

**PROOF OF EVIDENCE OF PAUL TREGEAR
ROAD TRANSPORT IMPACTS AND MANAGEMENT**



THE CHILTERN RAILWAYS (BICESTER TO OXFORD IMPROVEMENTS) ORDER

TRANSPORT AND WORKS ACT 1992

**TRANSPORT AND WORKS (APPLICATIONS AND OBJECTIONS PROCEDURE)
(ENGLAND AND WALES) RULES 2006**



SEPTEMBER 2010

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(BICESTER TO OXFORD
IMPROVEMENTS) ORDER**

**PROOF OF EVIDENCE
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1. INTRODUCTION AND SCOPE OF EVIDENCE

1.1. My name is Paul James Tregear. I am a Director of PFA Consulting, an engineering and transport planning consultancy. I am a Chartered Engineer and a Chartered Town Planner and a member of both the Institution of Civil Engineers and the Royal Town Planning Institute. I hold a Bachelor of Science degree in civil engineering and a Bachelor of Philosophy degree in town and country planning.

Experience

1.2. I have over 30 years experience in civil engineering and transport planning and I have been employed in both the private and public sectors. I have particular experience in the field of transportation, including; highway and traffic engineering, highway design, traffic management, construction and development planning. I have given evidence as an expert witness on transportation and infrastructure related matters at planning inquiries.

1.3. PFA Consulting is involved on a daily basis with all aspects of the development industry and is instructed to act for a wide range of clients, including; house builders, land developers, commercial and retail operators, educational establishments, oil companies, government agencies and local authorities in addition to private companies and individuals.

1.4. PFA Consulting is commissioned as a specialist sub-consultant to ERM providing expert advice and assistance on the highway traffic elements of the Order Scheme. As PFA Consulting's Project Director I am responsible for all aspects of my Company's work on this project. I confirm that I am familiar with the transportation network in the locality of the Order Scheme and that I have been involved with PFA Consulting's inputs from the commencement of our appointment in December 2008.

Scope of Evidence

1.5. My evidence concentrates on the road transport impacts and highway management matters of the Order Scheme. In **Section 2** I set out the chronology of my Company's involvement in the development and appraisal of the Scheme. In **Section 3** I describe the local transport network to provide a context for the Order Scheme and in **Section 4** I outline the relevant transport planning policies (Mr Gilder, ERM, (his reference **CRCL/P/12/A**) summarises the relevant town and country planning policies).

1.6. **Section 5** describes the methodology adopted to assess the road transport impacts of the Order Scheme with a discussion of the assessment results provided in **Section 6**.

1.7. The external layout, access and parking at the stations are dealt with in **Section 7** while I deal with the highway implications of proposed closures of public highway crossings in **Section 8**. In **Section 9** I describe relevant sustainable transport matters.

1.8. I address individual outstanding (at the time of writing) objections relating to road traffic issues in **Section 10** and my overall conclusions are presented in **Section 11**.

The Secretary of State for Transport's Statement of Matters

1.9. The Secretary of State for Transport ('the Secretary of State') issued a 'Statement of Matters' for the TWA Inquiry on 25 August 2010. In this Proof of Evidence, I address, in particular, the following matters from the Statement of Matters, in whole or in part:

"2. The justification for the particular proposals in the draft TWA Order, including the anticipated transportation, regeneration, environmental and socio-economic benefits of the scheme."

I provide evidence of the transportation benefits, (as they relate to road traffic benefits). The other areas will be covered by other Chiltern Railway witnesses.

"4. The extent to which the scheme would be consistent with national and local planning, transport and environmental policies."

I provide evidence on the consistency of the Order Scheme with national and local transport planning policies.

6. The likely impacts of the scheme on users of the rights of way network, including:

- (a) the impacts of constructing the scheme on road traffic in the area;**
- (b) the operational effects of the scheme on road traffic, including the effects of increased closure times at the London Road level crossing in Bicester; and**
- (c) the effects of the proposed permanent closure of road, footpath, bridleway and accommodation level crossings of the Bicester to Oxford railway line."**

I provide evidence on items 6 (a) and (b) above and, in part, 6 (c).

2. CHRONOLOGY OF PFA CONSULTING'S INVOLVEMENT

Introduction

2.1. PFA Consulting was appointed as a specialist sub-consultant to ERM, which was itself commissioned by Chiltern Railways Company Ltd (CRCL) in early December 2008. PFA Consulting's brief was to carry out an assessment of the highway impacts of the Order Scheme and provide professional advice on all highway related matters. This primarily involved road traffic assessment but also included other transport modes.

2.2. I have set out in this section the chronology of PFA Consulting's involvement to date.

Options Appraisal

2.3. PFA Consulting attended the Project Introduction Workshop, organised by ERM, on 15 December 2008. This workshop provided an overview of the proposals and included a site visit by the entire project team covering the route from Bicester to Oxford.

2.4. Following the workshop, PFA Consulting's initial input to the project focussed on the options appraisal studies (January 2009 – March 2009). Our main involvement at this stage comprised:

- investigating potential highway access/improvement options for the proposed redevelopment of Bicester Town Station, including looking at alternative road over-bridge and under-bridge rail crossing options as a replacement for the existing London Road level crossing;
- investigating potential highway access/improvement options for the proposed new Water Eaton Parkway Station and potential relocation sites, with suitable highway access, for the existing rail aggregates depot at Water Eaton.

2.5. During this time, PFA Consulting was also involved, where required, with the rail crossings options appraisal studies. Our involvement was primarily focussed on the public crossings, providing professional advice in respect of the impact on road traffic from proposals to retain, replace or close existing level crossings. From our perspective, this work related to Bicester, London Road level crossing, Islip, Mill Lane level crossing and the highway aspect of the Langford Lane level crossing.

Input to Environmental Statement

2.6. PFA Consulting completed the assessment of highway traffic and transport impacts of the Order Scheme, forming part of the Environmental Impact Assessment (EIA), and prepared the Traffic and Transport Chapter (Chapter 11) of the Environmental Statement (ES) [CD/1.16].

2.7. The wider highway traffic impacts of the Order Scheme were assessed using Oxfordshire County Council's (OCC) Central Oxfordshire Transport Model (COTM). This is a multi-modal transportation model covering in detail central Oxfordshire and extending to London and much of south east England.

- 2.8. The local highway traffic impacts of proposed improvements at Bicester Town Station and the proposed new Parkway station at Water Eaton were assessed by building micro-simulation traffic models (S-Paramics models) of the road networks in the vicinity of the two stations.
- 2.9. Following consultations with OCC (the local highway authority), its consultant, Halcrow, and the Highways Agency (the trunk road agency) PFA Consulting first prepared a modelling specification report, '*Specification for Modelling Proposed Scheme using the Central Oxfordshire Transport Model*' [included as **Appendix PJT1**]. The Specification reflected the assessment methodology as agreed between PFA Consulting and the highway authorities and set out the modelling scenarios to be tested by OCC's consultant, Halcrow, which operates and manages the COTM on behalf of OCC. An initial draft was issued for comment on 20 May 2009, together with a request for a quotation for undertaking the modelling work. The final version of the document was issued on 12 August 2009.
- 2.10. Following technical consultation with Halcrow, additional road traffic and rail passenger surveys were commissioned by PFA Consulting, in June 2009, to allow enhanced modelling of the areas around the Order Scheme stations in the COTM. The additional data from the surveys allowed Halcrow to recalibrate and revalidate the model. The COTM results were received from Halcrow in September 2009 (17 September 2009 – 21 September 2009) and PFA Consulting used these results to assess the overall Scheme impacts. The assessment is reported in Chapter 11 of the ES.
- 2.11. The two micro-simulation traffic models allowed my company to undertake detailed assessment of the local effects of the Order Scheme proposals on the local highway networks at Bicester Town and Water Eaton Parkway Stations. This modelling incorporated the road traffic survey data collected in June 2009 and rail passenger demand forecast data provided by CRCL. The results from this detailed modelling were also reported in the ES.
- 2.12. PFA Consulting's input to the ES was concluded with the completion of the Traffic and Transport Chapter in late 2009.

Additional Technical Work Post Order Application

- 2.13. Following the Transport and Works Act Order (TWAO) application in January 2010, which was accompanied by publication of the ES, CRCL and its consultants continued consultations with stakeholders and objectors to the Order Scheme discussing concerns raised and agreeing further work required to address those concerns. In particular, technical consultations were held with OCC on five occasions post-application and in the light of these consultations further road transport assessment was undertaken.
- 2.14. Following submission of the TWAO application CRCL commissioned Steer Davies Gleave (SDG) to review the Scheme business case and refine the earlier rail passenger demand forecasts. The refined rail passenger forecasts were taken into account as part of the further transport assessment work completed by PFA Consulting.
- 2.15. To address the matters raised by OCC and the Highways Agency (HA), the further transport assessment included using a cordoned area of the COTM highway model. The scope of this further work was agreed at a meeting with

OCC and Halcrow on 21 April 2010, and is set out in PFA Consulting's technical note '*Scope of Further Transport Work to Address Matters raised by Oxfordshire County Council and the Highways Agency using a Cordoned Area of COTM*' [included as **Appendix PJT2**]. A copy of the agreed scope was forwarded to the HA on 6 May 2010.

- 2.16. A draft report setting out the emerging results of the further transport work was issued to OCC and the HA on 9 July 2010 for comment and review. This was followed by a consultation meeting with OCC on 19 July 2010, at which the emerging results were discussed. Taking into consideration comments made by OCC and utilising the final refined rail passenger demand forecasts from SDG the further transport assessment work was reported in PFA Consulting's '*Further Highway Impact Assessment*' final report, August 2010 [CD/2.23].
- 2.17. The S-Paramics micro-simulation traffic models built for the EIA were updated to include both the refined rail passenger forecasts and, following publication, in July 2010, of the *GRIP4 Outline Business Case Final Report* [CD/2.19] for the western section of the East West Rail (EWR) route, the potential cumulative effect of the EWR proposals. The results of the updated models are presented in the PFA Consulting reports;
- o '*S-Paramics Micro-simulation Traffic Model of London Road, Bicester (Bicester Town Station) Model Development and Forecasting Report*' [CD/2.24], August 2010, and
 - o '*S-Paramics Micro-simulation Traffic Model of A4165 Banbury Road, Oxford (Water Eaton Parkway Station) Model Development and Forecasting Report*' [CD/2.25], August 2010.
- 2.18. In response to issues raised by objectors, PFA Consulting completed additional preliminary design analysis of the layout proposed for Bicester Town Station. This work culminated in a revised layout as shown on PFA Consulting Drg. No. E094/39 Rev A [Appendix PJT3].
- 2.19. We also investigated the potential for shared car park management control at the proposed Water Eaton Parkway Station and the Water Eaton Bus Park and Ride (P&R) site and prepared a potential management strategy reported in '*WEP Car Park Strategy*' and as shown on PFA Consulting Drg. No. E094/50 [Appendix PJT4].
- 2.20. PFA Consulting also prepared more detailed highway engineering plans showing the layout of highway works proposed in the vicinity of Bicester Town Station (PFA Consulting Drg. No. E094/37 Rev B) [Appendix PJT5] and in the vicinity of the Water Eaton Parkway Station (PFA Consulting Drg. No. E094/36 Rev A) [Appendix PJT6].

Consultation

Public Exhibitions

- 2.21. Three public consultation exhibitions were held in April 2009; PFA Consulting attended the first held on Friday 17 April 2009 in Bicester, the others were in Oxford on Saturday 18 April 2009 and in Kidlington on Saturday 25 April 2009.

Oxfordshire County Council

- 2.22. The first consultation meeting with Officers of OCC was held on 6 March 2009. This initial meeting provided Officers with an overview of the Scheme and initiated discussion on the technical approach to assess the Scheme impacts on the local and surrounding highway and transport networks.
- 2.23. The initial consultation was followed with a second meeting on 23 April 2009, also attended by a representative of Halcrow, consultant to OCC. Prior to the meeting PFA Consulting issued the transport section of the EIA Scoping Report for review and comment. This allowed the detail of the scope of assessment to be discussed at the meeting, including use of the COTM to assess the impact of the Order Scheme and the modelling protocol.
- 2.24. Following the second consultation meeting with OCC Officers, PFA Consulting had a series of technical meetings with Halcrow during the period May 2009 – September 2009, to discuss and agree the details of the COTM.
- 2.25. Following submission of the Order application a meeting was held with Officers of OCC on 4 February 2010. At this meeting, OCC advised that it was strongly supportive of the Order Scheme in principle but that it required further information and clarification about some specific details. The matters were outlined and discussed at the meeting.
- 2.26. OCC submitted on 12 February 2010 its formal letter of objection to the DfT [copied at **Appendix PJT7**]. The letter confirmed OCC's support in principle and welcomed the proposed Order Scheme. The letter included 'areas of concern' but OCC stated that **"we hope and believe (the areas of concern) will be resolved by discussions and negotiations"** (page 2 2nd paragraph of OCC objection letter – OBJ/131)
- 2.27. To address the concerns raised by OCC (and matters raised by the HA) PFA Consulting set out the methodology for further assessment in a draft technical note issued to OCC for review on 19 March 2010. Another post-application consultation meeting was held on 25 March 2010, followed by a further technical meeting with OCC Officers and Halcrow on 21 April 2010, at which the scope of additional work was agreed. The agreed scope is set out in PFA Consulting technical note *'Scope of Further Transport Work to Address Matters raised by Oxfordshire County Council and the Highways Agency using a Cordoned Area of COTM'* [**Appendix PJT2**].
- 2.28. On 23 June 2010, PFA Consulting attended a consultation meeting with OCC Officers which focussed on parking management issues, but at which the plan showing the revised indicative layout for Bicester Town Station was also tabled for discussion (PFA Consulting Drg. No. E094/39, June 2010, which replaced Glenn Howells Architects Drg. No. 1760/AL002.1 Rev 3 included in the Design and Access Statement [**CD 1.19**]). Subsequently, minor revisions were made to the revised layout following comments received from a Stage 1 Road Safety Audit. The layout is shown on PFA Consulting Drg. No. E094/39 Rev A [reproduced at **Appendix PJT3**]. Also, at this meeting, to address a query from OCC, it was agreed that PFA Consulting would investigate the possibility of a shared car parking charging scheme at Water Eaton, combining the Bus P&R and rail station car parks.

- 2.29. On 19 July 2010, PFA Consulting attended a consultation meeting with OCC Officers to discuss the emerging results from the cordoned COTM modelling. The results of the revised S-Paramics micro-simulation traffic modelling were also presented to OCC.
- 2.30. Consultations with Officers of OCC continued and, following the issue of draft reports on the further transport assessment, a copy of the final report '*Further Highway Impact Assessment*' [CD/2.23] August 2010 was issued to OCC on 7 September 2010. In addition the S-Paramics Model Development and Forecasting Reports, '*S-Paramics Micro-simulation Traffic Model of A4165 Banbury Road, Oxford (Water Eaton Parkway Station)*', August 2010 [CD/2.25] and '*S-Paramics Micro-simulation Traffic Model of London Road, Bicester (Bicester Town Station)*', August 2010 [CD/2.24] were also provided to OCC.

