

# Crossrail 2 – background to preferred route and option appraisal process

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## Introduction

The options for Crossrail 2 date back to 1944, when the concept of cross-London tunnelled rail services was first introduced in the Greater London Plan. Following this, in 1974, the London Rail Study identified the Chelsea-Hackney Underground line as a possible scheme to serve future demand. The concept was developed further and land was safeguarded in 1991 to protect it from future, potentially conflicting, development.

Some work on a north east – south west link continued in the 1990s, resulting in London Underground's 1995 consultation on the Chelsea-Hackney line. The shadow Strategic Rail Authority's 2000 London East-West study recommended further work on the route, with a number of alternative alignments proposed.

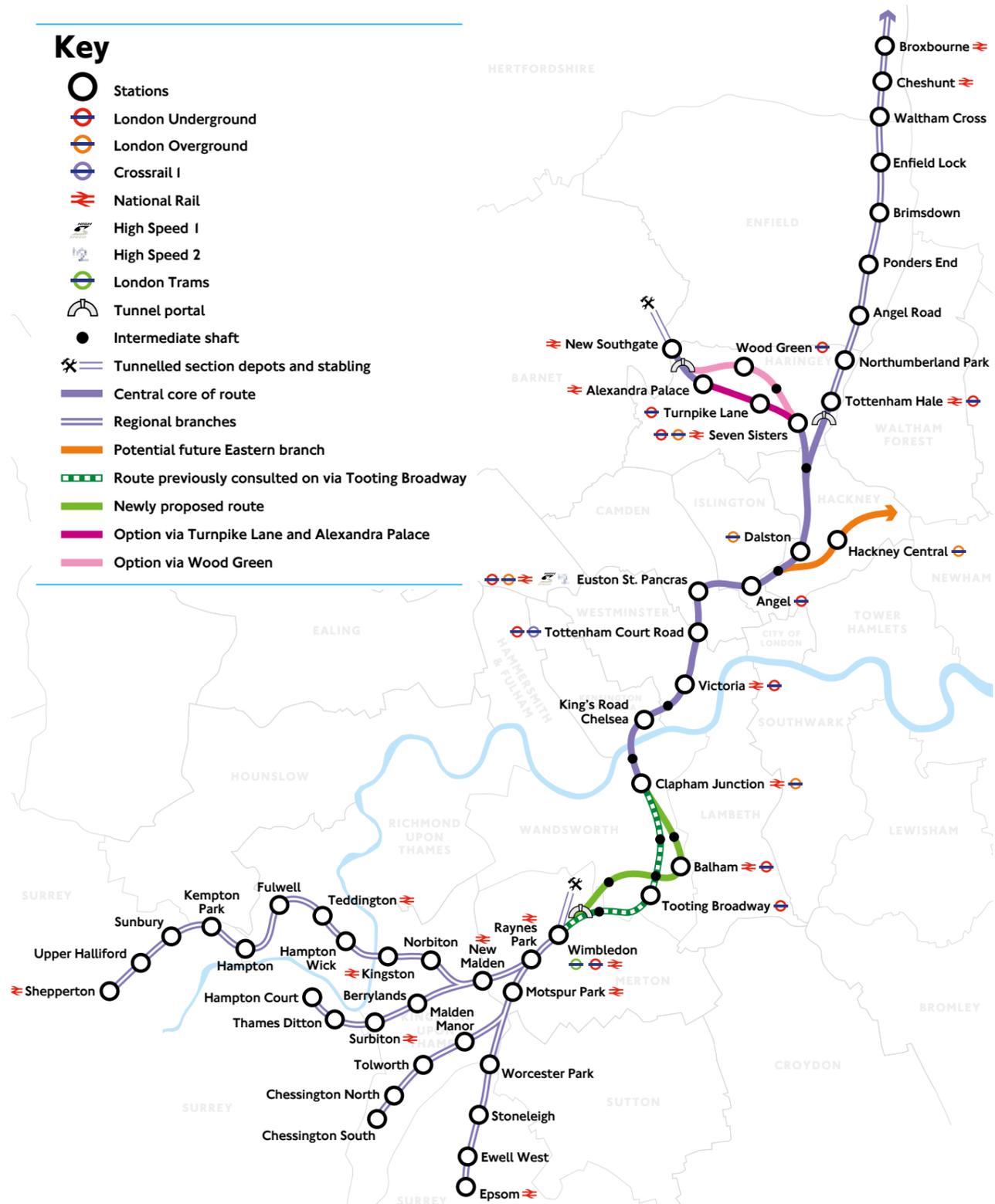
Since 2007, a detailed optioneering process has been underway to determine the optimum route to address transport and growth challenges. This focused on how different north-south route options could reduce crowding on the Underground and National Rail lines.

