

dismount around every exit of a roundabout. If one does go around in a spiral, coming out to the nearby villages, the mitigation measures to reduce the motor traffic impacts will make conditions about as unpleasant for cycling as possible. There will be slip lanes one has to cycle over that will be extremely busy. Now, what we are asking for is that the promoter should provide space for high-quality links around the station to the south and the east. The promoter accepts that people won't use public transport from Hampton in Arden and other settlements in that area, because it won't be competitive to driving. We say that, actually, those are about five miles from the station; it would be a great opportunity for people to cycle to that station.

77. The government is due to publish the draft Cycling-Walking Investment Strategy in March, and we say there are opportunities to dovetail this and what's known as the CWIS. Now, in particular, these cycle routes would open up the green belt so perhaps they wouldn't be used by commuters during the weekend, but they would be a fantastic way for people in Birmingham to go past the wall of motorway and HS2, into the surrounding countryside, and as a result, they'd also help achieve the green belt benefits I mentioned earlier.

78. So forgive me for taking up 35 minutes, but I hope that was at a reasonable speed and I'm very happy to comment on the response from the promoter. Thank you.

79. CHAIR: Sir Henry?

80. SIR HENRY BELLINGHAM: Thank you very much, and I should declare an interest for being a keen supporter and member of the CPRE. But I think that a lot of these points are generic and you've outlined them very well. But I think further to the question asked by my colleague Geoffrey Clifton-Brown, it would be really good if HS2, if they are able to, could cost some of these suggestions and initiatives. I think quite a lot of what you said has already been built into the detailed design phase, and I think the influence of CPRE nationally, but also your local branches, working with Parish Councils, with different groups, has been effective. So I think you can take some pride in what has been achieved so far.

81. MR SMYTH: Thank you very much.

82. SIR HENRY BELLINGHAM: But I really am keen to drill down a bit and to get

some financial detail if possible?

83. CHAIR: Mr Strachan?

84. MR STRACHAN QC (DfT): I will do my best. Can I, just by way of introduction, explain that within the packs you've got at P14180(1), there is a document which contains a response to all of these points, in rather more detail than I'm necessarily going to propose going through now, because I'll adopt the same principle: the committee can read faster than I can speak. But just for your note, we have sought to deal with all the outstanding points from the CPRE. That doesn't mean we've reached agreement on the points, but we've explained our position. But I'll cover the key points as we go along, by reference to that document.

85. First of all, I think the first issue was in respect of the design panel, and you can see on page 3 of this document that we have responded to the issue about the design panel. The way this document works is that on the right hand side we've got our general response on the design panel; we've explained that the design process is ultimately governed by Schedule 16 to the Bill and as Sir Henry was already pointing out, some of the points that are being expressed are already reflected in terms of mechanisms that exist in the Bill for control. But the design panel is intended to form an important part of the process in coming up with the ultimate design.

86. Can we go on to slide (4) please? I think the only difference between us is whether it's necessary to amend the Bill to make an express reference to another material consideration which would inevitably be taken into account amongst many other considerations by the planning authorities in making their ultimate decision. There's no doubt as to the project's commitment to the setting up of the design panel, and indeed, it already has a Chair. What is more, you can see that the design panel and its role is actually built into the scheme, because in Information Paper D5, which forms part of the Environmental Minimum Requirements, the design panel is expressly referenced; as it is in Information Paper G6. So it's not right to say the design panel forms no part of the stated part of the scheme; it's already built into those Environmental Minimum Requirements, and we have already I think explained to the committee the role it will have in assisting in the formulation of the design of key elements. Ultimately of course, the approvals of those are governed by Schedule 16

process by the local authorities and certainly it would be wrong for us, any more than the design panel, to dictate what is ultimately sanctioned by the planning authority, what decision they make. But no doubt the recommendations of the design panel like many other things, will be fully taken into account as part of that process.

87. MR CLIFTON-BROWN: Mr Strachan, can you explain – it says that the London Borough of Camden will take the lead for local authorities for this, which I find slightly curious, because surely the London Borough of Camden is an urban authority; a lot of this line is dealing with designs in rural areas which are totally different, the requirements are totally different? I do find that process slightly curious.

