

24 June 2014

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10:02

Insp	Letter expressing concerns about handling of the inquiry. Wish to give a statement. Am very concerned about the tone of the letter. However am grateful for coordinated approach of objectors. Refute the claim I've placed undue restrictions on cross-examination. Misunderstood the purpose of the inquiry. For me to gather the info I need. Not to get a witness to agree points that may be beyond their expertise nor to repeat questions a witness has already given an answer to. I accept I was wrong to suggest I had give one and a half hours to Mr Foren but I did give him 37mins. Still a long time to cross-examine on one green space. Mr Flesher had very little to do with that space. Had asked same question many times. No use to the inquiry and not necessary to repeat a point - does not make it any stronger. Will make no apologies for stopping questions that waste inquiry time. I accept there are a lot of people who aren't experienced in cross-examination and personally feel I have given everyone a fair chance. Anything else?
NC	Wish to draw atten to E-1-6 Transport and Works Act Inquiry Procedure Rules, rule 18(1)- procedure for you sir subject to rules of natural justice. Specific provision that an inspector may refuse to permit cross-examination that is irrelevant or repetitious. And Rule 18(8) - refuse cross-examination if it appears to you that it would have the effect that the timetable in Rule 9 could not be met (timetable in pre-inq meeting or subsequently varied). So within your powers, Sir.
Inp	I'm not intending to stick strictly to those rules and to accommodate people where we can. Would like to hear all the evidence but not keep going on something not of any help. Any other points?
RW	Prof Purseglove cannot be here beyond close of play Thursday. Anticipating Mr Chadwick' evidence would finish in good time to allow Prof Purseglove to finish on Thurs. Otherwise might be necessary to interpose Prof Purseglove. At the mo, Purseglove then Mr Webb on Friday - hopefully a short day. Sir, additional point about Heritage Env'tl Statement - in the light of the line of cross-examination taken against Mr Ward we thought it expedient to do further work on the ES that we will be publishing next week. To alert the Inquiry to it. Now a month from the Heritage week. Need to see if Mrs Peerless' availability...
Insp	Not useful to hear evidence before the ES is published.
RW	Will be published but may need other evidence to be put in by other people.
Insp	And whether Mr Ward be re-examined. I'm nt sure about Ms Peerless's availability.
DG	Wish to put down market - may need to recall Mr Ward and need to find a week our expert Ms Lightbody can do - and won't know what the work needed till we receive the new evidence.
Insp	How long needed Prof Bonsall?
PB	Lunchtime. C1. Table 7.3 p.7-9. Objective "to increase the proportion of trips made by sustainable modes".
Ch	Will support PT and will not be to the detriment to the overall use of sustainable modes. Cycling an pedestrian facilities associatd with NGT will in our view support sustainable modes.
PB	Is the comment in clumn 3 fair and balanced?
Ch	Well, says hel increase public transport's modal shift. Should say "Modal share".
PB	Fair and balanced?
Ch	Bringing out NGT's contribution to that target.
PB	Emissions -where does it say the emissions will increase?
Ch	Well it doesn't but talking about potential for more efficient central energy production.
PB	Fair and balanced?
Ch	The heading is the contribution of NGT and t says that.

PB	Casualties- fair and balanced?
Ch	While outputs of LTM predict a small increase in traffic accidents, our view is it is neutral. A margin of error around that estimate and other benefits are not reflected. Yes it is fair because there is a balance between a positive and negative effect.
PB	3.115 in your Proof. Sensitivity testing to support the business case. Final sentence indicates that you regard the
PB	Another factor in the benefit is the assumption about quality factors?
Ch	Yes it says in that paragraph the quality.
PB	I'm talking about what is assumed by the public?
Ch	That's right.
PB	You agree that the estimation of benefits is crucially dependent on assumptions about people's perception of quality.
Ch	Yes and we make no apology. Important to design a scheme of the highest quality.
PB	Evidence of the sensitivity of the appraisal to the perception of quality [???10:26]
Ch	Yes we've said it is important. But it only becomes worthwhile if we can deliver the journey times and the capacity, If for whatever reason it is not possible to deliver those then the case for investing in quality is also diminished. Its like a tripod - if you pull a leg away it falls over.
PB	Comparison of NBA with zero quality and with full quality moved BCR from 1.3 to 3.49? No other change?
Ch	Correct.
PB	Clear indication of the sensitivity of the BCR to the assumed perceptions about quality - nothing to do with actual quality[??? 10:28]
CH	
PB	You agree it would be useful to test impact of allowing an LCA vehicle to be perceived as if it were a new bus?
Ch	Not sure it would. Not within our gift - a matter for the promoters. The purpose is not to test options and pick the winner but see whether the majority of benefits can be provided for a minority of costs.
Insp	Wouldn't that be useful then- a new bus would not be expensive?
Ch	It is what the promoters can procure. Our assumption is there would be a diesel hybrid bus similar to those operating in Leeds rather than a new, non-existent, highly specified bus.
Insp	Isn't a new bus just hybrid bus that is new?
PB	I refer to the bus shown in the Stated Preference work.
Insp	Yes that's what I thought. Why is that not a useful test?
Ch	Again, goes back to over time there not being any difference between that bus and the old buses in the do-minimum over a 60 year period. Would be consistent with what we did for the do minimum.
Insp	You haven't done a test of LCA with a new bus?
Ch	No we haven't.
PB	Sir I don't know if you can require the promoters to do another test but if there was one, that would be it.
Insp	It's for the promoters to decide what evidence to present.
PB	In 3.142 I think you are saying we can't really compare the BCRs (of NBA and preferred option) because of the way you treat the revenue. Doesn't seem very convincing- can you explain that?
Ch	The promoter wants to capture the revenue surplus the scheme will generate and use it towards the funding. One way is by concession and receive a payment for the concession set

	of against the capital cost of the scheme. Other approach is where the revenue risk is taken by the promoter (as is done in Manchester Metro) and annual surplus used to pay off the scheme. Those surpluses are an important part of the scheme to offset the cost to the public sector. For a full-quality NBA there is no mechanism for the promoters to capture the surplus by concession or annual surplus. So public sector would have to make a greater contribution over the life of the scheme.
PB	So because the promoters want to take the revenue risk they cannot have an NBA?
Ch	Not started off at that position they wanted to take the revenue risk - carefully considered the different procurement options and regarded that as the best one that would give the best value over the life of the project.
PB	Best way forward as they perceive it?
Ch	Yes
PB	Can't have the NBA full quality?
Ch	Yes
PB	If it were available it would outperform the TVS?
Ch	Yes.
PB	The best alternative is not available through the TWAO?
Ch	That's correct. Not available full stop. No procurement route.
PB	Why does the promoter want the TWAO if the best option is not available though it?
Ch	Comes down to the vehicle not existing. Its hypothetical.
PB	You several times say that the appraisal should not be a beauty contest and hence that it should not be considered as a carefully designed alternative. I accepted your answer. But where should I find a careful appraisal of alternatives?
Ch	Set out in evidence of Mr Haskins. 2007 submission of initial business case - no formal status but shared promoters' thinking with DfT. [C-5-1]. Produced in response to SoS's letter cancelling Supertram.
PB	The docs referred to before didn't compare alternatives - not been any modeling results how they would meet the original objectives?
Ch	There was numerical analysis to underpin C-5-1 using the models available at that time - supertram models, superseded. Then, DfT said they wanted to see a bit more on the strategic case. That led to Public Transport Framework for Leeds document which looks at all the corridors in Leeds. Again there is analysis that sits behind that which is not in front of the Inquiry and Mr Haskins was asked about that. All that was shared with the Dept and that led to 2009 business case.
PB	There was some analysis. But DfT said mode not good enough. A different scheme with an eastern route. But is there some analysis of alternatives set out where we can say NGT will achieve <i>this</i> and these others will achieve <i>that</i> ?
Ch	The docs that exist are before the Inquiry.
PB	They don't do that, do they?
Ch	Well...I haven't quite finished the narrative. Since 2009 we have reviewed the available set of vehicle technologies in C1 set of docs. That has influenced the specifications of the NGT and the next-best.
PB	It's not the technology that concerns me but the concept of a new and separate form of transport that's being introduced into A660 corridor. Alternative not tested. Table 17.1 (p.17-10 of C1) needs adjusting for GHG calculation corrections?
Ch	Yes. Took decision it did not need to be changed because relatively small adjustment to BCR.
NC	We do have a revised table - is it worth putting in now? We'll put in...
Insp	Can you put it in at the break.
NC	It'll be APP-143 I'm told.