Highways Agency

- 2.31. An initial meeting with the HA was held on 14 May 2009 at which the following topics were discussed;
- an overview of the Order Scheme
 - the EIA highway impact Scoping
 - the technical approach to highway and transport assessment of the Order Scheme, and
 - the potential effect of the Order Scheme proposals on the strategic highway network.

Following this initial meeting, a copy of the EIA Scoping Report was sent directly to the HA.

- 2.32. Following submission of the TWAO application, PFA Consulting arranged a meeting with the HA for 5 February 2010. However, the meeting was postponed by the HA pending its formal response to the Order Scheme proposals.
- 2.33. A written response was submitted to the DfT, dated 4 February 2010, [Copied at **Appendix PJT8**]. The HA stated that;

"In general, the Highways Agency is of the opinion that the proposed development is in conformity with national policies regarding the increase in the provision of sustainable transport modes as an alternative to the use of the private car." and **"The Highways Agency does not therefore wish to object to the proposal"** (2nd paragraph of HA letter 4 February 2010).

- 2.34. Although the HA did not object to the proposals, its letter of representation highlighted some concerns about the potential effect of the Order Scheme on the A34(T) Peartree Interchange, as well as making a request for some further information.
- 2.35. PFA Consulting responded to the HA in a letter dated 6 May 2010 [copied at **Appendix PJT9**], enclosing a copy of the technical note which set out the scope and methodology of further assessment as agreed with OCC. The HA subsequently confirmed by telephone on 25 May 2010 that it agreed with the proposed further assessment methodology. PFA Consulting agreed to respond to the HA once the assessment was complete.

2.36. A draft report detailing the results of the further assessment was issued to the HA on 9 July 2010 for its review and comment. The final report [CD2.23] was issued on 7 September. The HA has confirmed that it **“accepts the further micro simulation and modelling that have been presented by PFA Consulting and has no objection to the results and conclusions drawn from them in respect of the highway impact of the proposal on the roundabout at Peartree Northern Gateway”** (email dated 24 September 2010).

Cherwell District Council

2.37. As part of CRCL’s public consultation exercise a presentation of the Order Scheme was made to officers and members of Cherwell District Council on 24 February 2010. PFA Consulting attended the consultation and presented a ‘live’ demonstration of the S-Paramics micro-simulation traffic models.

(Note: S-Paramics micro-simulation models present output in both video and graphical formats. The ‘live’ demonstration refers to running the model and showing in video output from a computer via a projector onto a screen the movement of individual vehicles and their interaction with other vehicles through the highway network).

Kidlington Parish Council

2.38. At a public consultation on 18 March 2010 the Order Scheme was presented to parishioners and members of Kidlington Parish Council. PFA Consulting again presented a ‘live’ demonstration of the S-Paramics micro-simulation traffic model of the network in the vicinity of Water Eaton Parkway Station.

Oxfordshire Fire & Rescue Service

2.39. In April 2010, the Oxfordshire Fire & Rescue Service was contacted and invited to comment in respect of the Order Scheme proposals in general and specifically in relation to the closure of Islip, Mill Lane level crossing. The response received stated that the Service had no adverse comments to make regarding the proposal to shut this crossing. [Appendix PJT10]

McKay Securities Plc

2.40. Following receipt of the formal objection letter from Shoosmiths, Solicitors acting on behalf of McKay Securities Plc, (Obj/66) a meeting was held on 20 April 2010 between representatives of the Chiltern Railways project team (Arden and PFA Consulting) and McKay Securities and its transport consultant.

2.41. Further consultation occurred via correspondence after the meeting which was co-ordinated by Arden on behalf of CRCL. A further meeting between representatives of McKay Securities and CRCL was held on 17 September 2010 to discuss issues concerning Bicester Town Station and the McKay Trading Estate. At the time of writing my Proof of Evidence I understand that consultations continue.

3. LOCAL TRANSPORT NETWORK

Introduction

- 3.1. In this section I have summarised the existing local transport network in the vicinity of each the stations of the Order Scheme to provide a context to the Scheme proposals.

Bicester Town Station

Local Highway Network

- 3.2. The existing vehicular access to Bicester Town Station is from Station Approach, a single carriageway no through road with a carriageway width of 5.5 metres. Station Approach also provides access to several business and industrial units, including the McKay Trading Estate, north west of the station.
- 3.3. Station Approach forms a simple priority T-junction with London Road (B4100) approximately 200 metres to the north east of the station. Both roads are subject to a 30 mph speed limit and have standard street lighting. London Road is a main vehicular route on a north/south axis providing access to Bicester town centre. London Road links with the A4421 Bicester Bypass via the A41/A4421 roundabout approximately 1km south of the junction with Station Approach.
- 3.4. A signal controlled level crossing is located on London Road 75 metres south of the junction with Station Approach. Due to the low frequency of existing train movements north of the station (i.e. only freight trains) the level crossing only closes approximately 1-2 times per day (24-hr day).
- 3.5. To the south west of the station is the Bicester Village Outlet Shopping Centre. Vehicular access to the Centre is from Pingle Drive which connects to the A41, Oxford Road, at a roundabout. Car parking for the Centre is located to the eastern end of the shopping centre.
- 3.6. Bicester Village applied for planning permission in March 2008 for an additional surface car park on the old coal yard site which was located adjacent to the railway line and immediately south west of the station. Planning permission was granted on 21 July 2008 and the car park has recently been constructed and is now operational. I provide further information on this car park at section 7 of my Proof.
- 3.7. The local highway network in the vicinity of Bicester Town Station and in the context of Bicester as a whole is shown on the ES Figure 11.5 [reproduced at **Appendix PJT11**].

Walking and Cycling

- 3.8. Bicester station can be accessed on foot or by cycle via several different routes, all of which have street lighting. The dedicated cycle routes and public rights of way in the vicinity of the station are shown on the ES Figure 11.3 [**Appendix PJT12**]. The main access along Station Approach provides a footway on the east side of the carriageway with a width of approximately 1.8 metres and continues until it reaches the station car park. Station Approach forms an on-road section of a local cycle route, which links the southeast areas of Bicester with central

and northwest Bicester including the Bicester Village Outlet Shopping centre and National Cycle Route 51.

- 3.9. Pedestrians and cyclists accessing the station from the south currently have to cross the London Road level crossing, to the north-west of the station, to reach Station Approach. Due to the low frequency of existing train movements there is negligible effect on existing pedestrian and cyclist movements. To the south of the railway, the local cycle route follows an off-road route together with public footpath FP 129/5 to link with the residential areas of Langford Village to the south east of Bicester.
- 3.10. Pedestrians can also gain access to the station from the Bicester Village Outlet Centre to the south west of the station, along the route of the local cycle route, providing the shopping centre with direct rail services to Oxford.
- 3.11. Pedestrian routes are also available to the pedestrianised shopping area in the town centre via London Road with 1.8 metre wide footways to both sides of the carriageway.

Buses

- 3.12. The nearest bus stop to the station is located directly adjacent in Station Approach but only one service (Service 22/23) diverts from London Road during the morning and evening peak periods. There are additional bus stops located approximately 200 metres from the station on London Road. Services 22/23 and S5 operate from these bus stops with an hourly frequency.

Islip Station

Local Highway Network

- 3.13. Vehicular access to Islip Station is via a priority junction with the B4027, Bletchingdon Road, located on the northern edge of Islip. From this junction the station access descends eastwards for approximately 180 metres towards the station platform and drop-off/pick-up area. The station access is a narrow single carriageway of approximately 4 metres width with street lighting but no footways.
- 3.14. Bletchingdon Road is a single carriageway road which provides a link to the A34 trunk road approximately 1.5km to the north of Islip. Bletchingdon Road is aligned on an approximate north-south axis through the centre of the village, eventually (approximately 10.5km) joining the A40, a principal route, at Wheatley, to the south.
- 3.15. The section of Bletchingdon Road passing the access to the station measures approximately 5 metres in width, has street lighting, and is subject to various traffic calming measures due to the proximity of the local primary school located opposite the station access. The speed limit is 30mph and there are 3 sections of speed humps in the immediate vicinity of the station access with a priority traffic calming layout located approximately 100 metres to the north. A further 50 metres to the north the speed limit of Bletchingdon Road becomes the national standard of 60mph for a single carriageway road.
- 3.16. The existing local highway network in the vicinity of Islip Station is shown on the ES Figure 11.8 [reproduced at **Appendix PJT11**].

Walking and Cycling

- 3.17. In the vicinity of the station there is a footway on the western side of Bletchingdon Road, from the northern edge of Islip into the village centre; in the immediate vicinity of the station the footway is approximately 1.8 metres wide.
- 3.18. Currently, there are no existing cycle routes in or around the vicinity of Islip Station, however, the roads in the locality carry low traffic volumes and the topography is flat and therefore existing conditions are conducive to cycling.
- 3.19. A public footpath (FP260/10) is shown on the Definitive Map of Public Rights of Way for Oxford leading from opposite the station access junction on Bletchingdon Road, south of the railway, in a south-westerly direction towards Kidlington Road (Church Close) west of the school as shown on ES Figure 11.6 [reproduced at **Appendix PJT12**].

Buses

- 3.20. The nearest bus stops to Islip Station are located in the High Street approximately 500 metres from the station, with a further pair of bus stops located on Kidlington Road to the west of the village. However, the level of service is poor with only 2 services per day Monday - Friday and 1 service on Saturdays.

Water Eaton Parkway Station

Local Highway Network

- 3.21. The proposed new Water Eaton Parkway Station will be adjacent to the existing Bus P&R site at Water Eaton, which is located to the south of the A34 trunk road and existing railway and east of the A4165 Banbury Road. The A34(T) is a dual carriageway between Bicester and Southampton interconnecting with motorways, M40, M4 and M3. The A34(T) is an important regional north/south route carrying high traffic flows.
- 3.22. The A4165 is an important radial route between Kidlington and Oxford to the south. The A4165 has street lighting for its entire length. In the vicinity of the P&R site, the carriageway is three lanes wide comprising one northbound all traffic lane and two southbound lanes; a general traffic lane and a nearside bus lane. A 40 mph speed limit applies and the carriageway width is approximately 9.5 metres. The bus lane is a continuation of the bus lane on Oxford Road, Kidlington, which is also provided through Kidlington Roundabout and continues south to Oxford City Centre.
- 3.23. The A4165 bridges over the A34(T) approximately 350 metres to the north of the P&R access junction and connects to Oxford Road and Frieze Way, both designated A4260, and Bicester Road at the Kidlington Roundabout, approximately 750 metres further north. Bicester Road provides access to and from the A34(T) north east of Kidlington, while the A4260 connects to the A44, Woodstock Road, and provides access to the A34(T) at the Peartree Interchange.
- 3.24. The Bus P&R site access arrangement is a linked double traffic signal controlled junction. In the southbound direction there are two sets of signals, the first set controls the access to the rail aggregates depot, allowing traffic to exit and enter left into the access road serving the sidings. Vehicles cannot turn right into the aggregates access road from the A4165 but are required to u-turn at Kidlington

Roundabout. These set of signals also allow southbound vehicles to enter the P&R site.

- 3.25. The second set of signals, approximately 50m south of the rail aggregates access junction, allows traffic to exit the P&R site as well as allowing traffic to enter the P&R site from the northbound direction. Both sets of signals operate with bus priority, allowing buses to 'call' a green signal on approach.
- 3.26. Due to the complex traffic signal sequence the existing layout does not operate efficiently and there is significant 'lost time' between stages. In addition, due to the high frequency of buses along the A4165, the bus priority stage is called often resulting in delay to general traffic, particularly in the southbound direction during the morning peak period. Queuing traffic regularly extends to and often through the Kidlington Roundabout which, in turn, creates congestion and traffic queues on the approaches to the roundabout.
- 3.27. The local highway network in the vicinity of Water Eaton P&R and the proposed new Parkway Station is shown on the ES Figure 11.11 [reproduced at **Appendix PJT11**].

Walking and Cycling

- 3.28. National Cycle Route 51 connects Bicester with Oxford and provides cyclists with access to the site in the form of a shared cycleway/footway. This route runs along both sides of the A4165, Banbury Road, in the vicinity of Water Eaton Bus P&R and the proposed new station. For more confident cyclists there is the option of using the existing bus lane along the A4165 which commences to the north of Kidlington Roundabout and continues southwards past the Bus P&R towards the city centre.
- 3.29. The existing traffic signal controlled junction to the Bus P&R site incorporates a 'Toucan' crossing (signal controlled pedestrian and cyclist crossing) across part of the vehicular access to the P&R, with central islands between the different lanes of the carriageway; dropped kerbs and tactile paving are provided across the other two parts. No controlled pedestrian or cyclist crossing exists on the A4165 in the vicinity of the Bus P&R.
- 3.30. There are a number of public footpaths in the vicinity of the proposed station, including public footpath FP 229/4 aligned to the east of the Bus P&R site on a north-south axis from the south of Water Eaton Lane on the southern edge of Kidlington. The route crosses both the A34(T) and the existing railway. The footpath then runs south of the P&R site and links to public bridleway 229/9, 30 metres east of the A4165. Bridleway 229/9 runs on an east-west axis and links to the footways along the A4165.
- 3.31. To the northeast of public footpath 229/4, public footpath 229/5 also crosses both the railway and the A34(T). Similarly, footpath 229/10 located to the west of the A4165 Banbury Road crosses both the railway and A34(T). These routes are shown on ES Figure 11.9 [reproduced at **Appendix PJT12**].

Buses

- 3.32. The Water Eaton Bus P&R facility provides direct links to Oxford City Centre. Approximately 800 car parking spaces are currently provided and the facility is an important bus interchange for both car users transferring to bus and bus passengers transferring to buses serving Oxford's hospitals. Currently there are

two main bus services operating from the P&R, Service 700 operates every 15 minutes and Service 500 operates every 20 minutes.

- 3.33. The A4165 Banbury Road is a main transport corridor into and out of Oxford and there is a significant number of existing bus services operating along the corridor. During weekdays, in excess of 30 buses per hour to and from Oxford provide an exceptionally high frequency of service serving the P&R site. These services can be currently accessed via the bus stops located approximately 20 metres to the south of the Bus P&R access junction. The extensive range of services offers potential rail passengers with excellent opportunities to access the proposed station by bus public transport from a large area around Oxford.

Oxford Station

Local Highway Network

- 3.34. The station is located to the north side of the A420 Botley Road, approximately 800 metres west of Carfax (the traditional centre of Oxford). Vehicular access to the main station building and forecourt is from the traffic signal controlled junction of Botley Road/Hythe Bridge Street/Becket Street via Station Approach.
- 3.35. Botley Road, A420, is a two-way single carriageway road of approximately 6.3m width. It is a main radial route into Oxford city centre from the west and the Botley A34(T) Interchange.
- 3.36. Hythe Bridge Street continues in an eastbound direction from Oxford Station and provides a link to the city centre.
- 3.37. Frideswide Square located on Park End Street is accessed from the junction of Botley Road/Becket Street/Hythe Bridge Street and Station Approach. This section of Park End Street is reserved exclusively for buses and cyclists and runs parallel to Hythe Bridge Street. Frideswide Square acts as a public transport hub and is easily accessible from Oxford Station.
- 3.38. The highway network surrounding the station is subject to a 20 mph speed limit. The station is in an urban environment and most of the area in the vicinity has good street lighting.
- 3.39. There is also a vehicular access to the rear of the station. This is entered and exited via a priority junction with Botley Road to the west of the railway lines. This entrance is not for passengers and is mainly used by staff and railway workers who regularly park their cars in this area. The pedestrian access to the rear of the station is, however, available to passengers during peak times.
- 3.40. The location of Oxford Station in the context of the local highway network is shown on the ES Figure 11.15 [reproduced at **Appendix PJT11**].