88. MR STRACHAN QC (DfT): I am fairly sure and I will be corrected if I'm wrong, we didn't dictate who took the lead issues as local planning authorities; that was very much a matter for them to decide who would take particular lead issues amongst themselves in presenting evidence to the committee. So it's not something that – all we are stating as a matter of fact that amongst the local authorities, the London Borough of Camden took up the cudgels, as it were, for the issues relating to general route-wide planning issues. That hasn't, of course, precluded – and indeed the committee will be testament to this – it hasn't precluded local planning authorities coming along and making points regarding design generally; and the committee have already heard, I think, extensively on issues of design and design process from, amongst others, the Chiltern District Council as it affects the Chiltern, amongst others. I'm not going to do a long list. But that's recorded as a matter of fact, who's taken on board the planning regime; and the planning regime covers in particular the Schedule 16 process. I hope that explains it.

89. SIR PETER BOTTOMLEY: I think the point as I understand it better now – thank you both – is that Camden led the local authorities in agreeing with the promoters Schedule 16, providing the controls for what would happen in design in particular places, where Camden don't get involved in that. They're not designing; they've been involved in helping to reach agreement on how things would happen in every area.

90. MR STRACHAN QC (DfT): Absolutely, and sorry – yes – I now understand the thrust of the question, and I apologise. It's absolutely right. By virtue of Camden being the lead authority to deal with the Schedule 16 mechanism, that's not in any way

supplanting the role under Schedule 16 of the specific planning authorities of structures in their area. It's just simply that the London Borough of Camden were being the lead authority to make submissions about the mechanism under the planning regime. But as Sir Peter has correctly focused my attention, the process itself for determining approvals under Schedule 16 will fall the relevant planning authority in whose area the structure is. So I hope that assists.

91. I've dealt with the Information Paper and the role of the design panel and I think I can then turn to the issue of green belt. We've similarly dealt with the issue of green belt in quite a full way in this document which I'm not going to, again, read out. But there does appear to be something of a difference of principle between us on page 8 as to the role of green belt and a misunderstanding, for example, the zone of theoretical visibility. The first point to note is green belt is a planning designation; it's not a landscape designation. It's a planning designation as the committee will be very familiar with; and therefore it's not something that directly raises a new landscape and visual assessment point. Our landscape and visual impact assessments take full account of the landscape and visual effects of the project as it passes through any particular area, bearing in mind its characteristics.

92. The second, I think, misapprehension relates to the zone of theoretical visibility, because all the zone of the zone of theoretical visibility is a modelling tool; it's a starting point for assessing where the project might be seen from in the landscape, bearing in mind the characteristics of it. So it's only a tool and it's a starting point. So once you've identified where the scheme might be theoretically visible from, you then build up a picture of its impacts and you build up a picture of what mitigation you're going to put into place. So, there's no merit in altering or using the zone of theoretical visibility by reference to the green belt. There's no correlation between the two. You've seen in the landscape and visual impact assessment, the way in which the zone of theoretical visibility is there to help those who are building up the overall assessment to understand where the project will be seen from, be it in green belt or be it in the AONB or be it in an urban area. That's just simply that sort of tool. So we don't agree with the idea of changing the assessment in the way that's been suggested.

93. Likewise, the idea of then working out a percentage of where the project is seen from within the zone of theoretical visibility is an inapposite tool. What we have done,

and what the project does, is assess the impact of the project and mitigate its effects, be it visual or noise or whatever it may be – but in visual terms, you’ve heard a great deal about the balance that’s been struck between mitigating the visual effects of the project, be it with earth bunding, or noise barriers or vegetation planting, all of which has led to where individual petitioners regard it as too much or too little, specific points being raised in front of the committee. But the idea of altering in a generic sense the way in which a project operates in assessing these things, in our submissions, is completely wrong as an approach. It would of course, inevitably, lead to a cost which I can’t assist you with that specific calculation, but clearly it’s going to be very, very considerable if one were to seek to impose a levy on where the project is seen from in particular areas. It’s not an approach I’m aware has ever been adopted, and it’s also contrary to the general thrust of the approach we’ve adopted of looking to see where the project can be seen, and what is appropriate mitigation bearing in mind a balance of a range of considerations.

94. So, just to go over to slide (9), please, you’ll see that our response on the green belt continues; and the broad effects of which, you have assessed the impacts of the project, whether or not it’s within green belt or AONB or whatever other open countryside. So the green belt for landscape impact doesn’t assist further in posing some additional requirement. We’ve taken into account green belt, we’ve taken into account AONB, we’ve taken into account other aspects of the effects, such as on heritage or whatever it may be.

