Non-technical summary
Prepared by Temple Environmental Consultants Ltd for Network Rail Infrastructure Limited
## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>3</td>
</tr>
<tr>
<td>Objectives of Thameslink 2000</td>
<td>6</td>
</tr>
<tr>
<td>Overview of the 2004 proposals</td>
<td>7</td>
</tr>
<tr>
<td>Main proposals</td>
<td>9</td>
</tr>
<tr>
<td>Alternatives considered during the development of the scheme</td>
<td>15</td>
</tr>
<tr>
<td>Construction</td>
<td>16</td>
</tr>
<tr>
<td>Environmental impact assessment</td>
<td>18</td>
</tr>
<tr>
<td>Scheme-wide and strategic effects</td>
<td>22</td>
</tr>
<tr>
<td>Environmental effects at Farringdon Station</td>
<td>25</td>
</tr>
<tr>
<td>Environmental effects at Blackfriars Station</td>
<td>26</td>
</tr>
<tr>
<td>Environmental effects of the viaduct at Borough Market</td>
<td>28</td>
</tr>
<tr>
<td>Environmental effects at London Bridge Station</td>
<td>30</td>
</tr>
<tr>
<td>Environmental effects of the dive-under at Bermondsey</td>
<td>32</td>
</tr>
<tr>
<td>Environmental effects of the new track at Tanners Hill</td>
<td>33</td>
</tr>
<tr>
<td>Environmental effects at other locations</td>
<td>34</td>
</tr>
<tr>
<td>Mitigation and residual effects</td>
<td>35</td>
</tr>
<tr>
<td>What happens next</td>
<td>36</td>
</tr>
</tbody>
</table>
Introduction

This document provides a non-technical summary of the 2004 Environmental Statement (ES) for Thameslink 2000. The ES has been prepared to accompany revised planning applications for works associated with the Thameslink 2000 rail enhancement scheme. The scheme is, however, fundamentally the same as that examined at public inquiry in 1999 in terms of its objectives, the powers being sought and the transport benefits it provides.

History of the scheme’s development

The Strategic Rail Authority (SRA), in association with Network Rail, is seeking to extend and upgrade the Thameslink network, which currently links destinations between Bedford and Brighton via central London, as well as linking Luton with Sutton and Wimbledon.

The Thameslink service was introduced in 1988 with the reopening of the Snow Hill Tunnel. This tunnel links Farringdon and Blackfriars Stations, enabling through services to be operated across the Thames. The service rapidly attracted heavy use, and improvements to it were proposed in the early 1990s, but were not implemented.

Under Thameslink 2000, substantial investment would provide new railway infrastructure to allow more frequent and longer trains to access 121 more stations than present. Modernisation of stations at Farringdon, Blackfriars and London Bridge is a fundamental part of the scheme. A new station at St Pancras Midland Road to replace the existing Kings Cross Thameslink Station is, at the time of writing, being constructed as part of the Channel Tunnel Rail Link (CTRL) works.
An initial scheme for Thameslink 2000 was proposed in 1997, when Railtrack made an application for an Order under the Transport and Works Act (TWA). TWA Orders are made by the Secretary of State, usually following the holding of a public inquiry.

The scope of the scheme was subsequently revised in response to objections. As a result, various changes were made to the original proposals, and a further application for an Order for new and revised works was submitted in September 1999 to reflect those changes. The two applications for TWA powers, together with associated planning applications, were considered by an Inspector appointed by the Secretary of State at a public inquiry held during 2000/01.

The Inspector concluded that Thameslink 2000 would provide “very substantial … benefits” for the travelling public in promoting rail over road-based transport and in supporting regeneration and development of parts of central London and the southeast of England. The Inspector, however, identified three deficiencies with Thameslink 2000 as presented, namely:

- the replacement of a 6-storey building at Blackfriars with a new single-storey station concourse
- the absence of detailed re-instatement proposals for buildings proposed to be demolished at four sites in the Borough High Street conservation area
- and the proposals for the redevelopment of London Bridge Station, which he considered inadequate for a city of London’s status.

The Inspector considered it inappropriate to reach decisions on the submitted applications until these deficiencies were addressed.

The Secretary of State acknowledged the very substantial transportation, economic and regeneration benefits of the scheme, but agreed in principle with the Inspector.

Network Rail’s response

In light of the comments of the Inspector and the Secretary of State, Network Rail (which took over the ownership of, and responsibilities for, the national rail network from Railtrack in October 2002) has now made planning applications for the replacement of the 6-storey building at Blackfriars with a building of similar scale, and for the replacement of those buildings demolished in the Borough High Street conservation area. LB Southwark and the Corporation of London, as well as English Heritage have been involved throughout the development of these design proposals.
At London Bridge Station, Network Rail now proposes to adopt the scheme for the comprehensive redevelopment of the station known as Masterplan. LB Southwark granted planning permission and listed building consent for this scheme in September 2003.

In addition, Network Rail proposes to make a planning application to accommodate the alterations to the design at Blackfriars railway bridge that have arisen as a result of scheme development since the conclusion of the public inquiry.

The role of the Environmental Statement

The TWA Rules require that the Order Application be accompanied by an Environmental Statement (ES). Amongst other things, the ES identifies the predicted significant environmental effects of the scheme, both beneficial and adverse, and describes a range of mitigation measures to be incorporated into the scheme or to be adopted where practicable. The primary purpose of an ES is to inform the decision-making process by reporting the results of an environmental impact assessment (EIA). This is a recognised process for identifying the environmental effects of a project, and has been a formal part of the UK planning regime since 1988.

The Order applications made in 1997 and 1999 were each accompanied by an ES. The Masterplan applications were also accompanied by an ES. However, the Secretary of State has requested Network Rail, in working up scheme proposals, to provide an amended, expanded and updated ES covering the whole scheme. Network Rail has therefore produced an ES that accommodates the whole scheme, including those changed elements referred to above. It has also produced an appendix to the ES summarising the significant differences between the effects reported in the 2004 ES and those previously reported in 1997 and 1999.