Walking and Cycling

- 3.41. A zebra crossing is provided across the station forecourt directly from the main entrance of the main station building and provides pedestrians with a route to and from the east and Hythe Bridge Street. Footways are provided to both sides of the main station access. From the west the footway from Botley Road is approximately 1.8 metres wide and to the east, from Hythe Bridge Street, there is a large pedestrian area. There are signal controlled pedestrian crossings across

the station vehicular access and from the north side of the carriageway at Hythe Bridge Street to the bus stops at Frideswide Square.

- 3.42. Pedestrian access is also provided to the station by means of a pedestrian footbridge located approximately 60 metres west of the station vehicular access. The footbridge allows pedestrians from the footway on the southern side of Botley Road to access Oxford Station directly.
- 3.43. The station has an existing large cycle parking area (approximately 600 spaces) to the front of the station accessed from Station Approach, with further parking to the rear of platform 2.
- 3.44. The existing pedestrian and cycle routes in the area are shown on the ES Figure 11.12 [reproduced at **Appendix PJT 12**].

Buses

- 3.45. The main bus stop is located next to the vehicle drop-off/pick-up area directly outside the main station building. There is a second bus stop, approximately 200 metres to the east of the station, at Frideswide Square, providing further service options to those offered at the station. Several different companies operate bus services in Oxford, although the majority are operated by Stagecoach and the Oxford Bus Company. The bus services which serve the bus stops at Oxford Station and Frideswide Square include 12 regular bus routes with service frequency of between 5 minutes and hourly.

Conclusions

- 3.46. In this section I have described the existing local transport networks to provide a context for the Order Scheme proposals at each of the stations. I conclude that Oxford, Bicester Town and the proposed new Water Eaton Parkway station all have good accessibility by walking, cycling, bus and car, although access by car to Oxford Station is via heavily congested roads, particularly during peak periods. Only Islip station is not well served by existing bus services.

4. TRANSPORT POLICY CONTEXT

Introduction

- 4.1. My transport policy evidence considers in particular how the Order Scheme conforms to existing and emerging policy guidance on sustainable transport. This section sets out evidence in relation to Statement of Matters 4.

European Policy

- 4.2. The White Paper *European Transport Policy for 2010* [CD/3.7] seeks to develop a transport system capable of shifting the balance between modes of transport and revitalising the railways.

“Rail transport is literally the strategic sector, on which the success of the efforts to shift the balance will depend” [page 13].

Also it notes that:

“Priority would be given to building infrastructure that encourages intermodality, especially railway lines, and offers a more environmentally friendly alternative” [page 16].

- 4.3. The Order Scheme will deliver a high quality rail service which is consistent with achieving the aims of European policy.

National Policy

- 4.4. The key objectives of *PPG13 Transport* [CD/3.6] are to promote better integration between different transport modes, more sustainable transport choices and to reduce the need to travel by car. It seeks to maximise the potential use of public transport by establishing a high quality, safe, secure and reliable public transport network with good interchanges which match the pattern of travel demand. Quick and easy interchange is seen to be essential to ensure integration between different modes of transport.

- 4.5. *The Future of Transport: A Network for 2030* [CD/3.9] which was the government’s response to the European Transport Policy, builds a strategy based around three central themes, sustained investment, improvements in transport management and planning ahead. The Government’s investment strategy has been increasingly focused on providing extra rail capacity reflecting the substantial increase in rail traffic over the past decade. The Government’s priority for rail is to increase capacity. As stated in the strategy:

“Railways are a vital part of the country’s transport infrastructure, carrying a large proportion of travellers and freight on many of the country’s busiest routes. As the economy grows there is increasing demand for travel, and the railways will play an important role in meeting this demand, providing an alternative to travelling by car” [page 52].

- 4.6. *The Future of Rail (2004)* [CD/3.10] recognises that encouraging more people to use rail rather than road also has a key role to play in meeting environmental objectives. Investment in railway capacity is seen as having a vital and essential role in both alleviating road congestion and overcrowding on public transport. In particular, passenger rail is seen to be well-suited to deliver long distance

travel and to serve concentrated markets such as commuters into large urban areas.

- 4.7. *The Eddington Transport Study [CD/3.17]* recommends that investment should focus on enhancing capacity and reliability of the network where overcrowding or congestion problems indicate that the transport system is coming under strain. The study makes a strong link between urban areas where rapid economic growth, evidenced by congestion, is coupled with a lack of capacity in the transport system.

“The result is that increasing congestion and capacity constraints threaten to impede growth and dampen the boost to national productivity” [Volume 2, Section 2.4, paragraph 4.4].

Addressing this is one of the three strategic priorities that form the focus of transport strategy going forward. There is an identified need to

“bring forward and assess a wide range of alternatives to address transport performance in these areas” [page 117].

- 4.8. The Department for Transport’s (DfT) *Delivering a Sustainable Railway [CD/3.19]* took the recommendation further and provides a strategic basis for prioritising increased railway capacity in response to record passenger numbers, overcrowding problems, and to create ‘headroom’ for rail to grow further. The strategy concludes that any new investment in rail needs:

**“To deliver, on key routes, the benefits of providing capacity and tackling congestion that are, and are likely to remain, the strategic priority;
To be affordable and represent good value for money; and
To be environmentally sustainable and deliver a good environmental return for the scale of investment committed”** [paragraph 6.32].

- 4.9. In *Towards a Sustainable Transport System* [extracts of which (paragraphs 2.27 and 3.6) are provided in **Appendix PJT13**], it is recognised that rail can contribute to low-carbon economic growth but it needs to move towards the service quality that more exacting consumers are increasingly demanding. Rail is seen as an excellent low-carbon option for an increasing number of travellers, and can provide further opportunities to reduce emissions from journeys between cities.

- 4.10. Evidence cited in the DfT’s *Low Carbon Transport: A Greener Future [CD/3.21]* further supports the view that improving rail encourages travellers to switch from other modes. *The Planning and Climate Change Supplement to PPS1 [CD/3.16]* recognises that in order to move towards low carbon emissions, the fullest possible use should be made of sustainable transport (paragraph 9).

Regional Policy

- 4.11. The Order Scheme is referred to in a number of regional transport strategies and investment programmes. Although the new government has abandoned Regional Spatial Strategies much of the policy content remains valid in broad planning terms.

- 4.12. In addition, other documents such as *The Great Western Route Utilisation Strategy [CD/3.31]* include the Order Scheme as a committed project and an

essential component of increased rail passenger capacity in the Oxford to London corridor.

- 4.13. Policy T9 of *The South East Regional Transport Strategy* [CD/4.1] published in 2004 sought to increase

“the opportunities for interchange between the public transport network and all other modes of transport”.

The A34(T) is seen as a **“strategic movement corridor”** (paragraph 9.12) which is capable of delivering multi-modal transport access to Oxford. The priority for the western policy area, in which the Order Scheme lies, is to improve the

“functionality of strategic road and rail links within and to the area, a reduction in the impact of congestion and improved alternatives to the car” (paragraph 9.84).

The Strategy seeks more effective co-location of rail and bus stations where regional hubs, such as Oxford, are served by rail (paragraph 9.26).

- 4.14. *The South East Regional Transport Strategy* has been replaced by Chapter 8 of *The South East Plan* [CD/4.11]. The vision is for a

“high quality transport system to act as a catalyst for continued economic growth and provide for an improved quality of life”.

In paragraph 8.46, the A34(T) corridor is identified as a priority transport link which is likely to come under increasing transport pressure as a result of underlying transport growth and development.

- 4.15. *The South East Regional Economic Strategy* [CD/4.7] recognises that economic growth can be achieved through

“reducing road congestion and pollution levels by improving travel choice, promoting public transport, managing demand and facilitating modal shifts” (page 5).

- 4.16. Policy CO5 prioritises access to Oxford from major towns in the sub-region. This policy seeks to improve transport links between main settlements, such as Oxford, by sustainable means including improved rail services in the A34(T) corridor and local Park and Ride facilities (paragraph 22.23). The re-opening of the East West Rail line, as facilitated by the Order Scheme, is seen as a priority in promoting existing and potential new rail routes and multi-modal interchanges.

Local Policy

Local Transport Plan

- 4.17. The Local Transport Plan (LTP) sets out OCC’s vision for transport in the whole of Oxfordshire. The current adopted plan is LTP2, which covers the period to March 2011 [CD/4.6].

- 4.18. The overall aim is;
- “to improve access to jobs and services, particularly for those most in need, in ways which are both safe and sustainable”** (Ref. Page 2)
- 4.19. The Local Transport Plan focuses on five priority areas as its overall objectives:
- tackling congestion
 - delivering accessibility
 - safer roads
 - better air quality and
 - improving the street environment.
- 4.20. LTP2 sets Oxfordshire’s priority for improving the rail network, to promote increased use of the existing railway and to seek appropriate train services, particularly to major centres where housing growth is proposed. The implementation of East West Rail is a specific objective of the Local Transport Plan. Another aim of LTP2 is to improve bus-rail links and interchange in partnership with the rail industry.
- 4.21. The LTP recognises that Bicester and Oxford are connected by a low standard line and that enhancement of the Bicester Town to Oxford line is a proposed solution to overcome severe traffic congestion on the M40 and A34(T). The proposed rail P&R at Water Eaton Parkway station is an integral part of the Order Scheme and part of the ‘solution’ to traffic congestion in the area.
- 4.22. In respect of the integration between the bus and rail network, the LTP states that;
- “in partnership with the rail industry, the Council will further improve bus links to rail stations, by improving interchange facilities, arranging bus services to serve railway stations and timing them to connect with trains wherever appropriate, improving information about bus-rail connections and further extensions to through ticketing arrangements.”** (Ref. Page 8)
- 4.23. The Order Scheme is wholly in accordance with OCC’s transport vision for Oxfordshire. Specifically, in relation to the County’s priorities for improving Oxfordshire’s railways, the Order Scheme will deliver the rail infrastructure between Oxford and Bicester to assist future delivery of the western end of the EWR proposals. The Order Scheme will also improve facilities and access to Bicester Town and Islip Stations, and, importantly, the Order Scheme will promote increased use of the existing railway between Bicester and Oxford.
- 4.24. In respect of the integration between the bus and rail network, Chiltern Railways is working with OCC to improve the interchange facilities at Bicester Town Station and the new Water Eaton Parkway Station, which will be located immediately adjacent to the County’s existing bus based P&R site and the A4165 Banbury Road high-frequency bus corridor.
- Oxfordshire Local Transport Plan 2011 – 2030 (LTP3)*
- 4.25. OCC is currently developing its third LTP, *Oxfordshire Local Transport Plan 2011 – 2030 (LTP3)*, which is due to come into effect in 2011. This will be a longer term policy/strategy document covering a twenty year period from 2011 – 2030 (compared to five years for the current LTP2). It will be accompanied by

a shorter term delivery/improvements programme which will probably cover a 3 – 5 year period and be reviewed and updated annually.

4.26. The Plan will focus on attracting and supporting economic investment, growth, delivering transport infrastructure, services to tackle congestion and improving quality of life. The Plan will set the policy and strategy context for the major 'Access to Oxford' project and act as a bidding document enabling OCC to bid for additional Government funding for other major schemes over the next 20 years.

4.27. The emerging LTP3 contains draft policy R4 which supports proposals for strategic enhancements to the rail network and will work with the rail industry to facilitate these and secure funding as required, including the Chiltern Railways Evergreen 3 project (of which the Order scheme forms part), East West rail scheme and the electrification of the Great Western Line. The draft policy has been out to consultation and approved by Cabinet in July 2010 and can be given considerable weight. It is reproduced in [Appendix PJT14].

Local Plans

4.28. Both the adopted 'Cherwell Local Plan' and the 'Non-Statutory Cherwell Local Plan' (which has been adopted as interim policy for development control purposes) seek to provide for, and enhance rail infrastructure through policies TR4 [extract in Appendix PJT15] and TR10 [extract in Appendix PJT16] respectively.

4.29. The adopted *Cherwell Local Plan* recognises that the existing Oxford to Bicester railway service is likely to become more popular in the future. There is particular emphasis in Policy TR10 on the provision of new services and stations that assist in reducing the reliance on the private car for inter-urban travel.

4.30. Support in the *Non-statutory Cherwell Local Plan* for improved rail services includes improvements to passenger facilities, rail and bus interchange and a new station at Kidlington. The *Plan* contains support for consideration of a new rail station for Bicester to allow an increase in train frequency and the quality of service. The Bicester Town Station forms part of a wider allocation for employment and retail uses in the area under Policy S17 of the *Plan* which makes provisions for

"railway related uses associated with the operation of the existing station".

Policy TR29 specifically reserves land for a connecting railway and rail based public transport interchange at Gavray Drive, Bicester. This is seen to offer the potential for services between London Marylebone and Oxford, now taken forward in the Order Scheme.

4.31. One of the strategic environmental objectives (SO12) in the *Cherwell Draft Core Strategy* [CD/4.12] published in February 2010 is to;

"reduce the dependency on the private car as a mode of travel, increase the attraction of and opportunities for travelling by public transport, cycle and on foot, and to ensure high standards of accessibility for people with impaired mobility".

- 4.32. Paragraph B.4 of the *Cherwell Draft Core Strategy* makes a particular specific reference to the Order Scheme:

“In terms of rail improvements, in 2013, Chiltern Railways intends to commence work to upgrade the railway between Oxford and Bicester, to significantly improve services between Oxford and London via Bicester and provide an alternative to using the M40 and A34. This will result in improved services from Bicester and the redevelopment of Bicester Town Railway Station. Furthermore, the East West Rail Link Project, which will pass through Bicester, seeks to establish a strategic railway connecting East Anglia with Central, Southern and Western England”.

- 4.33. The Order Scheme proposes improvements through redevelopment of part of Oxford station to enable CRCL services and increase the station’s passenger capacity. The adopted *Oxford Local Plan [CD/4.3]* stated that;

“Oxford Station is located within the City Centre and is currently operating at full capacity” (section 3.8.14).

- 4.34. Policy TR10 of the adopted *Oxford Local Plan*, Oxford Station Improvements, supports, in principle, increases in capacity for stopping train services in Oxford, improved access arrangements into the station, and for improved passenger-waiting and cycle-parking facilities.

- 4.35. The Order Scheme also meets with the *Oxford Core Strategy 2026 Proposed Submission [CD/4.9]* overarching aim for sustainable development, which recognises that;

“Oxford is a regional hub, with an important role in regional transport networks”. It states that **“the transport network is highly constrained, with very limited potential to increase space on roads in particular”.**

The limited platform and line capacity of Oxford Station is acknowledged to cause a significant bottleneck on the rail network (page 74).