95. MR CLIFTON-BROWN: Mr Strachan, I’m following very carefully what you say and I agree. But it does seem to me that one of the main ways of mitigating this railway is through trees. I just wonder, how this Bill can be enacted in a way that gives the greatest priority to planting good size trees at the earliest possible moment after enactment of this Bill – long before any works take place, the trees need to be planted.

96. MR STRACHAN QC (DfT): Well I think you’ve heard from us previously that the general objective is – where mitigation planting is proposed, where it’s possible to put it in at an early stage, that’s the aspiration to do that. There are obviously circumstances where that’s not possible, because you’re constructing the railway first, and the mitigation has to go in and it would be counterproductive to do the two. But generally speaking, there’s no difference between the point you’ve just made and the

aspirations of the project, which is to get the mitigation in early, where it can be done.

97. MR CLIFTON-BROWN: This is my point: I think it ought to be an obligation rather than an aspiration.

98. MR STRACHAN QC (DfT): Well, I will see – what I need to do is to check –

99. MR CLIFTON-BROWN: I understand your point that there will be areas where there's operations that are going to take place, and there's clearly no point in planting the trees there. But where it doesn't hinder the operational ability to construct the line, they ought to be planted at the earliest possible opportunity; and instead of planting six-inch ones, they should be reasonable size ones as well.

100. MR STRACHAN QC (DfT): Yes, well there is of course the detailed design of what trees go in, is obviously a matter for future determination. There is an approval process, for example, in relation to earthworks and embankments and consequential planting. So a lot of that is work to come. The precise height of the trees that are used, of course that is a matter of balance between identifying trees which are of sufficient size to take, and of course, trees which aren't excessively or prohibitively expensive in terms of planting, referable to the fact that the project won't be operating or running for a number of years after construction starts. So there's time in a lot of cases for the vegetation to take. What we have done – we recognise that vegetation and tree planting in particular, develops over time, and that's why the Environmental Statement does carry out an assessment of effects from year one; and then I think eventually year 15 to show that whilst there may be shorter term or medium term impacts, they progressively diminish. So we have sought to assess the point you're making. We can't put in totally mature trees into planting, not just for cost, but I think it's practically more difficult. But there is a major cost implication as well. But that is factored into our Environmental Statement; we've made assumptions as to what sort of planting stock goes in and the time it will take to develop. I will try to come back to you on precisely where our aspiration is reflected, and I note that you would like to see an obligation – it may already be – but I will find out for you

101. On the AONB which was the next point, you are well aware of the assurances that we have already entered into, regarding the AONB and the review group – I think there's an issue of whether it's called a panel or a review group, and its precise terms of

reference – but the objective there is to develop design principles, through a combination of the local authority, the board responsible for the AONB to bring forward design principles specific to that area. So that’s already in hand by virtue of the assurances that you’ve seen.

102. Undergrounding of electricity lines is a matter – I know you’ve heard a lot of evidence about – it has a significant cost implication; it’s something that was considered, and one can’t simply underground short section. If you do, as we’ve explained for example, particularly in the context around South Heath where the issue arose – it in itself has its own environmental impacts, because of course, you have ceiling compounds where the line comes and then goes into the ground which have to be permanent structures, more land take. The lines themselves require undergrounding; they’re heavy voltage lines, they involve construction impacts where you underground the lines; and then the line comes back up through ceiling compounds, wherever you’re proposing short sections.

103. MR HENDRICK: I understand as well from my electrical engineering background that it costs a factor of 10-times?

104. MR STRACHAN QC (DfT): I understand that’s generally the National Grid’s working assumption. There is a – whilst you benefit from, for example, less maintenance costs in the short term, because you’re not exposed to the elements in the same way – there are more significant maintenance costs if there are any issues with undergrounded lines for obvious reasons, you need to get them up. So I understand that is the rule of thumb that’s sometimes expressed by National Grid.

105. MR HENDRICK: And also there’s the scarring effect of reinstating land along the way, where the cable has been buried?

106. MR STRACHAN QC (DfT): Yes. It is often raised as a point, as to the construction – that is what I was saying about the construction effects. Of course, there’s a long-term benefit in terms of not being able to see those lines, but so far as the project – this project is concerned, whilst we have taken on board the points where they have been made, the general conclusion is that the costs of undergrounding short sections of where they’ve been raised would be prohibitive and not worth it in terms of balance between you would need to do as compared with the removal of the pylons.