The following sections of this non-technical summary:

- set out the scheme objectives
- describe the proposals
- explain how the environmental impact assessment has been carried out
- review the main alternatives that have been considered
- set out the planning and regulatory context for the scheme
- identify the predicted environmental effects, both beneficial and adverse, together with appropriate mitigation measures.
The objectives of Thameslink 2000 are to:

- reduce overcrowding on Thameslink and other London commuter services
- reduce overcrowding on the Underground
- reduce the need for interchange between main line and Underground train services
- provide for the introduction of new cross-London services, so improving public transport accessibility in southeast England, particularly to areas of expected demand growth such as the London Bridge development area, Docklands, the land adjacent to King’s Cross/St Pancras Stations and Luton and Gatwick airports
- help with the dispersal of passengers from the Channel Tunnel Rail Link (CTRL) terminus at St Pancras.

Thameslink 2000 will allow passengers from many more locations north and south of the Thames to access central London without the need to transfer to the Underground; this will relieve pressure on the Underground, and it will make some journeys faster and more comfortable. As a major new public transport service, Thameslink 2000 will encourage people to travel by train rather than by car and so reduce congestion on the roads.
Overview of the 2004 proposals

Network Rail proposes to meet the objectives of Thameslink 2000 by enabling:

- an extension of the existing Thameslink service to new destinations
- the introduction of longer trains
- a significantly greater frequency of service through central London.

More frequent services

Additional capacity will be provided in part by increasing the frequency of the Thameslink service through central London. Thameslink 2000 will achieve this by removing the constraints imposed by:

- the lack of availability of track west of London Bridge Station, which currently requires Thameslink services to share track with other trains
- the insufficient number of through-tracks at London Bridge Station
- the presence of track crossing points and junctions, particularly at Farringdon, Blackfriars and Bermondsey, which means that Thameslink and other services impede each other
- insufficient power supplies for the more frequent, more power-hungry and longer trains of Thameslink 2000
- a signalling system designed for controlling fewer trains.

More stations and longer trains

The Thameslink 2000 service will serve 169 stations as opposed to the 51 currently served by Thameslink. Twelve-car trains will be used for much of the service during the busiest periods in the morning and evening (the peak hours), in place of the current eight-car trains. In addition to the new station at St Pancras Midland Road and the major reconstruction of stations at Farringdon, Blackfriars and London Bridge, 51 other stations will be upgraded to accommodate the longer trains.

Location of main proposals in the Inner Area
## List of all stations served by Thameslink 2000

<table>
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<th>New Station</th>
<th>Existing Thameslink Station (Excluding Kings Cross Thameslink, Barbican and Moorgate)</th>
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<td>Luton Airport Parkway</td>
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<td>Harpenden</td>
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- Peckham Rye
- Leatherhead
- Nunhead
- Crofton Park
- Catford
- Guildford
- Bellingham
- Beckenham Hill
- Eynsford
- Shoreham
- Orford
- Bat and Ball
- New Cross
- St. Johns
- Lewisham
- Blackheath
- Kidbrooke
- Etham
- Falconwood
- Welling
- Bexleyheath
- Bamehurst
- Marden
- Mottingham
- New Etham
- Sidcup
- Albany Park
- Bexley
- Crayford
- Dartford
Main proposals

Main proposals in the Inner Area

The Thameslink 2000 scheme has been divided geographically into two areas: the Inner Area, which includes the works within the City of London and the London boroughs of Camden, Islington, Southwark and Lewisham, and the Outer Area, within which the remainder of the Thameslink 2000 network lies.

The main proposals in the Inner Area comprise:

• introducing a new rail connection through the tunnel (constructed by CTRL) between Thameslink and the East Coast Main Line
• upgrading Farringdon main line and Underground stations
• reconstructing Blackfriars main line and Underground stations
• introducing a new viaduct through the Borough Market area
• redeveloping London Bridge Station based on Masterplan proposals
• creating a rail underpass at Bermondsey (a ‘dive-under’)
• introducing additional track on a widened embankment at Tanners Hill (St Johns)
• platform extensions at West Hampstead, Finsbury Park, Elephant and Castle, Hither Green and New Cross stations
• upgrading of the signalling system.

In the Outer Area, works will comprise platform extensions and other minor alterations at 46 stations, together with upgrades to power supply equipment.
Farringdon Station

The proposals at Farringdon Station are essentially the same as those put forward in 1999. The proposals involve extending the platforms in order to accommodate twelve-car trains. Closure of the Thameslink branch to Moorgate is required in order to allow space for these extended platforms, as well as to allow for the increased number of cross-London services. New roof canopies will be constructed that will shelter passengers on both Thameslink and London Underground platforms. Extension of the Thameslink platforms will require reconstruction of the Cowcross Street bridge; part of Cowcross Street outside the station will be reinstated as a pedestrian precinct. The listed 54-60 Cowcross Street will be demolished to make way for a new Thameslink ticket hall and concourse as part of general improvements to passenger access.

Changes to the design reported in the 1999 ES relate to the new footbridge that enables better passenger interchange between Thameslink and London Underground platforms, and the new platform roof to the north of the existing roof. These were however examined at the 2000/01 Public Inquiry, during which they were the subject of revised planning applications.

