

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

CHILTERN RAILWAYS' REBUTTAL PROOF OF EVIDENCE

**IN RELATION TO
THE OBJECTION AND EVIDENCE OF
PAUL WITHRINGTON**

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 Paul Withrington.
- 1.2 Paul Withrington has raised new points in his Statement of Case and additional Questions of Clarification dated 5 December 2010 and 15 December 2010 provided for the Inquiry that Chiltern Railways had not previously addressed in the proofs of evidence prepared by their witnesses, which were submitted to the Inspector and to certain objectors on 1 October 2010.
- 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 the points raised in the evidence of Paul Withrington 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 Objector" means Paul Withrington;

"the Objector's evidence" means the Statement of Case of Paul Withrington [OBJ319/1] and Questions of Clarification dated 5 December 2010 and 15

December 2010;

“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 evidence of Paul Withrington, director of Transport Watch, deals with a number of strategic issues including the business case, the economic assessment, rail safety, emissions and the relationship of the Order Scheme to the railway industry as a whole.

Chiltern Railways General Expenditure and Income, Graham Cross

3.2 The Objector has provided a number of estimates in Appendix 1 and 2 to his evidence on the annual expenditure and income of Chiltern Railways. The Objector has calculated a number of costs, namely:

- Chiltern Railways made a loss over a 15 year period of £186m equating to £12.4m per year, excluding grant and dividend payments;
- track access charges amount to an average of £21.5m per year;
- track maintenance and renewal costs are £42m per year;
- the cost of the scheme enhancements if repaid at 6% over 30 years results in a cost of £29m per year; and
- the effective annual average subsidy is £61.9m based on £12.4m + £42m + £29m - £21.5m.

3.3 The Objector states that £61.9m compares with the Chiltern Railways average income, excluding grant, for the 15 years of £69m. The Objector provides an additional calculation of effective subsidy for the financial year 2009/2010 of £59.4m. The Objector states that a loss of around £60m per year corresponds to 6.3 pence per passenger-km or £175,000 per year per route kilometre.

3.4 The Objector states that whichever calculation is used, the effective loss is overwhelming compared with the income and that despite the losses, Chiltern Railways paid dividends of £37m over 15 years averaging £2.5m per year.

3.5 Chiltern Railways has tried, but failed, to understand the Objector’s methodology and calculations.

3.6 The Objector purports to give data for 2010. Chiltern Railways’ accounts are presented on a calendar-year basis and those for 2010 are not yet published.

- 3.7 In 2010 Chiltern Railways is paying a premium of £0.845m to the DfT, and not receiving a subsidy. Chiltern Railways is contractually committed to paying a premium in future.
- 3.8 The track access charges paid by Chiltern Railways is a charge set by the Office of Rail Regulation and do not necessarily reflect the actual costs of the infrastructure. There is no causal basis for the apportionment of Network Rail costs as suggested by the Objector.
- 3.9 The Objector appears to assume that the costs of financing the various enhancements made by Chiltern to date are additional to the costs in Chiltern Railways' accounts. This is not so, such costs are included.
- 3.10 The Objector states that he distrusts the allocation of various cash flows by Chiltern Railways. Chiltern Railways accounts are prepared and audited in full accordance with the relevant financial regulations.

The Order Scheme Costs, Graham Cross

- 3.11 The Objector states that the effect of the proposal is to switch around 1.5m passengers per year from Paddington to Marylebone and, in the fullness of time, to allow East West Rail passengers to reach Oxford and to enable freight, to reach Southampton from the East Coast ports also providing another strategic freight route from Southampton to the West Coast Mainline.
- 3.12 The Objector states that based on annual passenger flows provided by Chiltern Railways and his interpretation of the percentage of the daily flows in Figure 3.1 of Leo Eyles evidence [CRCL/P/5/A] the peak hour service would be satisfied by two five-carriage trains and the off-peak by two one-car trains per hour.
- 3.13 The Objector states that the cost of the Order Scheme of adding one track to the 12 miles between Oxford and Bicester, altering the gauge to W12+, sundry station works and the Bicester chord connecting the line to the line to Marylebone is £185m. The Objector states that the total omits an optimism bias of 6% and contingencies of 10% which would bring the whole to £215 million. The Objector states that based on a population of 200,000 being served by the Order Scheme, the capital cost is around £2,000 for every household at a time when 44% of the population uses National Rail never or less than once a year.
- 3.14 The Objector states that Chiltern Railways expects to run two trains per hour each way and that each train would have one or two carriages except in the peak hour when there may be five carriages. The Objector states that there is the prospect of another two trains per hour and freight, if East West Rail succeeds in its proposals. The Objector has calculated that if the freight amounts to five trains per day in each direction and if each is equivalent to 30 lorries then there could be the equivalent of 10-15 lorries in each direction per hour to add to the equivalent of two to four coaches. The Objector states that the combination is minimal in highway terms and even more so when compared with the expenditure of £185m, which the Objector states is enough to build a six-mile stretch of dual three-lane motorway, based on

the evidence in Appendix 8 to his proof. The Objector states that the Order Scheme makes extraordinarily poor use of capital.

- 3.15 The Business Case quoted in Graham Cross' evidence is for the costs and revenues in Phases 1 and 2A. The capital cost of these phases is £138.9m. This includes payments to the contractor; the client's costs; and the standby facility. There is no need to add a contingency in the Business Case, as this is covered by the standby facility; and no need for an optimism bias, as the contract is already in place.
- 3.16 The economic assessment for Phase 1 set out in Leo Eyles' evidence does include a contingency of 10% on capital costs and an optimism bias of 6% in line with DfT requirements (**CRCL/P/5/A**, paragraph 4.23). This demonstrates prudence in the public sector cost:benefit analysis presented.
- 3.17 Apportioning the capital costs to local households is irrelevant, as the Phase 1 scheme is not funded by the taxpayer.
- 3.18 The main effects of the Order Scheme are to provide greatly enhanced access to the rail network from north Oxford and surrounding areas, to significantly improve the rail offer on the Bicester-Oxford and Oxford-London corridors; and to provide new journey opportunities such as High Wycombe to Oxford.
- 3.19 The Objector's contention on the number of carriages needed is incorrect. The Objector fails to note that the trains will also be stopping at stations south of Bicester, and thus carrying additional passengers not included in the Order Scheme forecasts. Chiltern Railways' trains will thus be formed of three to four carriages off-peak, and six carriages in the peak.
- 3.20 The Objector's assumptions on the number of lorries is irrelevant, as freight operations are not included in Chiltern Railways' business case, nor otherwise in the justification for the Order Scheme.

Business Case, Graham Cross

- 3.21 The Objector states that the level of fares quoted in Table 1 of Graham Cross's evidence [**CRCL/P/1/A**] indicates fares of £157m arising over the nine years 2013 to 2021 inclusive which creates the illusion that Phase 1 of the Order Scheme, valued at £122m will be funded out of fares.
- 3.22 The Objector assumes that the 'facility charge' of £116.5m quoted represents the loan charges on the £138m cost of Phase 1 and Phase 2A. The Objector quotes from Chiltern Railways that if the Department for Transport payment of £18m for Phase 2A works were struck out then the facility charge would be correspondingly reduced.
- 3.23 The Objector states that without the £116.5m facility charge the profit, or total cash flow in Table 1 of Graham Cross's evidence [**CRCL/P/1/A**] would be around £117.6m rather than £1.1m. The Objector states that this amounts to 74% of the £157m fares, which is an *"entirely improbable notion"*. The Objector states that the

annual accounts for 2010 show an operating profit of only £7.7m, amounting to 6% on turnover and that the grant in that year amounted to £4.7m. The Objector states that despite the grant Chiltern Railways made a loss of £4.4m as set out in the annual accounts.

- 3.24 The Objector states that the incremental maintenance and renewal costs of £26.3m are a gross underestimate. The Objector has calculated an alternative incremental cost of £112m based on track access charges being 36% of fares and track access charges amounting to 50% of the likely maintenance and renewal costs.
- 3.25 The Objector states that the incremental train operating costs are £7.6m and that Graham Cross has separately implied that those costs incorporate the leasing and maintenance of the trains. The Objector states that according to Graham Cross few trains have been included in the estimate. The Objector states that without the Order Scheme's services Chiltern Railways would be able to reduce its fleet, therefore the trains required by the Order Scheme should be assigned to the costs for it.
- 3.26 The Objector has calculated a peak hour fleet of 12 carriages plus four traction units. The Objector states that because journey plus dwell times between Oxford and Marylebone will exceed one hour, the fleet will need to be increased to a total vehicle fleet of to 21 vehicles, before considering maintenance and spares. The Objector states that Chiltern Railways annual report provides train leasing charges of £15.4m for the year ending 9 January 2010. The Objector has calculated, based on the assumptions on the fleet in Appendix 3 of his evidence sourced from Wikipedia, a train leasing charge per vehicle of £80,000.
- 3.27 The Objector quotes from a report by Booz Allen, provided in Appendix 4 to his evidence, which shows that rolling stock maintenance costs range from circa 7% to 13% of the capital cost. The Objector refers to the Booz Allen report which states that a single carriage costs over £1m, to which the Objector applies a ratio of 10%, used to calculate an annual maintenance costs per carriage of £100,000. The Objector states that together with leasing costs this equates to £180,000 per vehicle per annum, which with an Order Scheme fleet of 21 vehicles is £3.8m per year. The Objector calculates that for the nine years of operation the rolling stock leasing and maintenance costs may amount to £34m. The Objector states that this is far above the cited incremental operating cost of £7.6m, which incorporates these costs.
- 3.28 The Objector states that the 'Third party agreements charge' of £18.1m is a payment to First Great Western, in respect of loss of business. The Objector states the fact that First Great Western is prepared to accept such a sum when the annual fares lost appear to be £17m per year, equivalent to one ninth of the £157m business case fares, suggests that not much profit was to be taken there, adding weight to the 'incredulity' of the contents of Table 1 of Graham Cross's evidence [CRCL/P/1/A].
- 3.29 The Objector states that the conclusion that the Order Scheme is self funding "is a fiction". The Objector states that Chiltern Railways costs the tax payer around £60m per year, or six pence per passenger kilometre, a number which is equivalent

to Network Rail's average. The Objector states that Network Rail has a subsidy, including capital of £5 billion per year.