PB	One other point of info. One test is "increased vehicle lease cost" - do you recall what the increase was
Ch	No - would have to go and look. There are a lot of assumptions.
PB	Probably a 15% testis it?
Ch	The lease cost is an annual charge over the life of the appraisal. Impact on CB appraisal is influenced by the discounting - may be 15% on present value but not necessarily on the annual one.
PB	For the sake of my question can we proceed on basis it is 15%.
Ch	OK - will be useful to check.
PB	DfT sent a letter to Mr Haskins July 2012- had a condition that BCR should not fall substantially below 2.70. Therefore must be some concern about most of the results in Table 17.10 after correction or the arithmetic error.
Ch	Purpose is to test the sensitivity of the appraisal. Not to illustrate alternative scenarios but how much variability is needed to break the Dept's condition.
PB	Not the way you did it- took an assumed change and <i>then</i> looked to see what effect it would have on the BCR.
Ch	It's another way of doing it.
PB	No it's an important point -showing how robust your central forecast is to these uncertainties.
Ch	Yes but deliberately extreme values. Not suggesting the promoters consider a plus 15% change to capital costs to be a likely outcome. This goes back to how the Dept use these.
PB	We've already seen how sensitive your number is to quality, (1.26 to 3.4...forgot the other number but a big change), many of the results in here would cause you concern if you thought they might well come about?
Ch	If we thought they might come about.
PB	You'd expect DfT not to fund the scheme if they thought these would come about?
Ch	Well would expect them to reassess the scheme not necessarily withdraw funding.
Insp	Why did you use those values if they are extreme?
C	Those are the ones the Dept ask us to undertake. Going back to 2009 the sensitivity tests were what DfT would ask for. Many are pretty standard and we knew what they would ask for. When we came to Prog Entry Business Case the sensitivity tests were agreed with the Dept. For Business Case Review we haven't formally discussed it with the Dept - whilst we have presented the numbers to them they have not given a view. They are the numbers we considered appropriate.
PB	I took Mr Hanson to WebTAG and he agreed that despite the guidance you should sensitivity test for - soft measures, or parking policy or serious and sustained competition with bus operators, not done. Would you like to comment?
CH	We think not reducing buses is serious competition. Comes back to 2011 letter where DfT say [??11:01] will require more work to be done to demonstrate robustness of revenue case. Our interpretation of that is to test fare and service patterns and then also responses to it. Pinned down at the conditional approval stage. In terms of robustness of fares to competition that is something that will come. At this stage we have done things appropriate for programme entry and when we come to conditional approval we will do further work on the commercial case. Other point was parking. There is a city centre parking policy and what we have done so far is reflect that. If that was seen as an important aspect on the commercial case for the scheme when it came to conditional approval no doubt we would agree with the Dept whether we needed to do tests on that. Standard Dept approach is not to include soft factors in a do-minimum as too difficult to predict.
PB	Specifically require a sensitivity test.
Ch	Well we agreed it with DfT. If subsequently the promoters decided that soft factors were appropriate we would test them in future.
Insp	How was it agreed with the Dept -did you write and say these are the tests we would do?

Ch	A bit of both. 2009 submitted tests and no comments. In 2012 they came out of discussions. It comes from a dialogue rather than an edict by the Dept.
PB	You mentioned changes to WebTAG following the Sheffield experience. Was the need to test sustained competition one of those you had in mind?
Ch	There were changes but I wouldn't say one led to the other - wouldn't want to make that link. In Sheffield there was intense competition in the bus sector that was not tested but equally has not been seen elsewhere.
PB	Well you say you don't want to make the link but you made it in Chief.
Ch	I apologise if I made it more direct than I should have done.
PB	You still think it was correct not even to sensitivity test on competition over and above what you have done?
Ch	Yes - saw keeping services the same as one of the extreme outcomes. So thought also likely to be robust under less extreme, more moderate competition. It's focusing the tests we do to get the most info out of the minimum amount of work.
PB	Your evidence is keeping things the same is an extreme scenario?
Ch	Yes.
PB	At 1.16. You say you conclude the BCR is robust to a range of extreme downside sensitivities. No test for serious sustained competition as in Sheffield, soft measures, parking, perception of trolleybuses.
Ch	Well did consider no reduction in services over 60 years (continue to operate at a loss over 60 years) is extreme. And the sensitivities reflect precedent and practice and let the Dept make a decision.
PB	Serious and sustained competition only needs to go on for 3 or 4 years at most (maybe months) because of your weak cashflow position. You could have modelled that?
Ch	Well Mr Henkel gave evidence [11:12] and as is set out in the 2012 letter sensitivity to fares and service patterns is something to be considered at the later conditional approval stage. I'm happy that the work we have done is sufficient for the Programme Entry decision in 2012 and that is a signal that funding will come forward.
PB	No test of a simultaneous occurrence of 2 or more downside risks?
Ch	Yes because they ask for sensitivity rather than scenario tests. When we do that we are asked to combine more moderate rather than extreme events. We have done the standard approach.
PB	You have said a lot of the tests are still to be done and will be done at a later stage.
CH	When we get to conditional approval stage there will be a testing of the revenue numbers. There would be a refresh of the commercial case but it would not be necessary to repeat the sensitivity tests we have done here.
PB	In our opinion?
Ch	Yes.
PB	You said earlier that testing is all the art of the possible and getting the most out. Is Bodington P&R test on LCA with fewer buses per hour more important than testing quality parameter in LCA (perceiving new buses as if they are new buses)?
Ch	That test is important. [11:17]. We wanted to explore that and that is why we undertook the test...In terms of the other test we undertook a test we think is consistent with the specification...I am content that the tests we have done are the tests that are most important in responding to the Dept and the objections made.
MW11: 18]	I'll adjourn till half past 11.
PB	[11.30] The note gives revised values for some of the tests but it would be useful to have a revised table 17.10.
NC	We'll consider that but it may not be feasible or beneficial.

PB	This is just a selection and not necessarily the ones I was interested in. Now, C1 page 13-5 table 13.2, you are predicting movement of passengers from rail to trolleybus. Shows a revenue loss to the rail operator. You say it can be reclaimed by government refranchising but not reassuring to rail operators. Mr Jones will pursue that. But para 13.19 - is it fair and balanced to claim a benefit for rail travellers from reduced crowding and not look at crowding on NGT?
Ch	I think the treatment is appropriate, yes. We have not claimed a value for the benefit - may not be possible and would be small.
PB	
Ch	At the margin, yes. [11:36]
PB	Why the qualification?
CH	Because the generalised journey time is generally larger than other modes because of reduced frequency. The effect would be small.
PB	So a trip from Horsforth into Leeds what's the generalised journey time likely to be?
Ch	Don't know what the frequency is.
PB	Well the headway will be larger than the cap as the headway [11:37]
Ch	The impact would be small.
PB	Why does anybody use a train if the cost is so high?
Ch	Well
PB	It's sometimes argued people like trams because they run on rails- legibility and permanence. I've never heard anyone argue people would prefer a trolley bus to a train. Can you explain why?
Ch	For those who prefer train over alternatives, for those people it's the best option. While on average the trolleybus might illustrate one has an advantage over the other for those who choose it will have an advantage.
PB	With respect that answer does not get near the answer. Why is it reasonable that people would
Ch	To be honest I think it is a clumsy assumption and would be happier if it had not been made. But you take a view about the importance of it and it only has an effect at the margins.
Insp	Do you agree with it?
Ch	I understand why it was made because that was the easiest way of doing the trolleybus assumptions [11:41]/
PB	You specified the parameters and the modelers used those, not the other way round?
Ch	We set out how trolleybus should be reflected in the model when compared with bus. This was an unforeseen consequence of that. Had a think, came to the view it was only at the margins and we would live with it.
PB	When were you aware of that mistake?
Ch	Certainly at the time of the business case review and when preparing the Core Docs and as you may expect we were comparing drafts.
PB	Was this your assumption or you gave an assumption and they misinterpreted it?
Ch	Neither- we gave AECOM a set of assumptions. They applied those, I don't think they considered fully the consequences when they applied them?
PB	An oversight by you, or them?
CH	Yes we can't disown our responsibility for that assumption.
PB	Given that you gave them the assumption you should have made sure how they were using them?
Ch	I don't disown it. It was a shared responsibility. I'm taking part of the blame.
PB	And the ASC in the parking model is another reason for error. People from Horsforth will get a 60 minute bonus plus avoiding the penalty you erroneously introduced for trains. So it will

