will stop coming to the Chilterns because of this construction activity and ongoing, but the evidence suggests that it wouldn't necessarily come back to the level it was before. The habits would change and people would

probably go elsewhere.

731. SIR PETER BOTTOMLEY: This figure of £4 million to £5 million is this an estimate of what happens over 60 years or is it an estimate of what happens over five or 10 years of major construction?

732. MR McCARTNEY: It's the ongoing impact of the implementation but not during construction; it is after construction. We haven't looked at the impact on visitor spend during construction. That is why I think it is a conservative figure because it could well be that people, if they visit during the construction period might decide not to go back or may tell their friends or family, 'I don't think you should go to the Chilterns'.

733. SIR PETER BOTTOMLEY: I know that HS1 didn't go through quite the same landscape as the Chilterns but are there any comparative towns or villages you have studied? Has Leeds Castle stopped having visitors?

734. MR McCARTNEY: We have not studied that but we could not find any evidence to suggest that.

735. MR MOULD QC (DfT): Perhaps I may interpose.

736. SIR PETER BOTTOMLEY: You have been to Leeds?

737. MR MOULD QC (DfT): I have, yes, although whether my visit is of any significance I don't know, but you may recall that when we heard the presentation on land compensation from the Action Alliance back in November there was evidence to show that the blighting effect of construction of the CTRL reduced essentially to nugatory as the railway began to come into operation, and that may be of some relevance.

738. SIR PETER BOTTOMLEY: Even away from places like Ashford, which got a gain from the station.

739. MR MOULD QC (DfT): Yes, so that may be of some relevance.

740. MR CLIFTON-BROWN: And how long did that period take?

741. MR MOULD QC (DfT): My recollection is – I am going from memory here and

if I've got this wrong I will let you know as soon as I can – but my memory is that the housing market certainly picked up essentially at the point at which the railway began to operate.

742. SIR PETER BOTTOMLEY: And that was even before we had the Conservative Coalition Government.

743. MR MOULD QC (DfT): Indeed so. I couldn't possibly comment on the effect of that.

744. SIR PETER BOTTOMLEY: Everything we are hearing is valid. Some of it may be interpreted as 'kitchen sinking' the issue. There are some things which I think have been more robust and matter more. I am not sure that this particular one is the biggest one we have had so far.

745. CHAIR: Shall we march on?

746. MR STRAKER QC: It is not necessarily the biggest one but plainly there will be a consequence there and whether the number is precisely the same is a matter of some difficulty, but marching on we then get to 48 where you ask the estimated value of the socio-economic impacts and you get to 49 to do that. Here you run through, don't you, the figures that we have seen?

747. MR McCARTNEY: Yes, the figures that have just been discussed are summarised in a tabular form on page 49.

748. MR STRAKER QC: Yes. Then we get to the question of whether HS2 has taken account of those, to which you answer negatively at 51.

749. MR McCARTNEY: Looking at the Environmental Statement, there does not appear to be any analysis which has tried to understand, measure, quantify and monetise these particular impacts. As I said earlier, there is a narrow focus on construction job creation during the period and also on the employment impacts of businesses that will be perhaps displaced.

750. MR STRAKER QC: You ask next the question of the reliability of the figures and this touches upon some of the exchanges which have already occurred. At 53, you ask

the question, 'How reliable are the figures?'

751. MR McCARTNEY: I must say that this is not a precise science. We have been asked to look at things and what we are saying is that there are impacts here which haven't been taken account of. We're not saying that £170. 4 million is spot on to the nearest pound. What we are saying is that there are impacts on the Chilterns economy which have not been taken on board and we have tried somehow, using evidence that we have gathered, to estimate that. Whether it is £170 million, £140 million, or £180 million, there is a figure there which has been calculated.

752. MR STRAKER QC: I just want, if I may, to spend a moment on 53 because you talk about the application of recognised techniques. Those techniques are recognised by whom?