- 4.36. Chapter 3 of the *Oxford Core Strategy 2026 Proposed Submission* identifies good accessibility as an important element in providing sustainable communities, and that transport improvements are required in the City Centre, including increased capacity at the railway stations. It notes that;

“Oxford City Council will support the delivery of transport schemes that aim to reduce the need to travel by private car and improve accessibility within and to Oxford by non-car modes” (section 3.1, page 39).

- 4.37. Specific mention is made of the Bicester to Oxford improvements and East West Rail. A commitment is made by Oxford City Council to work with partners towards **“implementation of East West Rail (a new, high-quality rail network linking Oxford with Milton Keynes and Cambridge), and improvements to the Bicester line”** (page 39).

Conclusion

- 4.38. I have summarised the relevant transport policy context of the Order Scheme proposals in this section which addresses Statement of Matters item 4. My conclusion is that the Order Scheme is wholly consistent with European,

national and local transport planning policies. In particular, the Order Scheme is in accordance with OCC's transport vision for Oxfordshire and in relation to the County's priorities for improving Oxfordshire's railways, the scheme will:

- deliver new rail infrastructure between Oxford and Bicester including a new parkway station at Water Eaton;
- promote increased use of the railway between Bicester and Oxford and onto London and other intermediate destinations.
- assist the delivery of the western end of the East-West Rail proposals;
- improve facilities and access to Bicester Town Station, creating a new public transport interchange;
- provide improvements to Islip Station;
- assist with longer term improvements to Oxford Station as part of the 'Access to Oxford' project.

5. APPROACH & METHODOLOGY OF ASSESSING ROAD TRANSPORT IMPACTS

Introduction

5.1. In this section I summarise the approach and methodology of the road transport assessment at each key stage of the project, i.e.

- Options appraisal;
- Technical assessment of road traffic effects for ES; and
- Further technical assessment of road traffic effects following submission of Order Application.

Options Appraisal

Bicester Town Station

5.2. PFA Consulting's input to the options appraisal work at Bicester Town Station involved investigating potential highway access/improvement options which fed into the subsequent station options appraisal work. Our work included looking at alternative road over-bridge and under-bridge rail crossing options as a replacement for the existing London Road level crossing.

5.3. The various options were produced to sufficient engineering detail to enable the options to be budget costed for comparison and review purposes. The rationale and procedure of the option decision making process is explained by Mr Barker, Chiltern Railways (his reference **CRCL/P/6/A**).

Water Eaton Parkway Station

5.4. PFA Consulting's input to the options appraisal work at Water Eaton Parkway Station involved investigating potential highway access/improvement options and potential relocation sites with suitable highway access for the existing rail aggregates depot at Water Eaton.

Technical Assessment of Road Traffic Effects for Environmental Statement

5.5. The assessment of traffic and transport effects of the Order Scheme for inclusion in the ES covered the short-term temporary effects during construction and the longer-term effects arising from the operation of the Order Scheme.

Assessment Criteria

5.6. The identification of effects, as reported in the Traffic and Transport Chapter of the ES, was determined using the criteria defined by the 'Magnitude of Effect' and 'Significance of Effect' tables (Ref. Tables 11.1 and 11.2, pages 11-4 and 11-5, [CD/1.16]), which I reproduce below.

5.7. The 'Magnitude of Effect' (negligible, slight, moderate or major) refers to the quantification of an effect, i.e. the level or volume of change. The 'Significance of Effect' (slight/negligible, moderate or major) is the relative impact of the magnitude of effect on a 'receptor' and was based on professional judgement and the interpretation of the context.

Table PJT 1: Magnitude of Effect from ES (Chapter 11)

Subject Area	Magnitude of Effect			
	Major	Moderate	Slight	Negligible
Effect on walking and cycling	Greater than +/-25% change to existing levels of walking and cycling.	Up to +/- 25% change to existing levels of walking and cycling.	Up to +/- 10% change to existing levels of walking and cycling.	No measurable change from existing mode share or habits.
Effect on public transport	Greater than +/-25% change to existing levels of public transport patronage.	Up to +/- 25% change to existing levels of public transport patronage.	Up to +/- 10% change to existing levels of public transport patronage.	No measurable change from existing mode share or habits.
Private vehicular traffic from operation of scheme	Greater than +/- 30% change in traffic flow or HGV content. ²	Up to +/- 30% change in traffic flow or HGV content.	Up to +/- 5% ¹ change in traffic flow or HGV content.	No measurable increase or decrease in traffic flow or nature of traffic.
Construction related traffic	Construction daily traffic flows greater than scheme related daily traffic flows.	Construction daily traffic flows greater than 100 vehicles per day on major road network, or greater than 50 vehicles per day on minor roads.	Construction daily traffic flows less than 100 vehicles per day on major road network, or greater than 25 vehicles (but less than 50) on minor roads.	Construction daily traffic flows less than 25 vehicles per day on all roads.
Notes: 1. 5% threshold derived from Highways Agency threshold, where a 5% change is normally considered to be material. 2. 30% threshold derived from 'Guidelines for the Environmental Assessment for Road Traffic'.				

Table PJT 2: Significance of Effect from ES (Chapter 11)

Subject Area	Significance of Effect		
	Major	Moderate	Slight / Negligible
Effect on walking and cycling	The majority of people in the study area changing their walking and cycling habits.	Some people in the study area changing their walking or cycling habits.	Negligible mode shift.
Effect on public transport	Mode shift which increases or reduces the level of patronage such that the operational capacity of existing services is exceeded.	Mode shift which increases or reduces the level of patronage but remains within the operational capacity of existing services.	Negligible mode shift.
Private vehicular traffic from operation of the	Change which leads to perception of an	Change which will increase or decrease	Negligible change.

Subject Area	Significance of Effect		
	Major	Moderate	Slight / Negligible
scheme	increase or decrease in delays and congestion.	traffic flows but remains within the design capacity of the road.	
Construction related traffic	Traffic passes through residential areas.	Some traffic through residential areas.	Traffic only affects strategic routes.

Construction Traffic Impacts

5.8. Construction traffic impacts were assessed with reference to the construction method prepared for the project by consultant, Atkins, summarised in Chapter 2 of the ES [CD/1.15] and the Code of Construction Practice for the project included at Annex B of the ES [CD/1.18]. The ES Traffic and Transport Chapter included a proposed construction vehicle routing plan based on the identified location of the main compound areas.

5.9. The ES Traffic and Transport Chapter provides summary details of the anticipated construction events while I summarise the results of the assessment in section 6 below. I would highlight that the restrictions and methods of control to ensure regulation of construction traffic are detailed in the revised draft *Code of Construction Practice* for the Order Scheme [CD 1/24].

Operational Traffic Impacts

5.10. Operational traffic impacts were assessed 'strategically' for the ES work using OCC's multi-modal model COTM, which models the highway peak hours (08:00 - 09:00 and 17:00 - 18:00). The technical details required for the modelling were defined in PFA Consulting's *Specification for Modelling Proposed Scheme Using the Central Oxfordshire Transport Model* (**Appendix PJT 1**).

5.11. The more detailed local assessment used micro-simulation (S-PARAMICS) modelling. Rail passenger demand forecasts were provided by CRCL to test the effect of the Order Scheme, including the proposed highway/junction works on the immediate highway network, over the highway peak periods (07:00 - 10:00 and 16:00 - 19:00).

Sustainable Transport and Integration with Other Modes of Travel

5.12. In respect of sustainable transport and integration with other modes of travel, the ES Traffic and Transport Chapter included an audit of existing facilities in the vicinity of the existing and new rail stations as part of the Order Scheme to identify any existing shortfall and future demand.

Further Technical Assessment of Road Traffic Effects Following Submission of Order Application

5.13. The further technical assessment completed since submission of the TWAO application in January 2010 addressed concerns raised by objectors to the Order Scheme and other consulted parties. The further assessment analysed the

potential impacts of the Order Scheme on the highway network, in particular the network in the vicinity of the proposed new Parkway station at Water Eaton.

- 5.14. OCC's letter of objection to the DfT [**Appendix PJT7**] set out a number of areas of concern, which required further information. In particular 'Area of Concern 3 – Traffic Impacts at Water Eaton' of OCC's letter of objection states:

"3. The proposed Water Eaton Parkway station appears likely to cause unacceptable increases in traffic levels and/or queues at junctions on the surrounding highway network and possibly further afield. In particular the potential impact of the traffic on reliability and journey times of the frequent bus services in the area, also traffic increases at the already congested Cutteslowe, Kidlington, Loop Farm, Wolvercote and Pear Tree Roundabouts, the approaches to these roundabouts and the links between these roundabouts are a concern."

- 5.15. The Highways Agency's letter of representation (3rd paragraph) (**Appendix PJT 8**) states:

"The Highways Agency is however concerned about the potential impact of the proposal on traffic congestion at Peartree Interchange. It is proposed that the station at Water Eaton has 1,000 car-parking spaces. Most of the trips would arrive in the morning peak which could cause concern if they were routed by Peartree Interchange.

On this basis the Highways Agency seeks further clarification on the origin of trips to Water Eaton. The Micro-simulation accompanying the consultation does not include Peartree Interchange and therefore the Highways Agency requests that the simulation incorporates Peartree in order to satisfy the HA that the proposal would not unacceptably [impact on] the network at this point." [Text added for clarity]

- 5.16. The above concerns essentially related to whether the additional traffic travelling to and from the new Water Eaton Parkway station would result in unacceptable impacts on, from OCC's viewpoint, the local highway network, and from the HA's viewpoint, the Peartree Interchange (A34/A44 interchange junction).

- 5.17. The scope of the further transport assessment work to address the concerns of both authorities was initially agreed with OCC and circulated to Officers at both authorities. [**Appendix PJT2**]

- 5.18. The further assessment work consisted of three separate but interrelated areas of work and is reported in the following documents:

- 'Further Highway Impact Assessment', August 2010 [**CD/2.23**]
- 'S-Paramics Micro-simulation Traffic Model of A4165 Banbury Road, Oxford (Water Eaton Parkway Station) Model Development and Forecasting Report', August 2010 [**CD/2.25**]
- 'S-Paramics Micro-simulation Traffic Model of London Road, Bicester (Bicester Town Station) Model Development and Forecasting Report', 2010 [**CD/2.24**]

- 5.19. The further assessment work can be summarised as follows:
- For the wider highway assessment a cordoned area of the COTM highway SATURN model which covered the geographical area of the Order Scheme rail passenger catchment and incorporated some network refinements. The details are described in paragraph 2.4 of [CD/2.23].
 - The micro-simulation model built to assess the local impacts at Water Eaton was updated to include the latest rail passenger forecasts, more detailed train timetabling and the traffic distribution from the cordoned COTM highway model.
 - The micro-simulation traffic model of the London Road corridor at Bicester was also updated to include the latest rail passenger forecasts, more detailed rail service timetabling information as it affected the London Road level crossing and traffic distribution from the cordoned COTM highway model.
- 5.20. The revised model assumptions, in line with the ES assumptions, include a 2 minute closure of the level crossing on London Road for passenger services stopping at Bicester Town Station (both northbound and southbound), and a 2½ minute closure for freight trains. The assessment also included, as a sensitivity test, a 3 minute closure of the London Road level crossing for northbound passenger train services only. The 3 minute scenario, which is only expected to occur occasionally, represents the additional potential delay when a train remains stationary at Bicester Town Station for longer than would normally occur (approximately 1 minute). For example, if there was an unusual delay in passengers boarding and alighting. The station is located south of the level crossing; therefore no additional level crossing delays would result from such a scenario for southbound passenger trains.
- 5.21. As a consequence of the Order Scheme and associated delays to traffic travelling along the London Road corridor, because of the more frequent closure of the level crossing, some traffic would be expected to divert to alternative routes. The extent of these diversions was extracted from the results of the cordoned COTM highway model which included the closure effects of the London Road level crossing.

Conclusions

- 5.22. In this section I have summarised the approach and methodology which was adopted for the technical highway impact assessment at each key stage of the project. The methodology was agreed with the local and strategic highway authorities (OCC and the HA) and I conclude that the assessment was comprehensive and robust.

6. ROAD TRANSPORT IMPACTS – DISCUSSION OF RESULTS

Introduction

6.1. In this section I summarise and discuss the results of the technical assessment completed for each of the key stages of the project:

- Options Appraisal;
- ES Traffic and Transport Assessment; and
- Further Technical Assessment.

6.2. My evidence in this section relates to Statement of Matters 2 (part) and 6 (a) and 6(b).

Summary of Options Appraisal Work Results

Bicester Town Station

6.3. As I state in section 5, my company's input to the options appraisal work was limited to investigating potential alternative highway access/improvement options, including bridge options, as a potential replacement of the London Road level crossing. Mr Barker, Chiltern Railways, (his reference **CRCL/P/6/A**) provides further detail on the option appraisal process and the selection of preferred options.

Water Eaton Parkway Station

6.4. At Water Eaton the range of highway access/improvement options was restricted given the decision to retain the existing bus Park and Ride junction and the other constraints of the site.

Summary of ES Traffic and Transport Assessment Results

Assessment Criteria

6.5. The significance of effects reported in the Traffic and Transport Chapter in the ES was determined using the criteria as defined by the 'Magnitude of Effect' and 'Significance of Effect' tables [Tables 11.1 and 11.2, pages 11-4 and 11-5, **CD/1.16**], which I have reproduced (Tables PJT 1 and PJT 2) in the Section 5 of this Proof.

Construction Effects

6.6. The construction strategy envisages, where feasible and reasonable, that bulk material delivery and waste removal will be transported by rail, particularly rail sections, ballast and sleepers, thereby minimising the potential effects on local roads of construction related road traffic. The ES assessment considers, however, a worst case scenario which assumes all movement of bulk material by road. There will also be an element of other road based construction related traffic, such as delivery and removal of other mainly non-bulk materials, movement of construction personnel and other general construction traffic. I would highlight, however, that construction traffic is temporary in its effects and would not cause significant delay or inconvenience to other road users.

6.7. Construction traffic will be managed through the *Code of Construction Practice*, [**CD/1.24**]. A proposed construction vehicle routeing plan based on the location of the main compound areas is included in Annex I4a and I4b of the ES

[CD/1.18], the detail of which will be developed and agreed with the local and strategic highway authorities.

- 6.8. The ES transport assessment concludes (section 11.5.2) that the effect of construction traffic, taking into consideration the relatively small volume of such traffic, will, generally during the construction period, be of 'slight' to 'negligible magnitude'. It is recognised, however, that there may be some peak construction traffic movements for limited periods which may have a 'moderate' effect on some routes and 'receptors'. In particular, the significance of construction traffic was assessed as being of 'moderate significance' due to some unavoidable routing of construction related traffic through some residential areas, although it emphasised that any disturbance will be temporary and short term.
- 6.9. The HA, in its letter of representation to the DfT [Appendix PJT8], urged CRCL to work closely with the HA's Area Team 3 regarding the implementation of the proposals, particularly in terms of construction traffic. In response [Appendix PJT9] CRCL acknowledged the request to work closely with the Area Team 3, (the team responsible for matters affecting the day to day operation of the trunk road network), in respect of agreeing a detailed construction plan and other practical issues of implementing the proposal as it may affect trunk roads. I confirm that it is the intention of CRCL to work with both the HA and OCC to minimise the potential effects of construction traffic on the highway network should the TWAO be authorised.