	have attracted people away from rail and onto P&R?
Ch	Yes and that is reasonable if there was P&R.
PB	So people who would otherwise have a direct route to City Centre from Horsforth station is it credible to suggest they drive to Bodington, park, go up lift, wait, take trolley bus that takes 19 mins and stops 11 times en route.
Ch	Depends where they are going. May not just get off at City Square. There will be some people for whom that is more attractive. It is a probabilistic model and the probability will be low.
PB	But for people going to the City Centre, the financial district, you say the majority of people will be influenced to drive to P&R rather than walk to Horseforth station?
Ch	I've seen no evidence that the majority will do that. It's your assumption.
PB	A generalised cost of 50 or 60 minutes vs a 19 minute journey. Not difficult - what the model will do. Also, streets like Langdale Terrace, Langdale Gardens, quite close to Headingley Station. If they wanted to go into Leeds only 1 stop to City Centre. But because of the way the zones were coded, the model will almost certainly predict that they go onto A660 and use the trolleybus. Do you think <i>that's</i> credible?
Ch	You discussed it with Mr Hanson. I go back to the point, I don't know if the majority will go by NGT or not, so I can't rally comment. I don't think what you are saying has been established by the evidence so far.
PB	If the evidence <i>does</i> establish that's what the model does, do you think that's credible?
Ch	Don't know where it is?
PB	Map in NWLTF-108
Ch	Essentially Mr Hanson's area. My understanding is, wherever you join the network the question is whether the walk connection reflects the actual cost of walking to the station. Properties on west of the zone will have a low waking time and others on the other side will have a higher waling time. The question is how well the average is represented. On average if people currently use the station the they will probably continue to do so.
PB	Not your error on the zoning. But the error you made will exacerbate the error in relation to this zone.
Ch	Yes but there will be compensating factors - I can see my house on the map and the way that's represented will be more expensive to walk to NGT.
PB	Well in this example, the penalty for rail gives an other example where people will not use rail.
Ch	I think it is marginal overall.
PB	Is it credible?
Ch	It would have been more credible not to have made it Comes down to how important it is and we consider it is not important.
PB	3.108 in your Proof. Headline Results. BCR for NGT.2011 was estimated as 5.61 in "best and final bid business case" ('BAFB') -doc C-3-2 table 5.4. How confident were you of that 5.61 value?
Ch	We discussed this last week and I was quite candid that I was not confident. In 2010 Spending review all schemes were suspended and all schemes invited to come back with a BAFB. Asking 2 things- scope of their schemes and the individual contributions for those schemes. Had to submit by a partic date in 2011 and if did not were abandoning the scheme. Have to remember that the Dept had asked us to move over to LTM. By the time we had to submit BAFB frankly the LTM wasn't ready. The decision was either to submit sometjing that wasn't ready or the scheme was dead. At the appropriate opportunity we discussed that with the Dept and they invited us to come back when we were ready. That;s what led to the Programme Entry in 2012.
PB	So did you know it was wrong when you sbmitted it?
Ch	We knew it wasn't right but didn't know why at that stage.

PB	How could you tell it wasn't right?
Ch	By looking at the overall demand. And that's why we had the discussions.
PB	It was you who said it was wrong or them?
Ch	I think it was both- we both knew.
PB	Did they point it out o you or did you point it out to them?
Ch	Came about through discussions. At the earliest opp we raised our concerns.
PB	Before they raised it with you?
Ch	I think at the same time- we said "we're not happy" and they said "we're not happy".
Insp	You or the promoters?
Ch	We were representing the promoters. The promoters were there too.
PB	You say it was simultaneous?
Ch	You are casting doubt bon my recolection of events. The Dept received about 20 bids on teh same day. It wasn't for us to say we wanted to talk about it [12:04] as they were busy. When they were ready they said they anted to discussit. We had a meeting and we presented our diagnostics and they presented their diagnostics.
PB	I can't imagine it was simultaneous.
Ch	Well you need to try harder because that's what happened.
PB	Next you came up with 3.86. How confident were you in that?
Ch	Well you put forward what you believe to be a central case. DfT said they wanted some adjustments. In our letter to DfT we set out our interpretation of the adjustments. When they make adjustments you either say "not of sufficient value to adjust the model to adress those - you continue to make those adjustments" and we have that undertanding. That is appropriate for smaller schemes given proportionality. Otherwise you can say "ok you've expressed concerns and we'll adjust /develop our model rather than you continuing to make adjustments". We set that out in the letter of 21st March. Whether the Dept take on board all that I don't know - in a process and won't give us feedback.
PB	Do you think they were right to reduce it to 2.7?
Ch	Some of the things they did were reasonable and because they wee reasonable I think they were right. One of the things was they said we needed to do more work on run times. One adjustment was on bias that I don't think was reasonable but was not a big adjustment. Highlighted the work on carbon and that was very helpful and we've incorporated that. Some adjustments to disbenefits to non-users, and an additional disbenefit relating to unreliability of highway journeys. Again, that's an area we were very alive to and we therefore did a lot of work with the engineers to see how we could eliminate those. I took you in Chief to the letter to the DfT highlighting the changes. Was I happy with the changes to non-user disbenefits, probably not. Not a single adjustment. Some were reasonable, some not necessarily reasonable but didn't need to worry about because we knew the values would change and othes of most concern we sought to meet by changing the specifications of the scheme.
PB	When you met them on Feb 6th they weren't satisfied at that stage and wanted further meetings.
Ch	No.
PB	That's what it says. G-4-94, top of page 3.
Ch	Says more details required. Because the meeting was essentially a briefing. We presented the points set out in the letter in full knowledge that DfT could not express a view because of the process they were in. Will come to a view after the SoS has made a decision and we wouldn't express tthem to do it without further discussion because we will be another year or 18 months down the path.
PB	If they had been satisfied there wouldn't have been a need to say they needed further discussions. Not yet satisfied?
Ch	They would never say anything in a meeting of that nature. Simply a reflection of what wil happen - there will be further discussions.

PB	Proof 3.97- you acknowledge the arithmetic error- reduces BCR to 2.9. Are you confident DfT will accept that number?
Ch	Well we consider we have addressed specifically their adjustments and won't need to make further adjustments.
PB	You've now agreed most of their changes were warranted to get it to 2.7. Given the history are you confident they will accept that number?
Ch	Yes. Between 2011 and 2013 we have had a price rebase as well so cannot draw a direct comparison. When we get to the conditional approval stage there will be changes to the scheme - within boundaries of TWAO and when conditions are imposed will have an impact on costs- also work on commercial case, fares and service patterns; changes in optimism bias that will come down as we get closer to approval [?? 12:16] ; change introduced in January this year to values of time. There will be changes and another number.
PB	Are you happy that you are now closer to the right number now than you were?
Ch	Occasionally errors happen.
PB	You don't have the slightest concerns about run times, very fast boarding, quality parameters based on different sorts of buses, penalties on different sorts of bus stops gathered after darkest winters and spate of attacks at bus stops, etc. Not have the slightest concern?
Ch	Er, I think that overall I remain in position that we consider the VfM case set out in the business case review is economically worthwhile and better than the alternatives we have set out in the business case. Will the scheme change, yes it will. But the broad assumptions we've set out on benefits of NGT have been accepted by DfT, examined with great care and I consider them sound and we should use them.
Insp	Not accepted all of Prof's concerns but have accepted some. Would you not bring those to attention of Dept?
Ch	Well you'll make the report, DfT will make decision, then we'll come back for conditional approval. When we do that we will have to say all the changes we have made. Some I can foresee- changes in value of time and optimism some I can't foresee. They will be there and fully documented in way required for DfT to make their decision.
PB	Table 17.4 on Page 17-5. BCR was given as 0.0. How confident were you of that value?
CH	We weren't - that's why we continued to work on it and that's why we put in a revision in my evidence and again in APP104.
PB	Reason you weren't confident was lack of time?
Ch	Principally.
PB	Increased in the appendix [0.9?]. How confident were you of that value?
Ch	More confident than C1 and knew we were getting to the right value but continuing to review it.
PB	If not confident at that stage why did you submit it?
Ch	Confident subject to the checks that were done. We thought it better to submit it rather leave a blank. I apologise for this and appreciate it is frustrating. What we sought to do was at the appropriate stage bring to the inquiry's attention any changes that were made.
PB	The BCR is now 1.23. How confident are you of that value?
Ch	Our confidence is increasing. I'd say I have the same confidence as the NBA and the preferred option. The focus will be on the preferred option -it is of sufficient detail to show that the majority of the benefits cannot be provided by the minority of the costs.
PB	Are you confident it won't require another uplift?
Ch	When we come to the next stage the appraisal of the Preferred Option will be redone based on changes in practice. Am I confident the numbers will change? Absolutely confident. Am I confident that there will be a relative change no it won't.
PB	Not what I asked. Confident there will be no uplift?
Ch	Could go up, could go down. Not saying anything systematic. 50-50.

