

**PROPOSED CHILTERN RAILWAYS (BICESTER TO OXFORD IMPROVEMENTS)
ORDER**

CHILTERN RAILWAYS' REBUTTAL PROOF OF EVIDENCE

**IN RELATION TO
THE OBJECTION AND EVIDENCE OF
ALICE AND GLYN TAYLOR**

1 Introduction

- 1.1 This rebuttal proof of evidence has been prepared on behalf of the Chiltern Railway Company Limited (Chiltern Railways) to respond to particular aspects of the objection and evidence of Alice and Glyn Taylor.
- 1.2 Alice and Glyn Taylor have not raised any additional points since their original letter of objection dated 6 February 2010. Chiltern Railways has previously addressed the points in the objection letter in its response to that letter.
- 1.3 It is not intended that this rebuttal proof should repeat material that the witnesses for Chiltern Railways have already covered in their evidence. Cross-references to relevant paragraphs of those witnesses' proofs of evidence are given below, where appropriate.
- 1.4 It is intended that this rebuttal proof should be a composite response by Chiltern Railways to those new points raised in the evidence of Alice and Glyn Taylor and referred to above. In this respect, for cross-examination purposes, the name of the Chiltern Railways witness who is responsible for each aspect of this rebuttal proof is given at the beginning of each section below.

2 Defined Terms

- 2.1 The following defined terms are referred to throughout this rebuttal proof:

“the Correspondence” means correspondence in the form of emails and letters exchanged between Chiltern Railways and Alice and Glyn Taylor dated 6 February 2010, 1 June 2010, 5 August 2010, 6 August 2010, 18 October 2010 and 29 October 2010 appended

to this rebuttal proof as Appendix A;

“the Objectors” means Alice and Glyn Taylor;

“the Objectors’ evidence” means the original objection letter of Alice and Glyn Taylor;

“the Order application” means the application for the proposed Order submitted on 6 January 2010 and the Proposed Modification dated 9 September 2010; and

“the proposed Order” means the proposed Chiltern Railways (Bicester to Oxford Improvements) Order.

3 Chiltern Railways’ Rebuttal of the Objector’s Evidence

Context

- 3.1 The Objectors rely on their original objection which was a standard ‘tick sheet’ submitted by a number of residents in North Oxford. The Objectors live at 15 Lakeside, North Oxford, some 20 metres from the railway.

Consultation, Ian Gilder

- 3.2 The Objectors state that individual concerns have not been properly addressed.
- 3.3 Chiltern Railways has been committed to engaging local residents throughout the process of preparing the application for the Order Scheme. An extensive public consultation exercise has taken place including exhibitions, newsletters, infomails and a website. A hotline has been made available so that residents can contact a dedicated consultation team. The consultation team had detailed discussions on specific points with many residents who live close to the Scheme, before the application was submitted.
- 3.4 Since submission of the application to the Department for Transport in January 2010, there has been continued consultation with local residents. This included a meeting held for north Oxford residents on 25th March 2010. Chiltern Railways has continued to address specific concerns that residents have raised in correspondence and face to face.
- 3.5 Since the Objectors have submitted no evidence other than their original objections ‘letter’, the responses set out below reproduces text from letters sent to the Objectors on 1 June 2010 and 29 October 2010, where not otherwise updated.

Increase in Train Numbers and Freight Trains, Allan Dare

- 3.6 The Objectors state that since the start of the consultation process, there has been an incremental and significant increase in numbers of trains, a new passenger timetable (May 2009), trains on Sundays and more freight trains.
- 3.7 Passenger timetables are reviewed twice yearly, so as to match train services with emerging market needs. The enhanced service introduced in May 2009, including

Sunday trains, resulted from an agreement between First Great Western and Oxfordshire County Council. This is part of the County Council's wider policy of improving public transport services into Oxford. Chiltern Railways is not currently the operator of the Bicester to Oxford line, and was not involved in that agreement.

- 3.8 The number of freight trains on any railway line depends on contracts between the freight train companies and their customers, and on the demand for the goods being moved. There have been no new freight contracts affecting the Bicester to Oxford line agreed recently, but, there will be day-to-day variation in the number of trains, due, for example, to the changing demand for construction aggregates or military supplies.
- 3.9 The present timetable makes provision for four eastbound and five westbound freight trains each weekday (one each way to/from the Banbury Road stone terminal; one each way to/from the Bicester MoD depot; one to and two from the Calvert waste terminal), plus one freight train each way on Saturdays. This equates to nine trains a day in total. However, trains only run in accordance with market demand and the Network Rail train service database shows that typically only four of the nine planned trains actually run on the line on any given day.
- 3.10 It is unlikely that new freight services would run in either Phase 1 or Phase 2A, as the route would not neither give access to new freight terminals, nor improve access to existing ones. In Phase 2A the line could not be used for short or deep-sea container trains from the Solent ports, or as a new route to the West Coast Mainline. This is because such traffic would be dependent on reinstating the railway between Claydon LNE Junction (east of Bicester) and Bletchley. This will only happen if the East West Rail Project goes ahead, ie in Phase 2B. Neither Phase 2A nor Phase 2B will enable 32 tonne axle loads, the route axle loading will remain at 25.5 tonnes, as now, and is and will be case on all connecting routes.
- 3.11 The current passenger and freight timetable including the most recent changes has been taken into account when describing the environmental impacts of the Order Scheme.

Increased Noise and Vibration from Faster Trains, Michael Fraser

- 3.12 The Objectors state that the new track will bring trains closer to their property which will increase noise and vibration. The Objectors state that faster trains will increase noise and vibration. The Objectors state that trains can be heard above the background noise in their property even when the windows are closed and the noise and vibration from passing trains is overwhelming in the garden and in the house if the windows are open. The Objector states that with many more trains, living in adjacent properties to the railway line will become intolerable, the neighbourhood will be destroyed by both the exodus of those people that can afford to move and by a fall in quality of the area. The Objectors state that this will impact on the value of their house making moving to a similarly pleasant location within Oxford difficult.
- 3.13 As part of the Order Scheme, the line from Oxford North Junction towards Bicester will be re-laid as double track. Although this effectively replaces a track which was

taken up some years ago, the location of the nearest track will change compared to its current location.

- 3.14 The Environmental Statement (ES) [CD/1.16] describes noise levels both during Phase 1 of the Scheme when Chiltern Railways will operate a passenger service of up to two trains per hour in each direction, and during Phase 2 which will only occur if and when the East West Rail proposal is built.
- 3.15 Chiltern Railways is committed to using Best Practicable Means to design the railway so as to avoid significant noise and vibration impacts. The Objectors were sent on 18 October 2010 a copy of the *Chiltern Railways (Bicester to Oxford Improvements) TWA Order Noise and Vibration Mitigation Policy (October 2010)* [CD/1.29], which sets out in practical detail Chiltern Railways' commitment to control noise and vibration impacts.
- 3.16 Since the publication of the Environmental Statement further refined noise modelling and monitoring have been carried out. The Objectors were sent the results of the noise modelling refinements on 29 October 2010 which set out the predicted noise from trains on their property. These are reproduced in *Table 1* of this rebuttal.