- 3.30 It is correct that the total incremental farebox revenue arising from then scheme between 2013 and 2021 is estimated at £157m.
- 3.31 The Objector refers to the £122m cost of the Phase 1 Order Scheme. This is the capital cost. The capital cost is then spread over 30 years at 6% to create an annual Facility Charge. The business case is made by comparing the total revenues over the period 2012-2021 with the total costs over the same period. The Objector is comparing the total capital cost with the revenues earned over the period 2013-2021. This is not a correct comparison. The correct comparison is to take the revenues over the period to 2021 and compare them to the costs by it is meant the Facility Charge, over the period to 2021.
- 3.32 The Facility Charge of £116.5m is the total of the annual facility charges between 2012 and 2021 based on the capital cost of Phases 1 and 2A. This is in effect 10 of the 30 years worth of capital and interest repayment. It is not the capital cost of the scheme. It is correct that if DfT were to withdraw their request for Phase 2A of the scheme then the £18m DfT payment for Phase 2A works would be foregone. However, if this were to have the annual facility charge, would be reduced.
- 3.33 There is no sense in taking the business case then excluding the Facility Charge. The Facility Charge is the principal cost item because it is the capital and interest repayments on the capital cost. Chiltern Railways' profits are as declared in its published annual reports. It is not correct to say that Chiltern Railways is loss making because in a given year its subsidy exceeds its profit. Chiltern Railways' subsidy is an amount paid by the DfT, bid for in a competitive tender, and fixed in contract.
- 3.34 The Objector's assumption for maintenance and renewals costs is incorrect. The £26.3m is an estimate of the incremental cost of maintaining and renewing the additional infrastructure created by the Phase 1 and 2A. It should not be confused with other categories of track access charge such as fixed and variable.
- 3.35 Chiltern Railways confirms that the incremental train operating costs of £7.6m are the incremental operating costs of the services which the Phase 1 Order Scheme creates. This covers incremental fuel and maintenance costs. There is no need for any new or additional trains as a consequence of the Phase 1 or 2A Order Scheme.
- 3.36 Chiltern Railways expects to be able to resource the train services from within the existing and planned fleet. This is because we already run trains between London and Bicester and all that is required is for these trains to be extended to Oxford. We can resource this by raising the productivity of the fleet, in large part courtesy of the journey time improvements generated by the works Chiltern Railways has underway already (outwith the Order Scheme) between London and Banbury. Chiltern Railways does not need 21 additional vehicles as a consequence of the Order Scheme, so do not concur with the Objector's analysis.

- 3.37 The third party agreements charge is a payment from Chiltern Railways to First Great Western, and approved by the Department for Transport. The terms of the contract are confidential.
- 3.38 Phases 1 and 2A of the Order Scheme are financed by their users. Chiltern Railways does not recognise the statement that Chiltern Railways costs the taxpayer £60m a year. In the 2010 Chiltern Railways will not receive any subsidy from DfT, but will instead pay a premium to the DfT. To the extent that Chiltern Railways has received a subsidy in the past, this is to support the existing DfT core specification for the Chiltern Railways franchise, ie. the existing passenger services. There is no DfT subsidy for the incremental outputs created by the Order Scheme. There is a DfT payment of £18m for the Phase 2A works, but this is to pay for works specified by the DfT, it is not to subsidise ongoing operation of passenger trains.

Deutsche Bahn and Freight Services, Allan Dare and Graham Cross

- 3.39 The Objector refers to the Chiltern Railways statement that the Department for Transport payment of £18m is a payment for Phase 2A, required for the freight services. The Objector states that the £18m is a subsidy for DB Schenker, the UK's main freight operator itself owned by Deutsche Bahn. The Objector states that the commercial case must either be for Chiltern Railways or for Deutsche Bahn as a whole.
- 3.40 The Objector refers to the page 11 of the Deed of Amendment [CD/2.13] which sets out the Fixed Sum Payments that Chiltern Railways must make if the franchise is terminated. The Objector states that if Chiltern Railways fails to retain the franchise in 2021 it will have to repay £30m at November 2009 prices. The Objector states that Chiltern Railways' Annual Report and Accounts for 2010 show capital receipts of £7m whereas its net debts are £70m.
- 3.41 The Objector states his concern about how Chiltern Railways would pay the £30m. The Objector questions whether there is a standby fund to cover this and who holds it. The Objector states that perhaps it is the Department for Transport, the taxpayer or the parent company, Deutsche Bahn AG, who may need this rail scheme for its larger and subsidised freight purposes, who would fund the Fixed Sum Payment.
- 3.42 The Objector states that the real reason for the Order Scheme is not for rail passengers but is for the benefit of Deutsche Bahn's freight interests. The Objector states that freight grants run at between £20m and £30m per year and that the Inquiry has been misled to the true purpose of the TWA application.
- 3.43 The Fixed Sum Payment is a payment from Chiltern Railways to DfT relating to the Main Line Works phase of Evergreen 3, which is under construction now, and outwith the terms of the Order Scheme. The Fixed Sum Payment therefore is a payment to government, not a payment from government. Chiltern Railways' net debts of £70m are all inter-company (i.e. within the DB Group).
- 3.44 The Objector is incorrect in alleging that the Order Scheme is being promoted for the benefit of DB Schenker.

- 3.45 The majority of the works (e.g. the four passenger stations and associated car parks, the Bicester Chord line, the new Chiltern line between Oxford North Junction and Oxford station, and the increase in line speeds) will only be of use for passenger operations. The Phase 1 works will be funded entirely out of Chiltern Railways' passenger revenues and Chiltern Railways has always made it clear that it does not operate freight trains.
- 3.46 Freight grants are paid to freight operators and users for individual freight projects. There are no freight grants associated with the Order Scheme.
- 3.47 The Order Scheme will form part of the national rail network and the line can thus be used by any train operators. DBS is one of five competing rail freight operators in the UK, and is moreover a minor player in the transport of maritime containers, which is the rationale for the Phase 2A works. It would thus be pointless for DB to promote the Order Scheme for freight, as the benefits would mostly flow to its competitors.
- 3.48 The £18m payment from the DfT for Phase 2A is not a subsidy to Chiltern Railways, but instead is payment for the sum incurred by Chiltern Railways for undertaking the Phase 2A works on the DfT's behalf. As noted in Graham Cross' evidence, Chiltern Railways also take the cost and delivery risks on Phase 2A, so public benefit is being delivered at private risk.

Comparison of the Oxford to London Rail Share, Allan Dare

- 3.49 The Objector refers to Table 2 of Allan Dare's evidence presents a comparison of 12.5 rail journeys per head per annum from Oxford to London compared with Cambridge's 24.9 and Milton Keynes 15.6 (values corrected). The Objector states that it is Chiltern Railways' objective 'to pretend' that Oxford needs more rail services. The Objector states that Chiltern Railways has omitted reference to the extraordinary Oxford to London coach services. The Objector provides analysis in his Appendix 5 that shows the effect of adding those coach passengers to the original data, which results in 34.3 trips per head to London from Oxford, 38.6 from Cambridge and 17.2 from Milton Keynes. The Objector states that conversely Oxford is doing very well in terms of trips to London.
- 3.50 The Objector states that the more important point in the analysis is that Milton Keynes, despite having the better rail service, has half the trips per head to London compared with the other towns which is probably because Milton Keynes has a much the higher population and offers a particularly impressive shopping centre. The Objector states that this highlights a risk that Oxford may become a dormitory suburb unable to compete with London which is a hidden loss of agglomeration and to the wider economy.
- 3.51 It is not Chiltern Railways' objective to "pretend". The rail trip data as presented is correct. The rail and coach markets are not analogous and it is misleading to summate them.

- 3.52 The Objector appears to claim that despite having a better rail service, Milton Keynes is self sufficient, whilst improved rail services will destroy Oxford's economic competitiveness. This is inconsistent.

Passenger Forecasts, Allan Dare

- 3.53 The Objector states that Figure 4 of Allan Mr Dare's evidence cites the growth in passenger kilometres forecast by the NAO, 60% in 25 years or 1.8% annually. The Objector states that it is a naive assumption that the cause is GDP growth and that growth will automatically follow the past trend as set out in Figure 13 of Allan Dare's evidence. The Objector states that if GDP growth were the defining factor, rail travel would have grown in previous decades and it did not and has remained unchanged for over 30 years.
- 3.54 The Objector states that using past trends it would be equally reasonable to assume zero growth in rail rather than the trend that the Government and Chiltern Railways assume. The Objector states that the forecasts for Chiltern Railways should be regarded as "extravagant".
- 3.55 The Objector's assertion that rail traffic did not grow in previous decades is not true. As shown in the DfT's Transport Statistics Great Britain, rail passenger traffic grew from 34bn passenger km to 41bn passenger kilometres (17%) between 1977 and 1997 (ie. in the two decades prior to rail privatisation).
- 3.56 As noted in Allan Dare's evidence, rail traffic growth can be attributed to a range of factors, including highway congestion, housing and business location, and improved rail services, as well as GDP. These factors point to a continuing increasing rail use, and help explain why in recent years rail traffic growth has outstripped the growth in GDP.
- 3.57 Rail traffic is continuing to grow. Passenger km. rose by 5.2% and passenger journeys by 6.1% in Quarter 4 2009/2010 compared to Quarter 4 2008/9, despite the poor performance of the national economy.
- 3.58 Chiltern Railways would not regard it as "extravagant" to use forecasts from responsible statutory bodies such as the DfT.

