



Oxford Parkway railway station and corridor: an environmental impact assessment (EIA)

Environmental Impact Assessment (EIA)

The purpose of an Environmental Impact Assessment (EIA) is to establish the likely impact of a development on the environment. It predicts possible impacts on habitats, species and ecosystems, and helps decision makers decide if the project should go ahead. An EIA also addresses the mitigation of potential environmental impacts associated with the development. The report should provide a non-technical summary at the conclusion so that lay-people and the media can understand the implications of the development.

Oxford Parkway station and corridor

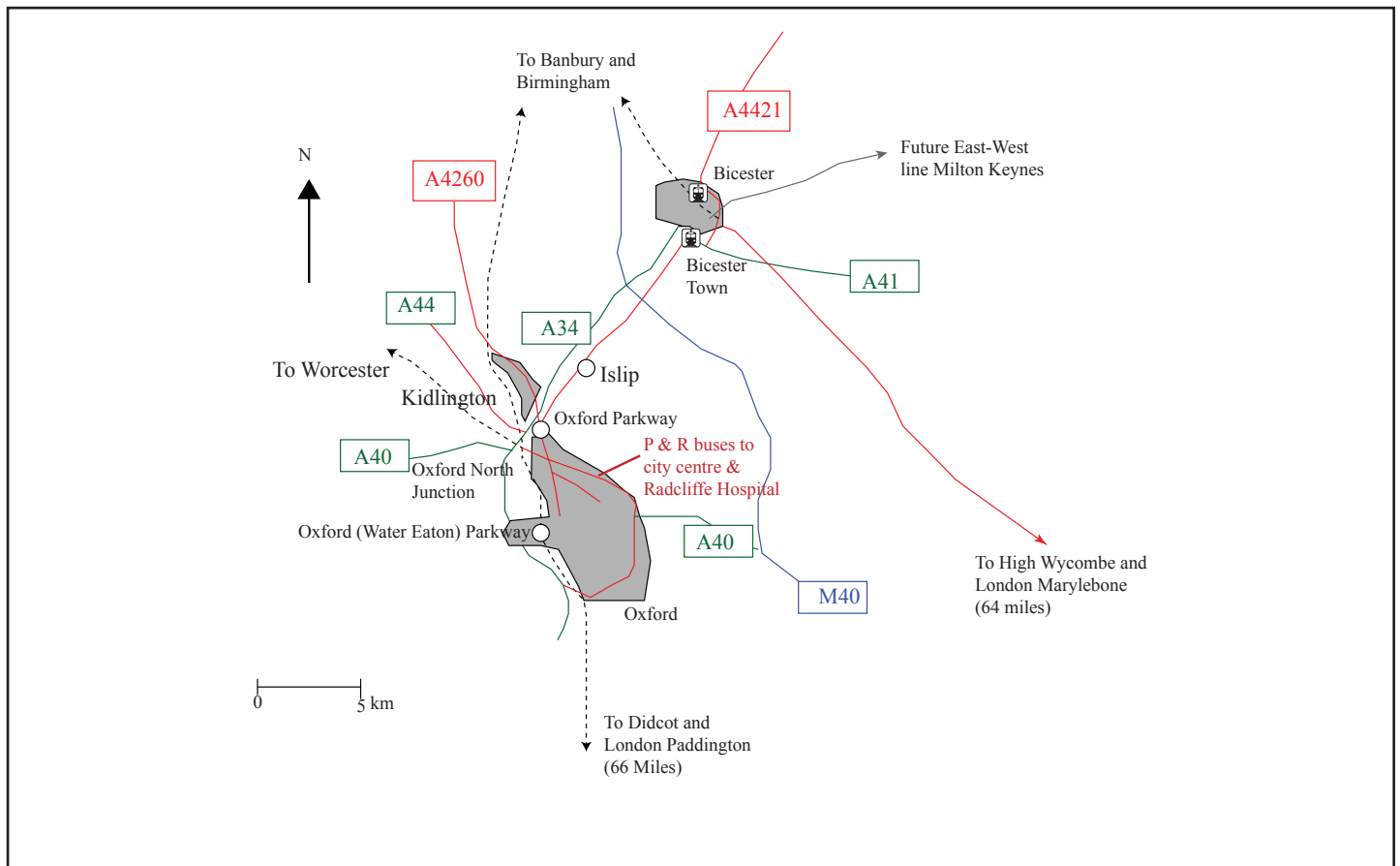
Chiltern Railways has a 20-year franchise from the Department for Transport (DfT) to operate trains between London Marylebone, Oxford and Birmingham. One of the obligations under this franchise is to enhance the existing infrastructure. One such example of this is the new line between Oxford and London Marylebone. A new station is being built at Kidlington, just to the north of Oxford, adjacent to the Wood Eaton Park and Ride.