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This looked at more than 100 possible route options, which we assessed and sifted down to two options which were consulted on in the summer of 2013 – a self-contained Metro scheme and a regional option (which, through diverting existing National Rail services through a new tunnel, would deliver significant capacity benefits on the key corridors into Waterloo and Liverpool Street).

Since then, and following further consultation in 2014, planning of the scheme has continued. It has informed the revised Safeguarding Directions which were approved by the Government in March 2015, as well as the regional railway proposal we are now consulting on.

## Proposed Crossrail 2 route as of October 2015



Subject to finalisation

## Crossrail 2 development, Regional and Metro scheme options

During 2009, the Department for Transport (DfT) asked the Mayor to review the case for Crossrail 2 (as it was now known). This was with a view to re-examining the scheme's rationale, assessing whether the safeguarded route alignment best served London's needs and ultimately safeguarding any new proposals. In response, we undertook a comprehensive optioneering exercise, considering the need for a Crossrail 2 scheme and its broad alignment.

We identified a set of existing locations as well as stations, lines and corridors, each with issues of crowding, connectivity and accessibility. These informed the selection of possible alignments that best met our goals and objectives. Our strategic goals are to:

1. Support the UK economy, by maintaining or increasing London's competitiveness and sustaining its position as a 'global city'
2. Meet the housing and transport needs of a growing and diverse population
3. Improve the quality of life and the environment in London and supports the UK's climate change objectives
4. Develop a solution that is safe, feasible and offers value for money

Eleven scheme alternatives for Crossrail 2 emerged, including the safeguarded Chelsea-Hackney line route.

Between 2010 and 2011, modelling of these alternatives helped produce a high-level estimate of the benefits versus the costs for each option. Various options were taken forward and were further developed to best meet the overall scheme objectives. From this, we developed two options in addition to the safeguarded deep underground line along the former Chelsea-Hackney alignment. The first was a Metro option, connecting Wimbledon to New Southgate via a tunnel through central London, similar in format to the Docklands Light Railway (DLR). The second was a Regional option connecting the South West Main Line (SWML) inner suburban services with those of the West Anglia Main Line, similar in format to the east-west Crossrail 1.

### The Metro Scheme

The Metro scheme would offer some substantial transport benefits, helping provide new capacity to the transport network and would be cheaper to construct than the regional option. However, it would increase crowding significantly at Clapham Junction, Wimbledon and Seven Sisters stations, requiring additional expenditure to compensate for this. It would also offer more limited



All route options considered as part of the 2009/10 long-list assessment stage.

benefits in relieving crowding on London Underground and National Rail lines and would offer far less in terms of wider economic benefits, offering little if anything by way of genuine benefits to the regions outside of London. It would also not offer the same potential to support new housing development and economic growth as the Regional scheme.

## The Regional Scheme

The Regional Scheme would provide a number of benefits across the wider South East. It would offer significant crowding relief to the Victoria, Piccadilly and Northern lines, as well as to National Rail services. It would release capacity on the mainline routes into London and could help provide space for additional longer distance services from across the region, benefitting cities, towns and employment centres across the wider South East. This would avoid the need for separate, disruptive and potentially very expensive, capacity upgrades on the National Rail network. The Regional scheme would also help disperse passengers arriving at rail termini like Euston, St Pancras and Victoria, including from High Speed 2 (HS2) services. It would serve a number of regeneration and opportunity areas in north and central London, providing sufficient capacity to support 200,000 new jobs and accelerate and enable the development of 200,000 new homes. The wider economic benefits were found to be far higher than for the Metro option, due to the wider catchment area served; the benefits for the Regional option extended way beyond the capital, and on into the South East and East of England regions.