Rail Safety, Allan Dare

- 3.59 The Objector states that in Figure 12 of his evidence, Allan Dare compares passenger fatalities by mode. The Objector states that this should not be a comparison between rail with buses, cars, motorcycles, cycles and pedestrians. The Objector states that the comparable road vehicle is the express coach on the motorway and trunk road network although the Objector recognises that 10 year averages for fatalities for both are unstable.
- 3.60 The Objector states that system-wide deaths, being relatively large in number, provide reasonably stable data. The Objector refers to analysis undertaken for the decade to 2007, available on the Transport Watch website, which shows that when trespassers, but not suicides or suspected suicides, are included, rail killed more people per passenger mile than did the motorway and Trunk Road system.

- 3.61 The Objector refers in Appendix 6 to his evidence, that in 2007 there were 1.4 rail deaths per billion passenger kilometres, including trespassers but excluding suicides, from the RSSB data and 4.98 rail deaths per billion passenger kilometres, using the ORR data. The Objector states that the corresponding data for the single year 2007 for the motorway and Trunk Road system was 1.74 road deaths per billion passenger kilometres. The Objector states that if trespassers are to be excluded from the rail statistics then all those deaths on the roads that arise from illegal acts, such as dangerous or careless driving, should also be excluded.
- 3.62 The Objector concludes that the motorway and Trunk road system is safer which runs contrary to the message that *“every day more people die on the roads than passengers in a year on the railway”*. The Objector states that this ignores levels of usage and that there are 17 times as many passenger miles by road as by rail and that the comparison is made between passengers who die as a result of a train crashing with all those who die on a completely open road system, including pedestrians, cyclists and people on motorbikes.
- 3.63 The safety data quoted in Mr. Dare’s evidence is from the DfT’s Transport Statistics Great Britain (TSGB), and thus a reputable source. The figures in TSGB are for fatalities per billion passenger km., and therefore take full account of the relative use made of the various modes of transport. TSGB also takes passenger fatalities as the valid basis for intermodal safety comparisons.
- 3.64 The analogy between rail trespassers and dangerous driving is spurious; trespassers and suicides take a conscious decision to put their own lives at risk, whilst innocent victims of dangerous driving have made no such decision.

Emissions from Transport Modes, Allan Dare

- 3.65 The Objector states that Figure 11 of Allan Dare’s evidence compares train emissions with the private car and single-decker bus to represent that rail has lower emissions than road transport. The Objector states that the comparison should have included the express coach, which emits less than any train. The Objector states that if Chiltern Railways is keen to reduce the carbon footprint of public transport it would be encouraging people to transfer from trains to express coaches.
- 3.66 The Objector states that the standard comparisons of modes ignores the level of emissions associated with the manufacture of the infrastructure. The Objector refers to a paper by Mikhail V Chester and Arpad Horvath on life-cycle energy costs. *“There we see the estimates of life cycle energy inputs and emissions in the USA add 63% to the tailpipe values for road vehicles, 31% for air and 155% for rail. Instead of that, nearly all UK emission studies deal with tail pipe emissions. Consequently the conclusions and policies drawn from those studies may turn out to be unsustainable”*. The Objector states that because large scale electrification may extend the life of coal-fired power stations it is their emissions, not the industry average, that should be considered. The Objector states that subject to carbon capture, coal fired generation emits double the UK generating industry average.
- 3.67 The figures quoted in Allan Dare’s evidence [CRCL/P/2/A] are from a study by the Rail Safety and Standards Board, supported by Lancaster University and Interfleet

Technology Limited. All are reputable bodies and Chiltern Railways stands by its conclusions.

- 3.68 The emissions data in the RSSB paper is given on a per passenger kilometre basis, and assumes a load factor of 60% for a Megabus and 30% for a class 170 train (Chiltern Railways in fact operates its trains at a higher average load factor). The variation between these load factors reflects that the train operates a “turn up and go” service throughout the day, whilst the Megabus requires prior reservation for all tickets, and only operates at times of guaranteed demand. In addition the bus operates at lower speeds than the train, and is not equipped with facilities such as wheelchair-accessible toilets that are required on a train. We therefore regard the Megabus as a poor comparator.
- 3.69 Absolute emission data (as against relative data based on load factors) also shows that rail is less polluting than road. The DfT’s Transport Statistics Great Britain for 2010 shows total emissions for 2008 in *Table 1*.

Table 1: Total Emissions, 2008

Pollutant	Rail Emissions (passenger, freight, metro and tram) including electricity generation	Road Emissions (car, van, bus, lorry)
Carbon dioxide (tonnes CO2 equivalent)	2.4m	118.4m
Carbon monoxide (tonnes CO)	12m	1537m
Nitrous Oxide (tonnes NOx)	37m	450m
Particulates	0.7	24.1
Benzene	0.5	5.8

- 3.70 It can be seen that rail’s share of pollutants is very much lower than rail’s share of the transport task,
- 3.71 The use of USA data for rail emissions is unrealistic, due to the much greater weight, and thus lower energy efficiency, of American rail vehicles. A three coach Chiltern Railways train weighs around 135 tonnes. The US equivalent weighs over 300 tonnes.

Passenger and Freight Services, Allan Dare

- 3.72 The Objector refers to Table 3 of Allan Dare’s evidence which provides estimates of the passenger and freight trains per hour. The Objector states that these presume Phases 1 and 2A do not attract any new freight services. The Objector states that it

is the East West Rail, Phase 2B works that increased the freight. The Objector states that the data is inconsistent with that presented elsewhere in Chiltern Railways' evidence, notably Table D5.3 of **CD/1.18** which states that there would be 185 passenger trains per day compared with 10 per hour for 16 hours, a total of 160 in Allan Dare's evidence. The Objector states that the Appendix to **CD/1.18** refers to 25 freight trains per day compared with up to 48 quoted in Allan Dare's evidence. The Objector states if the market demands it, freight trains could use any unallocated passenger train slots at night and therefore residents could then suffer a freight train every six minutes.

- 3.73 The Objector states that two freight trains at 3 am would destroy the enjoyment of hitherto quiet properties and the prospect of four or twelve is overwhelming to residents. The Objector states that the impact of the freight trains on residential properties has been underplayed to the great distress of those likely to be affected.
- 3.74 The Objector is correct in stating that no extra freight trains are expected as a result of phases 1 and 2A, but that more freight trains may result from Phase 2B; this is made clear in Allan Dare's evidence.
- 3.75 The Objector is correct to say that freight trains could use unoccupied passenger paths; that is no different from the situation with the existing railway between Bicester and Oxford. However, the Objector's claim postulates a totally unrealistic level of demand; a freight train every six minutes during the night would equate to 120 freight trains between 00:01 and 06:00; this compares to the typical total of 11 freight trains on all routes through Oxford in the same period at present.
- 3.76 The number of freight trains between Oxford and Bicester will in any event be limited by the availability of paths southwards from Oxford, and the relevant origin and destination points. As the Objector notes elsewhere, if Phase 2B were to be used for freight that would primarily be for container trains between Southampton and the West Coast Main Line, and the number of such trains at present is 10 in a typical 24 hours.

The Potential for Rail Traffic from Bicester, Allan Dare

- 3.77 The Objector refers to the statement in paragraph 4.5.4 of Allan Dare's evidence that the "*potential for rail traffic from Bicester is exemplified by experience at Bicester North station, where substantial improvements in journey time and train frequency have been matched by increases in rail carryings. As a result, rail trips per head of population from Bicester to London are 10 times higher than from Bicester to Oxford, despite the proximity of the latter*". The Objector states that this overlooks the fact that it is virtually impossible to drive to central London, central London is vast in comparison in Oxford and that Oxford is only 20 minutes away from Bicester by car.
- 3.78 As Bicester is a dormitory town for Oxford, and the distance to Oxford is only 22% of that to London one would expect a proportionately greater trip rate for Bicester-Oxford movements, which would in part or in whole offset the difference in size between Oxford and London. As Allan Dare's evidence demonstrates, this has not happened.

Overcrowding on the Oxford to London Service, Allan Dare

- 3.79 The Objector questions whether the overcrowding on the Oxford to London service could be solved by adding a couple of coaches to the trains. The Objector states that maybe it would be too expensive, but questions if that is so, how can it be claimed that the Order Scheme will pay for itself out of fares.
- 3.80 As noted in Allan Dare's evidence, Paddington station is operating at or near capacity for much of the day, and the opportunity to lengthen trains on that route is thus limited. The capital and operating cost of such additional vehicles would also be considerable, whilst no additional markets would be served.
- 3.81 Conversely, the Order Scheme not only provides additional capacity and frequency for the Oxford-London market, but new access to the rail network at Water Eaton Parkway, significant improvements to the Bicester to Oxford rail service, and new journey opportunities such as Oxford-High Wycombe.

Congestion at Oxford Station, Allan Dare

- 3.82 The Objector states that a site visit should be made to Oxford station to determine whether Oxford station is routinely crowded for much of the day and is inadequate for both the number of passengers that has to be catered for and the number of trains using it; and that it does not form a suitable gateway for one of the UK's finest cultural and academic centres.
- 3.83 Chiltern Railways agrees that a visit to Oxford station would confirm Allan Dare's evidence and the statement in the Oxford Local Plan.