Blackfriars Station

It is proposed to remodel the track and station layout at Blackfriars in order to accommodate twelve-car trains, to remove the conflict between through and terminating services caused by the existing layout of tracks, and to improve passenger amenity, access and interchange with the Underground. The platforms will be extended across the River Thames, and will be roofed over. A new station entrance will be provided from the south bank of the river.
In a change to the 1999 scheme, it is now proposed to replace the 6-storey building at 167-179 Queen Victoria Street with a new building of similar scale; this will house a new station concourse and ticket office (serving Underground and main line rail passengers), a mezzanine deck and a ventilation shaft designed as an architectural feature. This will remove the need for the ventilation shaft structure on the traffic island that was proposed in 1999. The building will otherwise be open to a ceiling some 20 metres high, creating a ‘cathedral’ effect to the entrance to the station. Further design development of the railway bridge has also revealed the need for some revisions to the scheme proposed in 1999; the main revisions comprise the following:

- a stronger support of the widened bridge by the eastern-most piers of the old West Blackfriars and St Paul’s bridge in order to provide additional protection against ship strike
- changes to the new bridge roof: angled aluminium-clad panels separated by glass on the north-facing sides, replace the previous design in order to improve the lighting of the platforms and the internal temperature for passengers on the station. This structure will intrude no more into the St Paul’s Heights than the 1999 proposal.

Other changes concern the configuration and location of rooms and buildings within the new station. In order to overcome safety and operational concerns, it is now proposed that the Blackfriars Underground Station will be closed to passengers over some 24 months. Other features of the scheme remain unchanged, namely:

- reconstruction of the Underground station and interchange
- a footbridge link to the main line platforms over Queen Victoria Street
- provision of two through platforms on the eastern side of the bridge and two terminating platforms on the west
- extension of these platforms across the whole length of the bridge
- provision of a roof across the entire length and breadth of the bridge
- provision of a new station entrance and ticket hall on the south bank.
Borough Viaduct

Between Metropolitan Junction and London Bridge Station, the track currently used by Thameslink services passes over the Borough Market area on a brick arch viaduct that it shares with Charing Cross services. It remains the proposal to divert the Charing Cross services onto a new double-track line carried on a series of bridges and viaducts just to the south of the existing line, leaving the existing line and viaduct for Thameslink 2000 trains.

In a change to the 1999 proposals, planning applications have now been submitted for structures to replace some of the buildings to be demolished in the Borough High Street area, namely:

- 7 Stoney Street, with a beer garden for the adjacent Wheatsheaf Pub and sculptural metal gate entrance
- 2-4 Bedale Street, with a two-storey retail/office building and a new entrance to the Borough Market
- 11-15 Borough High Street, with a four-storey office/retail building
- 16-26 Borough High Street, with a four-storey commercial building.

London Bridge Station

The proposals at London Bridge Station represent a comprehensive change to the 1999 scheme. These result from the “deficiencies” of the London Bridge Station proposals, as reported by the Inspector. The adoption of the Masterplan proposals, which have received planning and listed building consent, means that the station will be completely redeveloped as part of Thameslink 2000.

The Order works will enable changes to be made to the platforms and tracks; this will provide nine through and six terminating train platforms in order to accommodate the increased frequency of Thameslink 2000 trains, while maintaining similar service levels to Cannon Street and Charing Cross. This is unchanged from 1999.

Other main elements of the Masterplan scheme are as follows:

- two new and greatly improved station entrances on Tooley Street and St Thomas Street
- a new public concourse at ground level, linking Tooley Street and St Thomas Street
- closure of one footbridge over Tooley Street, requiring much greater street-level use by pedestrians (and new facilities to accommodate this)
- platform access via a mezzanine interchange level.
• full compliance with Disability Discrimination Act requirements, including lift and escalator access
• greater capacity for new retail space
• a redeveloped bus station with 15 bus stands (four more than at present and two more than the 13 stands proposed in the 1999 scheme) and some 50% more passenger waiting space. This proposal avoids the need to demolish Fielden House and to occupy land by New London Bridge House
• continued, limited use of Railway Approach. Under the 1999 scheme it is to be closed to through-traffic and the majority of it is to be pedestrianised
• provision for a 10-storey office building over the station (to be developed separately to the Thameslink 2000 scheme).

Bermondsey
To the southeast of London Bridge Station, the present need for Thameslink services to share and to cross over tracks used by other services to Kent, Sussex and south London precludes the increased number of Thameslink trains. To avoid this constraint, a railway underpass or dive-under near Bolina Road in Bermondsey is proposed; this will carry four tracks beneath the main line to Brighton. The work for this will require the demolition of part of an existing viaduct and the construction of an embankment. The railway bridge over Bolina Road will be widened; the road itself will be closed to through traffic, although pedestrian access will be maintained by a new underpass. Crossings of the proposed route for the East London Line will require one new bridge and the reconstruction of another. The proposals at Bermondsey are the same as those assessed in 1997.

Tanners Hill
In order to improve line capacity on the approach to London Bridge Station, it is proposed to lay approximately 450 metres of new track to create, in place of the existing single track link, a double-track link between Tanners Hill and Lewisham Vale junctions. Realignment of the existing track and changes to these junctions will be required to accommodate the double track. The work will require widening of the existing embankment, partial reconstruction of St Johns Vale Bridge and modification of the footbridge access to St Johns Station. The proposals at Tanners Hill are the same as those assessed in 1999.
Proposals at other stations

Provision of twelve-car Thameslink services on routes not currently served by trains of this length will require work (mainly extensions) to platforms at 51 other stations (including five in the Inner Area). These extensions will range in length from as little as 1 metre to as much as 175 metres. Changes in proposed platform extension length from those assumed in 1997 and 1999 are the result of refinement of the station design proposals. Other minor station works will include alterations to footbridges, stop boards, signalling and electrical equipment.

Power reinforcement

The increased frequency of Thameslink services through the Inner Area, the use of longer trains and the greater power requirements of the new trains will require an increased electrical power supply. New electrical equipment will be installed at 18 locations and existing equipment will be upgraded at 34 locations.

Signalling

The increased frequency of services through central London will require the upgrading of the signalling system. The physical works associated with the re-signalling are confined to the railway and have negligible environmental implications.