753. MR McCARTNEY: The approach we have used as far as we could possibly do, takes on board the Government's Green Book, which was referred to earlier, which is their recommended guidance for the appraisal and valuation of public sector projects. We have, as much as we can, looked at the DfT guidance and used that as a steer for some of the figures we should use where that has been available. We have used Government sources in terms of census data, national travel surveys, etc. , so we have used secondary data but a lot of it is official data and the application of that is a used recognised technique.

754. MR STRAKER QC: Do the values recommended in DfT guidance give you figures to enable you to produce your monetised outcomes?

755. MR McCARTNEY: Yes. We have used values of time. We will probably come on to that but values of time are used and that has been set out in the DfT's WebTAG guidance.

756. MR STRAKER QC: Then you ask whether the figures are optimistic, which is slide 5

757. MR McCARTNEY: As I suggested, this is not a precise science. We have tried to use the evidence that we could to arrive at a figure. We know that there are impacts there but measuring them is much more problematic, and quantifying them and

providing a monetised impact is also problematic. Indeed, there are some things that we were not able to measure where there will be impact but we haven't been able to capture these and this is why we think that the figures are conservative.

758. MR STRAKER QC: So, we get to 56 and these are your items which you have excluded, I think?

759. MR McCARTNEY: Yes. So, things such as the impacts on running vehicles.

760. MR STRAKER QC: That is 57.

761. MR McCARTNEY: Yes, 57. If people have been diverted through road closures or travel delays that has had an impact on the running cost of their vehicles, that has not been included.

762. MR STRAKER QC: And then 58.

763. MR McCARTNEY: There is a lot of research going on at the moment to try to understand the impacts of noise. As to putting a value on that and what it means for local residents, we haven't attempted to capture that.

764. MR STRAKER QC: Then visual impacts, 59.

765. MR McCARTNEY: Again, that is something we have not looked at. There may be change in the landscape or impact on people's amenity and how they will enjoy the local countryside.

766. MR STRAKER QC: Is there a caveat there because we had this discussion earlier about the consequential impact of forested land or agricultural land?

767. MR McCARTNEY: Yes, that was very much on people's property. This is generally people walking through the countryside and the impact that that will have on their enjoyment of the AONB.

768. MR STRAKER QC: Then at 60 is the question you have been asked and have answered, which is how you have excluded the spend during the construction period, the lost spend during the construction period.

769. MR McCARTNEY: Yes, we did look at the construction period. There is not a



lot of evidence to suggest that people will not go to the Chilterns. Like I said, they might go to other places but that in itself has a direct impact on the Chilterns' economy and we have not necessarily captured that.

770. MR STRAKER QC: 61 is impact of loss on inward investment. This is another matter not accounted for?

771. MR McCARTNEY: Again there is evidence that inward investors who may be looking at the area during the construction period, for example, might not fit with the business model because it may impact. If they are doing a lot of deliveries, going out and about to a lot of meetings, etc. , that will impact on their day-to-day performance. We have not tried to capture the impact of that.

772. MR STRAKER QC: And then at 62 is something else you have not tried to capture.

773. MR McCARTNEY: There may well be a change in people's spending habits. They may go to other places rather than spending in the Chilterns. They may spend outside the Chilterns. We have not tried to capture that. Again, that would be another negative impact.

774. MR STRAKER QC: Then 63 is a further impact: loss of business and enjoyment.

775. MR MCCARTNEY: I am sorry, that is a typo. It should be impact of loss of business and employment.

776. MR STRAKER QC: And employment? I am sure we all enjoy our business but loss of business and employment, and the enjoyment that comes from employment.

777. MR MCCARTNEY: From the business survey, one in 10 business owners surveyed are considering a change of location and there are questions about how much of that is perception and how much will be a reality. If they do move, there would be a loss of employment to go along with that. We have not tried to capture that.

778. MR STRAKER QC: Then at 64, is impact on adjacent areas.

779. MR McCARTNEY: Again, our focus has been very much on the Chilterns district area. We have not looked at areas outwith the boundary.