Operational Scheme-wide / Wider Context Effects

- 6.10. The COTM results reported in the ES Traffic and Transport chapter (Section 11.5.3) indicated that the Order Scheme will result in an increase in rail passengers of 'major magnitude' on the Bicester Town to Oxford rail corridor and the Bicester to London Marylebone rail corridor. The additional rail services introduced as a result of the Order Scheme will, however, accommodate the additional passengers and consequently this reduces the significance of these effects from 'major' to 'moderate'. It was therefore concluded that as regards rail passenger transport effects no further mitigation was required.
- 6.11. The COTM highway model (SATURN) simulation summary statistics presented in the ES (Table 11.29) were derived from the full COTM network (as compared to the cordoned COTM highway model utilised in the further assessment work). When comparing the results from the 'with Scheme' scenarios with those from the 'No Rail Schemes' scenarios, the highway benefits of the Scheme tend to be masked by the effect of released 'suppressed demand'. Whereas the further road transport assessment work, using the cordoned model and rail passenger data from SDG, explicitly establishes the benefits of the Order Scheme by simply comparing the operation of the network with and without the Scheme.
- 6.12. Resultant highway benefits of the Scheme, despite the masking effect of the release of suppressed demand on the network, can still be identified from the full COTM highway model results, as summarised in the following extract from the 2016 AM peak hour results (for full results see Table 11.29 of ES) [CD/1.16].

Table PJT 3: SATURN Summary Statistics – Overall COTM Network: 2016 AM Peak Hour (08:00 -09:00)

Scenario	Total Trips Loaded	Total Travel Distance (pcu km)	Average Travel Distance per Trip (pcu km)	Average CO ₂ Emissions per Trip (kg)
No Rail Schemes	121,073	5,645,907	46.63	1.302
CRCL	121,162	5,642,551	46.57	1.300
Resultant Benefits of the Scheme (Difference)	+89	-3,356	-0.06	-0.002
CRCL + EWR	121,174	5,640,973	46.55	1.299
Resultant Benefits of the Order Scheme (Difference)	+101	-4,934	-0.08	-0.003

Source: ES Table 11.29

6.13. Network wide, the Order Scheme is predicted to have a beneficial effect on the total travel distance, the average travel distance per highway trip and the average CO₂ emissions per trip, which all reduce with the Order Scheme (with either the Chiltern Scheme or the Chiltern Scheme + EWR) compared to the future baseline scenario. Accordingly, it was concluded that the Order Scheme will have a beneficial effect on the wider highway network and no mitigation was necessary.

6.14. The A34(T) corridor in the vicinity of Water Eaton typically operates at or near to capacity during the highway peak hours, hence only slight changes in overall traffic flows were to be expected between the different modelled scenarios, as were exhibited by the results from the full COTM highway model. Accordingly, the ES concluded that the Order Scheme will result in a slight to negligible effect on the A34(T) traffic flows, which is considered to have a slight / negligible significance. No mitigation was considered necessary.

Operational Local Level Effects

6.15. The results from the S-Paramics micro-simulation traffic models of the London Road highway corridor in Bicester and the immediate highway network around Water Eaton demonstrate that Order Scheme related traffic can be satisfactorily accommodated with the implementation of the proposed highway improvements. At Water Eaton it is considered that the implementation of highway improvement measures, constructed as part of the Order Scheme, will result in a beneficial residual (i.e. long term) effect on the operation of the local highway network.

6.16. The ES concludes that the residual effects of the Order Scheme, following the implementation of mitigation measures identified, will be as follows:

6.17. In Bicester, (ES Section 11.5.4), there are residual effects as a result of the Order Scheme in respect of walking and cycling, bus public transport and the local highway network. In terms of effects on walking and cycling, the residual effects are considered to be of ‘slight magnitude’ and ‘moderate significance’; in terms

of bus public transport the residual effects are considered to be of 'slight' – 'moderate magnitude' and 'moderate significance'; and in terms of the local highway network the residual effects are considered to be of 'slight magnitude' and 'moderate significance'.

- 6.18. At Islip Station (ES Section 11.5.5), residual effects of the Order Scheme are considered to be 'negligible magnitude' and 'slight / negligible significance'.
- 6.19. In the vicinity of Water Eaton Parkway Station (ES Section 11.5.6), the residual effects on walking and cycling, and bus public transport, are considered to be of 'negligible magnitude' and 'slight / negligible significance'. However, the introduction of the Order Scheme and the associated highway improvement measures result in a beneficial residual effect on the local highway network of 'slight magnitude' but which is deemed to be of 'major significance'.
- 6.20. At Oxford Station (ES Section 11.5.7), residual effects are considered to be of 'negligible magnitude' and 'slight / negligible significance'.

Summary of Further Assessment Results

Wider Impacts from Cordoned COTM Highway Model

- 6.21. The further highway assessment work was undertaken using a cordoned area of OCC's COTM highway SATURN model, in order to explicitly establish the highway network benefits of the Order Scheme. Refinements were made to the cordoned model and the SDG refined rail passenger demand forecasts were used as the basis for the rail traffic generation inputs.
- 6.22. Overall, the results have identified highway network benefits as a result of the Order Scheme. In particular, the results show a reduction in traffic as a direct result of the Order Scheme on the A34(T) between Bicester and Oxford, on the A34(T) towards the west and south of Oxford, and on the A40 towards London. These reductions reflect the transfer from car based travel to rail based travel for journeys between Bicester and Oxford, and to destinations including London, Reading and High Wycombe.
- 6.23. The resultant highway network benefits, derived from the cordoned COTM (SATURN element) highway model results, are summarised, by way of example, for the 2016 AM peak hour in Table PJT 4.

Table PJT 4: COTM (SATURN) Simulation Summary Statistics – 2016 AM Highway Peak Hour (08:00-09:00)

Scenario	Total Journey Time (hrs)	Total Journey Distance (km)	Overall Average Speed (kph)	CO ² Emissions (kg)	Over-Capacity Queues (hrs)	Total Trips Loaded (pcus)
Without Scheme	20669	1254779	60.7	76649	1157	76907
With Scheme	20475	1245891	60.9	76492	1092	76884
Benefits of Scheme (Difference)	-195	-8888	+0.2	-157	-65	-23

Source: Further Highway Impact Assessment, Table 3, page 8 [CD/2.23]

6.24. From the cordoned COTM modelling results the transfer to rail based travel with the Order Scheme translates into the following benefits across the highway network as a whole:

- reduction in journey time
- reduction in journey distance
- reduction in traffic queues
- increase in overall average traffic speeds
- an associated reduction in CO₂ emissions.

Local Level Impacts from Cordoned COTM Highway Model

6.25. In respect of the key junctions identified by OCC and the HA, the results from the further assessment demonstrate that the impact of traffic on the surrounding highway network in the vicinity of Water Eaton Parkway Station, beyond the S-Paramics modelled area (dealt with below), will be small. Accordingly, it is concluded that the Order Scheme will not have a detrimental impact on the operation of the surrounding highway network in the vicinity of the proposed Water Eaton Parkway Station.

6.26. The final results from the further highway assessment are presented in the report '*Further Highway Impact Assessment*' [CD/2.23].

Local Level Assessments Using Micro-simulation Traffic Models

6.27. The detailed analysis of the A4165, Banbury Road, highway corridor in the vicinity of the proposed Water Eaton Parkway Station, was updated as part of the further assessment work to take account of the refined rail passenger demand forecasts. The modelling also considered the cumulative effect of the EWR proposals, following publication of the *GRIP4 Outline Business Case* [CD/2.19].

6.28. The updated modelling work further supports the ES conclusion (Section 11.7) that the introduction of the Order Scheme and the associated improvements to the existing P&R access junction significantly improves the operation of both the junction and the local A4165 highway corridor as a whole. The simplified signal controlled operation improves the junction efficiency and enables it to not only accommodate the additional traffic associated with the Order Scheme but also to reduce the existing queues and delays experienced at the junction and elsewhere along the A4165 corridor. The detailed modelling results are presented in Tables 7 and 8 (pages 14 and 15) of the '*S-Paramics Micro-simulation Traffic Model of A4165 Banbury Road, Oxford (Water Eaton Parkway Station) Model Development and Forecasting Report*', [CD/2.25]. For example, from Table 8, the AM peak period maximum southbound queue is predicted to be 58 vehicles in 2016 without the Order Scheme reducing to 13 vehicles with the Order Scheme improvements.

6.29. Furthermore, the result from the assessment of the Chiltern Railways Scheme at 2026 with EWR indicates that the proposed junction improvements will satisfactorily accommodate the cumulative rail related traffic generation.

6.30. The S-Paramics micro-simulation traffic model of the London Road highway corridor, in the vicinity of Bicester Town Station, was also updated as part of the further assessment work, again taking into account the refined rail passenger

- demand forecasts and the cumulative effect of the EWR proposals. The revised model also included more detailed rail service timetabling information as it affects the London Road level crossing. The updated modelling results are presented in the PFA Consulting report '*S-Paramics Micro-simulation Traffic Model of London Road, Bicester (Bicester Town Station) Model Development and Forecasting Report*' [CD/2.24]
- 6.31. The effect of the level crossing closures on traffic along London Road is demonstrated by the graphs included in the report [Appendices K and L, CD/2.24] which represent journey times (in seconds) plotted at 1 minute intervals and maximum traffic queues along London Road during the morning and evening peak hours (08:00 - 09:00 and 17:00 - 18:00).
- 6.32. The journey time graphs (Appendix K) show the increased journey times throughout the peak hours due to the closure of the level crossing. The graphs show a general increase in average journey time for both southbound and northbound traffic in both the AM and PM peak hours with the Order Scheme.
- 6.33. The journey time graphs also show the differences in journey times between a 2 minute closure and a 3 minute closure of the level crossing, which would occur for northbound passenger trains only. The 3 minute closure scenario results in a longer average journey time through the network for both northbound and southbound traffic, when compared to the 2 minute closure scenario. I would emphasise, however, that the modelling has assumed that the 3 minutes closure occurs for each northbound passenger train closure, but that it is anticipated that a 3 minute closure may only occur occasionally.
- 6.34. The effect of the addition of EWR services and the increase in level crossing closures in 2026 is also shown. Again 2 minutes closures and 3 minutes closures (northbound passenger trains only) were modelled.
- 6.35. The traffic queue graphs (Appendix L) show the general build up and dispersal of queued traffic as a consequence of the closure of the level crossing. At 2016, with the Chiltern Railways Scheme only, maximum queues at the level crossing (2 minute closure) in both the AM and PM peak hours are about 20 – 25 vehicles for both southbound and northbound traffic directions. The graphs also identify the additional queuing resulting from an extended level crossing closure of 3 minutes associated with northbound passenger trains. At 2016, a 3 minute closure increases the maximum queues to approximately 30 - 35 vehicles during the peak hours.
- 6.36. At 2026 with the Chiltern Railways Scheme only, maximum queues (2 minute closures) southbound are about 30 vehicles during peak hours, while northbound maximum queues are about 25 vehicles. If a 3 minute closure occurs the maximum queues increase to approximately 35 vehicles southbound and between 30 - 35 northbound.
- 6.37. With the introduction of EWR services the number of closures increases to an average of 8 per peak hour but queues are expected to be similar or slightly less than with the Chiltern Railways Scheme only. This is because the COTM modelling indicates that with the increased frequency of level crossing closures a proportion of traffic will divert to alternative routes and therefore traffic volumes along London Road reduce as shown on Figures 6 and 7 of [CD/2.24].

- 6.38. The results of the further road transport assessment work demonstrated that there would be a slight effect on journey times for traffic travelling through the network when the London Road level crossing closes. At other times, journey times throughout the network would be similar or only marginally longer than the baseline. Consequently, although the modelling methodology has been refined since the ES assessment, which results in slightly different results, the further assessment supports the general conclusions of the ES that, in terms of the local highway network, the residual effects are considered to be of 'slight magnitude' and 'moderate significance'.

Conclusion

- 6.39. In this section I have summarised and discussed the results of the road transport assessment work undertaken for each of the key stages of the project. I conclude that the results show that the Order Scheme will provide overall transport benefits in terms of:
- reductions in highway journey times
 - reductions in traffic queues, and
 - an increase in overall average traffic speeds through the network
 - increase in overall average traffic speeds
 - an associated reduction in CO₂ emissions.
- 6.40. The evidence I have presented in this section addresses Statement of Matters items 2 (part), 6 (a) and 6 (b).

7. STATION LAYOUT, ACCESS, PARKING AND DROP-OFF ARRANGEMENTS

Introduction

- 7.1. In this section I set out and explain the rationale for the proposed access, parking and drop-off/pick-up arrangements at each of the stations. This evidence addresses Statement of Matters items 2 (part) and 6 (b).
- 7.2. The proposed works forming the Order Scheme are to be funded and delivered in Phases. Phase 1 of the Order Scheme comprises the Chiltern Railways proposals, including new rail services, rail infrastructure and stations (new and improved), as defined in the Order.
- 7.3. Phase 2A and Phase 2B of the proposed works are not required by Chiltern Railways but are needed for the EWR project. Phase 2A relates to work to increase the clearances in Wolvercot Tunnel and will be undertaken at the same time as Phase 1, and financed by the DfT. Phase 2B relates to EWR and will be funded as part of the EWR proposals when this comes forward.
- 7.4. All works discussed here are associated with Phase 1 unless specifically identified as Phase 2.

Bicester Town Station

- 7.5. Following consultation with OCC a revised Bicester Town Station layout has been developed to incorporate:
- a public transport interchange
 - taxi/waiting area
 - improved pedestrian footways
 - an improved London Road/Station Approach junction layout and
 - a wider Station Approach.

The revised layout has reduced the amount of car parking previously proposed and is consistent with the refined rail passenger demand forecasts.

- 7.6. The revised Bicester Town Station indicative layout is shown on PFA Consulting Drg. No. E094/39 Rev A [**Appendix PJT3**]. This revised layout supersedes the indicative station layout (Glenn Howells Architects 'Bicester Town Station Site Plan – Phase 2', Drg No. AL002.1 Rev 03) included with the Order application (Design & Access Statement [**CD/1.19**]). I describe the revised proposals as follows.
- 7.7. Bicester Town Station is to be rebuilt with the new station building located on the north side of the railway, accessed via Station Approach. Land adjacent to the station building and land currently part of the Mackay Trading Estate is to be acquired to provide a public transport interchange (rail/bus/taxi), secure cycle and motor cycle parking and car parking for rail passengers.
- 7.8. The proposed public transport interchange facility at Bicester Town Station would fulfil the aspirations of both OCC and CDC and is consistent with local transport policy (Cherwell Local Plan Policies TR4 and TR10, Oxfordshire's long-term transport strategy (LTP2 strategic and local transport objectives and actions, e.g. Congestion Action 1, Air Quality Action 1)). CRCL recognises that

providing a modern dedicated interchange facility at Bicester Town Station, ensuring the integration and co-ordination of bus and rail public transport services, will be critical to achieving high levels of transport sustainability and will provide a 'step change' in the accessibility of bus/rail services for the residents of Bicester. Such a facility will also complement the proposed Bicester eco-town sustainable transport planning aspirations.