Track

The majority of changes to the track will take place in the Inner Area. In addition to the major track works at London Bridge Station, Bermondsey and Tanners Hill, the other main track works will comprise:

- new track through the tunnels being constructed as part of the CTRL project, to connect the Thameslink line to the East Coast Main Line
- new track on the new Borough Viaduct
- track re-modelling including new junctions and the removal of redundant track and junctions to the east and west of London Bridge Station
- various track works between London Bridge Station and Bermondsey
- a disused loop of track at New Cross Gate to be renovated and brought back into use.

In the Outer Area, changes to the track will be required at some locations to accommodate platform extensions.
In developing the Thameslink 2000 scheme since the early 1990s, a number of alternatives have been considered. These are reported in detail in the Alternatives Report of the 2004 ES and may be summarised as follows:

- an alternative service pattern for Thameslink 2000 was proposed after 1997
- the feasibility of two alternative routes, which would avoid works at Borough Market, was evaluated: a tunnel from Bermondsey to Clerkenwell, and an over-ground route through Elephant and Castle and Herne Hill
- alternatives for various elements of the Thameslink 2000 works at Blackfriars were examined, including options for the roof, platform configuration, bridge substructure and north bank station entrance
- alternatives at Farringdon, including options for platform extensions, were assessed
- an alternative for the replacement of 16-26 Borough High Street was proposed
- alternative track and platform arrangements at London Bridge Station were examined.

Alternatives were rejected because they did not meet the strategic or financial objectives of the project, were not the most practicable options in engineering or operational terms or were considered less advantageous in environmental terms, compared with the proposed scheme.
Construction

Thameslink 2000 will take about five years to construct following several months of enabling works, such as diversion of pipes and cables and alterations to buildings, particularly at London Bridge Station. The main works are currently anticipated to begin in January 2007 and to finish at the end of 2011.

Rail services during construction

It is intended that a weekday timetable be maintained that is similar to the current schedule, and which can provide for the same number of people. Closure of the railway will be restricted largely to overnight (4–8 hours) or weekend and bank holiday (32–56 hours) periods, leaving services generally free to run as normal during the daytime and/or weekday hours.

A limited number of special longer closures will be required including closure of Blackfriars main line station for a period of up to four weeks when trains will not stop there. A 17-day closure of some lines in the Bermondsey area and other extended closures of 76 hours or more over public holidays will also be required.

In a change to the 1999 scheme, the closure of Blackfriars Underground Station for 24 months is now proposed in order to provide for enhanced safety of passengers and workers and to reduce risks to Underground services.

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Planning and environmental management strategy

In recognising the long term benefits of Thameslink 2000, Network Rail remains keenly aware of the need to avoid, reduce, remedy or compensate for the adverse environmental effects of the scheme. A Planning and Environmental Management Strategy (PEMS) was adopted by the project in 1999 to describe, amongst other things, how environmental impacts arising from construction would be reduced or mitigated. This has now been updated to reflect the considerable work undertaken by Thameslink 2000’s project team to develop mechanisms for controlling environmental impact, both at the design stage and during construction. Network Rail has been attentive to this enhanced environmental control and is confident in its ability to mitigate many of the potential adverse environmental effects that were predicted in 1997 and 1999, as well as those predicted in 2004.

Working hours

In order to provide safe working conditions and to ensure that disruption to existing railway services and operations is kept to a practicable minimum, some works will need to be carried out at night or weekends. Working hours on specific sites will be confirmed as construction details are refined and in consultation with local authorities. However, typical hours for work outside the rail corridor will be between 8am and 6pm Monday to Friday and 8am to 1pm on Saturday.

Typical construction activities

Construction activities will vary at each location, but will involve activities such as demolition, bored piling, excavation, earthworks, erection of new structures, track-laying, signalling and electrical installation.

Access

The works will be accessed mainly by road. Where practicable, rail access will also be used; for example, for track work and delivery of ballast. Some of the works on the railway bridge at Blackfriars will also be accessed by river.
Environmental impact assessment

How the environmental effects of the scheme have been assessed

The approach to the EIA remains broadly as it was in 1999 and 1997, and is described in the Scoping and Methodology Report of the ES.

As before, the first step was to carry out a scoping exercise, to identify the range of issues to be included in the EIA process.

Topics assessed and not assessed

The scheme will affect negligible amounts of agricultural land. Such electro-magnetic radiation that the scheme is likely to produce will be significantly below limits for public exposure set by the European Union, amongst others. As a result, and in line with the 1999 ES, these topics do not form part of the assessment.

The consumption of natural resources and the generation of waste are reported on a scheme-wide basis within the ES. They are also considered as part of the separate sustainability appraisal of the scheme.

The remaining scope of the assessment was divided into 11 topics:

- cultural heritage, namely:
  - archaeology
  - landscape, townscape and built heritage
- natural resources, namely:
  - ecology and biodiversity
  - surface water resources
  - soil and groundwater
- amenity and welfare, namely:
  - air quality (including microclimate)
  - noise and vibration
  - visual amenity
  - transport and access
  - local community
  - socio-economics.

An acknowledged specialist addressed each of these topics. The topics covered the same issues as the 1999 ES, although with some changes in categories of topic to reflect better the requirements of the scheme and to avoid duplicating the reported effects. In particular, built heritage and townscape issues are combined in order to reflect the urban location of the principal works. A separate planning report has also been prepared. This assesses the scheme in the context of national, regional and local planning policy.

In accordance with government guidance, a sustainability report has been produced, which describes the findings of a sustainability appraisal of the project. It does not, however, form part of the ES.

The assessment of each of these topics is presented in separate specialist reports that support, but do not form part of, the ES.
Consultation

Since the beginning of the project in the early 1990s, there has been wide consultation on the proposals with many people and organisations directly and indirectly affected. These include residents, interest groups, local authorities, consent granting bodies, utility companies and the wider railway industry.