780. MR STRAKER QC: Then we come to the impact on estimated costs of the tunnel at 65.

781. MR McCARTNEY: Yes.

782. MR STRAKER QC: The value of these impacts has not been captured in HS2 calculations. Those impacts here that you are referring to are what?

783. MR McCARTNEY: The socio-economic impacts which add up to that £170 million figure.

784. MR STRAKER QC: So, then we get over to 118066, which is the one which I mentioned right at the outset today. So, we can now travel through this document, please. We have seen it up until now and we have got to the acquisition of land costs line and the GPS, the Government Preferred Scheme – one has to acquire more land to do that than to build a tunnel – the non-market effects figure: the Government Preferred Scheme, £510 million ; Chilterns Long Tunnel, £56 million.

785. MR McCARTNEY: Yes. From speaking to colleagues they have said that £510 million has essentially been derived by the value that has been applied to the land that is lost. In the DfT guidance I understand that a figure of £0. 03 million per hectare has been applied to that land, which is £30,000, the definition of that land being intensive or extensive or agricultural intensive. That £110 million substitutes a different value per hectare of £1. 8 million by defining that land as natural and semi-natural or rural forested. So, what we are saying is that as regards the value that has been applied to arrive at the figures by the promoter we think that they have under-valued the hectare per land lost by a significant amount.

786. SIR PETER BOTTOMLEY: Is this a sum additional to the cost of either acquiring or renting the land during use?

787. MR STRAKER QC: Sir, can I answer that question because the answer is yes, it is because the actual costs that might be incurred by someone coming along and saying, 'Please can I buy your land in anticipation of my works here' is a different figure from this figure. This is the figure which has been assigned in consequence of the prior departmental work which has been carried out, which says that there is land of a certain

quality which can have assigned to it a figure to when you are attempting to see whether or not a scheme is good value or bad value. So, it is nothing to do with what, if you were selling me your house, I might be prepared to pay for it. It's to do with how society, so to speak, at large might say, 'I attribute to that going away this particular sum of money'. It is an effort to make a fair comparison bearing in mind that something difficult is being undertaken.

788. SIR PETER BOTTOMLEY: Just to pursue the point for a moment if my colleagues will let me, to simplify things, if there is a choice of having extra capacity on the railways or having extra motorway that runs up the spine of the country, is the cost of the alternative of not having a capacity, which means putting extra shoulders on existing motorways or building a new motorway, a cost which ought to be set against this?

789. MR STRAKER QC: If one was doing the exercise, so to speak, on an open book basis, then plainly so because one would be looking at trying to do an exercise which is fair to both sides of that equation.

790. SIR PETER BOTTOMLEY: So, the argument being put forward on behalf of the present petitioners is that this £110 million as part of the non-market equates --

791. MR STRAKER QC: It is £510 million.

792. SIR PETER BOTTOMLEY: I thought that the land amenity was £110 million of the £510 million. Maybe I was not listening properly, but the particular element you were talking about just now of valuing the hectares at something.

793. MR McCARTNEY: The value that has been placed per hectare by HS2, as I understand it, is £30,000 per hectare. We are saying that society will put a greater value on that land because it is in an AONB. That figure is £1. 8 million per hectare.

794. SIR PETER BOTTOMLEY: Try again.

795. MR McCARTNEY: There are 200 hectares lost. We are saying that the value that society puts on that land because it is in the AONB, is £1. 8 million.

796. SIR PETER BOTTOMLEY: For all those hectares put together?

797. MR McCARTNEY: No, £360 million for all these hectares put together, 200 hectares at £1. 8 million.

798. SIR PETER BOTTOMLEY: So, if each hectare is used to serve this railway, society should add on a value of one point something million pounds per hectare?