107. SIR PETER BOTTOMLEY: Would you let me bring up, ask if we can see 1925(9)?

108. MR STRACHAN QC (DfT): Of the CPRE slides?

109. SIR PETER BOTTOMLEY: It's Smyth's. I think the point he's making is, if you're going to introduce – without being too pejorative – a foreign structure into the landscape, if you look over on the right hand side, I think you can see a pylon. His point was that as part of general mitigation – not mitigation that stops the noise 200 metres to a church or a school – that you try to say, if we're changing the landscape in a way that is potentially adverse, putting a viaduct in the middle of the profile of the hill, maybe as mitigation generally, we should take off that thing sticking up in the top. That was your point, wasn't it, Mr Smyth?

110. MR SMYTH: That's right. We've had discussions with National Grid, both specifically and more general. We're on their project that looks at visual impact of transmission lines. I very much take Mr Hendrick's point about the scarring; from our discussions we understand there would need to be a temporary line installed, and then at the same time, you build in the underground line along but not absolutely next to the trace of the high-speed rail line. But because one has the construction machinery on site, it's easier to do that then, say, retrofitting it afterwards, and so that's our point. There still are some cost savings, compared to doing it entirely separately to the HS2 project.

111. MR HENDRICK: The route of the cabling isn't necessarily the same as the route of the line?

112. MR SMYTH: The map does show similarities.

113. MR HENDRICK: In that particular section?

114. MR SMYTH: Yes.

115. MR STRACHAN QC (DfT): Well I can ask Mr Smart to tell you what the implications of that are – I understand the point.

116. SIR PETER BOTTOMLEY: It's improbable that we will write into this Bill that

that happens. I think it may be possible for us to put some words in our Report which say that the point that CPRE have raised is actually one of general interest, and one which should be built in.

117. MR SMYTH: I'd be grateful.

118. MR STRACHAN QC (DfT): Well, I think we have touched upon this issue in the past, but I can ask Mr Smart to come back. This is a 400kV line. The costs – leave aside the costs of doing this, which are considerable – there is also the point about the construction effect we've just identified. If you underground the 400kV line in a localised way as I was alluding to before, you have additional – quite significant additional land take; you have the ceiling compounds which you have to put in place at either end.

119. SIR PETER BOTTOMLEY: We understand, on balance, it would need to be worthwhile and affordable. Those are taken for granted.

120. MR STRACHAN QC (DfT): And there is I think, the separation of distance, if I can find out for you, of the line, is quite considerable. You're talking a 100m separation distance. They obviously can't go where the line is, so you're talking about another construction corridor in the Chilterns AONB for whatever length is proposed, in addition to the construction effects which you've heard a lot about, and the consequential construction traffic etc.

121. MR HENDRICK: I think to try and put it along the line is impractical because there needs to be a gap for I think the reasons Mr Strachan says, otherwise that 400kV, very high voltage, will be picked up by the line-side equipment and you know, the field will run right into the train where the passengers are. So there are dangers with it.

122. MR CLIFTON-BROWN: Could you either point to an academic paper or ask HS2 to produce a little note for the committee on the precise cost difference, the precise long-term maintenance difference, the energy losses – because there are more energy losses putting it underground than overground I understand because of the heat losses – and whether the actual corridor of the underground 400kV line has to be more or less sterilised, in other words, there are no agricultural operations. I don't know whether that is the case or not. But if we could have either an academic paper already written, but if

there isn't one, could you produce a note for us?

123. MR STRACHAN QC (DfT): Certainly, I will do that.

124. MR CLIFTON-BROWN: Thank you.

125. MR STRACHAN QC (DfT): In relation to the costing exercise, of course, that will depend upon the length that you're contemplating, but yes, we will try and give you a broad flavour.