Revisions to the design of various elements of the scheme have been made in response to concerns raised by the people who have been consulted; for examples, the design of the roof over Blackfriars Station and the location of the platform extensions at Durrington.

Almost 300 legal commitments have been agreed with individuals and organisations, which will seek to protect their interests during the construction of the scheme and during the operation of the enhanced railway.

Consultation and information exercises will continue during the period while the powers for the scheme are sought, and during the construction period.

The Environmental Statement

The purpose of the ES is to report the predicted significant environmental effects of the scheme and the means of mitigating them. A significant effect is one that, in the opinion of the EIA specialists, should be brought to the attention of the decision-makers – principally the Secretary of State (and his appointed Inspector) and relevant local and other statutory authorities.

A significant effect may be beneficial or adverse. Wherever a significant adverse effect has been predicted, the EIA specialists have sought to propose mitigation. Given the scheme’s long history, however, and Network Rail’s focus on effective environmental management, many mitigation measures have already been integrated into the scheme.

Such mitigation is accordingly assumed by the EIA. Any additional measures, which concern principally the control of noise and vibration, are reported in the 2004 ES as mitigation options.

A distinction is made in the 2004 ES between temporary construction effects (effects that arise only during the construction process) and permanent and/or operational effects due to permanent features of the scheme or the running of the Thameslink 2000 service.
The majority of significant effects are associated with particular locations. However, some effects may be considered for the scheme as a whole. These comprise effects that:

- concern a resource of national significance
- are significant only as an accumulation of many local effects
- are relevant only for the scheme as a whole
- have a particular bearing on national or regional government policy.

Planning and regulatory context

The 2004 ES has reported the extent to which Thameslink 2000 conforms to the relevant national, regional and local planning and regulatory context.

Thameslink 2000 proposals conform with national government planning policy to promote sustainable forms of transportation and reduce reliance on the car. The scheme would assist local authorities in encouraging development that is well served by public transport and in integrating transport and land use planning policy (as required by national Policy Planning Guidance (PPG)13). Considerable attention has been paid to producing a high quality of design in new structures (as required by PPG1) where their impact might be greatest; i.e. at Blackfriars, Farringdon, London Bridge and the Borough Market area. The re-instatement proposals at Borough Market comply
with the requirement in PPG15 to minimise the impact on historic buildings as far as practicable. The project’s Archaeological Strategy conforms to PPG16 in respect of the recording or preservation of archaeological remains. Potential impacts on water resources or from noise have been identified and appropriate mitigation proposed (in conformance respectively with PPG23 and the general objectives of PPG24).

The proposals are also specifically supported by regional planning policy guidance for the South East (RPG 9), East Anglia (RPG 6), the London Plan, and strategic transportation policies within the structure plans and local transport plans for Bedfordshire, Hertfordshire, Cambridgeshire, Norfolk, West Sussex, East Sussex, Brighton and Hove, Surrey and Kent.

In respect of local planning policy, there are specific conflicts with policies to protect listed buildings and conservation areas within LB Southwark and LB Islington, and in the City of London there is a conflict with respect to the St Paul’s Heights Limits. However, in the majority of districts and boroughs where the scheme involves significant works, there is specific support in adopted and emerging planning policy for Thameslink 2000. In the majority of other local authority areas affected by more minor works, support is given either for Thameslink 2000 specifically or for improvement to the rail infrastructure generally.

The scheme is consistent with local plan policies, which encourage improvement to, and increased use of rail services to help reduce dependence on the private car. It is also consistent with the aspiration for sustainable development that is now incorporated in the majority of development plans. The scheme also conforms with local planning policy in respect of regeneration and employment. The increased accessibility afforded by the scheme would assist those local regeneration initiatives focused on town centres.
Scheme-wide and strategic effects

Beneficial scheme-wide and strategic effects

Thameslink 2000 will give rise to a range of beneficial effects across London, the South East and the East of England. These are described here.

Improved accessibility and reduced overcrowding

Thameslink 2000 will bring about significantly improved accessibility both to central London and to the places served north and south of central London. This is due to the additional number of destinations, the more frequent services and the reduced journey times. Accessibility will also be improved by enhanced interchange facilities with London Underground, particularly at Farringdon, Blackfriars and London Bridge Stations, where the severe congestion currently experienced will be significantly reduced. Thameslink 2000 will create new interchange facilities with the CTRL at St Pancras Midland Road and with Crossrail, if developed, at Farringdon.

Thameslink 2000 will reduce passenger crowding on many existing services at peak times, particularly on the current Thameslink route to Bedford and on the Great Northern line. Thameslink 2000 will also reduce crowding on the Underground by reducing the need to interchange and by providing more capacity from north to south across London.

Switch from road to rail

It is expected that there would be an increase in the use of public transport throughout the South East and East of England as a result of the project; this would be equivalent to about 25,000 additional rail journeys in the morning peak hours. A proportion of them would be people switching from car to train.

Regeneration and growth

In London, relief by Thameslink 2000 of the chronic congestion now evident in parts of the public transport system will remove what would otherwise become a deterrent to investment in the Capital.

Thameslink 2000 will support and enhance the economies of the regions served by Thameslink and will benefit international passengers by improving accessibility to Gatwick and Luton Airports (in accordance with the London Plan) and by providing an important interchange facility with the Channel Tunnel Rail Link at St Pancras.

By significantly increasing the number of passengers that can be taken to and from a number of key stations at peak times, Thameslink 2000 will help support objectives for increased employment and housing in areas designated by the Government for regeneration and/or growth,
particularly around Luton, Bedford and Cambridge.

The regeneration and improved accessibility brought about by Thameslink 2000 are expected to underpin additional employment benefits for areas around Luton and Brighton and Hove, each of which have wards containing higher than average unemployment.

Jobs supported during construction
The construction of Thameslink 2000 will create directly the equivalent of some 11,500 person years of temporary employment. It will also create indirectly, as a result of its demands for goods and services and of expenditure by those people employed in its construction, an additional 5,750 person years of induced employment.