- 7.9. A secondary station entrance will be provided to the south of the railway line on currently vacant land between London Road and the railway line. Vehicular access will be provided from London Road creating a one-way access arrangement. 26 spaces (including 4 disabled spaces) for short term car parking will be provided in this area together with cycle parking. Pedestrian access to the western platform and station building will be via a footbridge with an associated lift.
- 7.10. The overall layout will initially provide parking for a minimum of 60 cycles, 30 motorbikes and approximately 290 cars (including 14 - 15 disabled spaces) at surface level and a 'Phase 1' station layout plan has been prepared for information (PFA Consulting Drg. No. E094/45) **[Appendix PJT17]**. This shows the surface level parking arrangements without any decking.
- 7.11. In the future, when and if demand requires, an additional 200 car parking spaces could be provided by the construction of a single deck, bringing the overall total number of spaces to approximately 500 cars (including 25 - 26 disabled spaces at surface level) as shown on Drg No. E094/39 Rev A **[Appendix PJT3]**. Additional cycle parking would also be created in line with demand, with car parking spaces converted to cycle parking if necessary.
- 7.12. The predicted demand for car parking spaces has been calculated by SDG and Table PJT 5 summarises the predicted demand against proposed supply.

Table PJT 5: Comparison of Predicted Car Parking Demand and Proposed Provision at Bicester Town Station

		Demand		Provision
		Weekday	Weekend	
2016	CRCL	254	147	291
2026	CRCL	327	189	-
	EWR	145	67	-
	TOTAL	472	256	503

- 7.13. The proposed Station Approach/London Road junction arrangements are shown on the proposed highway works plan (PFA Consulting Drg. No. E094/37 Rev B) **[Appendix PJT5]**. Alternative junction arrangements were examined and tested but the layout proposed was found to be the most operationally efficient. The existing London Road/Station Approach junction is proposed to be realigned and improved, incorporating a ghost island right turn lane. Footways are to be provided to both sides of Station Approach at its junction with London Road with appropriate crossing facilities provided.

- 7.14. On London Road, the existing bus stops at the Station Approach junction will be relocated slightly to the north and a new pedestrian crossing provided. To the south of the railway line, a further pedestrian crossing will be provided on London Road to provide access to the secondary station entrance for those rail passengers walking to/from Langford Village (via public footpath FP 129/5 or London Road) and southeast Bicester (via London Road). Also, an additional pair of bus stops will be provided to the south of the railway line to provide more direct access to the station, via the secondary entrance.
- 7.15. The proposed highway works and car park layout at Bicester Town Station have been subject to an independent Stage 1 Road Safety Audit and no significant design issues were identified.
- 7.16. Station Approach, beyond the existing extent of public highway, will remain a private road. The public transport interchange and car park are contained within this private area. A pedestrian and cycle link will connect Station Approach with Pingle Drive and Bicester Outlet Village, with the potential to become a controlled bus link in the future.
- 7.17. Simulated vehicle track plots have been prepared to demonstrate that the revised layout can adequately accommodate buses to and from the station. Large heavy goods vehicles are also able to access the remaining units of the McKay Trading Estate, albeit large articulated HGV's may need to reverse to dock with the units loading bays. Such a manoeuvre is currently required for Unit 1 and in practice it is not uncommon for HGV's to have to reverse along a short section of carriageway to access premises and I would expect such a manoeuvre to be assisted by a person on the ground. Vehicle track plots are shown on the swept path analysis plan (PFA Consulting Drg. No. E094/40 Rev A) **[Appendix PJT18]**.
- 7.18. In addition vehicle track plots have been prepared to demonstrate that larger HGV's can be accommodated by the proposed junction arrangements; these are shown on the swept path analysis plan (PFA Consulting Drg. No. E094/43) **[Appendix PJT19]**.
- Bicester Outlet Village Existing Car Park for Rail Passengers**
- 7.19. Bicester Outlet Village has recently constructed a surface car park on what was a disused coal yard **[Photograph 1 Appendix PJT20]**. The car park is located to the north side of the railway, south west of the existing station, on land between the existing Bicester Outlet Village multi-storey car park and the railway.
- 7.20. Overall a total of 367 spaces are marked out (no disabled spaces) and the car park is operational. The car park can be accessed from Station Approach where there is a large sliding gate which when shut prevents access. **[Photograph 2 Appendix PJT20]**. The car park can also be accessed from Pingle Drive but this is controlled by a rising barrier **[Photograph 3 Appendix PJT20]**. A ramp approximately half way along the car park provides access to the upper deck of the adjacent Bicester Outlet Village multi-story car park **[Photograph 4 Appendix PJT20]**.
- 7.21. The car park is divided by a row of bollards with the aisle bollards removable. The area to the north of the bollards has 213 spaces. Signs on site **[Photograph 5 Appendix PJT20]** indicate that this northern area of the car park is available for rail passengers use only during weekdays between 06:00 – 22:00, Monday to Thursday and 06:00 – 23:45 on Fridays. During weekends the car park can be

used by visitors to Bicester Outlet Village and rail passengers between 06:00 – 23:00. No charge is made for use of the car park at any time of the day.

- 7.22. The proposed new station building and footbridge are located within the north eastern corner of the car park and will result in the permanent removal of 37 spaces. The Order Scheme red line boundary has been drawn to allow space for construction and a further 16 spaces would be temporarily unavailable during construction of the station.
- 7.23. Mr Gilder, ERM, (his reference **CRCL/P/12/A**) provides evidence regarding the planning and operational issues of this car park.

Islip Station

- 7.24. Islip Station will remain principally for local community use, rather than as a facility for the wider area. There are no highway works associated with Phase 1. As part of Phase 2, a new footway will be provided along the station access road (a private road), a new section of footway on Bletchingdon Road together with ramped access from the road for the new London bound platform.
- 7.25. The station access, parking provision (32 car parking spaces and 8 bicycle parking spaces (4 sheltered Sheffield stands)) and drop-off/pick-up forecourt arrangements will remain 'as existing' with Phase 1. As part of Phase 2, a new London bound platform will be built to serve the re-instated second track, as shown on the indicative station layout (Glenn Howells Architects 'Islip Station Illustrative Site Layout Plan – Phase 2', Drg No. AL012.1) included with the Order application (included in the Design & Access Statement [**CD/1.19**]).
- 7.26. In Phase 2, with the addition of the second platform, additional disabled car parking (2 spaces) will be provided, located approximately central to both platforms. Overall, car parking spaces will need to be reduced to approximately 25 spaces due to the Phase 2 works. In Phase 2, it is proposed to relocate the existing bicycle parking provision and provide new motorcycle parking (2 spaces).

Water Eaton Parkway Station

- 7.27. An indicative station layout was included with the Order application (Glenn Howells Architects 'Water Eaton Parkway Illustrative Site Layout Plan Phase 2', Drg No. AL021.1 Rev 05) included in the Design & Access Statement [**CD/1.19**]. This layout shows the proposed modifications to the Bus P&R signal-controlled junction to provide access to the station and the relocated rail aggregates depot.
- 7.28. The new rail station facility at Water Eaton is proposed to be constructed adjacent to the existing Water Eaton Bus P&R site to provide a major transport interchange. Land is to be acquired to build the station building, station forecourt drop-off/pick-up and rail parking. The station building would be built at the road level of the A4165, Banbury Road, with internal access to the lower station level. New bus stops are proposed adjacent to the station on the south side of the railway line. The northbound bus stop would be a '2 bus' lay-by, whilst the southbound bus stop would be on-carriageway within the existing bus lane. A new signal controlled 'Toucan' crossing on the A4165, Banbury Road, will be provided in the vicinity of the new bus stops to provide access to the station building, and the new pedestrian ramp to the lower station level (track level) and Bus P&R.

- 7.29. Access to the station for vehicular traffic (cars, taxis and passenger drop-offs/pick-ups) plus cycles and motorcycles will be via the modified Bus P&R signal controlled junction. The existing rail aggregates depot access road would be closed, with the associated island and traffic signals removed. The rail aggregates depot is proposed to be relocated to the north of the Bus P&R car park with access via the improved existing P&R access junction and a new road on the periphery of the Bus P&R car park. The junction layout and traffic signal control would be simplified.
- 7.30. The proposed junction arrangements and associated highway works are shown on the proposed highway works plan (PFA Consulting Drg. No. E094/36 Rev A) **[Appendix PJT6]**.
- 7.31. The Order Scheme includes an initial level of parking to accommodate 100 cycles, 75 motor bikes and approximately 840 cars at surface level (including 40 disabled spaces) Partial single level decking could increase the car parking capacity to approximately 1,000 spaces (including 50 disabled spaces at surface level) if and when demand requires. Similarly, the cycle parking could be expanded in the future.
- 7.32. The predicted demand for car parking spaces has been calculated by SDG and Table PJT 6 summarises the predicted demand against proposed supply.

Table PJT 6: Comparison of Predicted Car Parking Demand and Proposed Provision at Water Eaton Parkway Station

		Demand		Provision
		Weekday	Weekend	
2016	CRCL	689	559	842
2026	CRCL	893	725	-
	EWR	214	214	-
	TOTAL	1,107	939	1,036

- 7.33. The proposed highway improvement works and car park layout at Water Eaton Parkway have been subject to an independent Stage 1 Road Safety Audit and no significant design issues were identified.

Oxford Station

- 7.34. The existing Oxford Station forecourt is used by buses, taxis and for the dropping-off and picking-up of rail passengers and allows pedestrian access to the main station building and access to the existing cycle parking (approximately 600 spaces). The forecourt will be maintained with the Order Scheme proposals.
- 7.35. It is understood that OCC's 'Access to Oxford' project is examining means of improving the station forecourt layout for buses, cyclists and pedestrians. The Order Scheme does not conflict with any of these proposals and CRCL will work with OCC and others to develop these plans.
- 7.36. Long stay car parking spaces (approximately 490 spaces) are available in the car park located to the south side of Botley Road, accessed via Becket Street. Rail passengers can access the station via a pedestrian footbridge over Botley Road. This car parking will remain unaffected by the Order Scheme proposals.

7.37. The Order Scheme proposals at Oxford Station are as shown on the indicative station layout (Glenn Howells Architects 'Oxford Station Illustrative Site Layout Plan', Drg No. AL032 Rev 02) included with the Order application (included in the Design & Access Statement [CD/1.19]).

7.38. The Order Scheme will affect the existing small car park located to the north of the station forecourt. Currently this car park is for short term parking (approximately 40 spaces) and car parking for staff (approximately 50 spaces). With the Order Scheme, the overall number of spaces will be reduced to approximately 46 due to the works. I understand that Chiltern Railways are discussing with First Great Western the relocation of parking.

Conclusion

7.39. In this section I have set out and explained the rationale for the proposed access, parking and drop-off/pick-up arrangements at each of the stations. I conclude that the proposals are appropriate to accommodate the forecast rail passenger requirements, including the predicted demand for the parking of cycles, motor cycles and cars. I also conclude that the proposals are in conformity with local transport planning policies and are reasonable and justified. The evidence addresses Statement of Matters items 2 (part) and 6 (b).

8. PUBLIC HIGHWAY CROSSING CLOSURES

Introduction

- 8.1. In this section I address the highway implications of the proposed permanent closures of public highway crossings (public roads only) along the route of the Order Scheme. The evidence relates to Statement of Matters item 6 (c). Other CRCL witnesses will provide evidence on the proposed measures of other existing rail crossing as they are affected by the Order Scheme.

Islip, Mill Lane Level Crossing

- 8.2. The Order Scheme includes closure of Islip Mill Lane level crossing and construction of a DDA compliant footpath and bridleway overbridge replacement.
- 8.3. The existing public highway will be stopped up on both sides of the railway. With the Mill Lane level crossing closed, access across the railway for road vehicles will be via the existing public roads through Islip via Mill Street and Kidlington Road.
- 8.4. The decision to close an existing level crossing has to take into account often conflicting requirements. The highway and access issues at Islip, Mill Lane level crossing include the frequency of use of the crossing, the presence of an adequate alternative public highway route and the resultant impact on movement.
- 8.5. Following the proposed closure of the Mill Lane level crossing access across the railway for road vehicles will be via the existing public roads through Islip via Mill Street and Kidlington Road. The majority of Mill Street becomes a cul-de-sac of approximately 500m (third of a mile) in length serving in the order of 40 dwellings. However, this is effectively how Mill Street operates at present as the level crossing gates rest in a down position across Mill Lane and are required to be manually operated. A vehicle driver is therefore required to telephone the signalman for permission to cross and then has to open and close the crossing gates. Traffic surveys undertaken during June 2010 recorded, over a four day period, only 11 vehicles using the level crossing. This is a daily average of less than three vehicles [CD/2.18].
- 8.6. My company has undertaken an access survey along Mill Street to measure the existing carriageway width and record any restrictions to width as a result of on-street parking which might impact on emergency vehicle access to existing properties. It is concluded that access can be maintained for emergency vehicles. I therefore conclude that following closure of the level crossing the situation as regards emergency vehicle access would not change from the existing situation [PFA Consulting Drg. No. E094/38 reproduced at **Appendix PJT21**].
- 8.7. PFA Consulting has consulted the Oxfordshire Fire and Rescue Service and was advised that the Service did not have any adverse comments to make about the proposed closure [**Appendix PJT10**]. Accordingly, I conclude that the closure of Islip Mill Lane level crossing will have a negligible impact on vehicle movements, including access by emergency vehicles.

Langford Lane Level Crossing

- 8.8. The TWAO application includes provision for the closure of the level crossing at Langford Lane and for a replacement by a new road crossing the railway by means of a bridge (Work No. 11). The proposed new road bridge is approximately 800m south of the existing level crossing.
- 8.9. Following the receipt of representations regarding the application in respect of Work No. 11, CRCL has consulted further with interested parties and a proposed revised alignment has been prepared. The details, including an Illustrative Plan showing the original and revised alignments, are included in the '*Modifications to Draft Order Submissions (Langford Lane)*' [CD/1.28].
- 8.10. The modifications to Work No. 11 comprise revisions to a section of the new road alignment on the west side of the railway. The revised alignment will rejoin the existing highway network at a point approximately 600m to the south west of the original alignment but will comprise a similar length of new road to that previously proposed. The alignment of the new road on the east side of the railway, together with the location of the new bridge, will remain as originally proposed.
- 8.11. In terms of the effect on journeys, the revised alignment will generally result in shorter journeys than the original alignment due to its point of connection with the existing highway network. I therefore conclude that the revised alignment will have a negligible effect on road traffic when compared to the original proposals.

Conclusions

- 8.12. In this section I have summarised the effects of the public highway (road) crossing closures proposed as part of the Order Scheme. I conclude that the proposals are reasonable and justified. The evidence addresses Statement of Matters item 6 (c).