Table 1: Predicted Noise Impacts of the Scheme (Based on the Refined Noise Modelling and Monitoring)

	Noise Impact over Period Shown (dB)	
	Day	Night
Existing noise level (L _{Aeq, Period})	54	50
Future noise impact without mitigation	8	10
Mitigation proposed	2m barrier	
Future noise impact with this mitigation	0	0
Change in noise impact as a result of mitigating the scheme (item 4 compared with 2).	8	10

- 3.17 At the Objectors' property no increase over current ambient noise levels has been predicted after implementation of a mitigation scheme based on the use of noise barriers. Since this impact is not significant, further mitigation is not required. The smallest change in noise level that is noticeable under normal listening conditions (ie not in a laboratory) is 3 dB. The noise impact at the Objectors' property has been classed as 'None' because it is not expected to have a noticeable effect even at the first floor level outside the Objectors' property. The barrier will be more effective at ground floor level.
- 3.18 In terms of vibration page 6-42 of the ES highlighted that levels of ground vibration are not expected to exceed the BS 6472 [CD/5.26] assessment criterion for "a low probability of adverse comment" from beyond approximately 10 m from the tracks.

The Objectors' property is beyond this distance from the tracks and vibration is not expected to result in significant disturbance based on these stringent thresholds. Measurements of existing vibration carried out since the ES was written have confirmed that no structural or cosmetic damage to property will occur as a result of train vibration whether within 10 metres of the line or further away.

Impact of Freight Trains on Noise and Vibration, Michael Fraser.

- 3.19 The Objectors state that freight trains will carry longer and larger loads and will increase noise and vibration.
- 3.20 The maximum axleload for freight trains will, in future, be 25.5 tonnes, the same as it is now. This is normally only fully used by trains carrying bulk materials, such as gravel or crushed stone. Most other freight trains are much lighter; the typical axleload on a container train is around 17 to 18 tonnes. This is partly because consumer goods weigh much less and also because containers are transported by both road and rail, and their weight is constrained by the maximum overall weight allowed for lorries.
- 3.21 The Department for Transport is funding work to enable trains to carry the international standard 9'6" high containers through Wolvercot tunnel without the need for special low-floor wagons (as against 8'6" high containers at present). This does not mean there will be any significant increase in axleloads, since, as noted above this is constrained by the maximum weight of containers that can be carried on lorries.
- 3.22 The length of freight trains varies according to market needs, eg. the length of the trains carrying crushed stone is a result of the demand for building materials in the Oxford area, so upgrading the line will not in itself result in increased train lengths. Train lengths could increase for these reasons even if the Order Scheme was not implemented. Trains of up to 645 metres length already use the line on occasions.
- 3.23 In Phases 1 and 2A, it is very unlikely there will be any change in the number of freight trains on the line, as there will be no new freight terminals or routes created. However, if and when the East West Rail (EWR) project is built, and thus Phase 2B of the Order Scheme is implemented, there may be more freight trains. These are most likely to be carrying shipping containers between Southampton and the midlands and north of England. As noted above, the axleloading on these trains is less than some of the trains already using the line. Chiltern Railways has therefore included more freight trains in the evaluations for our Environmental Statement, so that this reflects the "worst case".
- 3.24 Freight trains are much more environmentally sustainable than road haulage as they use far less fuel per tonne of freight moved and moving freight off the roads greatly reduces road damage and congestion. Modern freight trains on modern track are also very much quieter than those of even a few years ago.

Incremental Increases in Noise and Vibration, Michael Fraser

- 3.25 The Objectors state that as transport by rail increases, the numbers of passengers and freight trains will continue to increase incrementally once the Order Scheme is complete leading to further increases in noise and vibration.
- 3.26 Different frequencies of service have been assessed under Phases 1 and 2 of the Scheme. These frequencies take account of any likely future increase in service frequencies that may occur.
- 3.27 The frequency of trains using the line will be limited by the capacity of the track layout and signalling system, both on the line itself and on connecting lines and at junctions, and by the need to offer a robust and reliable service. The assessments of noise and vibration have been based on forecast numbers of all passenger and freight trains in the future, not just those on Chiltern Railways' services. As noted in Allan Dare's evidence [CRCL/P/2/A], the passenger train frequency in Phases 1 and 2A will be that specified by the Secretary of State for Transport, and the freight service will be similar to that currently operating. Should Phase 2B proceed, additional passenger trains will operate, and additional freight trains may be operated, as part of the East West Rail project. The passenger train frequencies assessed for this phase of the Order Scheme are as proposed in the East West Rail business case, and the freight train frequencies are based on the East West Rail planning assumptions.

Air Quality, Ian Gilder

- 3.28 The Objectors state that pollution levels in the immediate vicinity already exceed EU statutory guidelines, and these will be further exacerbated.
- 3.29 Modelling of the dispersion of emissions from rail and road traffic movements associated with Phase 2 of the Scheme (ie with more frequent train movements than in Phase 1) has indicated that pollutant concentrations at residential properties closest to the railway line will not cause significant air quality impacts. The total pollutant concentrations, including those from trains using the Order Scheme are likely to be within EU statutory guidelines, as implemented in UK law.
- 3.30 The assessment carried out for the EIA has made predictions of the additional concentrations of pollutants for all relevant averaging periods. In Table 13.11 of the ES, the results can be seen expressed for twenty one locations as both an annual average and as a variety of short term peak concentrations reflecting the air quality standard relevant to each pollutant. The incremental concentrations (ie those arising from the trains using the railway line) are explicitly and clearly set out in the ES and obtained through the use of a dispersion model (Receptors R8 and R9 refer to Wolvercote Primary School and Lakeside). The existing concentrations are estimated from measurements made by Oxford City Council at locations across the city and by Defra at rural locations in Oxfordshire.
- 3.31 The impacts are evaluated against the air quality standards established to protect the more vulnerable members of the population, including children. Air quality standards used in the European Union are derived from World Health Organisation guidelines that reflect the opinions of the leading academic community active in the science of air pollution and health and these guidelines are based on the lowest concentrations known to affect the most vulnerable members of the population.

- 3.32 It is clear from the modelling results that the likely additional concentrations of particulate matter at the locations of interest attributable to the Order Scheme are very small in relation to the appropriate air quality standard; less than 1% in all cases. Particulate matter is recognised as being the most significant pollutant in respect of air pollution and health and is often cited in relation to emissions from diesel engines. The incremental concentrations of NO_x are larger, as a percentage of the relevant air quality standard, but the overall annual average concentration will be far below the concentration of 40 µg m⁻³ used as the air quality limit value.
- 3.33 Government at local, national and European level has policies to measure and to improve air quality. Many of these policies are aimed at reducing emissions from road traffic, which is largely responsible for the high concentrations of PM₁₀, PM_{2.5} and NO₂ observed in towns and cities. In this specific case, the key point is that the increased exposure to air pollution attributable to the Order Scheme for people living or working close to the railway is actually very small, especially with regard to PM₁₀ or PM_{2.5}.