Relief of Road Traffic Congestion, Allan Dare

- 3.84 The Objector disagrees with the idea that rail can make more than a 'trivial' impact on the on road congestion as the train accounts for only 2% of motorised journeys, or 7% of passenger-miles. The Objector states that the car serves a dispersed land use that is difficult to serve by bus and impossible to serve by train. The Objector quotes evidence to the Transport Committee's Inquiry into Transport and the Economy on annual passenger kilometres per head which he states shows how untenable the idea is. The Objector states that Allan Dare's evidence is a marketing exercise designed to convince the public and the Inspector that the proposal is in the public interest and does not need public money to operate.
- 3.85 National traffic share by road and rail is irrelevant. The key issue is the behaviour of travel demand on the corridors that the Scheme will serve, and whether the resulting amount of rail traffic passengers will be sufficient to pay for the Scheme's costs. This is demonstrated in Graham Cross's and Leo Eyles' evidence.
- 3.86 The statement regarding "*dispersed land use that isimpossible to serve by train*" cannot be true given that the national rail network carries 3.5 million passengers each day. Moreover, by providing for multi-modal rail/bus/car interchanges at Bicester Town and Water Eaton Parkway the Order Scheme provides an integrated transport solution for accessing points beyond the rail network, whilst giving the benefits of rail transport on the trunk haul.

Passenger Forecasts, Leo Eyles

- 3.87 The Objector states that Leo Eyles' evidence in Table 2.2, Table 2.3 and paragraph 2.29 is incomprehensible and probably inconsistent and he has requested further clarification as dealt with in Section 4 of this rebuttal.
- 3.88 For clarity, the 429,000 base year additional journeys are made up of 57,000 (paragraph 2.23); 115,000 (net generated trips in Table 2.2); and, 257,000 journeys (Table 2.3 as corrected in **CRCL/P/5/D**).
- 3.89 The Objector states that the forecasts depend on MOIRA (the industry standard software for evaluating the impact of timetable changes), a hexcell based catchment analysis model and a model dealing with intermediate, non-London based flows. The Objector states that the assignment of passengers to Marylebone or Paddington depends on 'all-or-nothing principles' whereby, for example, if it is less costly to reach Marylebone from Witney than to reach Paddington, then all the Witney trips are assigned to Marylebone even in a scenario whereby the final destination was an office block adjacent to Paddington because the model does not consider the onward journeys from the rail terminals. The Objector states that Leo Eyles has confirmed that since Marylebone is better placed than Paddington for most destinations in London the analysis was biased in its favour. The Objector states that this overlooks the fact that Marylebone is served by the Bakerloo Line only, whereas Paddington connects to four tube lines, Bakerloo, Circle, District and Metropolitan and, in the foreseeable future, to CrossRail.
- 3.90 MOIRA is used to forecast the impact of the timetable change on demand from Oxford to London. MOIRA splits London demand between 18 zones, based on survey output, and uses detailed terminal to zone cross-city journey times to reflect actual travel times. The hexcell-based catchment model does use a simplified single London terminal which treats Paddington and Marylebone services as equally close to destinations in London. This is a reasonable simplifying assumption, given that the majority of London destinations are some distance from both termini and each are closer on at least one LUL line.
- 3.91 The Objector states he has been informed by Chiltern Railways that 68% of the passengers at Water Eaton will come from the catchment area to the west of the Heyford, Tackley, Oxford railway and most will have come from Witney with a population of 22,700. The Objector has requested from Chiltern Railways a breakdown of the generalised costs for each leg of the relevant journeys from Witney as dealt with in Section 4 of this rebuttal. The Objector provides evidence Appendix 7 of his proof that demonstrates that the journey times between Witney and Paddington and Witney and Marylebone are identical.
- 3.92 The equivalent time components for Witney to London within the catchment model are shown in the following table. The initial column shows actual travel time, whereas the second column shows the generalised time in which the model works, which includes components for service frequency and the need to interchange and a weighting for the drive time. In both currencies the journey via Water Eaton Parkway is quicker. Journey times and generalised times are provided in *Table 2*.

Table 2: Journey times and Generalised Times from Witney Using Oxford

From Witney	Using WEP		Using Oxford	
	Journey time	Generalised Time	Journey time	Generalised Time
Drive time	20	80	25	100
Journey time	58	58	61	61
Frequency	2tph	25	4tph	14
Interchange	None	0	Some	5
Total time	78	163	86	180

3.93 The Objector states that, in relation to the hexcell analysis in the appendix to Leo Eyles' evidence [CRCL/9/5/B], he is surprised to find zero catchment areas assigned to well-placed stations at Combe, Hanborough, Tackley and Heyford. The Objector states that parking there may be free and given a reasonable service, it would be preferable for people from Witney and elsewhere in the area to use those stations rather than to drive all the way to Water Eaton or Oxford.

3.94 The catchment analysis does give small catchment areas for Hanborough, Combe and Tackley in the Do Minimum case without Water Eaton Parkway. In addition, a catchment area for Hanborough is still existent in the Do Something case. From Witney the total journey time and generalised time are higher than via Oxford and Water Eaton Parkway. Table 3 provides equivalent information for Hanborough as that given in Table 2.

Table 3: Journey times and Generalised Times from Witney Using Hanborough

From Witney	Using WEP		Using Hanborough	
	Journey time	Generalised Time	Journey time	Generalised Time
Drive time	20	80	12	48
Journey time	58	58	87	87
Frequency	2tph	25	1tph	39
Interchange	None	0	All	20
Total time	78	163	99	194

3.95 Actual annual usage between these stations and London is consistent with these small catchments:

- Hanborough: 29,000
- Combe: 715
- Tackley: 1,868

3.96 The Objector states that the analysis does not take account of CrossRail, which will provide a fast connection from Paddington to Canary Wharf. The Objector states that electrification of the route to Paddington will speed the service up, further impacting on the number of passengers switching to Marylebone.

3.97 A response to this point was given to Mr Withrington in correspondence as evidenced on page 46 of his own evidence.

- 3.98 There are many destinations in London such as the Euston Road Trafalgar Square and Piccadilly which can be easily accessed from Marylebone but will not be served by CrossRail.
- 3.99 The Objector states that overall the passenger forecasts are extremely fragile and possible too high by a factor of two or three, or prove to be so when Cross Rail opens and when electrification of the Great Western line to Oxford is completed. The Objector states that in any event, it would be prudent to apply an optimism bias to the forecasts. The Objector states that that bias applied to costs at early stage is 66%. The Objector notes that forecasts are always at early stage, since the forecast years are far in the future.
- 3.100 The forecasts have been prepared in accordance with DfT and industry standard practice. These methods draw on actual evidence of predicted and actual usage, as set out in the Passenger Demand Forecasting Handbook. DfT does not require optimism bias to be applied to passenger forecasts. It would be inappropriate to do so as this would lead to a significant under-provision of capacity and resultant overcrowding.

Economic Analysis, Leo Eyles

- 3.101 The Objector states that the benefit to cost ratios in the range 1.27 to 1.6 in **CD/2.3**, are below the value of 2.0 at which such a scheme would normally gain approval. The Objector states that on this basis it is surprising that the project continued and suggests that this is because of hidden freight interests. The Objector refers to the ratio in Table 5.2 of the Statement of Case [**CD/1.27**] which is stated as 3.4 and to the ratio of 3.8 in Table 4.1 of Leo Eyles evidence. The Objector concludes that the figures have been massaged.
- 3.102 A benefit cost ratio better than 1:1 demonstrates that a scheme will provide net benefits. A 'passmark' of 2:1 is only relevant where public funds are being employed. This is not the case here. The Order Scheme is commercially viable and this underpins its development.
- 3.103 The benefit:cost ratio of 3.8:1 represents the outcome of detailed analyses clearly set out in the evidence and consistent with DfT appraisal methodology.

Logic Errors in the Economic Analysis, Leo Eyles

- 3.104 The Objector states that the operating costs in Table 4.1 of Leo Eyles' evidence table should appear in the costs section, rather than as required by the Department for Transport (DfT), as negative benefits, the result of which would be to reduce the benefit to cost ratio to 2.95.
- 3.105 The evidence correctly reflects DfT appraisal methodology.
- 3.106 The Objector states that 'incremental fares' have been described as 'Revenue' rather than counted as benefits in Table 4.1 of Leo Eyles' evidence. The Objector states that these are fares generated for Chiltern Railways minus the fares lost to other railways such as First Great Western (FGW). The Objector states that if the economic boundary was widened to encompass the express coach services,

supposing them to be owned by the Government, then the incremental fares would be reduced. The Objector states that further, if the economic boundary was widened to embrace the economy as a whole, the incremental fares would fall to zero. The Objector states that when changing an economic boundary alters the benefits of a scheme then the underlying theory is wrong. The Objector states that this is a practical example of a “Reduction ad Absurdum proof”.

- 3.107 The Objector states that in paragraph 4.22 of his evidence regarding additional rail revenue, Leo Eyles refers to the surplus benefit to the Government. The Objector states that the reference should not be to the Government but the nation as a whole and that is why the fares should be struck out. The Objector states that the passengers’ loss of cash exactly balances the Government’s gain. The Objector quotes from a letter from the DfT in response to such arguments in which it states that if it were the case that rail services were in principle no different from any other goods and services *“we would leave the provision of such services and the networks on which they operated entirely to the private sector”*.
- 3.108 The Objector states that revenue has been included when it should not have been. The Objector states that the removal of these fares with repositioning the operating costs reduces the benefit to cost ratio to 2.3.
- 3.109 As acknowledged by Mr Withrington in paragraph 65 of his evidence, Leo Eyles’ evidence complies with the Treasury Green Book and the DfT in this regard. A response to this point was provided in earlier correspondence and is contained on page 47 of Mr Withrington’s evidence.