9. SUSTAINABLE TRANSPORT, INTEGRATION WITH PEDESTRIANS, CYCLISTS AND BUSES AT AND IN THE VICINITY OF STATIONS

Introduction

- 9.1. The following section describes the relevant sustainable transport matters at and in the vicinity of the stations, including the integration with pedestrians, cyclists and buses. The evidence relates to Statement of Matters item 2.

Bicester Town Station

- 9.2. The Order Scheme includes improved pedestrian access routes to the station from London Road/Station Approach following desire lines from London Road (north) and London Road (south). A new pedestrian crossing is proposed on London Road, north of the London Road/Station Approach junction, providing for those rail passengers walking to/from the town centre. A new pedestrian crossing is also proposed south of the railway, to provide pedestrian access to the station from the south side of the railway for those rail passengers walking to/from Langford Village and southeast Bicester.
- 9.3. The existing pedestrian and cycle link between Station Approach and Pingle Drive, which provides a route between the station and Bicester Outlet Village, will be maintained with the Order Scheme. The revised station layout incorporates a revised pedestrian route from London Road to Pingle Drive, along the south side of Station Approach to separate the route from any potential conflict with the McKay Trading Estate.
- 9.4. All these measures increase the accessibility of the station for pedestrians and cyclists as well as improving facilities for non-rail related pedestrians and cyclists.
- 9.5. A bus turning area immediately adjacent to the station building is proposed. Two bus parking bays are also proposed allowing buses to wait without interfering with bus, taxi or cars dropping off or picking-up passengers. A taxi rank is also proposed.
- 9.6. The pedestrian and cycle link between Station Approach and Pingle Drive has the potential to operate as a 'bus gate' if required in the future. The existing London Road bus stops adjacent to the London Road/Station Approach junction will be relocated slightly to the north, whilst the location for an additional pair of bus stops has been identified on London Road to the south of the railway line, to provide for the secondary station entrance.

Islip Station

- 9.7. At Phase 1, Islip Station will be effectively unchanged with the existing access, parking and forecourt area retained. In Phase 2, as shown on the indicative station layout (Glenn Howells Architects 'Islip Station Illustrative Site Layout Plan – Phase 2', Drg No. AL012.1 in the Design and Access Statement [CD/1.19]), new footways will be provided along the station access road and along the station side of Bletchingdon Road to meet the new ramped access from the road for the new London bound platform. With the addition of the second platform, additional disabled parking will be provided, located approximately central to both platforms.

Water Eaton Parkway Station

- 9.8. Water Eaton Parkway Station will create a major public transport interchange. Local pedestrian and cycle facilities will be significantly improved with the Order Scheme and although primarily for rail passengers, these improvements will also benefit non-rail pedestrians and cyclists.
- 9.9. The Order Scheme will provide direct pedestrian access from the A4165 Banbury Road, via a new pedestrian ramp and also via the station building itself, which will be located at road level, to the station platforms and car parks.
- 9.10. A new pedestrian and cyclist crossing (Toucan crossing) will be installed on the A4165, Banbury Road, in the vicinity of new (relocated) bus stops. Cycle access to the existing Bus P&R site and the new Parkway station from the A4165 will be improved, with diversion of the existing, rather contorted, cycle route via the existing aggregates depot access to a more direct route via the Bus P&R access junction. The separate rail aggregates depot access junction will be closed with rationalisation of the existing junction thereby simplifying crossing arrangements for pedestrians and cyclists travelling along the A4165.
- 9.11. The existing bus stops located on the A4165, Banbury Road, to the south of the Bus P&R site will be relocated northwards to be close to the station building. The southbound bus stop will remain in the existing southbound bus lane but, for northbound bus services, a 2-bus lay-by will be provided.

Oxford Station

- 9.12. At Oxford station the existing bus interchange and cycle parking will be maintained with the Order Scheme. The 'Access to Oxford' project is currently examining improvements to Oxford Station and Mr Barker (his reference **CRCL/P/6/A**), Chiltern Railways provides further details.

Conclusion

- 9.13. I conclude that the Order Scheme proposals will enhance the accessibility of the existing stations and provide increased opportunities for passengers to use sustainable modes of transport to travel to the stations.
- 9.14. At the proposed Water Eaton Parkway Station site accessibility by bus is already excellent and off-carriageway cycle routes exist. The opportunities for passengers to use sustainable modes of transport are already available and with the operation of the new rail services the opportunities are significantly increased. In addition there will be considerable scope for passengers to interchange with the existing Bus P&R services and with regular services operating along the Banbury Road.
- 9.15. At Bicester Town Station the creation of a public transport interchange and the improvement of pedestrian and cyclist accessibility will also increase opportunities for passengers to use sustainable modes of transport to access the station.
- 9.16. The evidence in this section of my Proof addresses Statement of Matters item 2.

10. INDIVIDUAL OUTSTANDING TRAFFIC OBJECTIONS

Statutory Bodies

REP/009 - Charlton-on-Otmoor Parish Council

Summary of Representation

- 10.1. Although not lodged as an objection, the representation made by Charlton-on-Otmoor Parish Council raises a number of concerns. I deal with the following highway traffic related matter: The Parish Council maintains that it is unconvinced that the London Road level crossing in Bicester will not lead to major traffic holds ups with the introduction of the new rail services. It is highlighted that London Road is a principal route to Bicester town for Charlton villagers.

Response to Representation

- 10.2. The effect of the additional closures of the London Road level crossing with the Order Scheme has been tested using the micro-simulation traffic model of the London Road corridor, the results of which are reported in section 6 of my Proof of Evidence and in detail in [CD/2.24].

- 10.3. Specifically, the effect of the level crossing closures on the journeys of those Charlton villagers travelling into Bicester along this route from the south can be anticipated from the results presented for London Road.

OBJ/131 – Mr S Howell & Mr C Cousins, Oxfordshire County Council

Summary of Objection

- 10.4. Following the withdrawal of a number of areas of concern from its original objection letter, OCC's Statement of Case sets out the outstanding concerns. I provide highway traffic related evidence in respect of the following outstanding concerns:
- Concern 3 (formally concern 4): Car parking at Bicester Town Station;
 - Concern 4 (formally concern 6): Junction design.

Response to Objection

Concern 3 (formally concern 4): Car parking at Bicester Town Station

- 10.5. The relevant sustainable transport matters at and in the vicinity of Bicester Town Station, including the integration with pedestrians, cyclists and buses, is reported in section 9 of my Proof of Evidence.

- 10.6. The relationship between the car parking demand forecasting and proposed car parking provision at Bicester Town Station is reported in section 7 of my Proof of Evidence and dealt with in detail in [CD/2.30].

Concern 4 (formally concern 6): Junction design.

- 10.7. The preliminary highway engineering layouts for Bicester Town Station and Water Eaton Parkway Station have been forwarded to OCC for consideration, together with the Stage 1 Road Safety Audits and Designer Responses.

10.8. OCC has confirmed that its outstanding concerns are generally detailed design matters. At the time of writing my Proof of Evidence consultations are on-going.

OBJ/205 – Mr H Jaeger, Bus Users UK Oxford Group

Summary of Objection

10.9. The objector states it has the following shared objectives with Chiltern Railways: increased rail capacity, improved rail access, sustainable alternatives to car use, facilitating the EWR link, extending the use of safe forms of transport with lower environmental impact, and facilitating the redevelopment of Oxford Station. However, the Group objects on a number of grounds, of which I deal with the following highway traffic related matters:

- Potential increase in road traffic congestion around Water Eaton Parkway Station, on for example the A40(T), A44(T), A4165 and A4260, and effect on Wolvercote Roundabout, Pear Tree Interchange and the main road approaches to these junctions;
- London Road level crossing bridge alternatives.

Response to Objection

Road congestion around Water Eaton Parkway Station

10.10. I would highlight that the A40 and A44 in this area are now de-trunked.

10.11. The traffic modelling that has been undertaken in this area, as reported in section 6 of my Proof of Evidence and in detail in [CD/2.23, CD/2.25], shows benefits to the road highway network as a whole as the Order Scheme encourages a transfer from road-based to rail-based travel, leading to reductions in journey times and distances and corresponding vehicular CO₂ emissions.

10.12. In particular, in the Oxford/Water Eaton area, commuters transfer to Water Eaton Parkway Station with the Order Scheme rather than travelling into the City to use Oxford Station, which is predicted to bring local benefits to the highway network in Oxford, including the Wolvercote Roundabout and the Pear Tree Interchange. The Scheme also results in a reduction in traffic on the A34(T) between Bicester and Oxford, on the A34(T) towards the west and south of Oxford, and on the A40 towards London.

London Road level crossing bridge alternatives

10.13. I would clarify that the typical level crossing closure times with the Order Scheme will be approximately 2 minutes for passenger service trains stopping and approximately 2 ½ minutes for freight trains. At 2016 and 2026, with the Chiltern Railways services there will be 4 passenger trains per hour (2 each way per hour), which will result in the level crossing being closed on average for approximately 8 minutes in the hour. In 2026, with the addition of the EWR services, there will be 8 passenger trains per hour (4 ewph) in total and the level crossing will be closed for approximately 16 minutes in the hour.

10.14. In addition to the passenger trains there will be freight services, which have been assumed to be in the order of 2 freight trains per day (1 each way per day). There is therefore the potential for the level crossing to be closed for approximately 20 minutes in an hour, if both freight services operate within an hour of each other, which it is considered to be unlikely. It is highlighted that the Cross Country passenger service referred to in the “worst case” scenario in

Table 8.1 of CRCL's Statement of Case [CD/1.27] has not been included in the technical assessments for the Order Scheme as it is not included in the EWR business case.

10.15. The effect of the additional closures of the London Road level crossing with the Order Scheme has been tested using the micro-simulation traffic model of the London Road corridor, the results of which are reported in section 6 of this Proof of Evidence and in detail in [CD/2.24].

10.16. The options appraisal work at Bicester Town Station undertaken in early 2009 considered a number of road alignments for London Road as alternatives to the existing level crossing. This work is reported separately in Mr Barker's Proof of Evidence (his reference CRCL/P/6/A) and in [CD/2.5].

Amenity Groups

OBJ/195 – Mr A Jones, CPRE Oxfordshire Branch

Summary of Objection

10.17. The objector welcomes and supports the broad objectives of the Order Scheme, i.e. in tackling congestion, addressing under capacity in the rail network, and addressing infrastructure needs to promote more sustainable travel and sustainable development, and also supports in principle promoting modal shift to public transport. However, the objector raises a number of concerns about the potential impacts of the scheme. I deal with the following highway traffic related matters:

- Management of the rail station and Bus P&R at Water Eaton in a co-ordinated and integrated fashion;
- Wider impacts and pressures on Kidlington/Water Eaton/northern Oxford area from Oxford Station:
 - Cumulative impacts;
 - Potential expansion of the parkway station;
 - East-West Rail;
 - Other local development pressures; and
 - Reconfiguration of local transport network.
- Bicester Town Station:
 - Justification of car parking spaces;
 - Adequacy of access arrangements generally, including to London Road and the feasibility of links to Bicester Village;
 - Integration of non-car modes e.g. walking, cycling;
 - Potential conflicts with car parking at Bicester Village;
 - Effects of frequent closures of London Road level crossing on the local road network.
- Islip Station
 - Operational issues relating to Islip Station remaining a station principally for local community use; and
 - Support for Parish Council representations in respect of the level crossing and design/impact of the proposed footbridge.

Response to Objection

Management of the rail station and Bus P&R at Water Eaton

- 10.18. The operation and management of the new Water Eaton Parkway Station and the adjacent Water Eaton Bus P&R facility in a co-ordinated and integrated fashion is very important to both CRCL and OCC, as P&R operator. Detailed discussions have taken place between the two parties and they are working towards a management and operations agreement. As part of these discussions, PFA Consulting prepared a possible car park management strategy to demonstrate that the two sites could be managed as a single facility, if desired.

Wider impacts and pressures on Kidlington/Water Eaton/northern Oxford area

- 10.19. The traffic modelling that has been undertaken in this area, as reported in sections 6 of my Proof of Evidence and in detail in [CD/2.23, CD/2.25], has made use of COTM, OCC's own model, to test the impact of the scheme on the wider network. The future year tests are at 2016 and 2026, and these forecast scenarios include both committed and anticipated development and infrastructure improvements. In addition, more detailed micro-simulation traffic modelling has been used to assess the operation of the proposed Water Eaton Station / Bus Park and Ride junction improvements and the Kidlington Roundabout. The conclusions drawn from the assessment work undertaken are that suitable highway mitigation measures have been included as part of the Order Scheme to ensure that vehicular traffic from the Order Scheme will be satisfactorily accommodated on the local highway network.
- 10.20. The technical assessment work supporting the TWAO application has considered the requirements of the Order Scheme up to the year 2026. The rail passenger demand forecasting work undertaken by SDG has been used to establish the level of highway traffic generation to/from the stations and assess the impact on the local highway network. The works included in the Order Scheme take account of the demand predicted up to 2026. Any future expansion beyond the Order Scheme will need planning permission separate from this TWAO application.
- 10.21. With regards to EWR, as highlighted in section 6 of my Proof of Evidence, the *GRIP4 Outline Business Case Final Report* [CD/2.19] for the western section of the EWR route was only published in July 2010. The refined rail passenger demand forecasts prepared by SDG include EWR at 2026 and these have informed the level of car parking provision now proposed at Bicester Town Station and Water Eaton Parkway Station. In terms of potential highway impact, the COTM traffic modelling undertaken for the ES, reported in section 6 of my Proof of Evidence, includes EWR, as the proposals are inherent within OCC's future forecast model scenarios. Also the revised S-Paramics micro-simulation traffic modelling, the results of which are reported in section 6 of my Proof of Evidence, includes an assessment of the potential cumulative effect of the EWR proposals.
- 10.22. As highlighted above, the COTM traffic modelling includes both committed and anticipated development and infrastructure improvements as defined by OCC.
- 10.23. Reconfiguration of local transport network as suggested is beyond the scope of the Order Scheme.

Bicester Town Station

- 10.24. The proposed car parking provision at the stations within the Order Scheme has been based upon rail passenger demand forecasting work undertaken by CRCL. These forecasts have been refined by SDG following submission of the TWAO application, which in the case of Bicester Town Station has resulted in a reduction in car parking demand. The station layout has been revised accordingly and also includes revisions to improve provision for buses, taxis and pedestrians. The methodology behind and justification for the revised proposed level of car parking at Bicester Town Station is dealt with in Mr Eyles' Proof of Evidence (his reference **CRCL/P/5/A**).
- 10.25. The adequacy of the access arrangements is dealt with at section 7 of my Proof of Evidence. In respect of the feasibility of links to Bicester Outlet Village, the revised proposed station layout includes for a potential bus link to Pingle Drive from Station Approach, a future aspiration of OCC, which will also operate as a pedestrian/cycle. OCC does not wish to see an all vehicular link between Station Approach and Pingle Drive, which could encourage additional traffic to route through the town centre. A further direct pedestrian link between Bicester Outlet Village and the London platform is also proposed.
- 10.26. The integration of non-car modes, including walking, cycling and buses, is dealt with in section 9 of my Proof of Evidence.
- 10.27. The car parking at Bicester Outlet Village is dealt with at section 7 of my Proof of Evidence.
- 10.28. The effect of the additional closures of the London Road level crossing with the Order Scheme has been tested using the micro-simulation traffic model of the London Road corridor, the results of which are reported in section 6 of my Proof of Evidence and in detail in **[CD/2.24]**.