799. MR McCARTNEY: Yes. That is the value that is put on natural and semi-natural or rural forested land for the purposes of appraisal. We are saying that the land that is lost should be consistent with that definition and if it is consistent with that definition it should be valued at £1. 8 million.

800. MR CLIFTON-BROWN: But you are saying that it is 100 hectares, not 200 hectares that is permanently lost?

801. MR McCARTNEY: 200 hectares is permanently lost.

802. MR CLIFTON-BROWN: Well, slide 38 says 105. 7 hectares permanently lost.

803. MR STRAKER QC: It is on the screen. It is 118038. That, we have to remember, is the Chiltern District Council figure.

804. MR McCARTNEY: Yes.

805. SIR PETER BOTTOMLEY: But whatever the number of hectares, and that is very useful, we are supposed to be adding on besides acquisition costs, over £1 million for each hectare because of its intrinsic value?

806. MR McCARTNEY: Yes.

807. SIR PETER BOTTOMLEY: So, land that you could buy at £24,000 per hectare has a value which is over 40 times greater than its intrinsic value?

808. MR McCARTNEY: That's the value that is given in the DfT guidance. Under that definition, natural and semi-natural or rural forested land is given a value of £1. 8 million per hectare.

809. SIR PETER BOTTOMLEY: I am sorry, that is natural and?

810. MR McCARTNEY: Natural and semi-land or rural forested.

811. SIR PETER BOTTOMLEY: That would apply to a farm because agricultural land is just over 100 hectares isn't it?

812. MR STRAKER QC: That is the figure that has been applied to it, yes.

813. SIR PETER BOTTOMLEY I can swallow many things but I am not sure that my mouth or gullet is big enough or that my mind is powerful enough to understand how £24,000 per hectare of land is buying land which is actually valued at well over £1 million, not that anyone is going to pay £1 million for the amenity value or whatever it is, but I don't see much –

814. MR STRAKER QC: If I can just help here, sir, for a moment, the matter which one has to be careful about is the appreciation that there are two separate matters under consideration. There is that matter of what I would pay you for x and that is governed entirely by, 'What can I use the land for?' and if I can build houses upon it, it is going to carry a lot more value for me than if I'm simply buying a parcel of agricultural land or a parcel with some trees upon it. That is stripped out and then what one is thinking about is trying to assign how one works out in a fair way a value to this particular area of land when considering the value for money of building a tunnel compared to going at surface level. It is therein that one can get into difficulty because one has to have moved away from those particular matters as to what the values of the estate in terms of conventional valuation might be.

815. SIR PETER BOTTOMLEY: Let's say that with this land which I don't own but pretend I own it, that I might want to apply to one of the Chiltern councils for planning permission and that it might be worth over £1 million per hectare for development, if I can put a row of Georgettes in or something, but they won't let me do that, and the reason they won't let me do that is because they don't want it so therefore the amenity value of the land is £1 million per hectare, I can see a logical thought. I'm not sure that it actually gets me to a conclusion which is helpful, but that I can see.

816. MR STRAKER QC: Yes, it goes back to what I said in opening. The more distinguished that you are in terms of a parcel of land by bearing these labels, 'AONB' and so forth, the less you become worth on a market. Someone will buy but more should be assigned to you by way of value when you are contemplating, 'Should we take that land away? Should we turn it from something which bears that label, 'AONB'

into something else?’ That is how the point goes.

817. MR CLIFTON-BROWN: I am not sure I agree with that if you look at some of the prices paid in the Cotswolds. I don’t know about the Chilterns but I do know about the Cotswolds.

818. MR STRAKER QC: Yes, but then there may be other local circumstances, particularly bearing in mind hope value and matters of that sort, which can drive prices in one particular way. The same point should obtain if one was thinking of Broadway or somewhere of that sort and the open, undeveloped land nearby. That might have a low value in terms of what one would pay for it because one is not going to get any more shops or anything on that open land, but the value that it contributes towards the picture that people take away of Broadway, having been there, is inestimable.