## Chelsea Hackney Line

The original safeguarded route – the Chelsea Hackney Line – which ran from Wimbledon to Epping was found to offer crowding relief, particularly to the District line, as well as improved connectivity within London. However, overall our analysis showed that it offered fewer benefits than either the Regional or Metro scheme, with limited crowding relief on the most congested Underground and National Rail lines, particularly in the case of the latter having not served either Clapham Junction or Euston (HS2 services).

## Outcome of appraisal

An early business case appraisal of the three main options indicated that the Regional scheme was likely to have the most significant benefits when compared with costs.

With the transport concepts established, engineering work developed high level designs that allowed more accurate costing and programming. The alignments took account of proposed station locations and their broad orientation, as well as environmental constraints. Station designs were developed using principles from Crossrail 1. Available sites, passenger desire lines, heritage considerations, proximity of bus, taxi and mainline rail interchange, and local urban development objectives have informed the proposed ticket hall, entrance and exit locations.

## Public consultation and safeguarding

The proposals for the principles of Crossrail 2 went to public consultation in May 2013. Results showed considerable support for Crossrail 2 with more support for the Regional scheme than for the Metro scheme. However, the consultation also prompted a number of suggestions and comments about the route. A further consultation in summer 2014 explored a number of these possible variations, and has informed both the revised safeguarded route and our current proposals. The results of both consultations are available on Transport for London's consultation website.

In November 2014, the DfT consulted on revised Safeguarding Directions, following these two rounds of consultation and further development work. In March 2015, the Secretary of State for Transport issued updated Safeguarding Directions for the potential route of Crossrail 2, reflecting comments made during the consultation. The consultation report is available on the DfT website.

## Current position

Since early 2015, we have been developing the Crossrail 2 proposals for public consultation. This has been informed by previous consultations including the DfT's safeguarding consultations, design and engineering work, and discussions with local authorities and other key stakeholders.

Our work has been informed by a range of technical experts, including environment and heritage teams, town planners, engineers, operators, transport planners and local specialists. This joint project team has sought to minimise disruption, develop the best possible solution and design an operable and buildable railway.

In a number of locations, recent design work and feedback has led to changes to the land required to build the scheme beyond what is currently safeguarded. Following this consultation and as the scheme is further developed, changes to the safeguarding directions may be required to reflect this.

Proposals for the scheme are still at the early stages of design development. Feedback from this, and future rounds of engagement and consultation, together with further design and engineering work, will refine the proposals ahead of seeking permission to build the new railway.

The proposals presented in this consultation show preferred outline station layouts, as well as the preferred location of station entrances, tunnel portals and shafts, depots, and construction worksites for the tunnelled part of the scheme. More detailed information will be shared in future consultations when the scheme is better developed.

## Proposed Crossrail 2 stations as of October 2015



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## To find out more

Visit [www.crossrail2.co.uk](http://www.crossrail2.co.uk) where you can view and download a range of factsheets, maps and other information about the scheme.

Come along to one of our drop-in events where you will have an opportunity to view our proposals and speak to members of the Crossrail 2 team. Please visit [www.crossrail2.co.uk](http://www.crossrail2.co.uk) for details about events in your area.

Please contact us to request a copy of this leaflet and other Crossrail 2 consultation material in hard copy, large print, audio or another language.

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## Contact us

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## Have your say

This consultation gives you the opportunity to comment on proposals for Crossrail 2. Visit [www.crossrail2.co.uk](http://www.crossrail2.co.uk) to leave a comment or provide a response to the consultation questions. The consultation will close on Friday 8 January 2016.

Development is still at an early stage. There will be more opportunity to provide feedback on Crossrail 2 as the scheme develops.