Chiltern Railways is constructing a new railway line (including the reconstruction of an existing railway) between Oxford and Bicester together with the construction or re-construction of stations at:

- Oxford
- Oxford Parkway (Water Eaton)
- Islip, and
- Bicester Town (see Figure 1).

Moreover, the government announced plans in November 2014 to building a new 'Garden city' of around 15,000 new homes at Bicester. The need for extra transport infrastructure is clear. Travel time from Oxford to London via Bicester shall take 66 minutes (Oxford to Bicester 14 minutes).

Fig. 1 The proposed Oxford-Bicester upgrade



The new station will be built at the Water Eaton Park and Ride site (see Environmental Studies Factsheet 190) (Photo 1), with direct bus links to Oxford, Kidlington and the John Radcliffe hospital. The station will have two 8-carriage platforms, with step free access throughout and passenger facilities. The rail aggregates depot at Water Eaton sidings will be relocated just north east of its present site.

Photo. 1 The site of the new Oxford Parkway railway station – next to the Park and Ride



Land acquisition

The majority of the permanent works for the Scheme will be undertaken on existing railway land but some additional land will be required. In addition some land will be required temporarily.

Construction facilities

During the construction phase (typically between 6 and 12 months) a number of facilities need to be provided (see Photo. 1). These include:

- management offices;
- car parking;
- secure area for storing and servicing plant and equipment;
- pre-assembly of equipment;
- materials storage;
- canteens/drying rooms/toilets etc.

Code of Construction Practice

A Code of Construction Practice (CoCP) has been devised for the scheme. Its two main aims are to ensure safety and to ensure good practice for the environment. It also considers working conditions. For example, normal working hours during the construction period are between 7 AM and 7 PM Monday to Friday and between 8 AM and 1 PM on Saturdays. Quiet work, such as plant maintenance, may take place outside these hours. Certain other works may be required outside normal working hours, for example:

- 24 hour construction activity within Wolvercote Tunnel.
- Night-time railway track maintenance
- Night-time road closure work.
- Spoil removal from site.
- Special deliveries e.g. bridge girders.

Scheme alternatives

Between 1996 and 2003, a number of studies were undertaken by Chiltern Railways of three alternative heavy rail route options - the Chinnor Branch, the Southern Corridor and the Northern Corridor. The review concluded that the Northern Corridor was the best. It had a number of benefits over the other two options:

- the level of new construction would be significantly less;
- the proposed Oxford Parkway station would be very accessible to car users from north/east Oxford and north/west Oxfordshire, and has excellent bus links to the city centre and hospitals;
- significant extra revenue would result from improving the Bicester Town to Oxford commuter service.

Environmental impacts

The aspects considered in the Environmental Impact Assessment (Environmental Statement) are

- Land Use
- Noise and Vibration
- Landscape and Visual Impacts
- Ecology
- Water Resources and Flood Risk
- Cultural Heritage and Archaeology
- Traffic and Transport
- Public Rights of Way
- Air Quality and Dust
- Carbon Dioxide
- Land Quality

It is believed that the majority of negative environmental impacts are likely to occur during the construction phase (Photo. 2). However, such impacts are usually temporary and can be managed, controlled or mitigated.

Photo. 2 Construction of the new dual lines



Land use

Many of the elements of the scheme are taking place within Green Belt land, such as the dualling of the railway track, Oxford Parkway station, Water Eaton Park and Ride, the rail aggregates depot, and a number of bridges. Transport developments are considered an 'appropriate' use of Green Belt as it preserves the openness of the area.

There are no permanent or temporary impacts on Grade 1 or Grade 2 agricultural land. Although some fields may be reduced in overall size, it is claimed that this should not affect the functioning of the farms in question.

The scheme required the demolition of the disused Dalton Grain silo at Water Eaton, and five ancillary buildings. Most local people believed this was an environmental improvement! These were replaced by the new station and car park.

An area of land has been acquired for a new footbridge. However, the area is relatively small (204m²) and is below the threshold at which replacement land is required.

Noise and vibration

The Scheme will result in an increase in train movements and speeds along the route resulting in increased noise as trains pass. Train movements also have the potential to cause disturbance through vibration. Noise at stations may also be produced by changes in road traffic and station PA systems. Apart from Wolvercote tunnel, noisy works will typically take no more than 10 days.

Noise levels from trains have been assessed at 23 locations along the route, to assess the likely impact of the Scheme. In Phase 1 of the Scheme a maximum of 6 trains per hour for both directions, predicted noise impacts described as substantial or high would occur at 13 of locations. In Phase 2 of the Scheme, with the potential for up to 12 trains per hour, predicted noise impacts will occur at 16 locations, generally houses close to the railway. Under the Noise Insulation Regulations, noise insulation, e.g. double glazing, will be provided to properties that are eligible. As a result of the closure of a number of level crossings along the line, there will be a reduction in the number of train horns and alarms.