Proposed Alternative Alignment, Allan Dare and Stephen Barker

- 3.34 The Objectors recommend that the line could be diverted to join with the Oxford to Birmingham line and therefore avoiding all housing. The Objectors attached a map to showing this alignment.
- 3.35 A number of alternative routes have been suggested, in addition to those that have been formally assessed and included in the Environmental Assessment.
- 3.36 There are a number of substantial engineering and other difficulties that prevent this option from being viable. Significantly, there would be a conflict between the levels of the railway, the roads that would have to be crossed and the Oxford Canal. In particular, the alternative route suggested would be largely a totally new railway route, rather than utilising an existing alignment. The environmental impacts of such a route in a green field site would be significantly greater than the existing railway route proposed by Chiltern Railways for the following engineering reasons:
- the suggested route intersects with the A4165 where it crosses the A34. To overcome this intersection the line would either need to pass under these two roads or over these two roads. For the railway to pass under the roads, the rail line would need to be some 7 metres below ground, and would require a 700 metre ramp. If the rail line goes over the road it would need to be at an elevated height of approximately 14 metres and would require ramping to start some 1.4 kms away. The resulting elevated railway would have a considerable visual impact on the surrounding area;
 - having passed under these roads, there is also insufficient distance for the rail line to climb over the A4260 and A44 roads and the canal, and would therefore have to pass underneath both of these. This would result in a deep cutting or tunnel of around 2km in length with some steep gradients. Drainage would also be a problem; and

- the Objectors' proposed route does not consider the additional and separate capacity that would be required on the Didcot – Banbury line between the point where the Objectors' proposed new section of line meets that railway and Oxford station. In order to provide that capacity, the railway corridor would need to be widened over part of this length. This includes the section passing adjacent to the Hook Meadow and The Trap Grounds Site of Special Scientific Interest (SSSI) and the Port Meadow with Wolvercote Common and Green SSSI.

3.37 Whether in tunnel or elevated, the Objectors' alternative would be extremely costly to construct and would involve disruption to the local road network when being constructed. This additional cost would render the scheme unviable.

Proposed Mitigation Measures, Michael Fraser

3.38 The Objectors urge Chiltern Railways and/or Network Rail to ensure that everything possible is done to reduce the impact of the increased train service, such as the installation of fully-effective noise and vibration barriers next to the track as a matter of urgency concurrent with the work.

3.39 Chiltern Railways, in association with Network Rail, is doing everything that can reasonably be done to reduce the environmental impacts of the increased services after the Order Scheme is built. This includes the installation of effective noise and vibration mitigation, including noise barriers and insulation, where necessary. Those required to deal with noise from Phase 1 will be installed before any additional train services start running. If Phase 2, for the East West Rail project, is built, additional mitigation measures will be installed, where required.

3.40 The Objectors urge Chiltern Railways and/or Network Rail to install track infrastructure designed to reduce noise and vibration including welded track, rail dampers, etc.

3.41 Continuously welded track will be installed. A range of additional mitigation measures including rail dampers will be considered to mitigate impacts where these have been identified. The extent and type of mitigation at individual locations will be determined as part of the detailed design which will be developed following the approval of the Order. However, the ES identifies the noise and vibration limits for which mitigation will be provided.

3.42 The Objectors urge Chiltern Railways and/or Network Rail to use only well maintained rolling stock fitted with noise and vibration mitigating devices including wheel dampers, etc.

3.43 Chiltern Railways operates modern trains and undertakes regular inspection and maintenance including regular wheel maintenance at its own facility to correct any wheel flats or other defects that may increase operational noise. Wheel dampers are not normally fitted to trains and would only have a marginal effect under most conditions, and are not proposed for the Order Scheme.

3.44 The Objectors urge Chiltern Railways and/or Network Rail to use trains that retain sanitary waste for off-track disposal.

- 3.45 All trains built since about 1990 have toilet retention tanks and do not discharge onto the track. Any Chiltern Railways trains in regular service on the Bicester to Oxford line will have retention tanks.
- 3.46 The Objectors urge Chiltern Railways and/or Network Rail to review all noise and vibration mitigating measures every six months and repair or upgrade as necessary.
- 3.47 Noise will be minimised by ensuring a high standard of maintenance during the operating life of the railway to avoid noise levels increasing unnecessarily due to wear and tear of the wheel and rail surfaces. The track and any noise barriers will be maintained by Network Rail. Furthermore, Chiltern Railways undertakes regular train inspection and wheel maintenance to correct any wheel flats or other defects that may increase operational noise. The frequency of these inspections will be commensurate with the upgraded railway.
- 3.48 The Objectors are seeking that the baseline mitigation on the number of passenger and (longer, heavier) freight trains projected to operate after completion of East West Rail and subsequent incremental increases in train traffic should not be allowed without full consultation with residents.
- 3.49 The ES has assessed the likely future numbers and types of train, including the expected increase as a result of the East West Rail proposed level of services and has suggested appropriate mitigation measures for this, which will be implemented if Phase 2 of the Scheme, which is needed for East West Rail, goes ahead. The forecast numbers and types of trains used for the assessment of Phase 2 are near the maximum which could be robustly timetabled with the double track and signalling arrangements which are proposed. Mitigation is designed in the first instance for Phase 1, with a requirement that the Phase 2 mitigation is done before the Phase 2 works are brought into use. Under the terms of the 1993 Railways Act and other relevant legislation licensed train operators have rights to obtain access to any part of the network subject to them obtaining relevant regulated access agreements, to their paying the requisite track access charges, and to line capacity being available. A restriction of the kind proposed by the Objectors would thus not be possible.

Financial Compensation for Noise Mitigation and Vibration Impacts, Michael Fraser

- 3.50 The Objectors are seeking funding to equip their house with the highest quality glazing and to undertake any repairs caused by vibration.
- 3.51 As stated in paragraph 3.16 of this rebuttal, at the Objectors' property no increase over current ambient noise levels has been predicted after implementation of a mitigation scheme based on the use of noise barriers. No further significant mitigation is required.
- 3.52 As stated in paragraph 3.17 of this rebuttal, levels of ground vibration are not expected to exceed the stringent assessment criterion beyond approximately 10 metres from the tracks. The Objectors' property is beyond this distance from the tracks and vibration is not expected to result in significant disturbance based on these stringent thresholds. Measurements of existing vibration carried out since the ES was written have confirmed that no structural or cosmetic damage to property will

occur as a result of train vibration whether within 10 metres of the line or further away.

Speed Restrictions, Stephen Barker

- 3.53 The Objectors are seeking that the current speed limit be maintained and enforced to the present speed restriction (40 mph) on all trains along the sections of the track adjoining residential areas.
- 3.54 The predicted increased noise levels resulting from all causes will be mitigated as set out in the ES. Speed restrictions will apply to various sections of the line for safety reasons, but restricting speeds to 40 mph, for example, from Oxford station to the edge of the built up area, would not be practicable. Timetable predictions show that reducing speed from those proposed for the Scheme would make reliable operation impractical and would not meet the aims of the project, which are to provide reliable and fast rail services between Oxford, Bicester and London. At lower speeds it would be impossible to operate a viable timetable that avoids congestion on the single track section of the route from Oxford station to Oxford North Junction and fits with the required timetable train paths onwards to Bicester and London.
- 3.55 As trains will need to fit into available paths on the London Marylebone to Birmingham Moor Street line, any reduction in speed would result in a reduced turnaround time at Oxford. This will directly affect the reliability of the service because the turnaround at Oxford is used, in part, as a buffer to prevent small delays to outbound journeys (i.e. journeys to Oxford) resulting in late departures of the return journey to London.