PB	What about predicted run-times being less than do-minimum?
Ch	We do have a test of alternative ru times and the conclusions would not lead us to change anything.
PB	I'm not asking about the conclusions but would it afect the BCR? {Insp: answer]
Ch	If the alternative run times were faster, the benefits would increase as would BCR if that were the only change made.
PB	All changes in LCA have been in upward direction - any significance in that?
Ch	No
PB	Getting more realistic?
Ch	Doesn't affect the conclusions that it is value for money. There will be changes in how we treat values of time and optimism bias. The next set of numbers will give values higher on all fronts but it's the relativity that is in issue.
PB	The relativity of the advantage has been declining?
Ch	Yes but the Preferred Option delivers substantially greater benefits.
PB	As you get more confident, the difference gets less.
Ch	It's the normal way schemes progress that you get more confident as you go through the approvals process. And the overall conclusions are unchanged.
PB	The relative advantage of the preferred option is declining. You're not suggesting that is a normal part of the process?
Insp	We can move on.
PB	Para 3.110 of Proof. Page 38. "at this stage". Leaves room to submission of a higher value later?
Ch	Or a lower value.
PB	Anything the Insp should know about?
Ch	Yes I have said- appraisal values, optimism bias. And other bchanges I can't foresee that will reflect any changes in the commercial strateg and any conditions that may be imposed. Should not be read as meaning that if the BCR dipped below 2.7 the Dept would reject the scheme. Certainly not the conclusion to draw. It would mean they would have another look at the scheme. We consider we have addressed explicitly all the reasons for adjusting the BCR and no need to make further adjustment.
PB	3.109, third bullet is where you address optimism bias. How confident were you when you submitted it in 2012 that you were right?
Ch	We were onfident and still are. This was an area we didn't want to push back because when we got to conditional approval we would recalculate anyway.
PB	Are you disputing what DfT say optimism bias should be?
Ch	No. A formula and a matter of judgment about what the inputs to the formula are. We were confident we had selected appropriate inputs. We have had no discussions about optimism bias and how they arrived at the inputs they did. We decided it was not worth discussing it with them.
PB	You say you think they are wrong but surely you should have discussed it with them?
Ch	We put forward papers with them on our view about what optimism bias was. Fact they didn't come back to us with an alternative view is a matter for them not for us. We knew that at the next formal submission it would be discussed.
PB	Your argument in Chief was that optimism bias always reduces and so next time DfT will accept a lower value?
Ch	Wel we haven't formally assessed it but our current sssessment is that it wil be low 20s percent and when we get to final approval it will be near zero. So we can continue with programme entry case (29%) because there will be a trajectory. At hat stage it would be disprportionate to recalculate the optimism bias for the business case review.

PB	How confident are you that the Dept were wrong, given that you haven't discussed it with them at Prog Entry stage?
Ch	I'm confident the Dept will accept a lower alternative value if they were looking at it today/.
PB	Lower than they accepted last time?
Ch	Yes 2 byears' work has been done. That work has value and as it becomes more detailed the bias reduces.
PB	Letter C-6-15 July 2012 to Haskins. Condition 11 relates to specification and delivery of the service.
NC	"broadly as set out in the business case".
PB	When I question Mr Henkel he said DfT would want to look very closely at the level of service and revenue strea would be sufficiently robus to avoid curtailments of service. He suggested the most likely would be peak frequency and possibly services to Holt Park would be things that ould e considered.
Ch	There's a whole range of options that could be considered.
PB	Do you think you've already done enough work to convince DfT that the revenue scheme is robust enough to avoid those eventualities?
Ch	I think we've convinced DfT that there is a strong economic case. DfT needs comfort that overall revenue will exceed operatin costs and I believe we have given comfort on that because they granted programme entry. What they will want to discuss is what happens to the revenue surplus. I believe they have confidence that the revenues will make a substantial contribution to the capital cost of the scheme but they will want to know about the level of that number and how that makes a contribution. It becomes a question of the financing rather than whether it funds its costs.
PB	They would want to look a serious and sustained competition?
Ch	Yes
PB	What about crowding, run time, standing?
Ch	Well they've accepted the economic case- it follows from the fact they have given programme entry.
PB	Well you were in a hurry twice. We have evidence they were in a hurry to approve...
Ch	We don't accept that - the promoters wanted it done faster. Further work always needs to be done to justify vdrawdown of public funding. But the fous is around sensitivities that will affect the commercial case and how they flow into the financial case. Once you have programme entry it is not about reopening the question of alternatives,
PB	How do you expect the inspector to make his recomendation when that work hs not been done?
Ch	You are suggesting a paradox here that he cannot make a recommendation before the SoS has made his decision?
PB	Given that he has to make a recommendation should you not have provided the info about the sensitivity of the work?
Ch	The info was based on precedent and practice at other TWA inquiries. This inquiry has seen more economic info than other inquiries. Not any less than the info presented at other inquiries where the inspector has recommended that the order has been made. The sequence is the Dept awards programme entry, the consider Insp's report then consider conditional aproval. You are asking us to do the full set of work required for conditional approval 2 years in advance when you won't get the inputs till after approval has been granted. It is way in advance of when the info is needed.
PB	All I'm suggesting is you should have done a few sensitivity tests rather than what you have done, wouldn't have taken long.
	To give the clients the best possible advice that enables them to achieve their objectives.
PB	Duty to alert them to problems and weaknesses?
CH	I do.

PB	And to alert them to problems asap so that money is not wasted.
Ch	Yes and in other occasions we have advised to withdraw,
PB	Your evidence that you made suer Mr Haskins was aware that tolerance of LTM was plus minus 30%
Ch	I think he was aware.
PB	And made him aware that the preference for trolleybus was not using the result for trolleybus but for buses?
Ch	I think he was fully aware of how we came to that assumption.
PB	Did <i>you</i> make him aware?
Ch	Yes he was fully aware.
PB	Is he aware that the values for stops and CCTV were based on questions in darkest time of year after murders at bus stops?
Ch	I'm not going to answer these. You are just making submissions.
PB	Aware that a large part of forecasts of jobs are based on assumptions on quality?
Ch	Mr Haskins is aware that a key component is generalised costs and those are comprised of quality factors and run times. We do have meetings and they comment on our draft reports and I believe we have fulfilled our duty to them to make them aware of the critical assumptions that underpin the whole business case.
PB	He is aware that your opinion of the report by Motts is "complete rubbish"?
Ch	Well he is aware that we set it out in the rebuttal evidence to you. He is part of that rebuttal, a joint rebuttal from all of us.
PB	You have said Mr Chadwick the DfT will scrutinise the assumptions very closely. Who will do that for the promoters?
Ch	We will continue with our process of internal challenge and review. Whether the client wishes to have an independent review of the figures that would be a mater for them but would not be unusual. I'm confident that the most significant...in any forecasting and appraisal work of this nature there are always going to be some errors, the important thing is how significant are they in terms of the case that is made but I am confident that the processes we have undertaken and will undertake in future will indicate that there is no significant error that would affect VfM and whether better than the alternatives we have set out.
PB	You said you don't see it as part of your role to advise on political uncertainty.
Ch	I advise on the risks but not part of this commission to advise on how they manage things with the politicians.
PB	Back in 2011 Leeds MPs and business reps were lobbying for release of funds for NGT in Whitehall. A that time, over 5 BCR. Do you think they would have done so if they'd known that in 2 years' time the number would be 2.9 and falling?
Ch	Don't now- no engagement with MPs .
PB	That's it- one thing to come back on about Stated Preference.
Ch	Realistically won't have that till we come back in 2 weeks.
NC	We'll have to complete the evidence apart from First and they can ask.
Insp	It seems there have been errors that haven't been noted- <i>has</i> the promoter has someone else to look at it?
Ch	They have internal resources and I'm not aware of indeendent thrd parties.
Insp	Not aware that they have done a check sheet that they are happy?
Ch	We have discussions, telephone calls and emails until the Promoter are satisfied and I understand they will have done an checks but how they will have done that is their business. The promoter team is experienced in this area .
Objecto	The promoters used Turner and Townsend to carry out an independent costs review.