126. Can I just turn then to the way in which the Bill deals with the diversional effects on electricity lines, because I think that's a point that's been raised – one of the points raised. We've covered that at slide P14180(7)? Clause 30 of the Bill disapplies the requirement to obtain consent under section 37 of the Electricity Act, where we are providing for the installation of an electricity line as part of the Bill. I think the request is to amend that so that there's some further enquiry. If that's the case then clearly we say that's not necessary; this Bill is itself approving the principle of the line and works, so would clearly be duplicative as well as cutting across Parliament's ultimate decision, to go for a further enquiry process. On slide (8), there's a further change, which deals with section – sorry, a further change where there isn't a mandatory requirement to hold a Public Inquiry; the Secretary of State will have a discretion as to whether to hold a Public Inquiry if there's further section 37 consent required for any part of the railway. That is ultimately a matter for Parliament, as balancing the legislative provisions of the Bill, that it's considered appropriate to strike the balance between allowing the infrastructure project to proceed and local involvement. It doesn't preclude any Inquiry; it just means that a decision would be made depending upon the nature of the objections at the time. The Secretary of State I think has discretions to hold Inquiries in a number of circumstances, as the committee will be well aware. such as the planning context.

127. So, that is electricity lines. Noise – this brings me onto a point. I will try to answer Sir Henry's question to some degree. What would be the cost of introducing of additional noise barriers in order to protect area of open space or recreational areas or tranquillity as they are described by the CPRE?

128. I can only give you a crude cost at this stage, but the general crude cost, subject to all the caveats – because sometimes people use these in a way in which they weren't

intended – the barrier itself, generally speaking, costs, at 3 metres, £941 per metre and a 5-metre barrier costs approximately £1,841. It is approximate, but I'm giving a rather precise figure. Let's call it £940 and £1,840. That is simply per metre. You would obviously factor it up if you are doing a length.

129. MR HENDRICK: Does that include VAT?

130. MR STRACHAN QC (DfT): Of course, as you've also heard, Mr Thornely-Taylor, you had to have a certain length of barriers for them to provide a localised effect. And, of course, in addition to the cost of barriers, you may have additional landscaping costs if they are required to be integrated into the landscape – so things can escalate quite quickly.

131. SIR PETER BOTTOMLEY: We might briefly look at 192514 just to remind ourselves of the context.

132. MR STRACHAN QC (DfT): Yes. That brings me onto my second point, which is about where we have proposed noise barriers principally to address noise effects on what are identified as sensitive local receptors.

133. SIR PETER BOTTOMLEY: Occupied buildings.

134. MR STRACHAN QC (DfT): Occupied buildings. We have identified noise barriers and the costs of those have factored into the project. The approach in relation to, for example, open space is set out in the environmental statement. It's in our note at page 13, P14180, if I can take you away from that slide for a moment. We've applied this approach to any number of open spaces, be they footpaths, canal towpaths, sports grounds, race courses, golf courses, show grounds, and nature reserves. The general approach is because the use of those areas is generally transitory, i.e. they're not people residing there. We don't approach it in the same way as for residential properties.

135. The issue – this will be familiar territory for the Committee – is, where noise barriers have been raised as potential solutions for localised effects, they themselves bring their own environmental effects – principally visual. In order to have a localised beneficial effect, they may need to be more than 3 metres and you then get into an assessment of what benefit are you providing to a localised area as compared with the

visual adverse impacts you introduce, effectively drawing attention in a different way to the line as it passes through. That's the balanced assessment that's been gone through as we've passed through all these areas. Generally speaking, for the reasons you've heard about, railway lines, as they pass through rural areas, are not uncommon features of rural areas. They obviously have a visual effect, but, generally speaking, putting in significant noise barriers, with the consequential cost plus the consequential visual effect, we have identified, isn't justified.

136. Where there are specific examples or specific instances where there is a concern about areas, we have looked at those as requested mainly by petitioners, but also groups. But the CPRE's request of the canal towpath I understood to be a more general one to impose noise limits on all open areas or recreation areas. That would obviously have a very considerable cost impact on the project. It would have a very considerable different visual effect. For the reasons we've identified, it wouldn't be justified.

137. MR CLIFTON-BROWN: Can I ask this question? I may be wrong, but I'm going to ask you the question in any case, because I'm stretching my mind back to the sound laboratory and everything else. Did we hear from Mr Thornely-Taylor that the effect of sound barriers is to actually throw the noise further away? In which case, putting noise barriers in open spaces could have a disadvantage, because people walking on footpaths or whatever would hear the noise for a longer distance.

138. MR STRACHAN QC (DfT): I think you did hear from Mr Thornely-Taylor in answer to that question. And he's going to be here a bit later on to deal with the issue at Wendover. I'm probably going to park that, so you can check with him.