Night Time Running of Trains, Stephen Barker

- 3.56 The Objectors are seeking a commitment to no trains running between 00:00 and 05:00.
- 3.57 There are no restrictions on night-time operation under the existing powers for the line. Chiltern Railways will not be running passenger trains through the night, and services in late evening and early morning will be at a reduced frequency. A very small number of trains (perhaps one or two) may arrive in Oxford after midnight or depart from Oxford before 06:00.
- 3.58 Any overall increase in freight train numbers above those currently operated is only likely if and when the East West Rail project goes ahead. The number of freight trains will be limited by the number of available freight paths (one per hour in each direction) and the likely market demand. Based on analysis of the existing situation on the main line through Oxford, only about half of the available freight paths are likely to be used on any given day or night. However, freight movements are governed by national demand, and by the access regulations referred to above, and no commitment can be given to restrict operations at night.

Conclusion

- 3.59 This rebuttal proof responds comprehensively to the objection submitted by the Objectors.
- 3.60 The current passenger and freight timetable including the most recent changes has been taken into account when describing the environmental impacts of the Order Scheme and the Objectors' questions about passengers and freight forecasts are fully answered.
- 3.61 The particular concerns raised about noise and vibration mitigation have been addressed. Chiltern Railways has adopted an effective Noise and Vibration Policy for delivery of noise mitigation for Phases 1 and 2 [CD/1.29] implemented through planning condition 16 [CD/1.12/1] and will comply with the Code of Construction Practice that is implemented through planning condition 15 [CD/1.12/1]
- 3.62 Although the objector raises a number of concerns regarding the air quality impact of the proposed Order Scheme on residents, it is considered that the assessments undertaken to date are in line with existing policy and industry best practice and are therefore sufficiently robust to assess the impacts of the Scheme on air quality. The Environmental Statement [CD/1.16] concludes that there are not likely to be significant impacts on air quality either in the short or long term.
- 3.63 Whether in tunnel or elevated, the Objectors' alternative would be extremely costly to construct and would involve disruption to the local road network when being constructed and therefore the alternative presented by the Objector is unviable.
- 3.64 The speed limits proposed by Chiltern Railways are needed for a number of operational reasons, as detailed in Mr Barker's evidence [CRCL/P/6/A], but there is no justification for any additional restrictions to meet the Objectors' concerns.

Appendix A

CRCL/R/OBJ132

Relevant Correspondence
between Chiltern Railways
and the Objector

DEPARTMENT FOR TRANSPORT 2010 Transport and Works Act 1992
 Transport and Works (Applications and Objections Procedure) (England and Wales) Rules 2006
 THE CHILTERN RAILWAYS (BICESTER TO OXFORD IMPROVEMENTS) ORDER

OBS/132

OBJECTIONS

RECEIVED IN

TO: The Secretary of State for Transport, Department for Transport
 c/o TWA Orders Unit, Zone 1/31, 76 Marsham Street, London SW1P 4DR
 Email: transportandworksact@dft.gsi.gov.uk

16 FEB 2010

TWA ORDERS UNIT

THIS MUST BE RETURNED BY 17TH FEBRUARY 2010 TO THE ABOVE ADDRESS

I object to the proposed scheme for the following reasons: (please place tick or cross in box if you agree)

- Individual concerns have not been properly addressed
- Since the start of the consultation process, there has been an incremental and significant increase in numbers of trains; new passenger timetable (May 2009), trains on Sundays, more freight trains
- The new track will bring trains closer to my property which will increase noise and vibration
- Faster trains will increase noise and vibration
- Freight trains will be longer and carry larger loads which will increase noise and vibration
- Trains can be heard above the background noise in my house, such as the television, boiler, fridge, etc., even when the windows are closed. The noise and vibration from passing trains is overwhelming in the garden and in my house if the windows are open. With many more trains, living in adjacent properties to the railway line will become intolerable, our neighbourhood will be destroyed by both the exodus of those people that can afford to move and by a fall in quality of the area. This will inevitably impact on the value of my house making moving to a similarly pleasant location (as now) within Oxford much more difficult
- As transport by rail increases, the numbers of passenger and freight trains will continue to increase incrementally once the scheme is complete leading to further increases in noise and vibration
- Pollution levels in the immediate vicinity already exceed EU statutory guidelines, and these will be further exacerbated

Any other comments (please use an additional sheet, if necessary)

The line could be diverted to join with Oxford → B'ham avoiding all housing (see attached)

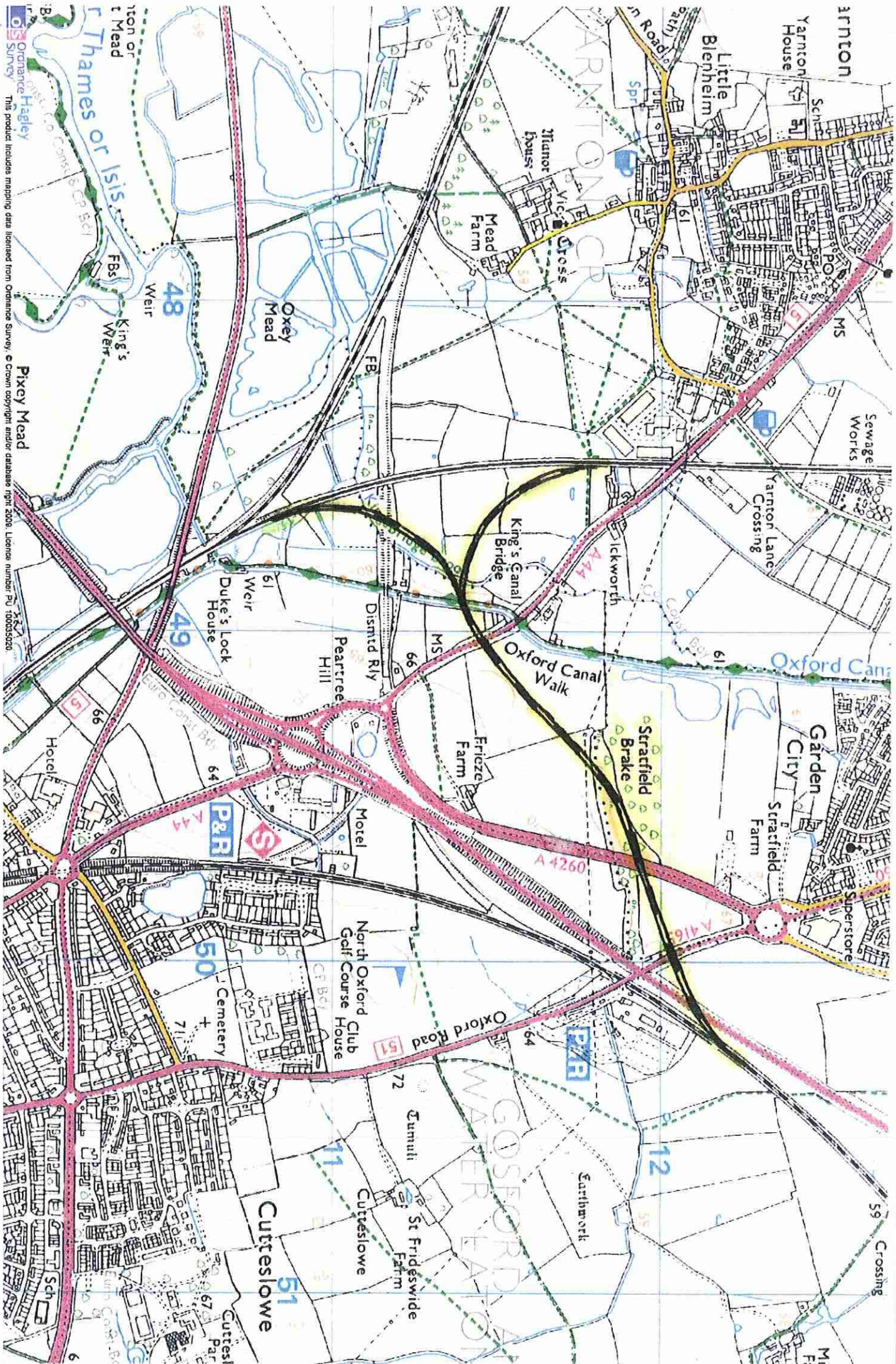
I urge Chiltern Railways and/or Network Rail to: (please place tick or cross in box if you agree)