Support of long-term employment
In the morning peak hour, the Thameslink 2000 services will offer over 7,000 more seats into London than are available today. This increased capacity is expected to attract more people into the capital, which will, in turn, support employment-generating development, particularly at Farringdon, Blackfriars and London Bridge. With the employment generated directly within retail and other facilities at the stations, particularly at London Bridge, this will significantly outweigh the 1,500 or so jobs that are predicted to be lost permanently as a result of the scheme’s direct impacts on businesses in areas affected by the construction works.

Adverse scheme-wide and strategic effects

Loss of cultural heritage
Works in the Borough Market area will potentially impact upon Roman and mediaeval remains considered to be of national importance, since they represent the development of Southwark as a key component of the historic growth of London.

Several buildings and structures at the inner London sites that, through their heritage and condition, are listed for their national importance will be adversely affected. In combination these impacts will remove a small part of London’s heritage.

These effects are described in greater detail later in the non-technical summary.
Noise during construction and operation

Construction noise will temporarily affect approximately 140 residential properties during the day and approximately 3,300 at night. About 40 commercial properties will be affected by daytime construction noise.

The operation of Thameslink 2000 is predicted to result in significant daytime noise increases at 44 residential properties and 14 commercial properties; at night, 32 residential properties will be similarly affected. Thameslink 2000 will operate along 150 miles of track, however, and in this context the total number of people subject to significant noise impacts is extremely low.

Changes in traffic flow, particularly at Farringdon and London Bridge, will result in both increases and decreases in road traffic noise levels. The increase in traffic noise is limited and not considered significant, whilst the decrease in road traffic noise levels is considered significant, and approximately 80 properties will benefit from reduced noise levels.
The conclusions of the 2004 ES are not substantially different to those reported in the 1999 ES. There is more information about the impacts on archaeology. There are also some revisions associated with changes in land use and baseline information, such as traffic flows and ambient noise.

**Beneficial effects**

The pedestrianised Cowcross Street together with the new Thameslink 2000 Station and refurbished entrance to the Underground station will result in an enhancement of the townscape character around Farringdon Station. The pedestrianisation will also enhance pedestrian access, improve visual amenity in the station and on Cowcross and Greville streets, and decrease traffic noise at some locations on Cowcross Street and Turnmill Street. These changes will provide an overall benefit for the community living and working around the station.

The several thousand additional seats on trains into central London in the morning peak hour will support employment-generating development at Farringdon. The 40 or so jobs predicted to be lost to the area as a result of physical impacts on businesses should be viewed in this context.

**Adverse effects**

There will be significant disruption during construction due to noise, vibration, visual intrusion and, potentially, dust. A combination of these impacts on Cowcross and Turnmill streets will adversely affect the local community.

The loss of some 150 car parking spaces over about three months, and loss of half of these over 30 months as a result of works affecting the Cardinal Tower car park, will constitute a temporary effect, although this must be viewed in the context of local planning policy which generally discourages private car use.

Construction will have a temporary adverse effect on the setting of listed buildings, on the character of conservation areas and of the townscape overall, and on local views of St Paul’s Cathedral.

Permanent adverse effects on the area’s cultural heritage will arise as a result of the demolition of the listed 54-60 Cowcross Street and of the impact of works on any possible archaeological remains.

Any archaeological investigation that is undertaken beforehand and that leads to publication, while not compensating for the impact, would be a benefit.
Environmental effects at Blackfriars Station

The changes to the proposals at Blackfriars Station will result in some different conclusions as reported in the 1999 ES. The replacement of 167-179 Queen Victoria Street with a new building of similar scale and the removal of the proposed vent shaft from the traffic island will provide new visual benefits and will also eliminate two significant adverse effects on built heritage reported by the 1999 ES. The revised design for the station roof will result in no different conclusions from the 1999 ES.

The proposed closure of the Underground station for 24 months during construction has been proposed for safety and operational reasons and this will help to reduce the overall construction period. However, it will result in new temporary adverse transport impacts.

Beneficial effects

In the long term, there will be clear public transport improvements in terms of both additional main line services and enhanced interchange with the Underground. The redeveloped station, in particular the new footbridge on the north bank and the new station entrance on the south bank, will enable much easier access to rail services, especially for those whose mobility is impaired. The several thousand additional seats on trains into central London in the morning peak hour will support employment-generating development at Blackfriars.

Some beneficial effects on visual amenity are predicted in the long term as a result of the redeveloped station on the north bank and, in particular, the high quality design of the replacement building. Amidst the generally adverse operational noise effects, there will be a reduction in wheel squeal noise.

Adverse effects

There will be significant disruption during construction due to noise, with residents living in the vicinity of the railway on the south bank of the river and workers in offices similarly located on the north bank particularly affected. In the long term, the

The listed southern abutment of the former West Blackfriars and St Paul’s Rail Bridge will be reconstructed around the new bridge span. The appreciation of this structure will be enhanced by its re-incorporation as part of an operational railway.
increased frequency and length of trains will result in significant noise increases during the day for offices and a few residential properties facing onto the railway.

Construction activity will also result in visual intrusion, which, together with construction noise impacts, will adversely affect the residential and leisure community at Thames Bankside.

The closure of the Underground station over 24 months will cause disruption to the travelling public during construction. It will exert pressure on existing bus services in the area and on other main line and Underground stations. It will also result in increased numbers of people walking over Waterloo Bridge, along the Strand and Fleet Street, and along Queen Victoria Street around Mansion House Underground Station. The increased walking distances that will be required would be a particular issue for those people whose mobility is impaired. Any measures to mitigate these potential effects will need to be agreed with Transport for London. They are likely to include the provision of additional bus services and passenger information, such as alternative routes and travel options.

The main line station will also be subject to a temporary closure of up to four weeks requiring Thameslink passengers to use City Thameslink Station, 250 metres to the north, during this time.