819. MR CLIFTON-BROWN: Mr Straker, you go and try and buy a field outside Broadway and find out what it will cost you.

820. MR STRAKER QC: Well, one might have to go a little bit further than the immediate centre of Broadway.

821. MR McCARTNEY: I think also it’s the intrinsic value that society puts on that land. If you went to try and buy Stonehenge, for example, the value that people put, and society as a whole puts on that piece of land would be huge. What we are saying is that an area of outstanding natural beauty has similar value placed upon that by society. DfT value that, on the figures we have used from the DfT guidance, at £1. 8 million.

822. CHAIR: Shall we finish the slides?

823. MR STRAKER QC: Thank you very much, sir. Then we go to slide 67, please.

824. MR McCARTNEY: The impact on the estimated cost of the tunnel and the value of these impacts has not been captured on the tunnel cost. These are the net costs of extending the tunnel.

825. MR STRAKER QC: 68.

826. MR McCARTNEY: That means that the net cost of the tunnel option needs to take on board these impacts, which have not necessarily been captured.

827. MR STRAKER QC: And then we get to 69. What happens if there is a long tunnel compared to a short tunnel?

828. MR McCARTNEY: The answer to that question is picked up in the next slide.

829. MR STRAKER QC: Number 70.

830. MR McCARTNEY: The connectivity impact is significantly reduce during construction is the first thing, and then going on to slide 71, a lot of the impacts that we have been discussing today are then removed. The negative amenity impacts are removed.

831. MR STRAKER QC: 72.

832. MR McCARTNEY: The health impacts that we have identified are then removed. Productivity lost to local businesses from their connection with the local land is now removed, and then there is the loss of visitor spend.

833. MR STRAKER QC: That is 73 and 74.

834. MR McCARTNEY: That is then removed and finally at 75 the disconnectivity and severance generated by the proposed scheme is again significantly reduced.

835. MR STRAKER QC: Thank you very much.

836. CHAIR: Thank you. Mr Mould?

837. MR MOULD QC (DfT): I would just like to come back to this question of the £500 million that you were discussing with the members of the Committee a few moments ago, Mr McCartney. Could we just put up R17958? I think I understand what the source of that figure is. This is an extract from the Command Paper which was published in January 2012, 'High Speed Rail, Investing in Britain's Future. Decision and Next Step'. That is the document which sets out the Government's decision to promote Phase One of HS2. You will see that under a heading, 'Updated Economic Analysis for HS2', is a reference to updated economic appraisal work and a value for money assessment, which is dealt with on the next page, but we are here in the realm of scheme-wide economic appraisal. You recognise this process don't you?

838. MR McCARTNEY: Yes.

839. MR MOULD QC (DfT): And this, of course, is guided principally by the WebTAG assessment technique?

840. MR McCARTNEY: Yes.

841. MR MOULD QC (DfT): Can we just go down, please, to 3. 27 at the bottom of the page? Having set out some economic advantages that come from various changes that were proposed in the light of public consultation, and so on, so the plus side of the gain from the project as a whole, we come to some additional disbenefits. 'However, additional disbenefits also need to be set against these, including key environmental impacts such as the effect of new lines on the natural landscape. Assessment of the value of the landscape impacts inevitably entails a significant degree of subjective judgment and can only be carried out on the basis of a detailed route proposal. As part of its value-for-money assessment process, the Department for Transport has made an additional estimate of the landscape impacts of the proposed London to West Midlands line which indicates a value of approximately £1 billion. Including these factors in the appraisal reduces the BCR for the London to West Midlands line by approximately 0.1'.

842. Now, I think your point is that you regard the route-wide monetary cost that is ascribed to landscape impacts of the Phase One route as an underestimate because included within it is an underestimate of the value of the landscape impacts upon the Chiltern as an AONB?

843. MR McCARTNEY: I don't know where that £1 billion has come from.

844. MR MOULD QC (DfT): You mentioned the Department for Transport and that you have sourced your estimate from existing departmental work. If that is the departmental work that must be the source because that is the only work there is that I am aware of.