- Ensure that everything possible is done to reduce the impact of the increased train service, such as
 - installation of fully-effective noise and vibration barriers next to the track as a matter of urgency concurrent with the work,
 - install track infrastructure designed to reduce noise and vibration including welded track, rail dampers, etc.,
 - use only well maintained rolling stock fitted with noise and vibration mitigating devices including wheel dampers, etc.,
 - use trains that retain sanitary waste for off-track disposal, and
 - review all noise and vibration mitigating measures every six months and repair or upgrade as necessary
- Base mitigation on the numbers of passenger and (longer, heavier) freight trains projected to operate after completion of EastWest Rail and then no subsequent incremental increases in train traffic allowed without full consultation with residents
- Provide funding to equip my house with the highest quality glazing and to undertake any repairs to my house caused by vibration
- Maintain and enforce the present speed restriction (40 mph) on all trains along the sections of the track adjoining residential areas
- No trains during the night from 00:00 until 05:00
- Electrify the line as soon as practically possible

Any other comments (please use an additional sheet, if necessary)

FROM: Signed *A. Taylor* *S. Taylor*
 Print Name *ALLICE TAYLOR* *GLYN TAYLOR*
 Address *15 LAKESIDE*
OXFORD OX2 8JF

Date *6* February 2010



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Pixey Mead

Thames or Isis
 Mead

Arnton

Yarnon House

Little Blenheim

King's Canal

Oxford Canal

Stratfield Brake

North Oxford Club

Garden City

Arnton

Yarnon House

Little Blenheim

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1 June 2010

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Ref: 0110147 OBJ/132

Dear Alice and Glyn Taylor

Proposed Chiltern Railways (Bicester to Oxford Improvements) Order

The following paragraphs respond to the form that you completed and sent to the Department for Transport regarding The Chiltern Railways (Bicester to Oxford Improvements) Order, described below as the 'Scheme'.

The responses set out below are standard answers to the statements in the form that you have ticked, and that are reproduced in the bold italic typeface heading.

Individual concerns have not been properly addressed

Chiltern Railways has been committed to engaging local residents throughout the process of preparing the application for the Scheme. An extensive public consultation exercise has taken place including exhibitions, newsletters, infomails and a website. A hotline has been made available so that residents can contact a dedicated consultation team. The consultation team had detailed discussions on specific points with many residents who live close to the Scheme, before the application was submitted.

Since submission of the application to the Department for Transport in January 2010, there has been continued consultation with local residents. This included a meeting held for north Oxford residents on 25th March 2010. Chiltern Railways has and will continue to address specific concerns that residents raise.

Since the start of the consultation process, there has been an incremental and significant increase in numbers of trains, new passenger timetable (May 2009), trains on Sundays, more freight trains

Passenger timetables are reviewed twice yearly, so as to match train services with emerging market needs. The enhanced service introduced in May 2009, including Sunday trains, resulted from an agreement between First Great Western and Oxfordshire County Council. This is part of the County

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A member of the
Environmental Resources
Management Group



BSI No. 26457
BS EN ISO 9001:2009

Council's wider policy of improving public transport services into Oxford. Chiltern Railways is not currently the operators of the Bicester to Oxford line, and was not involved in that agreement.

The number of freight trains on any railway line depends on contracts between the freight train companies and their customers, and on the demand for the goods being moved. There have been no new freight contracts affecting the Bicester to Oxford line agreed recently, but, there will be day-to-day variation in the number of trains, due, for example, to the changing demand for construction aggregates or military supplies. Chiltern Railways does not operate freight trains and will not be involved in the operation of freight trains on this line in future.

The current passenger and freight timetable including the most recent changes has been taken into account when describing the environmental impacts of the Scheme.

The new track will bring trains closer to my property which will increase noise and vibration

As part of the Scheme, the line from Oxford North Junction towards Bicester will be re-laid as double track. Although this effectively replaces a track which was taken up some years ago, the location of the nearest track will change compared to its current location. This is referred to as the "new" line in the paragraphs below, which describes the changes at the closest properties.

At the southern end of Ulfgar Road, the existing track is on east side of the trackbed, so the "new" line will be on the west side (i.e. the Ulfgar Road side). In this location the "new" track will be approximately 4 m nearer the boundary of the railway corridor, but this is only for a short distance affecting a few houses.

From Blenheim Drive/St Peters Road through Wolvercot tunnel to Carey Close, the existing single track is in the centre of the trackbed, so that when this is replaced with double track, the "new" line will be no more than 2 m nearer the boundary of the railway corridor on either side.

From Linkside northwards, past Lakeside, the existing track is on the east side of the trackbed, i.e. the side nearest the houses. The "new" line will thus be on the west side, away from the houses, so the proximity of the nearest track to the Lakeside houses will not be changed.

Changes at other locations along the route are discussed in Volume 1 of the Environmental Statement (ES) where the Scheme is described.

Although the track is being re-laid closer to existing residential property in some cases, the noise from individual trains passing will only be slightly greater. The repositioning of the tracks is a smaller component of the change in train noise at most locations than the increase in the frequency of passenger and freight trains and changes in speed. All of the factors including the type of train that will be used have been taken into account in the noise assessment and mitigation strategy.

The noise assessments reported in the Environmental Statement have been carried out at the three locations, called receptors, which are closest to the tracks and are representative of those properties that are likely to be most affected by noise increases. The receptors used in North Oxford were numbers 14 (Lakeside), 15 (Wolvercote Primary School) and 16 (St Peters Road).