Application of DfT Assumptions, Leo Eyles

- 3.110 The Objector outlines what he considers to be a range of questionable assumptions contained in the DfT approach, including:
- The value of time is inflated variously but typically at 1.8% per year from the base year of 2002 to the end of a 60-year evaluation period, ending in 2073 in this case. The Objector states that that doubles the benefits that would otherwise be calculated as set out in his Appendix 10;
 - 40% of the benefits accrue from the second half of the 60 year period, as set out in his Appendix 10;
 - if there is zero growth in demand, instead of the 39% over 20 years as assumed by Chiltern Railways, then 25% of the Chiltern Railway’s benefits vanish as explored in Appendix 10 of the Objector’s evidence;
 - the assumption is that savings in journey time by train have a particularly high value as it is related to the high salaries of rail commuters. The Objector states that people do not waste their time when travelling by train and hence, shortening a train journey by 10 minutes may merely transfer 10 minutes working time from the train to the office; and

- the assumption that predictions can be made over 60 years is flawed. The Objector states that the idea that people back in 1950 could forecast today's world is clearly untenable but despite that, the evaluation period spans just such a period.

3.111 The Objector states that taken together, these matters lead to great uncertainty as to whether the benefits calculated can be truly realised. The Objector states that whereas optimism bias is prudently applied to costs no such factor is applied to the benefits when it should be.

3.112 The economic assessment is entirely consistent with the DfT's approved approach and the policy that underpins this. By challenging these assumptions the Objector is challenging Government approved methodology, which is beyond the scope of the Inquiry.

The Detail of the Economic Appraisal, Leo Eyles

3.113 The Objector states that Table 4.1 of Leo Eyles' evidence indicates a value for capital costs of £81.6m which the Objector takes to correspond to the capital of £122m in paragraph 4.23 of Leo Eyles' evidence which cross refers to Stephen Barker's. The Objector states that Stephen Barker's evidence does not contain any cost numbers but is a catalogue of civil engineering issues. From that the Objector that the capital costs of the rolling stock has been omitted as it has been from the business case in Graham Cross' evidence. The Objector states there is confusion as to whether additional track costs are included.

3.114 For clarity, the capital costs of £81.6m are presented in Table 4.1 as Present Value discounted figures in 2002 prices. As explained above, the scheme does not require additional rolling stock which is why no incremental costs accrue.

3.115 The scope of the incremental operating/maintenance costs included in the economic assessment is clearly set out in paragraph 4.25 of Leo Eyles' proof.

3.116 The Objector has calculated the annual cost of the 21 vehicle fleet that Chiltern Railways may require to run the Order Scheme as being £3.8m per year. The Objector states that by discounting that annual cost to the 2002 base and summing over the 60-year evaluation period yields a total of £69m. The Objector states that adding that £69m to the costs in Table 4.1 of Leo Eyles' evidence reduces the Benefit to Cost Ratio (BCR) to 2.25 before allowing for the misplaced operating costs and the disallowed revenue. The Objector states that when these are taken into account the BCR falls to 1.6 which is the ratio originally calculated in 2003 and reported in **CD/2.3**, years before the current economic crisis.

3.117 As noted elsewhere Chiltern Railways will be using rolling stock which would otherwise be used for London-Bicester services, and extra vehicles are not required. The Business Case and BCR evaluation include the incremental mileage costs (fuel, maintenance, pares, crews) of running these on from Bicester to Oxford.

3.118 The Objector states that the inclusion of the small benefits which are claimed against local air quality, noise and green house-gasses creates the impression that

the numbers are bogus. The Objector states that probably the noise from freight trains has been ignored completely since this analysis deals with Phase 1, and Phase 1 does not enable freight.

- 3.119 The Objector is correct that the freight train noise is not included in the economic assessment of Phase 1. Neither is the economic benefit of improved freight services.
- 3.120 The Objector states that the significant items in Table 4.1 of Leo Eyles' evidence are the user benefits at £222.3m and the congestion benefits at £116.3m. The Objector questions the likelihood of these benefits, in particular how a two-car train (one way) every 30 minutes can generate £222.3m in user benefits, bearing in mind that many of the supposed time savings will be both 'trivial' and 'controversial' given that the time from Witney to London Marylebone is the same as the time from Witney to London Paddington as shown in the Objector's Appendix 7.
- 3.121 The example calculation of benefits from Witney is reproduced earlier in this rebuttal and demonstrates there is benefit for passengers from Witney to travel via Water Eaton Parkway.
- 3.122 The user benefits of £222.3m are in present value terms across the 60 year appraisal period. In the model base year of 2007 these equate to £6.0m annually. 2.6m passengers share this benefit so the average benefit per passenger trip is just £2.61.
- 3.123 The Objector states that the trains will be formed of two-car units. This is not correct. Trains will be formed with three or four-car units off peak and with six-car trains at busy times and with the provision for eight-car trains at a later date.
- 3.124 The Objector questions how the Order Scheme can that generate congestion savings of £116m. The Objector states that the congestion saving of £116m follows from the removal of cars from the road network. The Objector has calculated that based on the forecast of 233,000 passengers per year, as taken from the Statement of Case [CD/1.27] divided by the national car occupancy yields of around 50,000 cars and assuming a 300 day year this would corresponds to 250 per day in each direction. The Objector further calculates that if this number was spread over 10 roads and if 25% are in the peak hour, as derived from Figure 3.1 in Leo Eyles' evidence then six cars would be removed from the peak direction, or one every 10 minutes.
- 3.125 The calculations are undertaken on a passenger km basis:
- The forecast is for an additional 429,000 passengers per annum in the base year (1,425 per day) (see **CRCL/P/5/A** paragraph 2.29);
 - This is equivalent to 23,200,000 passenger kms;
 - A high proportion of these trips are forecast to be abstracted from car, equivalent to 18,300,000 car passenger kms;
 - Assuming an average occupancy of 1.5 per car, this equates to 12,200,000 car kms per annum (752 car trips per day); and

- Using standard conversion factors to estimate congestion benefit of between 10 and 25p / car km, this equates to £2,100,000 benefit per annum (£7,000 per day).

Alternative Option for Meeting Oxford to London Passenger Trips, Allan Dare

- 3.126 The Objector states that the annual season ticket by express coach from Oxford to London costs three times less than by rail. In Appendix 7 to his evidence the Objector calculates that the current journey time of the Oxford Tube of 100 minutes could be reduced to 60 minutes if benefitted from rail's 'right of way'. The Objector states that converting a double track railway to a road would cost around £100 per sq metre as evidenced in Appendix 8 to his proof. The Objector calculates that if a road width of 10 metres were assumed, the £185m that Chiltern Railways and Network Rail want to spend on this 12 mile (20 km) stretch of railway improvements would be sufficient to pave 114 miles (185 km) which is double the distance between Oxford and Paddington.
- 3.127 The Objector promotes the sale of tracks and trains to China, pave the right of way and run express coaches as shown in Appendix 11. The Objector states that in central London in the peak hour those coaches would fill less than one fifth of the capacity available, enabling countless lorries to divert from the city streets. The Objector states that 250,000 surface rail commuters enter central London in the peak hour. The Objector calculates that there are at least 25 pairs of tracks with a passenger flow per track of 10,000. The Objector states that these surface rail commuters would all find seats to spare in the envisaged 150 75-seat coaches. The Objector provides a practical illustration of the four mile long contra flow express coach lane in New York which provides over 30,000 seats in the peak hour in 700 45-seat coaches, the same number as the 'crushed' passengers that arrive at Victoria Main line station in the peak.
- 3.128 Conversion of the Chiltern line to London Marylebone into a busway was suggested in the 1980s, and shown to be impractical. It is also notable that cities which have experimented with busways are now choosing to either expand their rail and tram systems, such as Adelaide and Essen, planning a metro rail system as in Curitiba or have closed down the busway as in Mannheim and Edinburgh.
- 3.129 It is unlikely that use of a converted railway would reduce the overall costs of bus operation, as stated by the Objector. The capital costs of the conversion and the ongoing maintenance and control of the busway would need to be paid for, and on a dedicated busway these costs would fall to the bus operator.
- 3.130 The Objector claims that a railway can be converted to a busway for £100/m² or £1,000 per lineal metre. The trackbed of the former Cambridge to St Ives railway (25 km) is currently being converted to a busway and the out-turn cost is currently estimated at £181,000,000, which equates to £7,240 per lineal metre. This is for converting a disused line, and thus unlike Order Scheme it does not include any provisions for providing replacement services during the construction period.

- 3.131 Conversion to a busway would require consent to close the railway in accordance with the procedures of the 1962 Transport Act and the 2005 Railways Act. It is extremely unlikely that such consent would be given.

National Rail Policy, Allan Dare

- 3.132 The Objector states that Chiltern Railway's proposals sits within national rail and broader Government policy, but points to the folly of that policy. The Objector provides evidence in Appendix 2 of his proof on the density of use and use of resources for the Motorway and Trunk Road network, Chiltern Railways and Network Rail. The Objector states that the ratios in that evidence show that rail uses its track at between 32% and 36 % of the intensity achieved by the Motorway and Trunk Road system and that the strategic road system uses resources five to six times as effectively as rail.
- 3.133 The Objector states that the subsidies to rail are in stark contrast to the profits made by the Exchequer from the strategic road network as supported by his evidence to the Transport Committee's Inquiry into the Transport and the Economy. The evidence relating to 2008, the Objector states, shows the 'trivial' contribution that rail makes to the nation (6.3% of passenger-miles, 8 or 11.4% of freight if road and rail only). The Objector states that despite this rail enjoys subsidy and capital grants running at £5 billion annually, equivalent to £200 per year in taxes for every household in the land. The Objector calculates that this equates to £250,000 of subsidy per mile of track or to 16 pence per passenger mile or, if passengers and tonnes are added, 11 pence per mile travelled.
- 3.134 The Objector states that in contrast the strategic road network makes a profit for the Exchequer of £13 billion per year, equivalent to £400,000 per lane-mile or to 6 pence per passenger mile or to tax of £520 from every household in the land. The Objector states that the density of use by rail is about one third of that achieved by the strategic road network. The Objector includes evidence that, he states, demonstrates that the poor financial performance of rail compared with road is underplayed because rail track is more expensive to build.
- 3.135 The Objector poses the question as to why anyone is suggesting investment in rail when the road option is clearly many times as cost effective.
- 3.136 Comparing the rail network solely with motorways and trunk roads is irrelevant, as the rail network serves many corridors on which there are no such roads.
- 3.137 According to the DfT's Transport Statistics Great Britain, the route mileage of the national rail network in 2006 was 3.9% of the total mileage for road plus rail. The figures quoted by the Objector for national rail's share of passenger km (6.9%, excluding metros and light rail) and freight tonne km. (11.4%) thus demonstrate that the rail network is handling a disproportionately high share of the national transport task.
- 3.138 The Objector's figures set out in his Appendix contain a number of errors or misconceptions. Chiltern Railways does not have exclusive use of the tracks on which it runs, so any comparison of the utilisation of those tracks should also

include the passengers of those other companies (CrossCountry, London Midland, First Great Western, Wrexham Shropshire and London Underground) which share the use of those tracks. Likewise there are significant freight flows over parts of the Chiltern route, and not nil as is claimed.