139. MR HENDRICK: Mr Clifton-Brown is right.

140. MR STRACHAN QC (DfT): I think I recall that the challenge is for higher barriers, but that can be an effect which then has to be designed into the structure of the barrier itself to avoid transmitted noise of the type you're identifying. There is a potential issue that can arise but can be designed out. It also has cost implications, of course, as to the cost of the barrier.

141. MR HENDRICK: Could I ask you to address Mr Smyth made about the actual contours of the barrier? He made the point that straight lines, in many cases, are much

more intrusive. What did you make of his comments with regard to different shapes and contours of the barrier? And what would the cost implications be other than, 'It'll cost more' to that?

142. MR STRACHAN QC (DfT): I can find out more about costs, as in how that factors into cost, but generally speaking – I think you're going to hear about this later on in the context of Wendover – the external appearance of the noise barrier is something which is open for the detailed design process to minimise its visual effects. For example, a horizontal emphasis rather than a vertical emphasis reduces the perception of height; landscaping in front of the barrier obviously reduces its visual effects.

143. MR HENDRICK: I think he was speaking in the context of the Wendover viaduct.

144. MR STRACHAN QC (DfT): Yes, obviously, if you are reducing the form of the barrier – again, Mr Thornely-Taylor can assist you on that – then you're going to affect its performance, bearing in mind you're trying to screen the noise.

145. MR HENDRICK: Is that even across the area concerned?

146. MR STRACHAN QC (DfT): Yes. It's probably getting into some technical issues, which Mr Thornely-Taylor can assist you with.

147. MR HENDRICK: I mean –

148. MR STRACHAN QC (DfT): Generally speaking, in answer to your question, there are ways of designing noise barriers to minimise the visual effects. Certainly, that's our aspiration where we do put in noise barriers, but, as you'll hear later on today, noise barriers are controversial – particularly when they're of a higher height. There's always a balance to be struck between putting these structures in to mitigate a noise effect and the consequential permanent visual effect.

149. That's why – I'll just come back to our general approach, which has been used in other projects – so far as open space is concerned, we treat it differently in terms of the overall balance to permanent effects on residents who occupy the premises. Of course there'll be a change in the noise environment if you're close to the line, or even at a

distance from the line, in an area which is countryside or a recreational area. Those have generally been assessed.

150. You know, for example, that in Twyford there's a cricket pitch which we have talked about. We discussed and have considered the merits of, potentially, raising yet further the noise barriers because – with the visual detrimental effect that would have as compared with the noise conditions that will continue to exist in that area – that will allow cricket to be performed. Yes, it will be a different noise environment – but it will still be an environment that allows recreation to take place. The same is true for this scheme: as it passes through the countryside, there will be noise effects, clearly, but generally speaking those noise effects are ones that can be tolerated through what we've done to the railway, and we've addressed specific effects as and when they have arisen for particular areas.

151. For the Oxford Canal, as I understand it, there is actually a landscape bung between the line and the canal, where the landscape bung will attenuate some of the noise. It's an example of where, on a specific impact, we've sought to balance the interests. Coming back to the original question, I hope I've given you at least a broad indication of the cost. They would be very considerable indeed, if you were to adopt a blanket approach of requesting this project to put in noise level targets for all open space and recreational areas.

152. I wasn't going to say too much about the effect of reducing speed, because you have heard about that yesterday.

153. SIR PETER BOTTOMLEY: With respect to Mr Smyth, we've done that.

154. MR STRACHAN QC (DfT): Just for his assistance, there is an information paper E10 on climate change, which explains both the project's commitment to dealing with carbon emissions and the sustainability. As I told the Committee yesterday, volume 3 of the environmental statement has a specific chapter on climate change. It assesses the carbon footprint of the scheme. It assesses it over a 60-year period and starts to look at a 120-year period and it deals with speed reduction in the way I explained yesterday. But there is quite a considerable amount of information on the general policies for bringing down carbon emissions both during construction and operation. It's principally the construction which adds to the main carbon footprint in the first place,

rather than the operation of the railway. That's why, over a longer period, from 60 to 120 years, the project, as described in that, becomes close to carbon neutral in terms of emissions. That's all explained in volume 3, as well as the alternatives we considered on different speeds.

155. Passive provision in relation to HS1 and, indeed, connections to the South West are addressed in our note. I know the Committee will be very familiar that the completion of the HS1 link is an exercise that has been looked at in some detail in developing the scheme. And, indeed, there was an assessment of that.