The predicted noise levels at these receptors, with and without the Scheme, are presented in the ES (Volume 2, Table 6.13 on page 6-35). These houses are already exposed to railway and road traffic noise, and this has been taken into account in the ES.

Since noise from the Scheme will affect people both in terms of how noticeable the noise changes are and how loud the noise is, noise has been assessed taking both of these factors into account. The factor that best describes the effect of the noise from the trains in the area being considered is used to determine the noise impact. In urban areas the change from existing ambient noise level tends to be the determinant of the effects of noise. In more rural areas, with very low ambient noise levels, how loud the noise is in isolation tends to be the determinant of the effect of noise on people. In these areas, the noise from the trains is compared to an absolute threshold level and the impact is assessed based on the amount by which the train noise is likely to exceed that level. All of these assessments are of noise levels measured outside rather than inside houses.

The ES describes noise levels both during Phase 1 of the Scheme when Chiltern Railways will operate a passenger service of up to 2 trains per hour in each direction, and during Phase 2 which will only occur if and when the East West Rail proposal is built. The noise levels shown below relate to the worst case ie after Phase 2 of the Scheme.

The results of the noise predictions for receptors in North Oxford, reported in the ES, are reproduced below. For residential areas in this mainly urban area, the assessment has been based on the change in noise levels between the

existing, or ambient, noise level and those noise levels that will occur after the Scheme is built.

For residential properties the largest noise impact, before mitigation such as noise barriers is provided, is expected to be at night. At receptor 14 (Lakeside), and receptor 16 (St Peters Road) an increase of 12 dB over current ambient noise levels has been predicted as the impact before mitigation. Mitigation has been considered in the ES, and a mitigation scheme based on the use of noise barriers is presented. The final choice of mitigation measures will be determined during detailed design, but it will ensure that noise levels are no higher than the noise levels with noise mitigation in place, as is set out in the ES.

The predictions suggest that barriers are likely to be required over a total length of over 1.5 km in this area to protect residential properties. The barrier has been designed to be 2 m high relative to the railway tracks. The resulting noise impacts are described in Volume 2, Table 6.2.3, on page 6-57 of the ES, and is summarised below for the receptors in this area:

Receptor 14 Lakeside

With the proposed barrier in place, a 2 dB residual noise increase is predicted, compared to 12 dB before mitigation at first floor level of the nearest houses in Lakeside where the barrier screening would be least effective. The residual noise change is expected to be less than 2 dB at ground floor level.

To explain what this means, the smallest change in noise level that is noticeable under normal listening conditions (ie not in a laboratory) is 3 dB. Therefore, the noise change at this property has been classed as a "slight" noise impact in the ES because it is not expected to have a noticeable effect even at first floor level outside these properties. The barrier will be more effective at ground floor level and no noticeable noise increase will occur.

Receptor 16 St Peters Road

With a barrier in place, an 8 dB noise increase is predicted at the upper floors of properties closest to the railway (which are likely to be Quadrangle House and the closest properties on Bladon Close). These changes are likely to be noticeable, but are less than 10 dB which is generally taken to be the point at which a noise source is perceived to be twice as loud. Outside the ground floor, the noise increase is likely to be 2 dB which is not expected to be noticeable. Since these receptors are very close to the tracks, Chiltern Railways is also going to implement other noise mitigation solutions, such as noise insulation to windows, to reduce noise at the upper floor levels during the detailed design.

Receptor 15 Wolvercote Primary School

The daytime/evening noise level, measured outside, is predicted to be 59 dB without mitigation, which is 4 dB higher (ie just noticeably higher) than the 55 dB threshold value, below which significant "community disturbance" is not expected. Noise barriers that are designed to reduce noise to residential properties in the area will also run past the school, and will reduce noise effects to levels that are likely to be below the 55 dB threshold level and noise from the trains will not affect the continued operation of the school.

Noise barriers and other mitigation will be installed during construction of the Scheme, wherever it is needed to mitigate the effects of Phase 1.

Additional noise mitigation measures may be needed if Phase 2 of the Scheme, for the East West Rail project, is built. The effects predicted above are for Phase 2, and the effects in Phase 1 will be less than these predictions.

The levels of vibration that will arise from the new train service and track have been carefully assessed. These will be way below the levels which could cause any sort of damage to property. Even if, at present, you can feel or hear vibration or groundborne noise from trains, new track and ballast will be provided which will reduce vibration levels, even though it is accepted that there will be a greater frequency of trains passing.

Where it is predicted that vibration levels will increase, there are engineering methods, which may have to be used to "damp" vibration from the track. These will be used to ensure that, wherever practicable, everywhere along the railway, vibration felt inside residential properties is kept to below a very strict limit, which is defined in British Standard 6472 as a "low probability of adverse comment". In one or two locations, if full vibration mitigation is not practicable, the vibration levels will, at worst, be limited to "adverse comments possible" according to BS 6472, which is still a strict limit. Even at this level, no structural or cosmetic damage to property will occur.

Faster trains will increase noise and vibration

Although most of the Scheme consists of an existing operational railway, the Scheme will result in an increase in train speeds along the route resulting in increased noise as trains pass. While higher train speeds will increase the noise from individual trains, the noise mitigation, including over 1.5 km of noise barriers in North Oxford, will offset noise increases which result from increased train speeds.

Vibration from trains will be kept below a very strict limit. In some places, engineering measures will be needed, but there will be no risk of either cosmetic or structural damage to buildings.

Freight trains will be longer and carry larger loads which will increase noise and vibration

The maximum axleload for freight trains will, in future, be 25.5 tonnes, the same as it is now. This is normally only fully used by trains carrying bulk materials, such as gravel or crushed rock. Most other freight trains are much lighter; the typical axleload on a container train is around 17 to 18 tonnes. This is partly because consumer goods weigh much less and also because containers are transported by both road and rail, and their weight is constrained by the maximum overall weight allowed for lorries.

The Department for Transport is funding work to enable trains to carry the international standard 9'6" high containers through Wolvercot tunnel without the need for special low-floor wagons (as against 9'0" high containers at present). This does not mean there will be any significant increase in axleloads, since, as noted above this is constrained by the maximum weight of containers that can be carried on lorries.

The length of freight trains varies according to market needs, e.g. the length of the trains carrying crushed rock is a result of the demand for building materials in the Oxford area, so upgrading the line will not in itself result in increased train lengths. Train lengths could increase for these reasons if the Scheme was not implemented. Trains of up to 650 metres length already use the line on occasions.

In Phase 1, it is very unlikely there will be any change in the number of freight trains on the line, as there will be no new freight terminals. However, if and when the East-West Rail (EWR) project is built, there may be more freight trains. These are most likely to be carrying shipping containers from Southampton. We have therefore included more freight trains in the evaluations for our Environmental Statement, so that this reflects the "worst case".

Freight trains are much more environmentally sustainable than road haulage as they use far less fuel per tonne of freight moved, and moving freight off the roads greatly reduces road damage and congestion. Modern freight trains on modern track are also very much quieter than those of even a few years ago.