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Insp	I was asking this witness- you can provide that info. [1:09} Will adjourn till ten past two.
Mr L	App 7-2-2 PoE, Business Case C1 and Appndx H2 to NWLTF Statement of Case (results of Fol applicn). Have you acted in a planning role for a bus or train operator?
Ch	No. Members of my team have.
L	C-1, tables 17.1 and 17.2.. Small business members don't understand why on one hand a net business impact minus £2223,554. But 3.126 of 7-2 it says a remarkably specific £17m of additional business benefits by 2013. Can you help us with the evience supporting these assertions that appear to be in direct conflict?
Ch	Table 17.1 sets out the direct impacts of NGT as set out in the cost-benefit appraisal. There is a block with sub-total of minus 223,000. That is the sum total of the non-user disbenefits (people travelling on the road network for business purposes, offset against people using NGT for business purposes), The second set of impacts are private sector provider impacts. Showing impact essentially on firms in aggregate. There's a grant payment to the operating company and the lease payment, then negatives incurred by private sector. The most impt point is that because the NGT promoters decided to take revenue risk there is a transfer of revenue from private sector providers to the public sector. That's the revenue line and is key in the overall impact. If you took that revenue transfer out there would be a positive impact. If there were a concession the value wouldn't be zero but would be a lot lower. It is based on th revenue risk. These are economic rather than financial flows. That is part of the explanation. You then took me to the proof where I referred to the economic model. There are a number of impacts that DfT recognises occur as a result of transport investment like NGT but not quantified in CBR. One is the stimulation of the economy - there is a n uncertainty about predicting the economy.
L	I wanted to explain the difference.
Ch	That's why -it's our best estimate using models we've used for a number of years in West Yorks of what the benefits are. Lets take it that NGT does lead to increased employment, leads to more wages, tax on those wages, generates more spending. It's an additional impact over and above, and that's why in the round the NGT creates a benefit and the direct impacts we include in the BCR is more than outweighed more than outweighed by those we don't include in BCR.
Insp	Why is so precise - 3687 jobs?
Ch	They all come down to the nearest number in the model - but in this case we put in that exact number. Could have put "nearly 4,000". All very precise - how acurate they are is another matter.
L	[14:28] Seems more context than explanation?
Ch	I think that <i>is</i> a fair assumption. We do go outside of the analysis. Many promoters do not undertake that analysis either beause don't think it is significant or they don't have the models available. However in this case the tool is availabe and it's been a long-standing aspiration to develop transport to promote the economy . In this case we have been able to provide precise number from UDM rather than rules of thumb.
L	Based on generalised costs and stated preference work. Is there a model of how businesses behave or is it abstract?
Ch	The difference is based on quality factors, journey times and stated preferences that is correct. But that is not all the model does. A description of popn and of businesses. People move in and out of the area, born, die. Business formation. Also constraints in it. Cost of transport is a constraint but there are these e.g. Land and labour supply and how the economy develops over time. The model itself is much more rich than just those inputs.
L	To take you back to Table 17.1- am I right that if the revenue line asn't in the public sector it would have the efect of reducing te present value of the scheme to about 14m?
Ch	No
L	Why not?
Ch	The revenue is what it is. The question is where it appears in the table

L	You apply it was negative because it was a risk taken from the private sector and put into the public sector.
Ch	In table 13.2 there is a more detailed breakdown.
L	My point is about the principle of the location. Does it change the impact?
Ch	It doesn't change the net present value of the scheme. Doesn't change depending on whether you allocate the revenues to public or private sector. What does change is the BCR. One of the things the govt asks promoters to do is capture as big a value as possible from fares. 2 ways to do it either concession or taking revenue risk. BCR is the benefits divided by costs to the public sector. Which is revenue less any benefits taken from it. Taking revenue risk you take it every year. If you take a concession value it will be a lump sum, which is influenced by whatever the private sector thinks is the revenue risk which may not be the same as for public sector.
L	If it was private sector taking the risks, what would BCR be?
Ch	It would be less.
Insp	Any idea how much?
BCR	No - not the approach promoters wanted to take. Safe to say private sector would be more risk averse and discount the revenues more over time than public sector. Different businesses have different views, different strategies, returns on equity and ability to raise debt.
Insp	Who made the decision to take risk for public rather than private sector?
Ch	Promoters
Insp	Why - what based on?
Ch	Before 2009 business case was submitted, a significant piece of work was done that explored the different models for the scheme- whether public sector or a concession and a series of structures were looked at. There was input from the financial advisers. They went with public sector taking the risk as they do elsewhere like Manchester. Overall, greater value in terms of securing the benefits from the scheme.
L	In Mancs, a remarkable number of empty trams so not necessarily a precedent you want to cite.
Ch	Well still in early years and it'll be a couple of years before the system settles. I've got no information about it.
L	[NWLTF appendix] Slide 4 speculates on reasons for business case being positive and that we have insufficient info. Why in light of this is there no supporting info about the impact of the scheme on businesses along the whole route whether in construction periods or when it is running?
Ch	Erm this is the Dept's analysis of the 2012 work.
L	What have you done to allay their concerns that there is an information deficit that they have identified?
Ch	Well the info the Dept has seen is the same as is in the Core Docs.
Insp	I'll give you an op - didn't seem to be answering the question.
Ch	We have provided all the docs in Programme Entry Business Case and Business Case Review and Appendices.
Insp	Have you got anything to answer the question - evidence on impacts on businesses along the route.
Ch	This is to allay the concerns. That sets out our current view of the impact on business. On allaying concerns, one of the impacts was the congestion impact and we've done a lot of work to reduce that congestion impact and reduce it to a level we consider negligible. And the Dept are not going to give us their view while the order process is ongoing. On impact on business in the ES, individual businesses have been identified that could potentially be affected during the construction. There will be a construction code of practice and whatever impacts there are will be minimised so businesses can continue. I'm sure MR Smith would have discussed that. And the design of the scheme would be that businesses fronting on the

	alignment could continue. Some are not happy about that but the promoters will do their best to mitigate or minimise the impacts.
L	That's the procedures for dealing with construction. It doesn't assess the impacts on the businesses' trade or the sustainability of those businesses. Where is that considered because I can't find it?
Ch	The assessment of the impacts are informed by the detailed work that has gone on as part of the ES. The details of it are essentially something for another witness.
NC	Mr Chadwick has referred to A-08e at divider 4 and Mr Lever is the cover-all witness for the ES. That might be one. And this is where impact on businesses is assessed for the purposes of the ES.
Ch	My role is to interpret that assessment from Mott MacDonald as part of the cost-benefit value for money case. Yes there will inevitably be impacts - they will be managed under the code of practice and minimised in the design.
L	Where in the business plan is there an impact on actual businesses assessed?
Ch	There isn't in a monetised way. What we are able to monetise is the macro impacts on the overall economy but the ES is looking at the individual businesses.
L	Why isn't it part of the process? Is going to affect hundreds of businesses for a very long time. An extraordinary omission.
Ch	If you look at the ES it says it is not going to affect hundreds of people over long periods of time. What we have done -the whole promoter team is apply the approach that's been taken elsewhere.
L	Wasn't till the federation of small businesses organised a meeting, they weren't given any info at all.
Insp	Are you able to answer why it hasn't been included?
Ch	In common with all Ess, it's subject to a scoping document so work has been done on the methods deployed and they are set out in that document. I don't want to avoid answering but if it comes down to why the approach was taken in the ES I suggest it be directed at the appropriate witness.
L	All my subsequent questions relate to your Proof. Para 3.42.
Insp	Many more Qs?
L	Another hour.
Insp	I asked Mr McKinnon to come.
L	I'll give way.
L	Is it true that your team specified assumptions on rationalisation of bus services parallel to NGT corridor?
Ch	We developed the assumptions for the modelling work and they were agreed by the promoters.
L	Did your appraisal include reduced running times in pedestrianised and shared areas e.g. Cookridge St?
Insp	So far as I'm aware there has been some allowance. Whether you think it is sufficient is another question.
L	Is the rest of para 3.42 your position?
Ch	It's our position.
L	Is increasing PT capacity only true if the bus operators adopt your approach?
Ch	If there are fewer buses there will be less PT. How many fewer, I don't know - I haven't looked at that.
L	Have SDG spoken with the bus service operators to discuss what they would do?
Ch	No.
L	Internally generated but moderated by the promoters?