Islip Station

- 10.29. The objector is correct in stating that the Order Scheme proposes that Islip station will remain a facility for local community use. The relatively low level of train services to be provided at Islip is intended to maintain Islip as a local station and will not create a railhead for the surrounding district. It is predicted that there will be a negligible change in parking demand.

Water Eaton

OBJ/33 – Mr CGL Smith C Eng MICE, Gosford and Water Eaton Parish Council

Summary of Objection

- 10.30. Gosford and Water Eaton Parish Council accepts the scheme in principle, however, it has objected to a number of issues. I deal with the following highway traffic related matter. Its objection letter makes reference to the 1999 public inquiry Inspector's recommendations to the Secretary of State in respect of proposals for the original Water Eaton bus based Park & Ride site, with or without an office development. The Inspector recommended refusal of planning permission on the grounds that the development would be detrimental to the Green Belt and on landscape, and would cause some significant harm to the traffic conditions and therefore to road safety on parts of the local road network. Subsequently, a revised proposal was constructed. It is argued that this creates

precedence for the Secretary of State to have reservations about the Order Scheme.

Response to Objection

10.31. The traffic modelling that has been undertaken in this area, as reported in section 6 of my Proof of Evidence and in detail in [CD/2.23, CD/2.25], has assessed the impact of the proposals at Water Eaton both on the wider highway network using the COTM, OCC's own model, and in more detail using micro-simulation traffic modelling to assess the operation of the proposed Water Eaton Station/Bus Park and Ride junction improvements and the Kidlington Roundabout.

10.32. The conclusions drawn from the assessment work are that suitable highway mitigation measures have been included as part of the Order Scheme to ensure that vehicular traffic from the Order Scheme will be satisfactorily accommodated on the local highway network.

OBJ/77 – Mr J C Thorowgood & Ms H M F Chance; OBJ/297 – Mr J Gittos of Engage Oxford; OBJ/123 - Mr S Feeney

Summary of Objection

10.33. In respect of road traffic impacts, the objectors consider that the proposals for a new parkway station at Water Eaton are intended to attract commuters, predominantly by car, with bus travel to and from the station secondary to car usage. The objectors state that this alleged prioritisation of car usage will cause an increase in road traffic. Further, the objectors are of the view that Chiltern Railways is not working closely with the local authorities and public service companies to improve the integration between bus and rail travel.

Response to Objection

10.34. The traffic modelling that has been undertaken, as reported in section 6 of my Proof of Evidence, shows benefits to the road highway network as a whole as the Order Scheme encourages a transfer from road-based to rail-based travel, leading to reductions in vehicular CO₂ emissions. In particular, in the Oxford / Water Eaton area, commuters transfer to Water Eaton Parkway Station with the Order Scheme rather than travelling into the City to use Oxford Station, which brings about localised benefits to the highway network in Oxford.

10.35. I do not agree with the statement that there is a preference for cars over buses at the new Water Eaton Parkway Station. With the Order Scheme a major public transport interchange will be created encouraging more journeys to be made by sustainable modes of transport. As reported in section 7 of my Proof of Evidence, the proposed new Water Eaton Parkway Station is ideally located adjacent to the A4165 Banbury Road, a key bus corridor between Kidlington and Oxford, and the existing Water Eaton Bus P&R site. This location offers future rail passengers the opportunity to transfer easily between bus and rail with the choice of either the A4165 service buses accessed via the new relocated bus stops adjacent to the station building at road level or the Park and Ride/hospital buses accessed via the existing Park and Ride bus interchange facility adjacent to the Parkway Station at track level.

10.36. In respect of the integration between the bus and rail network, as summarised in section 4 of my Proof of Evidence, OCC states in its LTP that the County will

further improve bus links to rail stations, in partnership with the rail industry, by improving interchange facilities, arranging bus services to serve railway stations and timing them to connect with trains wherever appropriate, improving information about bus-rail connections and further extensions to through ticketing arrangements. Specifically in respect of the Order Scheme, CRCL is working closely with the County Council and local bus companies to improve the interchange facilities at Bicester Town Station and deliver an integrated transport hub at Water Eaton.

- 10.37. This response also deals with the following objections, where the objector has not served a Statement of Case: OBJ/115, OBJ/119, OBJ/120, OBJ/121, OBJ/124, OBJ/151, OBJ/153, OBJ/156 to OBJ/178, OBJ/217, OBJ/218, OBJ/223, OBJ/224, OBJ/253, OBJ/259, OBJ/263, OBJ/267, OBJ/271, OBJ/272, OBJ/275, OBJ/276, OBJ/279, OBJ/281, OBJ/288, OBJ/291, OBJ/300, OBJ/305, OBJ/307 and OBJ/308.

OBJ/39 – Michael Graham and Amanda Roberts

Summary of Objection

- 10.38. The objectors set out 4 areas of concern. I deal with the following highway traffic related matters.

- 10.39. The objectors consider that the improvements to the Bus P&R junction at Water Eaton proposed as part of the Order Scheme will not improve the operation of the junction or A4165 corridor. The objector considers that, in the morning peak, the blocking back of traffic to Kidlington Roundabout is not due to the P&R junction but as a result of traffic queuing back from Cutteslowe Roundabout. Further the objector states that traffic sometimes extends into Summertown, south of Cutteslowe. The objectors consider that any increase in traffic along this section of road will compound the traffic congestion with implications for the local road network, including the A34(T), the Pear Tree Interchange and Kidlington Roundabout. The objectors state that Chiltern Railways cannot predict the level of traffic that will be generated by the new station.

Response to Objection

- 10.40. The traffic modelling that has been undertaken in this area, as reported in section 6 of my Proof of Evidence and in detail in [CD/2.23, CD/2.25], has made use of the COTM, OCC's own model, to test the impact of the scheme on the wider highway network with the level of highway traffic generation to/from the stations established from the rail passenger demand forecasting work. In addition, more detailed micro-simulation traffic modelling has been used to assess the operation of the proposed Water Eaton station / bus Park and Ride junction improvements and the Kidlington Roundabout.

- 10.41. The modelling shows benefits to the road highway network as a whole as the Order Scheme encourages a transfer from road-based to rail-based travel, leading to reductions in vehicular CO₂ emissions. In particular, in the Oxford / Water Eaton area, commuters are likely to transfer to Water Eaton Parkway Station with the Order Scheme rather than travelling into the City to use Oxford Station, which brings about localised benefits to the highway network in Oxford, including the Pear Tree Interchange. The Scheme also results in a reduction in traffic on the A34(T) between Bicester and Oxford, on the A34(T) towards the west and south of Oxford, and on the A40 towards London.

- 10.42. The conclusions drawn from the assessment work are that suitable highway mitigation measures have been included as part of the Order Scheme to ensure that vehicular traffic from the Order Scheme will be satisfactorily accommodated on the local highway network.

Islip

OBJ/47 – Mr F Salussolia and Mrs M Salussolia; OBJ/75 – Mr and Mrs J Delafield

Summary of Objection

- 10.43. The objectors have concerns regarding the proposed closure of Islip Mill Lane level crossing to vehicles and the potential impact on access.

Response to Objection

- 10.44. The road highway input to the decision to close Islip Mill Lane level crossing is reported in section 8 of this Proof of Evidence.
- 10.45. It is acknowledged that large delivery vehicles may have a temporary impact on access by other vehicles travelling along Mill Street, however, it is highlighted that deliveries by large vehicles, such as removal vehicles, will only occur infrequently. A June 2010 survey over four days did not show any use of Mill Lane by HGVs. If such a vehicle was obstructing an emergency vehicle the driver of the HGV would be required to move the vehicle immediately. I would highlight, however, that such a situation is no different from that which currently exists.
- 10.46. I therefore conclude that the closure of the level crossing will have a negligible impact on vehicle movements along Mill Lane.

Bicester

OBJ/66 - McKay Securities Plc

Summary of Objection

- 10.47. The objector considers that insufficient justification has been provided to justify the acquisition of the Objector's land interests and insufficient information has been provided to enable the Objector to understand the impact of the proposals on the operation of the 'retained land'. I provide highway traffic related evidence in respect of these concerns, with reference to the expanded grounds of objection set out in the letter of objection dated 12 February 2010. Mr Gilder, ERM, (his reference **CRCL/P/12/A**) will provide evidence relating to planning and operational considerations.

Response to Objection

Insufficient justification for the acquisition of land

- 10.48. The level of car parking proposed at Bicester Town Station, as shown on the revised station layout, has been established from the refined rail passenger forecasts prepared by SDG, which predict the level of parking demand by the Chiltern Railways Scheme at 2016 and 2026. In addition, further demand at 2026 has been included for EWR. The methodology for the revised proposed

level of car parking at Bicester Town Station is dealt with in Mr Eyles' Proof of Evidence (his reference **CRCL/P/5/A**) and reported further at section 7 of my Proof of Evidence.

- 10.49. The details of the station layout are described in section 7 and the creation of a public transport interchange is consistent with and meets the aspirations of both OCC and CDC. The layout is supported by vehicle swept path analysis to demonstrate that adequate manoeuvring space for these vehicles can be accommodated.

Interference with use and enjoyment of retained land

- 10.50. Access to the Retained Land during construction will be a matter for agreement between the parties.

- 10.51. In respect of adequate direct access to the retained land (i.e. Units 1-7 of the McKay Trading Estate) with the Order Scheme and operation of the accesses with appropriate size vehicles, this is dealt with at section 7 of my Proof of Evidence and demonstrated by the vehicle swept path analysis of the revised Bicester Town Station layout [**Appendix PJT18**]. Further, additional vehicle swept path analysis dealing with each individual unit of the retained land has also been provided to the objector.

- 10.52. In respect of adequate access/egress from the retained land to the public highway, vehicle swept path analysis demonstrating that the revised London Road/Station Approach junction arrangements can accommodate articulated HGV traffic has been undertaken and provided to the objector [**Appendix PJT19**]. Also the proposed highway works associated with the Order Scheme, including the revised London Road/Station Approach junction arrangements, have been the subject of a Stage 1 Road Safety Audit.

- 10.53. The proposed London Road/Station Approach junction arrangements have been tested for operational capacity using the micro-simulation traffic model of the London Road corridor [**CD/2.24**]. The use of a sophisticated micro-simulation modelling tool, such as S-Paramics, as compared to a standard junction modelling tool, such as PICADY, is appropriate and such a model is able to incorporate the effects of associate influences on traffic, such as the level crossing. The results are reported in [**CD/2.24**].

OBJ/94 – Howden Joinery Properties Limited and Howden Joinery Limited; OBJ/103 - Wolseley UK Ltd (T/A Plumb Centre); OBJ/193 – Mr R Klottrup of Tract Limited

Summary of Objection

- 10.54. The objectors are tenants of the McKay Trading Estate, Station Approach in Bicester (OBJ/94 relates to Units 5 and 6, OBJ/103 relates to Unit 3, OBJ/193 relates to Unit 2). The objectors' premises are to be retained with the Order Scheme. The objectors' grounds for objection relate to disruption of business both during and after the construction of the works proposed at Bicester Town Station.

Response to Objection

- 10.55. I deal with the highway traffic related matters once the Order Scheme is operational in relation to **OBJ/66 – McKays Securities Plc** above.

**OBJ/104 - Hartwool Ltd (T/A Grayline Coaches), Alan Gray and Brian Gray;
OBJ/130 – Plumbase Limited; OBJ/187 – Allan Plant and Bicester Auto Repairs;
OBJ/227 – Mr S Cook of Gillman and Soame Limited**

Summary of Objection

- 10.56. The objectors consider that insufficient justification has been provided to justify the acquisition of the properties (OBJ/104 relates to freehold and leasehold interest in land off Station Approach, OBJ/130 relates to leasehold interest in Unit 8 of the McKay Trading Estate, OBJ/187 relates to freehold interest in land off Station Approach, OBJ/227 relates to leasehold interest in Unit 12) and that there are better alternative sites.

Response to Objection

- 10.57. The planning and operational considerations for the station layout proposed as part of the Order Scheme are dealt with by Mr Gilder, ERM, (his reference **CRCL/P/12/A**) in his Proof of Evidence. I provide highway traffic related evidence in relation to **OBJ/66 – McKays Securities Plc** above.

**OBJ/212 – Lewis and Sarah Butler; OBJ/238 – Mr J J D Offord, Mrs E A Offord,
Mr R M Bradshaw and Mrs H S Bradshaw; OBJ/282 Dick van Wijngaarden**

Summary of Objection

- 10.58. The objectors have concerns regarding the impact of the London Road level crossing with the Order Scheme on traffic on London Road and OBJ/282 suggests alternatives to retaining the level crossing.

Response to Objection

- 10.59. The effect of the additional closures of the London Road level crossing with the Order Scheme has been tested using the micro-simulation traffic model of the London Road corridor, the results of which are reported in section 6 of my Proof of Evidence and in detail in **[CD/2.24]**.
- 10.60. The options appraisal work at Bicester Town Station undertaken in early 2009 considered a number of road alignments for London Road as alternatives to the existing level crossing. Mr Barker, Chiltern Railways, (his reference **CRCL/P/6/A**) provides further details.
- 10.61. This response also deals with the following objections, where the objector has not served a Statement of Case: OBJ/11, OBJ/111, OBJ/268 and OBJ/298.

11. OVERALL CONCLUSIONS

- 11.1. My evidence has concentrated on the Order Scheme road transport impacts and its effect on the management of road traffic and other transport modes particularly in the areas around the stations. My evidence addresses items 2, 4, 6 (a), (b) and (c) (in part) of the Secretary of State's Statement of Matters.
- 11.2. My company has completed a considerable amount of detailed technical assessment and I draw the following overall conclusions.
- (1) The Order Scheme is wholly consistent with European, national and local transport planning policies and will assist with the achievement of the key transport planning goal of allowing people to make journeys by sustainable transport modes.
 - (2) A new major public transport interchange will be created at the proposed Water Eaton Parkway Station site creating significant opportunities for people to access the station by sustainable transport modes and interchange between rail, public bus and P & R buses.
 - (3) A public transport interchange will be created at Bicester Town Station increasing the opportunities for people to use sustainable modes of transport to access the station and to interchange between rail and public bus.
 - (4) Following implementation of the Order Scheme the following road transport benefits are predicted to occur:
 - reduction in journey time
 - reduction in journey distance
 - reduction in traffic queues
 - increase in overall average traffic speeds
 - associated reduction in CO₂ emissions.
- 11.3. I have addressed outstanding objections which relate to my areas of expertise. Many of these objections can be resolved by agreements and/or by the proposed planning conditions [CD/1.12] and the Code of Construction Practice [CD/1.24].