Trains can be heard above the background noise in my house, such as the television, boiler, fridge, etc., even when the windows are closed. The noise and vibration from passing trains is overwhelming in the garden and in my house if the windows are open. With many more trains, living in adjacent

properties to the railway line will become intolerable, our neighbourhood will be destroyed by both the exodus of those people that can afford to move and by a fall in quality of the area. This will inevitably impact on the value of my house making moving to a similarly pleasant location (as now) within Oxford much more difficult.

Whilst train speed will increase the noise from individual trains, the noise mitigation, including over 1.5 km of noise barriers in North Oxford, is likely to offset increases in speed. However, the number of trains will increase.

Chiltern Railways is proposing noise mitigation which will apply to noise levels much lower than the statutory limits set out in the Noise insulation Regulations.

The ES sets out, in a form which will be legally binding on Chiltern Railways, the noise levels above which mitigation will be applied. The preferred option for noise mitigation is one that contains noise at source, such as maintaining the rails and wheels and considering infrastructure solutions to the track bed which reduce noise. Where these are not possible, measures such as noise barriers will be considered. These interrupt the path of the noise between the rails and the windows of the nearest properties. All of these measures will provide benefits in terms of reducing noise both inside and outside the properties.

Chiltern Railways is proposing noise mitigation in the form of barriers for all locations where there are noise impacts, without mitigation, of at least 5 to 7 dB. In areas such as North Oxford noise changes determine the size of the noise impact. In more rural areas away from major road noise sources, the amount by which the train noise exceeds a daytime threshold of 55 dB or the night-time threshold of 45 dB is the best way of assessing the noise impact. If impacts of more than 10 dB are likely to be experienced at residential properties, Chiltern Railways will consider installing noise insulation. Wherever possible, other forms of mitigation, such as barriers, will be preferred.

The actual location of properties which will be offered noise insulation will be determined during the detailed design stage and work is ongoing to refine mitigation, but the ES makes clear the standards that are to be achieved in Volume 2, section 6.5.2 on page 6-47.

As transport by rail increases, the numbers of passengers and freight trains will continue to increase incrementally once the scheme is complete leading to further increases in noise and vibration

Different frequencies of service have been assessed under Phases 1 and 2 of the Scheme. These frequencies take account of any likely future increase in service frequencies that may occur.

The frequency of trains using the line will be limited by the capacity of the track layout and signalling system, and the need to offer a robust and reliable service. The assessments of noise and vibration have been based on forecast numbers of all passenger and freight trains in the future, not just those on Chiltern Railways' services. These forecast numbers of services are almost at the maximum capacity of the double track line with the signalling arrangements that are proposed.

Pollution levels in the immediate vicinity already exceed EU statutory guidelines, and these will be further exacerbated

Modelling of the dispersion of emissions from rail and road traffic movements associated with Phase 2 of the Scheme (ie with more frequent train movements than in Phase 1) has indicated that pollutant concentrations at residential properties closest to the railway line will not cause significant air quality impacts. The total pollutant concentrations, including those from trains using the Scheme are likely to be within EU statutory guidelines, as implemented in UK law.

The Scheme is generally a positive development for improving air quality, as it provides a sustainable alternative to the car, particularly for commuting journeys into Oxford from surrounding areas.

In addition the standard objection included a section that urges Chiltern Railways and/or Network Rail to:

Ensure that everything possible is done to reduce the impact of the increased train service, such as:

- *installation of fully-effective noise and vibration barriers next to the track as a matter of urgency concurrent with the work;*

Chiltern Railways, in association with Network Rail, is doing everything that can reasonably be done to reduce the environmental impacts of the increased

services after the Scheme is built. This includes the installation of effective noise and vibration mitigation, including noise barriers and insulation, where necessary. Those required to deal with noise from Phase 1 will be installed before any additional train services start running. If Phase 2, for the East West Rail project, is built, additional mitigation measures will be installed, where required.

- *install track infrastructure designed to reduce noise and vibration including welded track, rail dampers, etc; and*

Continuously welded track will be installed. A range of additional mitigation measures including rail dampers will be considered to mitigate impacts where these have been identified. The extent and type of mitigation at individual locations will be determined as part of the detailed design which will be developed following the approval of the Order. However, the ES identifies the noise and vibration limits for which mitigation will be provided.

- *use only well maintained rolling stock fitted with noise and vibration mitigating devices including wheel dampers, etc.*

Chiltern Railways operates modern trains and undertakes regular inspection and maintenance including regular wheel maintenance at its own facility to correct any wheel flats or other defects that may increase operational noise. Wheel dampers are not normally fitted to trains and would only have a marginal effect under most conditions, and are not proposed for this Scheme.

- *use trains that retain sanitary waste for off-track disposal, and*

All trains built since about 1990 have toilet retention tanks and do not discharge onto the track. Any Chiltern Railways trains in regular service on the Bicester to Oxford line will have retention tanks.

- *review all noise and vibration mitigating measures every six months and repair or upgrade as necessary.*

Noise will be minimised by ensuring a high standard of maintenance during the operating life of the railway to avoid noise levels increasing unnecessarily due to wear and tear of the wheel and rail surfaces. The track and any noise barriers will be maintained by Network Rail. Furthermore, Chiltern Railways undertakes regular train inspection and wheel maintenance to correct any wheel flats or other defects that may increase operational noise. The frequency of these inspections will be commensurate with the upgraded railway.

Baseline mitigation on the number of passenger and (longer, heavier) freight trains projected to operate after completion of EastWest Rail and then no subsequent incremental increases in train traffic allowed without full consultation with residents.

The ES has assessed the likely future numbers and types of train, including the expected increase as a result of the EastWest Rail proposed level of services and has suggested appropriate mitigation measures for this, which will be implemented if Phase 2 of the Scheme, which is needed for East West Rail, goes ahead. The forecast numbers and types of trains used for the assessment of Phase 2 are almost at the maximum that could use the railway with the double track and signalling arrangements which are proposed. Mitigation is designed in the first instance for Phase 1, with a requirement that the Phase 2 mitigation is done before the Phase 2 works are brought into use.

Provide funding to equip my house with the highest quality glazing and to undertake any repairs to my house caused by vibration.

It is very unlikely that vibrations from the operation of the trains will cause any form of structural damage. In the unlikely event that it does, owners will be able to claim for compensation under the Compulsory Purchase Compensation Code. More detail on this can be found in the booklet on compensation produced by The Office of the Deputy Prime Minister, which can be found on line at:

<http://www.communities.gov.uk/publications/planningandbuilding/compulsorypurchase4>

Noise insulation, usually secondary or double glazing, will be provided at a small number of properties that qualify under the Noise Insulation Regulations. The properties at which this is likely to be the case are outlined in the ES in Volume 2, Table 6.14, Page 6-38. There are a few other properties, which do not qualify under the Regulations, where Chiltern Railways believes that noise insulation should be offered. These are discussed in Volume 2 of the ES at page 6-54 and 6-59.

Maintain and enforce the present speed restriction (40mph) on all trains along the sections of the track adjoining residential areas.