Ch	We've tested them with other people with relevant expertise within the promoter team from other firms.
L	What's the basis for your assumption that they will react in the way you suggest and no other way?
Ch	If you look at Otley Road corridor, currently 20 vehicles per hour. Our assumption is 12. On every 5 minutes is not packing up and walking away.
L	Depends where you live.
Ch	I was taking that example. We think it is a reasonable assumption as to the response to loss of revenue. And we also took an assumption that they will protect the revenue on services not affected by NGT e.g. To Adel [97? ???15:03]. At the moment we think that's a reasonable assumption to test the economic worth of NGT.
Insp	I think we have explored this already.
L	If you are putting forward a reduction of bus services you are taking off costs but also a decline in the bus market, as opposed to "bus plus NGT".
Ch	Yes we take that into account in business case. Those served by the 1,4, 6. They could use NGT. Could use NGT but it delivers less benefit than current service. Explicitly set out in the modelling and yes are some negative impacts on people who currently use bus but they are outweighed by a factor of 14 by benefits. Inevitably winners and losers. In this case we think the benefits outweigh the losses.
L	The service levels are a guess?
C	No - informed by analysis but it's an assumption made for the business case at this point.
Insp	Can we move off it.
L	Why did you not specify a skip-stop or express trolleybus -presumably would have given a more significant travel time gain, and a low-cost option.
Ch	Not sure it is low-cost. Purpose of NGT was to provide a uniform service. I genuinely doubt the practicalities of delivering it.
L	You are providing some very wide carriageways so there is an opportunity to overtake.
Ch	If the vehicle de-wires.
L	2 buses going the same way, you select it and...
Insp	I'm asking about the alternatives. Mr Chadwick said it was his team that specified what the specification was.
NC	Mr Longley had a chance to put in a statement of case and a proof. He has got a suggestion that there be an express bus service but not this catenary point.
Insp	We can't investigate something that's not been raised before.
L	My next question relates to Mr Farington - we were asked to move on. He laid great claim to Leeds becoming a major European financial centre. Since Leeds City Council is one of the promoters, is it not odd that the trolley buses don't go to the Airport?
Ch	The promoters have looked at all transport corridors. There is an aspiration for a train to serve the Airport. They have an aspiration for a separate scheme to improve access to the Airport and the trolleybus doesn't interact with that.
L	What numbers of business users transfer from car to NGT? [15:12]
Ch	Can't tell you exact number but it's small. Relatively small proportion. Wouldn't be surprised if single digit. Source is LTM.
L	Is the value of time of business users higher in the model?
Ch	Yes.
L	You say LTM has over-estimated impact on goods vehicles. If it can't be modeled, how can you say it over-estimates it?
Ch	They are modelled and say it is a negative impact. This paragraph is pointing out that some deliveries have flexibility and the logistics industry is adept at minimising its costs by changing

	delivery schedules.
L	Would it not have been more helpful if you had a better idea of impacts on goods vehicles as they are an important part of the economy?
Ch	It would be disproportionate and not warranted in this situation.
L	3.78 - about revenue risk and transfers. What guidance have you or promoters received in writing as to whether this approach is legal under the 1985 Transport Act?
Ch	A matter of submission. But this was clear in the 2009 and 2012 business case and the Dept awarded it Prog Entry. In the lead-up to 2009 submission there were discussions on it and they were fully aware. I take award of Prog Entry as an indication they were satisfied. Legally the mechanisms for Manchester Tram is exactly the same in my understanding and there is precedent. In my mind there is no question the promoters have the legal right to do it.
L	Would the operating entity go to the Local Transport Comms to register the trolleybus as a local bus service?
Ch	Can't answer that.
L	Who will be the licensing authority for the trolley buses?
Ch	A question I can't answer I'm afraid.
NC	Not raised in his Statement of Case. If he sets out a list outside the inquiry we will attempt to answer them.
L	3.79 is about NGt vehicles being leased. If the leasing company, as is practice in the leasing industry, uses the lease as a cost-offset through an offshore company what is the loss to the Revenue and why is it not accounted for? It is assumed that it will be a UK leasing company.
Ch	Yes we haven't taken into account that there would be any offshoring. That's the assumption I have made.
L	Net-present value of the vehicles - why are the capital costs of the vehicles not included in the scheme?
Ch	It is included in the leasing costs. It is assumed the leasing companies will acquire the vehicles using debt and equity and be responsible for maintaining them. The lease cost is a combo of the cost of acquiring them, maintaining them, and the privilege of using someone else's money. Its rolled up into the lease costs - staff costs and supplies for maintaining the vehicles plus the return on equity or cost of the debt dependin on the debt-equity split. QUAERE: What is the debt-equity split?
L	Are they any more credible or different than the NBA [15:23]. What evidence did you have of public opinion to know how sensitive public opinion is to these variations?
Ch	No additional evidence on interpreting stated preferences. It's based on our interpretation.
L	3.145 - state the NBA would require letting such as a Quality Contract Scheme and that this presents considerable problems. What was insurmountable about that approach?
Ch	I think Mr Henkel covered this in his evidence and it's essentially about acceptable risk. If doing a QCS the timing is that you have to get powers to CPO in advance of getting powers to do the contract and there is a high risk dependency. SO if you are trying to secure powers to construct can you show the likelihood of securing powers to operate? Also, the intention of a Quality Contract wasn't to allow promoters to operate a rapid transit but to address market failure in the bus industry. So the legislation remains untested.
L	You are predicting what others might do?
Ch	The position around powers has been informed by the promoters' legal advisers. It's been informed by the opinions expressed by the promoters' legal advisers.
Insp	I'm concerned you said an hour and we've had an hour and 20 mins. If people give unrealistic time estimates there is no way I can programme this properly.
Ch	I'd like a break Sir.
L	I've 2 questions and can cut it to 1. In 3.108-3.110 it discusses the letter of 19th July 2012 and a statement in terms that promoters have maintained an open dialogue. Could you expand on the nature of that open dialogue with DfT because there are clearly a number of matters