845. MR McCARTNEY: No, no, that is not the source.

846. MR MOULD QC (DfT): So, what is the source then?



847. MR McCARTNEY: The source was the guidance. I don't have it in front of me but the source is the guidance that the department published on the growth fund.

848. MR MOULD QC (DfT): The growth fund?

849. MR McCARTNEY: Applications for the growth fund. There was guidance set out which provided guidance on values of land.

850. MR MOULD QC (DfT): The Department for Transport?

851. MR McCARTNEY: Yes.

852. MR MOULD QC (DfT): And this is something which is relevant, is it? The department says that this guidance is relevant to the economic appraisal of transport schemes?

853. MR McCARTNEY: The Department for Transport published this as guidance when appraising transport schemes and within that document it suggested that if you are valuing land, these are the values you should use. We then took those values and applied them in this context.

854. MR MOULD QC (DfT): But where do we see that in any of your reports, this document with this guidance? I have looked at your reports and I don't recall seeing reference to this document with growth fund.

855. MR McCARTNEY: I am not the author of the report.

856. MR MOULD QC (DfT): You are not the author of the report?

857. MR McCARTNEY: I am not the author of that report, no.

858. MR MOULD QC (DfT): Right, I see.

859. MR McCARTNEY: But I have seen a document that the person referred to.

860. MR MOULD QC (DfT): Just to come back to my point, you appreciate, at least I think you do appreciate this don't you, that the promoter of this project, the Department for Transport, has carried out an assessment of the costs and benefits of the scheme in accordance with the WebTAG process on a scheme-wide approach, which is the right

approach isn't it?

861. MR McCARTNEY: I don't know the context of this document. This is the first time I have ever seen this document.

862. MR MOULD QC (DfT): You have not seen this before?

863. MR McCARTNEY: I have not read it in detail.

864. MR MOULD QC (DfT): This is the central document which sets out the balance between the economic advantages and disbenefits of the project and you have not seen it before?

865. MR McCARTNEY: I have seen the document. I can't remember this specific paragraph.

866. MR MOULD QC (DfT): Right, well I think it speaks for itself. There are two points I take on this. One is that the department's view is that ascribing a monetary value to landscape impacts or, put another way, to the disbenefits that are avoided by a particular option as against another option, is an inherently subjective process that you must approach with caution. You accept that?

867. MR McCARTNEY: Yes.

868. MR MOULD QC (DfT): And the second is that with that caveat in mind, the Government has ascribed a route-wide value of those impacts to the Phase One scheme under the WebTAG process of about £1 billion. I thought you were suggesting that the Government had underestimated that but you don't appear to be saying that. You are not saying that the Government has underestimated that value on a route-wide basis are you?

869. MR McCARTNEY: No.

870. MR MOULD QC (DfT): Right, okay. Of course, that would include an element of value. I can't tease it out because it is a route-wide assessment, but that would include an element of value which covers the impacts of the scheme as it passes through the Chilterns won't it?

871. MR McCARTNEY: Yes.

872. MR MOULD QC (DfT): But unless you are saying that that value is wrong, that it is an underestimate, it does not seem to me that your case on this £500 million really gets off the ground does it?

873. MR McCARTNEY: The point I was trying to make is that I can't answer that question because I don't know what you decided this £1 billion figure is.

874. MR MOULD QC (DfT): Well, exactly, but you come to the Committee saying that there has been some failure on the part of the project to account for the monetary value of the disbenefits of a surface route to the northern part of the Chilterns as against a tunnel route, but in the same breath you are not saying to the Committee that the actual figure that has been ascribed to the route as a whole, which incorporates necessarily an allowance for that disbenefit, is an underestimate are you?

875. MR McCARTNEY: No.

876. MR MOULD QC (DfT): Then the other point is this. Perhaps we could put up, please, 74667, just turning from the £500 million.