- 3.139 As set out in Paul Tregrear's evidence [CRCL/P/8/A] it is national, regional and local policies to develop the rail network. These have been amplified by the Coalition government. The DfT's Business Plan 2011-15, published in November 2010 sets out "Priority 2: Secure our railways for the future" which seeks to secure the sustainability of the railway and create capacity for improvement of service. Likewise in a written statement to Parliament on 7 December 2010, the Secretary of State Transport states that *"This Government is determined to secure a sustainable and efficient railway. The Spending Review has demonstrated our commitment to rail transport."*

Private Financing of the Order Scheme, Allan Dare

- 3.140 The Objector disputes the statement made by Adrian Shooter, the chairman of Chiltern Railways that *"This is the biggest passenger rail project for several generations not to call on the taxpayer for support. Working closely with Network Rail, we are going to create a new main line railway for the people of Oxfordshire and the Midlands. This deal demonstrates that real improvements to rail services can be paid for without public subsidy by attracting people out of their cars and onto trains"*.
- 3.141 The Objector states that the statement is untenable as no, or virtually no, railways in the world, make a profit not even the London Underground. The Objector states that Network Rail has been relying on the taxpayer to the tune of £5 billion per year and is likely to do so for years to come. The Objector states that the claimed repayment by Chiltern Railways will come from subsidy and is, therefore a mere circulation of money designed to conceal the true state of affairs.
- 3.142 The Objector states that the idea that the Order Scheme will attract many people out of cars is not sustainable as to do so it would be necessary to change the destinations people go to. The Objector states that half of all car journeys are less than five miles long and nearly all are to places that cannot easily be reached by bus let alone the train. In contrast, the Objector states that the train serves places which are difficult to reach by car and half of all train journeys are more than 20 miles long.
- 3.143 Adrian Shooter's statement is correct, the Order Scheme does not call on public funds, and will be financed by earning extra passenger revenues.
- 3.144 The Objector's statement that no, or virtually no, railways in the world makes a profit is untrue. By way of example, the passenger railways in Japan and the freight railroads in the USA and Canada are in each case owned by a number of private companies which are listed on the relevant stock exchanges and are profitable.
- 3.145 As noted elsewhere in this rebuttal, Chiltern Railways do not receive a subsidy. The Objector's claim that subsidy will be circulated is thus unfounded.

3.146 As noted in Leo Eyles' evidence [CRCL/P/5/A] many of the Scheme's passenger trips will be generated, that is new to rail and attracted from car. This is particularly true of the intermediate flows such as Bicester to Oxford (72% of which trips will be generated) where car use is practical but unattractive due to highway congestion.

3.147 In no place do the Chiltern Railways claim that the Order Scheme will attract to rail car journeys of less than five miles.

Lack of Clarity in the Detail of Order Scheme, Allan Dare

3.148 The Objector states that despite its scale, the evidence presented by Chiltern Railways leaves the Objector uncertain as to the context of the Order Scheme, its cost and the costs of related schemes, and the passenger and freight flows.

3.149 Chiltern Railways believe that the Application documents, Statement of Case and witnesses' Proofs of Evidence provide a full and fair description of the Order Scheme and its costs and forecast revenues.

4 Additional Questions of Clarification

Compelling Need to Acquire the Land, Allan Dare

4.1 The Objector is seeking clarification on the certainty of Phase 2B of the Order Scheme as he states that without that certainty, compulsory purchase of land associated with Phase 2B would be premature.

4.2 The Phase 2B works would be required for the East-West Rail (EWR) project. As noted in Patrick O'Sullivan's evidence [CRCL/P/3/A] this has an exceptionally high Benefit:Cost ratio, which significantly exceeds the normal DfT threshold for rail schemes.

4.3 Chiltern Railways considers that there is a compelling case and justification for the acquisition of the Objectors land. The evidence to support this is set out in the evidence of Patrick O'Sullivan [CRCL/P/3/A], Paul Tregear [CRCL/P/8/A], Leo Eyles [CRCL/P/5/A] and the other Chiltern Railways' witnesses.

4.4 Subsequent to the submission of the above evidence, on 4 November 2010 the Head of Rail Strategy at the DfT wrote to the EWR Chairman to confirm the Minister of Transport's decision that the EWR project should be considered as a candidate scheme for funding in the DfT's next High Level Output Statement, and that the Minister had instructed the Department's officials to work closely with the EWR Consortium.

Passenger and Freight Flow Data, Leo Eyles and Allan Dare

4.5 The Objector states that annual passenger and freight flow data for the do-minimum and do-something for opening and design years that had previously been requested has not been supplied. The Objector has provided as part of his evidence blank flow diagrams to be completed by Chiltern Railways. The Objector states that if the percentages requested on natural growth and higher speeds are problematic then

these could be simplified by confining them to the Bicester to Oxford and Bicester to London links.

- 4.6 Much of the data required is irrelevant to the Order Scheme (ie. for the Oxford-Banbury to Birmingham, Oxford to Worcester, Oxford to Didcot and London-Bicester-Birmingham lines).
- 4.7 The relevant passenger flows for the Bicester-Oxford line are set out in Mr Eyles' evidence [**CRCL/P/5/A**]. The relevant train numbers on the Bicester-Oxford line are set out in Mr. Dare's evidence [**CRCL/P/2/A**].
- 4.8 The estimated present and future possible maximum freight tonnages on the Bicester to Oxford line are set out in **CRCL/R/OBJ234** and **CRCL/R/OBJ234A**.

Passenger Assignment, Leo Eyles

- 4.9 The Objector is seeking clarification as to whether the assignment of passengers is 'all or nothing' or otherwise. The Objector is seeking clarification as to whether if it is marginally less costly to reach one terminal from a particular hexcell are all the trips from that hexcell assigned to the corresponding terminal or are the trips between the competing terminals distributed between them according to some function of the competing generalised costs. The Objector states that paragraph 3.10 of **CD/2.30** implies an 'all or nothing' approach.
- 4.10 The assignment is 'all or nothing'. Because the hexcell zones are small this does not distort the forecasts.

Generalised Costs, Leo Eyles

- 4.11 The Objector is seeking a breakdown of the generalised costs on the journey stages from the hexcell in the centre of Witney in **CRCL/P/5/B** immediately to the south of the cross roads, to Paddington and Marylebone, covering the drive to the Park and Ride, or to station car park, the wait for the bus if applicable, the bus journey to the station if applicable, the wait for the train, the train journey to the terminal and the total generalised cost (including the cost of fares, vehicle running costs, parking charges). The Objector states that the purpose is to find how marginal it is that people from Witney have been assigned to the Marylebone route rather than to Paddington.
- 4.12 This is provided above.

Train Formation, Allan Dare

- 4.13 The Objector is seeking clarification on whether the number of carriages and traction units required to run the Order Scheme services are reduced to allow for services that would otherwise run from Bicester to Marylebone then the estimates should make that clear and demonstrate that those services are running today.
- 4.14 Marylebone to Oxford trains will be formed of diesel multiple units, and not carriages and separate "traction units" as referred to by the Objector.

- 4.15 The entire Chiltern timetable is being rewritten for May 2011 following the completion of engineering works that will enable better stop patterns, higher speeds and thus improved rolling stock utilisation. The timetable will include two trains in each standard hour terminating at and starting from Bicester North. These trains will be extended to Oxford in the Order Scheme.
- 4.16 The Objector is seeking clarification on the number of carriages per train.
- 4.17 In the off-peak the trains will have three to four carriages, rising to six carriages in the peak. Provision has been made for eight-carriage trains to accommodate future traffic growth.

The Commercial Case, Graham Cross

- 4.18 The Objector is seeking clarification as to what is or isn't included for each of the items in Mr Cross's Table 1 in **CRCL/P/1/A** the Objector. The Objector is seeking clarification as to whether there is an allowance under the heading Land Compensation.
- 4.19 The breakdown of each of these items are provided in the response table to the Objector's further Questions of Clarification of 15 December 2010 in Section 5 of this rebuttal.
- 4.20 The land compensation costs are set out in Chiltern Railways' Funding Statement [**CD/1.7**].

Transport Economic Efficiency, Leo Eyles

- 4.21 The Objector is seeking clarification as to what is and what is not included for each of the items in Mr Eyles Table 4.1 in **CRCL/P/5/A**. The Objector is seeking clarification as to whether track maintenance, renewal costs and operating costs are included. The Objector is seeking clarification as where the end of the line is, whether it is Bicester or Marylebone. The Objector is seeking a definition of these matters.
- 4.22 The scope of the operating/maintenance costs included in the economic assessment is clearly set out in paragraph 4.25 of Leo Eyles' evidence.
- 4.23 The maintenance etc costs are those for the railway between Oxford and Bicester. As noted above, the Oxford services will replace existing trains between Bicester and London, and the Order Scheme will not result in any additional train mileage on that section of the route.
- 4.24 *Cost of the Order Scheme, Leo Eyles*
- 4.25 The Objector is seeking clarification as to what allowance, if any, been made within Mr Eyles' evidence for the costs imposed on the public and on freight by the closure of the railway during construction.
- 4.26 The capital costs of the Order Scheme include financial provision for the costs of running rail replacement bus services, and for the rerouting of freight services, during the construction period.