	raised about documentation about the business case where there has been a doubt or significant qualification.
Insp	Prof Bonsall has dealt with that in detail and I can't see anything that can be gained. Can Prof Bonsall help.
PB	Not sure what the Q was?
L	How those things are to be made known to the DfT?
Insp	I do believe that was covered as well because it would be going through the next stages..
L	In which case I am done. Thank you.
Insp	We'll have a 10 minute break. Who's got to ask Qs today? Mr Bell, Ms Matthews, Mr McKInnon. Getting behind as usual. We'll adjourn till twenty to four.
Insp	[15:40] Janet Matthews representing Weetwood Residents' Asscn.
JM	Would like to ask Qs about risk management and finance. In para 26.15 of C1 on p.26-4. The only strategic risk you have included is General Election in 2015. I wondered what other risks there might be in the risk register and how you identified that?
Ch	We id'd that because it's a risk people might not be aware of. It is conventional that in the run-up to an election govts do not take decisions such as this which have spending implications. And also very likely or a reasonable possibility that if the same govt were returned there would be a new minister and that would cause delay. Whether that risk occurs or not would depend on how long it takes Mr Whitehead to write his report and consider that. I have no access to the risk register. There are pretty obvious strategic risks like not securing powers for example.
JM	Bus operator behaviour, frequency of services, reducing fares?
Ch	In broad terms those have been considered but don't have the register in front of me. As we neared the final approval more work would be done on operating risks.
JM	Does the risk register include reference to operator failure i.e. If the income received is less than the operating costs?
Ch	The preferred approach is an operating concession with a payment to operate the service and the revenue will go back to the promoters. There is a risk the operator goes bust. So there will be provision in the operating contract for what in rail terms would be called an "operator-less result" so it could continue to operate if the operator failed. Second question is what would happen if the revenue was less than the payment to the operator. Mr Henkel said there are steps that the promoters can take to reduce costs or raise revenues but it could continue to operate as a business entity.
Insp	How could it continue to operate?
Ch	There will be some form of business established and there are several ways to secure its operation if the business were to fail. One, it could reasonably be expected that the operating company would be a subsidiary of a bigger group so the ability of securing parent company guarantees. Or bond payments that could be drawn down.
Insp	For a certain period of time.
Ch	Yes to let the promoters let a new concession.
	A lot of these are elements where no more than general principles have been outlined but we would develop the details as we get to conditional and final approval. [15:50]
JM	If the service were not as specified can't the Dept claw back their grant? Condition 11 of the DfT letter.
Ch	Interesting question - in theory the Dept could claw back the grant though I am not aware of any precedent for it happening if the service changed in hours etc.
JM	Is the NGT PTE risk register the same as that referred to in section 26 of C1 and is the Inquiry able to see that? We did FOI request to see the risk register.
Ch	Those questions are not for me- it's a promoter matter.

Insp	Might have to ask this outside the Inquiry.
JM	C1 page 26-4 paras 26.16f. Also table 19.1 on p.19-2. The capital funding figure £250.5m - I wondered how that relates to any risk that might be in the risk register?
Ch	The risk register informs the quantified risk assessment and we assess the probability of the risks and distributions around those risks and run a Monte Carlo simulation.
JM	If you've not seen the risk register how can you have done this assessment?
Ch	I have seen it but I don't have it in front of me and can't answer detailed questions and it is not within my gift.
JM	What were those risks?
Ch	Around the prices of certain structures (e.g. Construction of P&R site and distribution around those risks) and some items will have a greater distribution around those risks than others.
JM	Page 20-2 para 20.8. Originally going to borrow £15m and increased to £35m.
Ch	It wasn't identified specifically where the other £25m would come from. So the decision was taken that that wasn't sufficient surety that the money would be available so they would say they would borrow the whole lot. That decision was taken so that at this inquiry all the sources of funding could be identified rather than a substantial sum where we were saying "we'll find it from somewhere".
JM	Page 21-4. NGT risk-adjusted revenue £20.6m. In chief you said this was prudent and based on established practice. What is this practice?
Ch	Recognition that when we come to conditional approval stage a lot more work will be done on the commercial strategy and in advance of that we thought it prudent. That comes from precedent and practice and there's nothing in the guidance that says take 20% reduction.
JM	That implies revenue might be 25 or 27 million. If we go to Table 12.14 the total revenue is assumed for 2016 to be £16m. What assumptions made on patronage to go to 2031?
Ch	A straight line interpolation of the increase in background demand forecast to 2031. An assumption there be a 1% per annum real terms increase in fare revenue over the period too
Insp	An assumption fares would increase 1% above inflation?
Ch	Yes.
JM	Has there also been a quantified assumption of risks to costs and lease etc?
Ch	There is within the calculation of lease costs a little "Mini QRA".
JM	Can we turn to revenue risk. In your PoE at para 4.6 (p.56) the last sentence says should NGT return a surplus it would be returned to promoters. But if a shortfall would it have to be made up from promoters' own resources?
Ch	Yes.
JM	What sources of finance if there is a shortfall?
Ch	Principal source of revenue to the Combined Authority is the levy made on the constituent authorities of the combined authority.
JM	So increase in council tax?
Ch	Or a decision not to spend money on something else.
JM	Another way would be to increase borrowing?
Ch	I'm not an expert in local government finance but the general principle of borrowing to pay for current account expenditure is frowned upon if not prohibited.
JM	You recognise that hard to cut other services in austerity. If capital costs exceed that forecast, capital would have to be made up by the Authority?
Ch	You are right - if the scheme cost exceeded £250.5m the DfT has made clear there won't be additional capital so it would be for promoters to find whatever the additional costs would be. Again, a choice to use money already earmarked for capital expenditure - meaning not spending it on something else, or take out loans.
JM	Repayment of loans would come out of revenue so will be an impact. Will depend who is

	doing the borrowing.
Ch	Yes but would depend on the terms. TH combined authority will be the contract counterparty. Then how that comes from the constituent authorities is a matter for the combined authority. Whether there could be a particular arrangement between Leeds and the combined authority is beyond my terms of reference.
JM	Table 21.2 in C1 and your para 4. [?? 16:10]. You predict break-even by Year 3. How certain can you be that will happen?
Ch	An assumption on the profile of revenue buildup. Whilst based on schemes elsewhere it is essentially an assumption and it could go both ways and go up faster or slower.
JM	What happens if there is only 50% of the projected revenue?
Ch	It's then for promoters to start pulling the levers to increase revenue or reduce costs.
JM	Can you suggest what those levers might be?
Ch	If revenues were 50% less it would almost certainly be due to lower demand. So would look to reduce operating costs by reducing frequency or hours of operation. Or increasing the yield by mixture of ticketing products available or the fares that are charged.
JM	Talked about capital cost £250m and the risks and what promoter might do if costs are more than the out-turn. Other way of looking at it is to do everything you can to keep within the budget. What has the promoter looked at to do that?
Ch	Once a contract has been let it would be difficult to escape the contract although it could be possible to escape e.g. Change specifications and renegotiate like Edinburgh Tram. Other way is go out to the market and get contract prices back in excess of the sum allowed - could undergo a period of renegotiation and change the way the scheme is built. That's why there is a gap between conditional and final approval.
JM	Could changes in specification include shortening the route?
Ch	Hypothetically yes. The cost is a matter for the project engineers and they are aware of the funding envelope.
JM	The landscaping and the trees could go?
Ch	The order, the promoters would have made commitments and it is possible the SoS would impose conditions the builders couldn't escape from and hopefully that would assuage those concerns.
JM	Table 21.2. Not till 3rd full year that it produces an operating surplus and 8th full year that an overall surplus. Have promoters produced detailed cash-flow forecasts with a worst-case scenario?
Ch	I'm not the person to ask but not scheduled to open till 2020 and that sort of analysis would not be expected to happen till much closer to the time.
JM	Under Sources of Funding (POE para 4.4) you say the principal conditions are "no changes to overall implementation costs" - how can you be assured that these conditions are still met?
Ch	That is what we were attempting to set out in our letter of March this year. The promoters' position to the Dept is we meet those conditions but whilst in the TWAO process we get no formal view. [16:20].
Insp	How much longer -- have had 40 mins which was your estimate.
JM	Can we have details of your previous experience about projected costs and actual costs, and if they included
Ch	I'm happy to set out my corporate CV but it's not just my experience but the team. Have supported the business case of most public transport enhancements that have taken place in this country in the last 5 years or so.
JM	Does that include Edinburgh?
Ch	It does include Edinburgh and I did undertake work on the business case for Edinburgh and we were asked to advise on the decision whether to curtail the route. We were taking the costs estimated by the engineers and whether the benefits outweighed those.
JM	We've heard about uncertainties and costs of trees etc. What mechanisms will be in place to