877. SIR PETER BOTTOMLEY: Just before you do that, on 58 the BCR is the benefit cost ratio?

878. MR MOULD QC (DfT): Yes.

879. SIR PETER BOTTOMLEY: And the suggestion here is that if you allowed £1 billion to the landscape impact that would reduce the return from 1.4 to 1.3 or 1.5 to 1.4. I am not sure which way round it goes.

880. MR MOULD QC (DfT): Yes.

881. SIR PETER BOTTOMLEY: But a bit?

882. MR MOULD QC (DfT): Essentially, yes.

883. SIR PETER BOTTOMLEY: And the £100 million or so which was part of the present £510 million would be about a tenth of that overall. Without going into whether land in an area of outstanding natural beauty is worth a great deal more than the other

farmland affected by the route, what we can gather from that is that at least a part of what appears to be a non-market effect has been calculated in what the promoters have put forward?

884. MR MOULD QC (DfT): It has subject to that overarching caveat, and as you know, the law and policy says that it is much more sensible to seek to bring that into account in the overall evaluation of the merits of the scheme by looking at the environmental impact assessment work that has been done and make a judgment because you can take account of things like the mitigation that has been proposed and focus on the actual impact rather than some sort of notional impact.

885. SIR PETER BOTTOMLEY: So, the perception you might have is that what Paul McCartney has been talking to led by Mr Straker is a valid consideration because it is one which the promoters/department have been looking at as well?

886. MR MOULD QC (DfT): Yes, but that is as far as you can go, I think, if I may say. Then again I don't want to take unnecessary time but you will have seen in our pack that we provided some headline points which we say need to be considered in looking at your economic effects. You have had a look at these, presumably?

887. MR McCARTNEY: Yes.

888. MR MOULD QC (DfT): Do you have any particular difficulty with any of the points in there because if you don't, I can just ask the Committee to look at it.

889. MR McCARTNEY: I have a number of points. I can take each of them in turn. Assessment is based on a large number of assumptions, many of which are not supported by the robust evidence. The assessment is based on assumptions, not necessarily a large number. It is backed by evidence that we have taken from secondary sources.

890. MR MOULD QC (DfT): Yes.

891. MR McCARTNEY: On the second point, the headline figure for economic loss of £170 million over 60 years has to be put into context. I was very surprised to see that comment. I have never heard of a scheme being justified on the basis of the cost compared against the GDA of a local economy. Schemes are based on the benefits of

that scheme versus the costs of that scheme. I am not sure if HS2 is being justified on the basis of the cost against the GDP or the GDA of the UK.

892. MR MOULD QC (DfT): You are right but your point proves too much, Mr McCartney, because your exercise is predicated on a railway which runs from West Hyde to the northern end of the AONB. The scheme that you mention, surely, if it is anything, is the Phase One railway scheme and we have assessed the benefits that come from a Phase One railway scheme as against the costs or the disbenefits avoided using the WebTAG method. What we're saying here is that if you want to draw a ring around the AONB, which is what you have effectively done in your assessment, you need to take into account as a matter of context the fact that the area in question is one that has an economic value, if you like, measured over 60 years in the context of which the impact you mention taken at face value, of £170 million over the same period, is minuscule. That is a relevant consideration isn't it?

893. MR McCARTNEY: I don't think it is.

894. MR MOULD QC (DfT): All right.

895. MR McCARTNEY: I think that schemes should be justified on the benefits of a scheme against the costs of the scheme. What we are saying is that the promoter has looked at the impacts in the Chilterns in terms of construction cost, employment and the loss of employment through business displacement. We are saying that other things need to be taken on board. To be honest, I'm not sure how this is relevant.

896. MR MOULD QC (DfT): I will take one point. There are three slides here which speak for themselves and I don't want to take unnecessary time cross-examining on them but just to take one example perhaps we can turn to 4669, please, which is the next page but one, just to get a sense of how reliable this is as a focused attempt to understand the local economic effects of the Bill scheme. Let's look at visitor spending losses we were talking about a few moments ago with the Committee. Effectively this is based on the assumption that each hectare of the AONB generates the same level of income as every other hectare of the AONB isn't it?