The predicted increased noise levels resulting from all causes will be mitigated as set out in the ES. Speed restrictions will apply to various sections of the line for safety reasons, but restricting speeds to 40 mph, for example, from Oxford station to the edge of the built up area, would not be practicable. Timetable predictions show that reducing speed from those proposed for the

Scheme would make reliable operation impractical and would not meet the aims of the project, which are to provide reliable and fast rail services between Oxford, Bicester and London. At lower speeds it would be impossible to operate a viable timetable that avoids congestion on the single track section of the route from Oxford station to Oxford North Junction and fits with the required timetable train paths onwards to Bicester and London.

No trains during the night from 00:00 until 05:00

Chiltern Railways will not be running passenger trains through the night, and services in late evening and early morning will be at a reduced frequency. A very small number of trains (perhaps 1 or 2) may arrive in Oxford after midnight or depart from Oxford before 0600.

Any overall increase in freight train numbers above those currently operated is only likely if and when the East-West Rail project goes ahead. The number of freight movements will reflect national freight demand, and will be limited by the number of available freight paths (1 per hour in each direction) and the likely market demand. Based on analysis of the number of the existing situation on the main line through Oxford, only about half of the available freight paths are likely to be used limiting the number to perhaps five freight train movements between midnight and 0500 hours, and perhaps 8 train movements between 2300 to 0700 hours.

Charlene Baker
Consultant
ERM

on behalf of the Chiltern Railway Company Ltd

OBJ132.

Charlene Baker

From: Charlene Baker
Sent: 06 August 2010 09:42
To: 'Glyn Taylor'
Subject: RE:

Glyn Taylor

Please take this email as acknowledgement that you are not withdrawing your objection.

Regards
Charlene

Charlene Baker
Consultant

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From: Glyn Taylor [<mailto:glynnttt@ntlworld.com>]
Sent: 05 August 2010 19:05
To: Charlene Baker
Subject:

Dear Charlene Baker

This is to inform you that we are not withdrawing our objection to Chiltern Railways proposals.

Glyn Taylor.

18 October 2010

Alice and Glyn Taylor
15 Lakeside
Oxford
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Direct lines
Telephone +44 20 3206 5661
Facsimile +44 20 3206 5440
Email ian.gilder@erm.com

Your ref: OBJ/132

Dear Alice and Glyn Taylor

Proposed Chiltern Railways (Bicester to Oxford Improvements) TWA Order

I write to you as an objector to the Chiltern Railways TWA Order. Specifically, you have raised concern about the effect of noise and/or vibration of the proposed Scheme and its impact on your property.

Chiltern Railways is committed to using the Best Practicable Means to design the railway so as to avoid significant noise and vibration impacts. Enclosed is the *Chiltern Railways (Bicester to Oxford Improvements) TWA Order Draft Noise and Vibration Mitigation Policy (October 2010)*, which sets out Chiltern Railways' commitment to control noise and vibration impacts in detail. This document will be finalised following consideration of improvements that are identified during the Inquiry.

The assessment of operational noise in the ES formed a worst-case view of the likely noise impacts, which was a satisfactory approach for the ES. However, the design of the Scheme has progressed as contemplated in the ES, so that lesser, or equivalent, impacts will result, and the likely mitigation has been refined to take account the current information and the views of stakeholders who have been consulted since the ES was published. That approach is integral to the Environmental Impact Assessment (EIA) process. This work is ongoing, and we intend to write to you in the near future to confirm the likely noise impacts at your property.

We hope that this policy, which will be legally enforced by planning condition, will satisfy your concerns regarding noise and vibration, and that you will be able to remove your objection to the Scheme.

Yours sincerely,

Ian Gilder

Ian Gilder
Head of Planning

For and on behalf of the Chiltern Railway Company Ltd

29 October 2010

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Your ref: OBJ/132

Dear Alice and Glyn Taylor

Proposed Chiltern Railways (Bicester to Oxford Improvements) TWA Order

You have objected to the application for the above Order and this letter is a further response to your concerns about the effect of noise and/or vibration of the proposed Scheme and its impact on your property.

In response to the concerns in your letter of objection a letter was sent dated 23 June 2010, which addressed your concerns. We subsequently wrote to you 29th of June to find out if this had satisfied your concerns, and you replied that you were not prepared to remove your objection.

Since the Environmental Statement ("ES") was published and the letter of 23 June, further refined noise modelling and monitoring have been carried out.

Chiltern Railways is committed to using the Best Practicable Means to design the railway so as to avoid significant noise and vibration impacts. You have recently been sent the *Chiltern Railways (Bicester to Oxford Improvements) TWA Order Noise and Vibration Mitigation Policy (October 2010)*, which sets out in practical detail Chiltern Railways' commitment to control noise and vibration impacts.

The purpose of this letter is:

- to report the noise effects specifically at your property based on the refined noise modelling and monitoring carried out since the ES;
- to explain the noise mitigation that will be provided as a result of the Noise and Vibration Policy being implemented, noting that the final form of mitigation will be determined during detailed design before the Scheme is operational; and
- to explain the residual effect of noise with this mitigation in place.

The effect of noise from the trains on persons at a property in an area depends on the nature of the area being considered. In built up areas, where noise levels are already high, the effect of a new noise source tends to depend on

the change from the existing ambient noise level. In more open areas, with very low ambient noise levels, the effects of a new noise source on people tends to depend on how loud the noise is in isolation. So in such open areas, the noise from the trains is compared to an absolute threshold level, and the impact is assessed based on the amount by which the train noise is likely to exceed that level.

The effect of the predicted noise from trains on your property assessed below is based on your property being situated in a built up area.

Table 1 Predicted Noise Impacts of the Scheme (Based on the Refined Noise Modelling and Monitoring)

		Noise Impact over Period Shown (dB)	
		Day	Night
1	Existing noise level ($L_{Aeq, Period}$)	54	50
2	Future noise impact without mitigation	8	10
3	Mitigation proposed	2m barrier	
4	Future noise impact with this mitigation	0	0
5	Change in noise impact as a result of mitigating the scheme (item 4 compared with 2).	8	10

At your property no increase over current ambient noise levels has been predicted after implementation of a mitigation scheme based on the use of noise barriers. Since this impact is not significant, further mitigation is not required.

To explain what this means, the smallest change in noise level that is noticeable under normal listening conditions (ie not in a laboratory) is 3 dB. The noise impact at this property has been classed as “None” because it is not expected to have a noticeable effect even at the first floor level outside your property. The barrier will be more effective at ground floor level.

In terms of vibration Page 6-42 of the ES highlighted that levels of ground vibration are not expected to exceed the stringent assessment criterion beyond approximately 10 m from the tracks. Your property is beyond this distance from the tracks and vibration is not expected to result in significant disturbance based on these stringent thresholds. Measurements of existing vibration carried out since the ES was written have confirmed that no structural or cosmetic damage to property will occur as a result of train vibration whether within 10m of the line or further away.

We hope that this information answers your points of concern and that you will be able to remove your objection to the Scheme.

Yours sincerely,

Ian Gilder

Ian Gilder
Head of Planning

For and on behalf of the Chiltern Railway Company Ltd