Chiltern Railways' Fleet Formation, Allan Dare

- 4.27 The Objector is seeking clarification as to whether the Chiltern Railways fleet, provided in Appendix 3 to the Objector's evidence [OBJ319/1], sourced from Wikipedia, is a fair representation. The Objector requests that Chiltern Railways provide the correct detail.
- 4.28 The Objector calculates in Appendix 3 to his evidence that the total fleet is 154 to 207 units with a value of £196m, with an annual repayment cost of £14.2m over 30 years and a maintenance cost at 10% taking this to £33.8m annually.
- 4.29 The information contained in Appendix 3 of OBJ319/1, sourced from Wikipedia is incorrect. It excludes some vehicles, and includes others owned and used by the Wrexham, Shropshire & Marylebone Railway. The current Chiltern Railways passenger fleet is set out in Table 4.

Table 4: Chiltern Railways' Fleet

Class	Total Number of Units and Cars
121 DMU	1 x 1-car
165/0 DMU	28 x 2-car 11 x 3-car
168/0,1,2 DMU	9 x 3-car 10 x 4-car
172	4 x 2-car on order for London suburban services
CI 67 diesel loco and Mk3 coaches,	1 loco, 5 coaches, 1 driving van trailer

- 4.30 The total passenger fleet is thus 172 vehicles, of which 170 can carry passengers and not 154 or 207 as quoted by the Objector.
- 4.31 Chiltern Railways does not recognise the capital and maintenance costs quoted by the Objector. The AVE, CrossCountry and West Coast Main examples the Objector cites are new, high-performance inter-city trains which in two out of three cases are electric, and are subject to third party maintenance. The regional/suburban trains as used by Chiltern Railways are designed for lower speeds, are of varying ages, are diesel powered and are maintained in-house. The costs are not therefore comparable.

Fixed Sum Payment, Graham Cross

- 4.32 The Objector is seeking clarification of the Fixed Sum payment, referred to on page 11 of CD/2.13 and the amounts on pages 14 to 16. The Objector is seeking clarification on who is paying who, what for and how the payments relate to annual reports and to the business case.
- 4.33 Core Document CD/2.13 is the Deed of Amendment to the Franchise Agreement. In relation to the tables on pages 14 to 16 of CD/2.13, the first table relates to the payments between Chiltern Railways and the Department for Transport (DfT) whereby a minus figure represents a premium payment from Chiltern Railways to the

DfT through to the end of the franchise. The second table is Chiltern Railways' forecast earnings before Depreciation Interest and Tax, whereby a minus figure represents a premium payment from Chiltern Railways to the DfT through to the end of the franchise. It should be noted that Chiltern Railways is committed to pay £201m to the Government for the remaining years of the franchise through to 2021.

Questions of Clarification Raised about Information Included in Table 1 of Graham Cross' Evidence [CRCL/P/1/A]

Question		Answer
Farebox Income	How many years does this relate to?	2013 to 2021
	Does it represent all the fares taken as a result of the proposal or what?	As previously provided it is the incremental revenue to Chiltern Railways, See OBJ319 page 46.
Facility charge, what does it represent?	Is this the total of the interest and capital repayments? If so on what amount? And over which years?	The £138.9m capital cost of Phases 1 and 2A plus £4.8m of construction period interest is authorised over 30 years at 6%. The £157.3m is the sum of the annual charges between 2012 and 2021 inclusive.
	Does the capital upon which charges are made include 6% optimism bias and 10% contingency?	No. It is based on a contractor's fixed price, estimated clients costs and a standby facility.
	Is there anything else? And if so what? E.g. track access charge or Phase 2A	It includes Phases 1 and 2A but not Phase 2B.
Incremental maintenance and renewal costs	To what length of (a) right of way (b) track does this refer? How is it calculated?	It is the estimated additional cost of maintaining and renewing the infrastructure which the Order Scheme creates until 2021. It is between Oxford and Bicester.
Incremental train operating costs	To what fleet does this refer and how is it calculated?	There are no additional trains. It is the incremental cost of working the existing fleet harder.
Third party agreement	Please confirm or add – is this the payment to FGW for loss of its passengers?	Yes
DfT payment for Phase 2A	How does this relate to the facility charge? ie. if Phase 2A is struck out is the facility charge reduced by £18m? Explanation needed.	If it was struck out, the capital would be reduced by the cost of the Phase 2A scheme and reflected in a lower facility charge.

Are there other costs such as stations and staff?	Where are they and how are they calculated?	They are in the line "station operations, marketing, staffing costs"
The FSB etc ref. CD2/13 p 11-16	What are they and where should they appear	Unclear as to what this is referring to.

4.34 Questions of Clarification Raised about Information Included in Table 4.1 of Leo Eyles' Evidence [CRCL/P/5/A]

Question	Answer	
Confirm that table 4.1 refers to Phase 1 only		
Revenue	Confirm this is the incremental railway revenue i.e. the additional fares taken by Chiltern minus those lost by FGW - CHECK	OBJ319 page 46 provides that the fares are incremental fares to the railways as a whole.
	Is it fares only or fares plus parking fees or what? And what is the subdivision of that total between the items if more than one?	Parking fees are not included in the economic assessment.
	Please provide the spread sheet giving the year on year real and discounted values etc	
Operating Cost	Does this capture all the operating costs of the trains required to run the service between Oxford and Marylebone. Eg. are staff costs of circa £5.9m annually, see calculation below the tabulation on the previous page, included. If so where?	No. As set out elsewhere the operating costs only relate to the incremental service between Bicester and Oxford since the Marylebone-Oxford service is included in the Do Minimum.
	Since this is a discounted sum over 60 years please providing the detail along with the discounted values year to year.	
Capital Cost	Please provide the spreadsheet providing the outturn and discounted values over the 60 years.	
	Does it include the trains and if so the costs and	As highlighted above, no additional trains are required.

	numbers please.	
Maintenance and renewal	Confirm this is set to zero or provide the detail	See CRCL/P/5/A paragraph 4.25
Where are and how much are the costs imposed on passengers during construction?		See answer above.
Where are the train leasing and maintenance costs?		See answer above

5 Conclusion

- 5.1 This rebuttal proof responds to the evidence presented by the Objector. Chiltern Railways maintains that the business case assessment is robust, relies upon reputable sources and uses standard industry methodology. Chiltern Railways has provided information, where appropriate and relevant to the Order Scheme to the Objector.

Appendix A

CRCL/R/OBJ319

Costs and Revenues

Owner	Duncan Edmondson
Project	221617 - Evergreen 3 TWA
Version	20
Sheet	Data for Withrington

Net Revenue (£m)

Years	NPV	NPV (market prices)	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Real prices (£2007)			£2.95	£3.01	£2.90	£3.01	£3.12	£3.25	£3.39	£3.53	£3.67	£3.80	£3.92	£4.04	£4.16	£4.29
Real prices (£2002)			£2.52	£2.56	£2.48	£2.57	£2.66	£2.77	£2.89	£3.01	£3.13	£3.24	£3.35	£3.45	£3.55	£3.65
Discounted to 2002			£2.11	£2.07	£1.93	£1.93	£1.93	£1.94	£1.95	£1.96	£1.97	£1.97	£1.96	£1.95	£1.94	£1.92
Apply Ramp Up	£73.2	£88.5	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£1.17	£1.77	£1.97	£1.97	£1.96	£1.95	£1.94	£1.92

Operating Costs (£m)

Years	NPV	NPV (market prices)	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<i>Ramp up already applied</i>																
Real prices (£2009)			£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£-3.60	£-3.49	£-3.40	£-3.32	£-3.25	£-3.17	£-3.10	£-3.03
Real prices (£2002)			£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£-2.96	£-2.88	£-2.80	£-2.74	£-2.68	£-2.62	£-2.56	£-2.50
Discounted to 2002	-£36.5	-£44.1	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£-2.00	£-1.88	£-1.76	£-1.66	£-1.57	£-1.48	£-1.40	£-1.32

Capital Costs (£m)

Years	NPV	NPV (market prices)	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Outturn costs			£0.00	£0.00	£0.00	£0.00	£-80.19	£-42.11	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00
Including OB (6%) and Contingency (10%)			£0.00	£0.00	£0.00	£0.00	£-93.50	£-49.10	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00
Real prices (£2009)			£0.00	£0.00	£0.00	£0.00	£-91.25	£-46.68	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00
Real prices (£2002)			£0.00	£0.00	£0.00	£0.00	£-75.24	£-38.49	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00
Discounted to 2002	-£81.6	-£81.6	£0.00	£0.00	£0.00	£0.00	£-54.60	£-26.95	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00

END

Owner																			
Project																			
Version																			
Sheet																			

Net Revenue (£m)

Years	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
Real prices (£2007)	£4.41	£4.54	£4.67	£4.81	£4.96	£5.10	£5.25	£5.41	£5.57	£5.73	£5.73	£5.73	£5.73	£5.73	£5.73	£5.73	£5.73	£5.73	£5.73
Real prices (£2002)	£3.76	£3.87	£3.99	£4.10	£4.23	£4.35	£4.48	£4.61	£4.75	£4.89	£4.89	£4.89	£4.89	£4.89	£4.89	£4.89	£4.89	£4.89	£4.89
Discounted to 2002	£1.91	£1.90	£1.89	£1.87	£1.86	£1.85	£1.84	£1.83	£1.81	£1.80	£1.74	£1.68	£1.62	£1.56	£1.51	£1.46	£1.40	£1.36	£1.31
Apply Ramp Up	£1.91	£1.90	£1.89	£1.87	£1.86	£1.85	£1.84	£1.83	£1.81	£1.80	£1.74	£1.68	£1.62	£1.56	£1.51	£1.46	£1.40	£1.36	£1.31