897. MR McCARTNEY: Yes.

898. MR MOULD QC (DfT): And then it is assumed that it does so over the course of the 60-year design life of the railway.

899. MR McCARTNEY: Yes.

900. MR MOULD QC (DfT): If we just test that, from Maplewood northwards, the Bill scheme runs through, I think, the settlement of South Heath and to the south of the settlement of Wendover and in each case it avoids any direct impact on those settlements through the provision of green tunnels. Take the settlement of South Heath. Can you tell me which visitor attraction or tourist attractor is there at South Heath that is likely to be affected by the presence of HS2 in green tunnel over the 60 year life of the railway?

901. MR McCARTNEY: I can't answer that question.

902. MR MOULD QC (DfT): I suggest that there is none but compare that with, for example, the Roald Dahl Museum in Great Missenden. I do not know how many square kilometres is covered by the Roald Dahl Museum but let's assume that it's one. We can take it, can we not, that the square kilometre which the Roald Dahl Museum occupies is likely to generate a great deal more money in terms of tourist revenue to the Chilterns than is the square kilometre of residential land comprising a number of houses in South Heath?

903. MR McCARTNEY: Yes.

904. MR MOULD QC (DfT): I noticed in your report that you took two case studies. One was the Roald Dahl Museum and the other, I think, was another facility in Amersham. In each case under all the schemes that are before the Committee the railway is running in tunnel, isn't it, so by definition there is unlikely to be any material difference in terms of impact on tourist revenue between those two facilities, yet in your table, if we just turn to page 118066, just to complete the point, you have a figure of £170 million, including this £30 million odd discounted scheme life impact on tourist activity in the Chilterns but you have no effect at all from either of the alternative tunnel options from that or any other economic impact over the same period do you? You are effectively assuming that the other options have not a pound's worth of effect on the tourist economy or whatever it may be of the Chilterns during that time.

905. MR McCARTNEY: Yes, what I have said in the report is that these figures are likely to be significantly lower and have much less adverse impact under the tunnelled option basically because the greatest impact was on travel and the tunnelled option would have less impact because there would be no closed roads and then traffic diversions and also the amount of traffic on those roads would be significantly less because of the excavation and movement of the soil which was creating the problem.

906. MR MOULD QC (DfT): How are you going to traffic your vent shaft sites? You are going to have a number of vent shaft sites north of Maccleswood which are going to require compounds and traffic will have to go off the A413 to take materials to those compounds. Are you saying that not a single lorry serving those sites will give rise to any delay under the tunnelled options, which is going to be reflected in a transport cost?

907. MR McCARTNEY: No, I have said that delays are likely to be much less significant.

908. MR MOULD QC (DfT): So, it is not going to be nil?

909. MR McCARTNEY: No.

910. MR MOULD QC (DfT): So there should be a figure shouldn't there?

911. MR McCARTNEY: Yes.

912. MR MOULD QC (DfT): In each of those blanks there should be a figure.

913. MR McCARTNEY: I have said it would be much, much smaller.

914. MR MOULD QC (DfT): All right. Thank you very much.

915. CHAIR: Mr Straker?

916. MR STRAKER QC: I don't want to ask any questions, sir, by way of re-examination, but might I just observe at this stage that the relevant report is one by the Department in December 2013, 'A Value for Money Assessment. Advice Note for Local Transport Decision Makers' and so it may be useful for us and for the Committee if we are able to bring that along so that that can be seen so that fons et origo of what we have said can be identified.

917. SIR PETER BOTTOMLEY: Where it came from?

918. MR STRAKER QC: Yes.

919. CHAIR: Thank you, Mr Straker. I think we are going to adjourn now and come back at 7.15 p.m. Order, order.