Construction work on the south bank over about two years will require temporary closure of the river path and the diversion of pedestrians via Southwark Street. This will add some 400 metres to their journey and more for people whose mobility is impaired, who will need to be diverted further, along Upper Ground.

Excavation on both sides of the river may impact archaeological remains, including waterfront structures that might be preserved within the site. Any prior investigation that leads to publication, while not compensating for the archaeological impact, would be a benefit.

Construction activity will result in temporary adverse effects on the setting and/or integrity of a number of listed structures and on local townscape character. In the long term, the southern part of the bridge roof will intrude into a limited number of views of St Paul’s Cathedral, affecting its setting, as well as some locally designated views of the Tate Modern and Tower Bridge.

The new roof will also adversely affect the views across and along the river for people near to it on the Blackfriars Road Bridge and in some apartments on the south bank.
Environmental effects of the viaduct at Borough Market

The conclusions drawn in the 2004 ES are not substantially different to those reported in the 1999 ES. The impacts of the scheme on the area’s built heritage and townscape are reduced (although they remain significant) by the four replacement structures that are now proposed. There is a greater knowledge now about the potential impacts on archaeology as a result of investigations undertaken since 2001. There are also some revisions associated with new baseline information; for example the publication in 2003 of LB Southwark’s conservation area appraisals.

Aside from the slight benefits potentially associated with publishing the findings of any prior investigations, archaeological effects associated with the Borough Viaduct will be adverse.

The new viaduct will require the demolition of the listed group of buildings at 7 Bedale Street, 1, 3 and 5 Green Dragon Court and 16-26 Borough High Street. In a development from the 1999 scheme, this group is to be replaced in accordance with the planning application for 16-26 Borough High Street. Other listed buildings affected include the Wheatsheaf pub, which is partially demolished, and 1-13 Park Street the backs and interiors of which will be directly impacted. Other listed buildings will be affected in terms of their setting, including the Globe pub and 5 Stoney Street.

Some buildings that are designated for their local importance will be directly affected including 5-9 Stoney Street, the Borough Market roof and 11-15 Borough High Street (the latter to be replaced in accordance with the planning application).

Excavation and piling may impact archaeological remains of national importance, including Roman and medieval structures that might be preserved within the site.

The possible closure of Borough High Street, which is a very busy road, over a bank holiday weekend, will result in very short-term disruption to traffic.

There will be significant disruption during construction due to noise, vibration, dust and visual impact. A combination of these impacts on Borough High Street will adversely affect the local community.

A number of properties and other locations around the viaduct will be affected in the long term by the changed views in the area brought about by the new buildings and viaduct, and by increased noise from the more frequent and longer trains.

The permanent loss of residential property in the area will be a loss to the community, as will the loss of King’s medical clinic on Borough High Street and the Ticket Place on Railway Approach, for which there are no immediate local alternatives.
Environmental effects at London Bridge Station

The scheme assessed in 2004 is substantially different to that assessed in 1999, Network Rail having now adopted the Masterplan proposals, which involve a complete redevelopment of London Bridge Station. Environmental impacts associated with Masterplan will offer substantial benefits compared with those reported for London Bridge in 1999 owing to the substantial improvements at the station.

Beneficial effects

There are numerous transport benefits associated with the development. Public transport will be greatly improved through the additional train services of Thameslink 2000, as well as through improved facilities for interchange with buses, taxis and the Underground. The new station will provide a significantly improved pedestrian environment that allows easier access between St Thomas Street and Tooley Street. Proposed measures to calm traffic, enhance pedestrian access and control parking will all provide significant benefits for pedestrians. With the improved visual environment on Tooley Street and St Thomas Street, the reduced noise and the improved station facilities, the local community, including Guy’s Hospital, will experience long-term benefits. The new station will improve the immediate townscape. In particular, its façade on Tooley Street will enhance the setting of a number of listed buildings. The exposure of the existing internal brick vaults will enable greater appreciation of the original station structure.

Disruption during construction from noise, traffic and visual impacts will affect residents, office workers and tourists, particularly on St Thomas and Tooley Streets, as well as at Guy’s Hospital, which is likely to experience dust impacts in addition.

Adverse effects

The new station will provide a significantly improved pedestrian environment that allows easier access between St Thomas Street and Tooley Street. Proposed measures to calm traffic, enhance pedestrian access and control parking will all provide significant benefits for pedestrians. With the improved visual environment on Tooley Street and St Thomas Street, the reduced noise and the improved station facilities, the local community, including Guy’s Hospital, will experience long-term benefits.

The new station will improve the immediate townscape. In particular, its façade on Tooley Street will enhance the setting of a number of listed buildings. The exposure of the existing internal brick vaults will enable greater appreciation of the original station structure.

Disruption during construction from noise, traffic and visual impacts will affect residents, office workers and tourists, particularly on St Thomas and Tooley Streets, as well as at Guy’s Hospital, which is likely to experience dust impacts in addition.
The closure of Stainer Street and Weston Street will divert significant amounts of traffic onto Bermondsey Street and Tooley Street during construction and in the long-term. Closure of the bus station for about 10 weekends during construction will adversely affect passengers; this will be mitigated however, by retaining up to half the bus stands and by providing convenient and clearly signposted alternatives nearby or by undertaking works at night.

In the long term, the Thameslink 2000 service will give rise to significant noise increases for a number of properties on London Bridge Street.

The station redevelopment will potentially cause the permanent loss to the area of the Britain at War Museum, which will constitute a significant loss to the commercial and tourist community since there is no immediate alternative in the vicinity.

Piling and other excavations may cause impacts to locally important archaeological remains that are believed to be preserved within the site. Although not compensating for this, any prior archaeological investigation that leads to publication would be a benefit.