Operating Costs (£m)

Years	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
<i>Ramp up already applied</i>																			
Real prices (£2009)	£2.96	£2.89	£2.83	£2.76	£2.70	£2.64	£2.58	£2.52	£2.46	£2.40	£2.35	£2.29	£2.24	£2.19	£2.14	£2.09	£2.04	£1.99	£1.95
Real prices (£2002)	£2.44	£2.39	£2.33	£2.28	£2.22	£2.17	£2.12	£2.08	£2.03	£1.98	£1.94	£1.89	£1.85	£1.81	£1.76	£1.72	£1.68	£1.64	£1.61
Discounted to 2002	£1.24	£1.17	£1.10	£1.04	£0.98	£0.92	£0.87	£0.82	£0.77	£0.73	£0.69	£0.65	£0.61	£0.58	£0.54	£0.51	£0.48	£0.46	£0.43

Capital Costs (£m)

Years	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
Outturn costs	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00
Including OB (6%) and Contingency (10%)	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00
Real prices (£2009)	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00
Real prices (£2002)	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00
Discounted to 2002	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00

END

Owner																			
Project																			
Version																			
Sheet																			

Net Revenue (£m)

Years	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058
Real prices (£2007)	£5.73	£5.73	£5.73	£5.73	£5.73	£5.73	£5.73	£5.73	£5.73	£5.73	£5.73	£5.73	£5.73	£5.73	£5.73	£5.73	£5.73	£5.73	£5.73
Real prices (£2002)	£4.89	£4.89	£4.89	£4.89	£4.89	£4.89	£4.89	£4.89	£4.89	£4.89	£4.89	£4.89	£4.89	£4.89	£4.89	£4.89	£4.89	£4.89	£4.89
Discounted to 2002	£1.27	£1.23	£1.19	£1.16	£1.12	£1.09	£1.06	£1.03	£0.99	£0.96	£0.94	£0.91	£0.88	£0.85	£0.83	£0.80	£0.78	£0.76	£0.73
Apply Ramp Up	£1.27	£1.23	£1.19	£1.16	£1.12	£1.09	£1.06	£1.03	£0.99	£0.96	£0.94	£0.91	£0.88	£0.85	£0.83	£0.80	£0.78	£0.76	£0.73

Operating Costs (£m)

Years	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058
<i>Ramp up already applied</i>																			
Real prices (£2009)	-£1.90	-£1.86	-£1.82	-£1.78	-£1.79	-£1.81	-£1.83	-£1.85	-£1.87	-£1.89	-£1.90	-£1.92	-£1.94	-£1.96	-£1.98	-£2.00	-£2.02	-£2.04	-£2.06
Real prices (£2002)	-£1.57	-£1.53	-£1.50	-£1.46	-£1.48	-£1.49	-£1.51	-£1.52	-£1.54	-£1.55	-£1.57	-£1.59	-£1.60	-£1.62	-£1.63	-£1.65	-£1.67	-£1.68	-£1.70
Discounted to 2002	-£0.41	-£0.39	-£0.37	-£0.35	-£0.34	-£0.33	-£0.33	-£0.32	-£0.31	-£0.31	-£0.30	-£0.29	-£0.29	-£0.28	-£0.28	-£0.27	-£0.27	-£0.26	-£0.26

Capital Costs (£m)

Years	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058
Outturn costs	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00
Including OB (6%) and Contingency (10%)	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00
Real prices (£2009)	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00
Real prices (£2002)	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00
Discounted to 2002	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00

END

Owner	
Project	
Version	
Sheet	

Net Revenue (£m)

Years	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071
Real prices (£2007)	£5.73	£5.73	£5.73	£5.73	£5.73	£5.73	£5.73	£5.73	£5.73	£5.73	£5.73	£5.73	£5.73
Real prices (£2002)	£4.89	£4.89	£4.89	£4.89	£4.89	£4.89	£4.89	£4.89	£4.89	£4.89	£4.89	£4.89	£4.89
Discounted to 2002	£0.71	£0.69	£0.67	£0.65	£0.63	£0.61	£0.59	£0.57	£0.56	£0.54	£0.52	£0.51	£0.49
Apply Ramp Up	£0.71	£0.69	£0.67	£0.65	£0.63	£0.61	£0.59	£0.57	£0.56	£0.54	£0.52	£0.51	£0.49

Operating Costs (£m)

Years	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071
<i>Ramp up already applied</i>													
Real prices (£2009)	-£2.08	-£2.10	-£2.12	-£2.15	-£2.17	-£2.19	-£2.21	-£2.23	-£2.26	-£2.28	-£2.30	-£2.32	-£2.35
Real prices (£2002)	-£1.72	-£1.73	-£1.75	-£1.77	-£1.79	-£1.80	-£1.82	-£1.84	-£1.86	-£1.88	-£1.90	-£1.92	-£1.94
Discounted to 2002	-£0.25	-£0.24	-£0.24	-£0.23	-£0.23	-£0.23	-£0.22	-£0.22	-£0.21	-£0.21	-£0.20	-£0.20	-£0.20

Capital Costs (£m)

Years	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071
Outturn costs	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00
Including OB (6%) and Contingency (10%)	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00
Real prices (£2009)	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00
Real prices (£2002)	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00
Discounted to 2002	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00

END

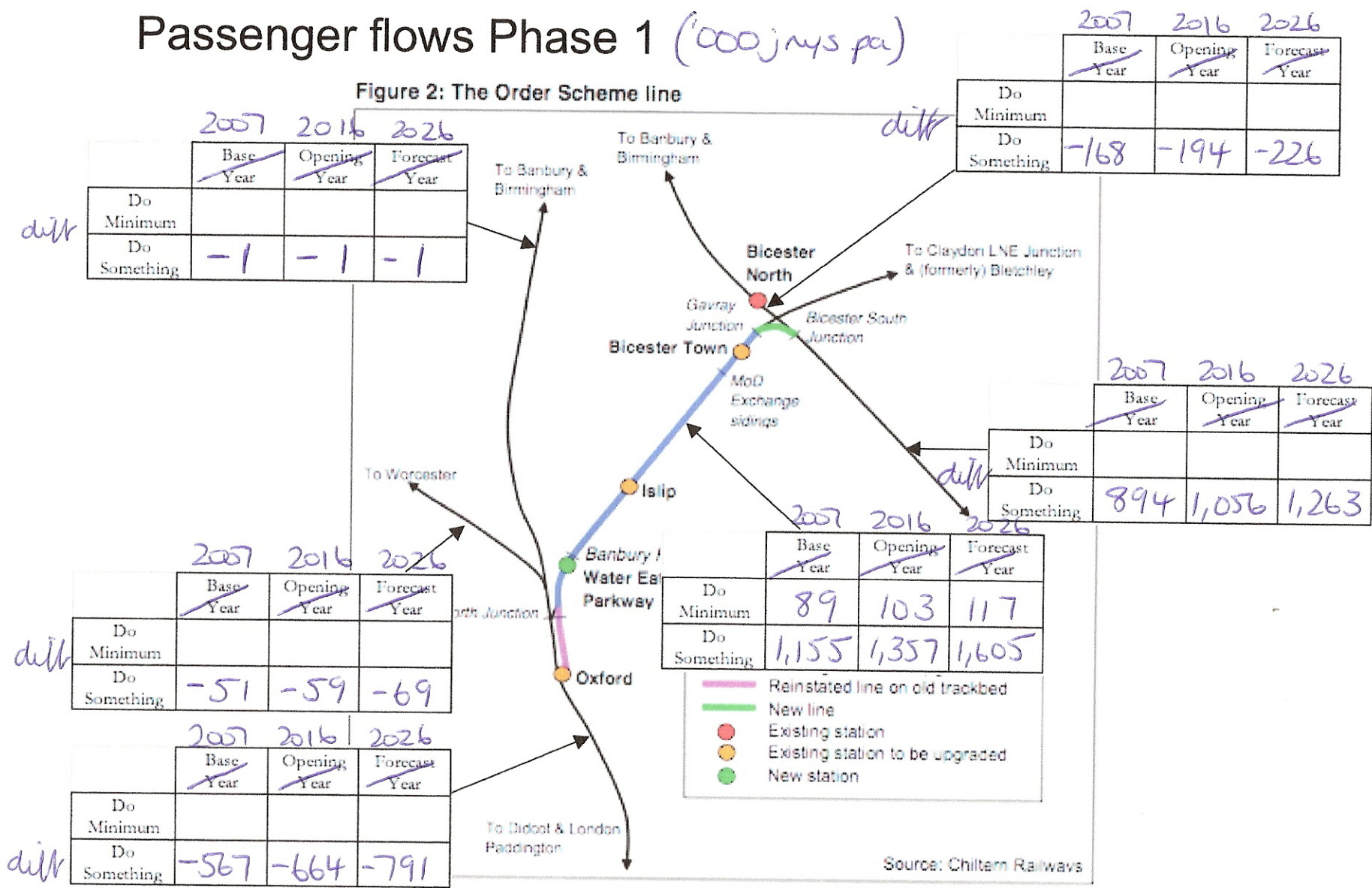
Appendix B

CRCL/R/OBJ319

Line Flow Diagrams

Passenger flows Phase 1 ('000 jnys pa)

Figure 2: The Order Scheme line



For each section please also provide the Do Something passenger numbers for (a) natural growth and (b) growth generated by higher speeds