156. SIR PETER BOTTOMLEY: That was on your page 6, 14180(6).

157. MR STRACHAN QC (DfT): Thank you very much. I was just looking for it in my notes. Exactly, yes. That included, of course, looking at other links to Bristol, Gloucestershire and South Wales.

158. SIR PETER BOTTOMLEY: 5 was High Speed 1; 6 is the south west.

159. MR STRACHAN QC (DfT): Exactly, yes. I'll just note, if you're interested, that it also deals with rolling stock selection, including the potential for double-decker trains. That's an issue which has been looked at. It's not quite as simple as one might think, because double-decker trains do not bring a doubling of capacity, as one might think. We've established that it's about 20%, but they raise other issues of the type that are set out in the slide in the way you operate the railway. If you want to hear more about that, Mr Smart is behind me to explain the approach to single-decker versus double-decker trains. But it's ultimately the sorts of issues you see on this slide.

160. Can I deal with traffic and transport compositely? There's an issue that's been raised about modal shift, as it's called, i.e. getting people to avoid using non-sustainable modes of transport and the design of the stations. Within the process itself, the design of stations – for example Euston, Birmingham and the interchange at Birmingham itself – is all subject to detailed design processes. You've heard that there are some specific assurances that have been given and work that's been done to ensure connectivity for those pedestrian –

161. SIR PETER BOTTOMLEY: I'm looking at your page 14.

162. MR STRACHAN QC (DfT): I don't think we've captured all of the subsequent assurances that have been given in this note, whether it be at the Euston end or the Birmingham end or, indeed, the Birmingham Interchange. There is, for example, a specific assurance to North Warwickshire to review cycle access from Coleshill to the Birmingham Interchange station and to take account of that review in the detailed design of Birmingham Interchange. The issue of ensuring best provision for cyclists both at the station and connecting into cycle ways is work that is ongoing.

163. In terms of wider super-cycle-ways, we've explained in this document that that's outside the scope of the Bill. What we have looked at is connectivity with cycling. And we've had some discussion about that, for example, at the Euston end specifically.

164. SIR PETER BOTTOMLEY: I think we've seen some quite good plans for Euston. We heard from Mr Smyth that there are problems at St Pancras, around the back, and he also has reminded us of the trend towards electric or electricity-assisted bicycles, which could transform the proportion of people who use them. He was asking, how will you future-proof – that's the technical expression – the stations for that?

165. MR STRACHAN QC (DfT): I don't know whether this is going to satisfy you, but the answer to that is going to come in the detailed design of the stations as to the provision that's made at the stations as a result of a full assessment and design of the station facilities themselves. That process is obviously to come. It's not part of this Bill to fix the detailed design of any of the stations. But there are, certainly in the documents we've shown you, a clear understanding of the need to connect with cycling and pedestrian links. That's part of the ongoing design process.

166. SIR PETER BOTTOMLEY: That's actually spelled out more on your page 18. Okay, yes.

167. MR STRACHAN QC (DfT): At the risk of repeating some of the information papers, I know we've referred you on a number of occasions to the factors that have been taken into account in design – generally in design policy but also specifically in relation to stations and connectivity. You'll recall that, in the assurances, there are a number of criteria that have to be applied, one of which, of course, is connectivity for cyclists and pedestrians.

168. MR CLIFTON-BROWN: Allied to that, in the next 2-3 years there is going to be a significant shift of cars to either hybrid cars or electric cars – a significant shift. Will the station car parks incorporate more charging points?

169. MR STRACHAN QC (DfT): Yes. That is certainly something that will be looked at as part of the detailed design process. The stations at the moment are, as already indicated, not fixed in terms of their detailed design. As I understand it, on the provision of car-parking facilities, whilst there are certain minimum or maximum requirements in relation to numbers of spaces in particular locations, the configuration of those spaces and, indeed, provision for electric vehicles, one would expect will be dealt with fully in the detailed design process – in consultation, of course, with the local authorities who are responsible for transport policy in their area and reflecting a change to increase reliance on, one hopes, electric cars.

170. There is quite a lot of material in here, by reference to our information papers. I'm not going to take you through all of it now. There is a specific point about Birmingham Interchange station on slide 25.

171. SIR PETER BOTTOMLEY: You're saying you're not going further into the green belt. You do reckon that says green belt, the modal stuff.