	ensure the final scheme is consistent with that proposed?
Ch	The Orde establishes the limits of deviation of the scheme. In terms of things like the route etc that is nailed down should the order be granted. To some extent I am not the right witness to talk about approval processes inside the order. Promoters could point you towards the relevant documentation.
JM	What version of the NGT scheme do the promoters expect the Insp to report on?
Ch	A revised set of drawings.
Insp	Freeze-frame 7?
Ch	7 point something or other.
JM	Not just the drawings but the impacts on the modelling and business case and everything.
Ch	A set of drawings have been slightly amended but we've looked at those and come to the view that the changes have no material impact on the business case in C1.
JM	How do you know it is not significant?
Ch	Precedent and practice elsewhere- tramway schemes found to be very small, negligible part of the business case that does not affect the decision made. That is an argument accepted by other inspectors for other schemes that have been granted powers and are now under construction.
JM	Table 17.10. Have you calculated what BCR would be if operating costs went up by 20% as well as revenues reducing by 20%?
Ch	Haven't calculated that.
JM	You say assumed vehicles were to be replaced after 12 years. What happens if vehicles need to be replaced every 8 years?
Ch	Haven't done that test formally. Would expect the lease costs would rise and BCR would fall. But in terms of the 12 year assumption we have specified within the leasing costs what we consider to be a significant sum for the maintenance of the vehicles and a refurbishment schedule within that. Believe the costs specified are appropriate to maintain the vehicle over the life we've allocated to it - 12 years.
JM	You also made it clear the NBA and LCA are not a true option appraisal. Shouldn't the promoters do a proper options appraisal again to consider buses?
Ch	The decision to choose a trolley bus was made in 2009. It's become an unusually protracted process and the emphasis has been on securing the powers and the funding since Oct 2009. The promoters made the strategic case and that was accepted in 2009. They've continued to review the vehicle technology options available and trolley vehicle remains the system they wish to operate.
Insp	Mr Bell. Please stick to your half-hour.
NC	Can assume Mr Kemp isn't going to ask Qs?
Kemp	I'm for West Park not Weetwood.
Insp	It's 10 mins for Mr Kemp
Mr Bell	I have 7 Qs. Appdx7.3.1 journey times. Southbound NGT AM peak. Says Bodington to City 19.6 mins?
Ch	Correct.
Bell	Afternoon peak 19.6
Ch	Yes
B	Inter-peak when there's less traffic would you not expect it to be quicker?
Ch	Depends on the priority that's afforded to NGT. In Inter-peak the phasing and timing of signals is different. In peak, greatest priority is to radial traffic but in inter-peak, cycle times are shorter and flows differ.
Insp	Does the cross mean anything?

Ch	C-1-13 table 4.1 run-time report. Footnote.
Bell	I thought the point of NGT was to trump whatever the setting was set at?
Ch	Well you can but a recognition that City Council has to provide for car traffic.
Bell	Then it says "bus with NGT"?
Ch	It's assuming that ...
Insp	I know this.
Bell	50% of the benefits are quality.
Ch	That was the Dept's assessment of 2012 business case.
Bell	Does that mean you could get a good financial VFM case with a negative trading account?
Ch	A financial loss, yes. But there is a separate requirement to run a surplus.
	In theory you could have a BCR above 2:1 which is govt's criterion for "good" and incur an operating loss over time. However there is a separate condition that govt will only fund schemes with an operating surplus and the govt won't fund schemes with a loss over time.
Bell	Have you got a trading account for the operator that can be used?
Ch	There won't be a financial model of the operation until we get to the final approval. But we do have some indication of what we consider the revenue to be.
Bell	How can you assess VFM without a trading account? How do you explain it?
Ch	We're looking at the economic case - it's not the same as a financial model of an operation in more detail from a perspective of the operator or person whose money it is.
Bell	When you did your calcn for VFM, what ticket price did you put on?
Ch	The assumption on ticketing is NGT fares would be broadly the same as prevailing bus fares, except that the shortest-hop journey currently available on bus would not be available on NGT. A 3 step system. Second and third steps charged at the same level as bus and no first-step for short hops.
Bell	What's the number?
Ch	We can do that outside the Inquiry.
Bell	What acceleration profiles for journey times?
Ch	C-1-13 report sets out time assumptions.
Bell	No- I want the acceleration profiles you've put in to get the run times?
Ch	Para 2.12 of C-1-13: "common acceleration/deceleration profiles across modes" acceleration variable by speed peaking at 1.1m/sec squared and deceleration 0.9 m/sec squared.
Bell	What percentage loading did you use?
Ch	APP108 we've set out what we see as the loading factors with a different set of vehicle configurations.
Bell	What effect would a law-change have that said all vehicles had to be seated and fitted with airbags?
Ch	I suspect the same as the rest of the bus industry.
Bell	It won't - as 100 people standing.
Ch	It would mean NGT would not be able to operate as we have assumed but neither would most buses.
Bell	Mr Hanson says modelling is likely to be approximate in his report. 30% on most of the inputs loses any speed advantage. I imagine the speed advantages are best-case not mean case.
Ch	That is assuming the variation were random. But any variation in runtime results is likely to be systemic. If NGT bus times are understated then the bus times will also be understated and vice versa.
Bell	A number of times it's said a beauty parade of options is not being done. Why?
Ch	Not being done as part of the economic and financial and management case. It's about

	confirming what's been chosen is the right thing to do. The decision which option which mode to do is covered by Mr Haskins and was done in 2009.
Bell	Shouldn't we have a hard look at technologies over the next 25 years?
Ch	I believe the promoters have taken into account.
Bell	If the scheme makes a profit, where will the money go?
Ch	I interpret that as if the revenue surplus were above the costs- would go to the Combined Authority to deal with as they see fit.
Bell	None of that would go back to the Govt?
Ch	No that's not the assumption - the £72m will be paid off. The assumption is the scheme would go on in perpetuity and what to do with any surplus above the loans is for the combined authority as they see fit.
Insp	We can fit Mr Kemp in. Thank you Mr Bell.
NC	Can I just check Mr Chadwick is able to continue?
Insp	Only 10 mins.
Kemp	There are concessionary fares involved in the proposed scheme?
Ch	Correct.
Kemp	How has this revenue been treated in your analysis?
Ch	Any revenue the operatin earns from English National Concessionary Travel Scheme will move to the revenue account. It is a transfer within the Combined Authority from 1 pot to another
Kemp	What sort of %age do you anticipate this revenue will make?
Ch	Cannot put finger on a number immediately?
Kemp	About 28%
Ch	If forced to make an approximation I would say about 25% of the passengers and that wouldn't translate for 25% of revenues.
Kemp	Do you believe this scheme takes account of needs of the elderly and disabled?
Ch	Fully accessible at all doors. I believe it is a system that meets he need of the elderly and infirm.
Kemp	Ignored in Stated Preference but seem expected to be able to get on and off in [point-seven o second. Is that realistic?
Ch	The boarding times are an average. There will be variation around the average. Will be occasions when longer and shorter dwell times. Vehicles will be specified to have 3 doors and level boarding. Relatively easy access and egress, certainly better than buses operating in Leeds at the moment.
Kemp	Crowding was raised by Prof Bonsall. Did raise examples where buses full to capacity. Could also be an issue with respect to school children particularly at Lawnswood. Survey by Leeds City Council said in an afternoon 156 pupils crossing - at least 1 bus full.
Ch	There will be times along the route when vehicles will be running at capacity. That's the nature of public transport.
Kemp	Every afternoon, 5 days a week, 40 weeks a year- will impact on repair and maintenance capacity?
Ch	Assumed 17 off peak, 18 peak and a reserve capacity - 20. We assumed that is appropriate and it would be standard practice later for that to be verified with private operators.
Kemp	You interpreted WebTAG to exclude heritage - isn't it a major issue?
Ch	You are right and we do recognise an adverse impact on townscape within the appraisal. Part is due to the priority accorded to NGT and part to the impact of the overhead line. Have taken it into account and done so appropriately.
Kemp	Also excluded impact on landscape yet over 400 mature trees coming down.

Ch	Not excluded but details set out in ES.
Kemp	Apdx 7-3-3.
Ch	Yes moderate adverse for townscape and landscape.
Kemp	Journey quality - "improvements in views and stress levels"- how can you say that?
Ch	Well benefits from demolitions etc. And a better envt for people to travel in, notwithstanding that in peak periods vehicles will be heavily loaded.
Insp	What d you mean by "views"?
Ch	It'll be in the main assessment.
Insp	Can you find out what that means please? And the other bits and pieces for outside the inquiry.
NC	Mr Guillepin raised some Qs and we've provided something in writing. Reb-1 number OBJ-0617. Mr Walton has some points on Open Space.
RW	APP140, APP141 and APP142 on open space to circulate. 140 corrects some errors as to measurement of the Pocket Park. APP 141 - we noticed that 4 spaces listed in the table, the measurement was incorrect. AP142 was the calculations you asked for Sir on land take.
Insp	Start tomorrow at 9.30. Timetable very tight.