Landscape and visual impacts

Following the construction phase, it is planned to restore and revegetate areas affected. Full restoration is likely to take a number of years. Much of adverse impact on the landscape results from the loss of mature vegetation on undeveloped land. In addition, some embankments, approach roads and bridges will also affect the landscape. On the other hand, it is claimed that in some areas, notably Oxford Parkway and Bicester, landscaping and restoration will improve the urban environment.

Ecology

The majority of the habitats that have been affected are within the railway corridor and comprise railway ballast and species-poor semi-improved grassland. Outside the railway corridor, most of the habitats affected are common ones such as arable fields, semi-improved grassland and improved grassland. The Scheme will result in the permanent loss of 13 m² from the margins of the Oxford Meadows and Port Meadow.

The air emissions resulting from the Scheme may affect adjacent habitats including those within the Oxford. Monitoring of vegetation has been agreed with Natural England, to identify any habitat changes, and to ensure that timely measures can be taken.

No protected breeding bird species will be significantly affected the proposals. Significant short term impacts are predicted including to some Red List species from the loss of the railway corridor habitat and from disturbance due to increased train frequencies and speeds. The Scheme is likely to affect bats which roost in the Wolvercote tunnel. At one point, it was rumoured that the scheme would not be able to go ahead because of the bats, but this has not happened!

Short-term impacts are likely to affect great crested newts due to the loss of habitat along the railway corridor. There are badger setts in the corridor and others that are close to the corridor. The EIA states that if the setts are affected, new artificial setts would be provided with the social groups' territories.

Water resources and flood risk

Most of the scheme lies within the Cherwell Valley. There is potential for water pollution during construction. However, much of the polluting materials are stored in areas of low flood risk.

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Cultural heritage and archaeology

The scheme will have a number of impacts on historic sites and archaeology. The re-introduction of hedgerows may act as a screen to reduce the visual (and noise) impact of the scheme.

Traffic and transport

The Scheme will lead to a significant increase in the number of trains on the line, but it may reduce the number of cars on the road. Both Oxford Parkway and Bicester Town station have been designed for integrated transport. Oxford Parkway has the train station, Water Eaton Park and Ride. It therefore links trains, cars and buses. Moreover, at only about 5 km from Oxford City Centre, there are many people who will cycle from the station. It is believed that the Oxford Parkway station will not have any negative effect on cyclists and pedestrians. On the other hand, the increased volume of rail users will increase traffic locally and that can increase the potential for road traffic accidents.

Public Rights of Way

The Scheme is planning to close public roads, bridleways and footpath crossings of the railway line. Where closures are made, an alternative bridge is planned or alternative public rights of way.

Air quality and dust

In the long-term, the EIA suggests that dispersion of pollutants from rail and road, will not significantly affect residential areas. Trains are permitted to stay stationary for 15 minutes before an automatic engine cut-out occurs. Thus, even near Kidlington, there should not be an decrease in air quality due to trains. On the other hand, the increased volume of cars at certain times of the day, especially the morning rush hour, may well cause air quality to deteriorate. However, some of the area affected is non-residential.

Conclusion

The impact of the new Oxford Parkway Railway station and the rail line to Bicester appear to have relatively few negative impacts. This is partly due to the fact that there is an existing line, and partly due to the poor quality of the environment that existed at Oxford Parkway prior to it becoming a railway station. The most likely negative impact will be from the increased traffic driving to the station, especially in the morning.

Activities

- 1 What is the main purpose of an Environmental Impact Assessment?
- 2 What aspects of the environment need to be taken into account when making an EIA?
- 3 Suggest which of the impacts will have most impacts on the environment.

1 The main purpose of an Environmental Impact Assessment (EIA) is to establish the likely impact of a development on the environment. It predicts possible impacts on habitats, species and environment, and helps decision makers decide if the project should go ahead. An EIA also suggests ways to reduce the potential environmental impacts associated with the development.

2 EIAs will vary from environment to environment – a development in an urban area e.g. new school extension will differ from that in a rural area e.g. HS2. However, they should look at the same factors: land use, noise and vibration, landscape and visual impacts, ecology, water resources and flood risk, cultural heritage and archaeology, traffic and transport, public rights of way, air quality and dust, carbon dioxide, and, land and quality.

3 Most of the negative impacts appear to be short-term i.e. during the construction phase. However, although the long-term impacts of the station and the line appear not to be damaging, the increased traffic on the road, especially in the morning rush hour, could lead to a deterioration in air quality, increased congestion and frustration, and an increase in road traffic accidents.