Construction work will have temporary impacts on the setting of some listed structures and on the character of the conservation areas, as well as on the overall townscape character. Long-term adverse effects on built heritage will include the loss of the listed train shed at its present site. The demolition of the South Eastern Railway Offices on Tooley Street will adversely affect the character of the conservation area and the setting of the listed Shipwright’s Arms pub. The over-station office development will have an adverse impact on the strategic view of St Paul’s from Parliament Hill.
The conclusions of the 2004 ES are not substantially different to those reported in the 1997 ES, although there are some revisions associated with changes in land use and other baseline information.

Aside from the slight benefits potentially associated with publishing the findings of any prior archaeological investigations, environmental effects resulting from works at Bermondsey will be adverse, although nearly all of these will be confined to the two year construction period.

There are large residential areas in close proximity to the proposed works and new residential development is currently being developed on the site of the Silwood Estate. Construction activity is expected to result in noise and, to a lesser extent, visual impacts for many of these nearby residents, temporarily affecting individuals and the immediate communities as a whole.

There will be some 50 jobs lost to the area as result of physical impacts on businesses, especially in the affected railway arches.

There is a potential for localised impacts from piling and excavation to affect pre-historic remains, which may be preserved within the site.
The conclusions of the 2004 ES are not substantially different to those reported in the 1999 ES, although there are some revisions associated with minor changes in land use and baseline information.

Environmental effects resulting from works at Tanners Hill will be adverse, although nearly all will be confined to the six-month construction period.

There are large residential areas alongside the railway at this location. Construction activity is expected to result in noise and, to a lesser extent, visual impacts for many of these nearby residents, temporarily affecting individuals and the immediate community as a whole.

Loss of vegetation on the railway embankments will have a visual impact on some nearby residents, but this will be mitigated as new planting matures and the effect will be negligible after a few years.
Environmental effects at other locations

Works at other locations are minor relative to the works at the six Inner Area sites. They relate mostly to platform extensions and/or widening at 46 Outer Area stations and 5 other Inner Area stations.

Construction effects

Construction noise is predicted at the majority of these stations, as a result of the need to undertake some of the work during night time closures of the railway when trains are not operating.

Significant construction noise will affect each of the five other stations in the Inner Area and 39 stations in the Outer Area. Construction noise impacts are predicted also at power sites at Potters Bar and Riddlesdown.

A significant vibration impact is predicted during two 4-week periods at the Toy Museum located below Brighton Station.

The location of construction works close to some residential properties is predicted to result in temporary adverse visual effects at West Hampstead and Elephant and Castle Stations in the Inner Area and at 10 other stations in the Outer Area. Construction of Potters Bar feeder station will also result in temporary visual impact.

Bridge reconstruction at Finsbury Park Station will require the closure of Stroud Green Road for approximately four 52-hour periods affecting traffic flow and impeding community access and use of the nearby bus station.

Permanent and operation effects

Proposed works may have adverse impacts on archaeological deposits at Foxton, Meldreth, Harlington, Sandy and Berwick Stations, although there is insufficient information to determine the scale of impact or the importance of any finds. The works are of small scale and within areas already impacted by earlier railway works, making it less likely that any actual impacts will occur.

With the enhanced rail maintenance regime that is to be implemented by Network Rail, there are predicted to be significant reductions in groundborne noise from each train at locations over Clerkenwell Tunnel 1 in Islington, with substantially fewer properties adversely affected.

Platform extensions alongside residential properties at Leagrave will give rise to long-term adverse visual effects.

Use of Thameslink 2000 services at Finsbury Park Station may cause peak period congestion at the adjoining Underground station.
Mitigation and residual effects

Most of the significant environmental effects reported in the 2004 ES result from proposals and designs that are subject already to extensive mitigation; for example, through ongoing archaeological investigation, in line with the project’s Archaeological Strategy, or resulting from consultation with planning authorities and English Heritage on the design of replacement buildings. In this respect they are classified as residual effects.

The assessment of construction effects has assumed that best environmental practice is used, as is required by the project’s planning and environmental management strategy (PEMS). Network Rail has produced a number of guidance notes that define this best practice, some jointly with local authorities. Construction work will be subject to frequent inspection and ongoing consultation with affected parties to ensure that all reasonably practicable measures to control impacts are used.

The project’s overarching approach to control of noise and vibration is set out in the Thameslink 2000 Noise and Vibration Policy. The underlying principle behind the policy is, for both construction and operational noise and vibration, to avoid significant effects wherever this is practicable. The significant noise and vibration effects that are predicted will be subject to continuous review throughout the detailed design and construction stages. Some of the significant construction noise effects that have been predicted will be mitigated as a result of this. Various options are proposed within the 2004 ES to reduce noise impacts from trains and station operation, some of which are predicted to mitigate significant effects. Use of more advanced track designs is the main way of reducing railway noise. Additional noise barriers will also reduce noise impacts at some locations. The costs of these measures in relation to the benefits that they produce will need to be determined as part of the detailed design.
What happens next

The 2004 Environmental Statement, of which this non-technical summary forms part, will be considered by the Secretary of State in his consideration of the Order Applications. It is likely that he will then announce the need for a reopened Public Inquiry. In this event, it is expected that this would take place in Spring 2005.

The environmental issues summarised here may be raised at the Inquiry. The Inspector presiding over the Inquiry will then prepare a report advising the Secretary of State on the planning implications of the scheme, including its environmental effects.

Network Rail will continue to identify how, through design and construction methods, it might reduce further the predicted adverse effects identified in the ES.

Copies of this non-technical summary and the other ES documents can be obtained from the following address:

Thameslink 2000
Network Rail
James Forbes House
27 Great Suffolk Street
London
SE1 0NS

A charge may be made to cover part of the production costs.

Alternatively, these documents can be viewed at local authority offices and libraries located in the vicinity of the works. The non-technical summary and the other ES documents are also available to download at http://www.networkrail.co.uk/engineeringprojects