172. MR STRACHAN QC (DfT): The modal split is something that will come from the transport plans in due course. We're not intending to fix targets.

173. SIR PETER BOTTOMLEY: You also give an explanation of what you think short-term is in terms of parking, where you think it's 1-2 hours rather than all day.

174. MR STRACHAN QC (DfT): Precisely, yes. We're certainly not treating it as a day, which I think is the concern. Mr Smart very helpfully provided me with some evidence about Ebbsfleet, which I think is one of the stations that CPRE was concerned about regarding connectivity and the numbers of car-parking spaces there. For your information, as I understand it, that type of parking is what's called 'lift and shift' parking provision. It's there in the interim pending the future development of Ebbsfleet station, which I understand is now proceeding. There was a hiatus in the process.

175. That parking comes out as development goes in. There is, of course, a bridge

across HS1, which currently doesn't connect to anything, but that's because it's there to provide connectivity for the future development that was, at that stage, contemplated. It's not a good parallel with what's been proposed here in terms of the numbers of parking spaces or the provision of connectivity. But that's just for your information.

176. I think I've covered the key points. I'll come back with the information on power lines for you, but if there's anything more, on reflection, having read this document, that the Committee wants, I'm sure we can provide it either by way of note or one of the witnesses today.

177. MR HENDRICK: For the record, Chairman. I know Mr Strachan referred to it and Mr Smith originally raised it. I don't recall advocating double-decker trains. Mr Smyth can correct me if I'm wrong.

178. MR SMYTH: Forgive me. I simply saw, sir, that you asked about the possibility – and that's what I was referring to.

179. MR HENDRICK: Okay

180. MR SMYTH: If I could ask the Committee to indulge me, I really want to comment, with just a sound bite, on some of those issues in response. In relation to design, we're not calling for dictation; we're calling for guidance to have regard not just for the planning authorities but also the nominated undertaker and the Minister.

181. In relation to green belt, we have seen the response of the Promoter – we have read it in detail – and we say there's still no engagement with the green-belt planning policy, which is the proper yardstick to consider the greenbelt, rather than the environmental statement. On noise, we did caveat our recommendation, not saying 'blanket' but simply areas of high tranquillity or AONBs. On carbon, the response was simply about assessing it rather than seeking to reduce it. We say that the fact that emissions have increased shows they're not giving enough regard to that.

182. Finally, on traffic and transport, again there are assurances about detailed design, but, as pointed out earlier, there's a big discrepancy between the NPPF core planning principle and what planning authorities are allowed to object to under the constraints of schedule 16. We say that needs to be addressed. Finally, on cycling, though Coleshill

is to the north of Birmingham Interchange, there's still nothing about the routes to the west, south and east – where there is actually great potential to link in even perhaps as far as the outskirts of Coventry with electric bikes.

183. That's all I have to say this morning. Thank you very much for your time.

184. SIR PETER BOTTOMLEY: Well prepared and well presented. Thank you.

185. CHAIR: Thanks, Mr Smyth. Now I'm going to move to Petition 1617, NFU update, represented by Sharpe Pritchard. Mr Lewis?

NFU (Update)

186. MR ALASTAIR LEWIS: Good morning, sir. First of all, can I thank the Committee for the opportunity being given to the National Farmers' Union of England and Wales to come back today to provide an update on where we are with the matters that were raised back in November 2014?

187. Just as an introduction, sitting to my right is Louise Stables, who Committee Members from that time may remember gave evidence for the NFU. I'm not intending, you'll be relieved to know, to reopen any of the cases today; this is purely an updating exercise. I'm going to go through a list of points that I hope is being or has been handed in, which are outstanding. I'm not going to dwell on all of them by any means, but I will spend just a little time on a couple of the issues the Committee has already shown interest in: in particular, tax and replacement buildings.

188. We acknowledge that there has been some movement by HS2 towards some of type concerns raised in particular. The general undertakings that were secured about engagement with farmers, the carrying out of works on their land and the assurances that have been agreed with respect to temporary possession of land as against compulsory purchase. We're grateful for the way HS2 have cooperated in that, and I think the Committee has found that useful, since we appeared. There's still some way to go, though, and where the NFU has failed to convince the Committee and HS2 of the merits of the points in the list that I've given, it reserves its position to go to the Lords.

189. On engagement generally with HS2, there has been some – but we have to say that the NFU have been kept waiting for some time in relation to the negotiation of