

Great Eastern Line

Proposed Service Improvements



Crossrail propose to improve rail services on the Great Eastern Line with:

- New and more frequent trains
- Faster journeys to parts of the City, West End and West London with no need to change trains
- Improved links to Heathrow Airport, Docklands and South-east London
- Additional capacity and reduced crowding

Crossrail would generally operate as an “all stations” service with up to 12 trains an hour during peak periods and up to eight at other times.

Crossrail would replace most of the existing “Metro” services, although some would continue to operate between Gidea Park and Liverpool Street Station. Services from further afield such as Ipswich, Chelmsford and Southend would be able to continue to operate as they do today.

The Crossrail timetable and service pattern would be set by the relevant railway bodies in consultation with the train operating company responsible for operating Crossrail services.

Other major benefits of Crossrail include reduced crowding on the Central and District lines and the release of platform capacity at Liverpool Street Station that could facilitate additional train services from places such as Stansted Airport.



Liverpool Street Station



Possible Crossrail Train

Pudding Mill Lane

Proposed Tunnel Portal (1)

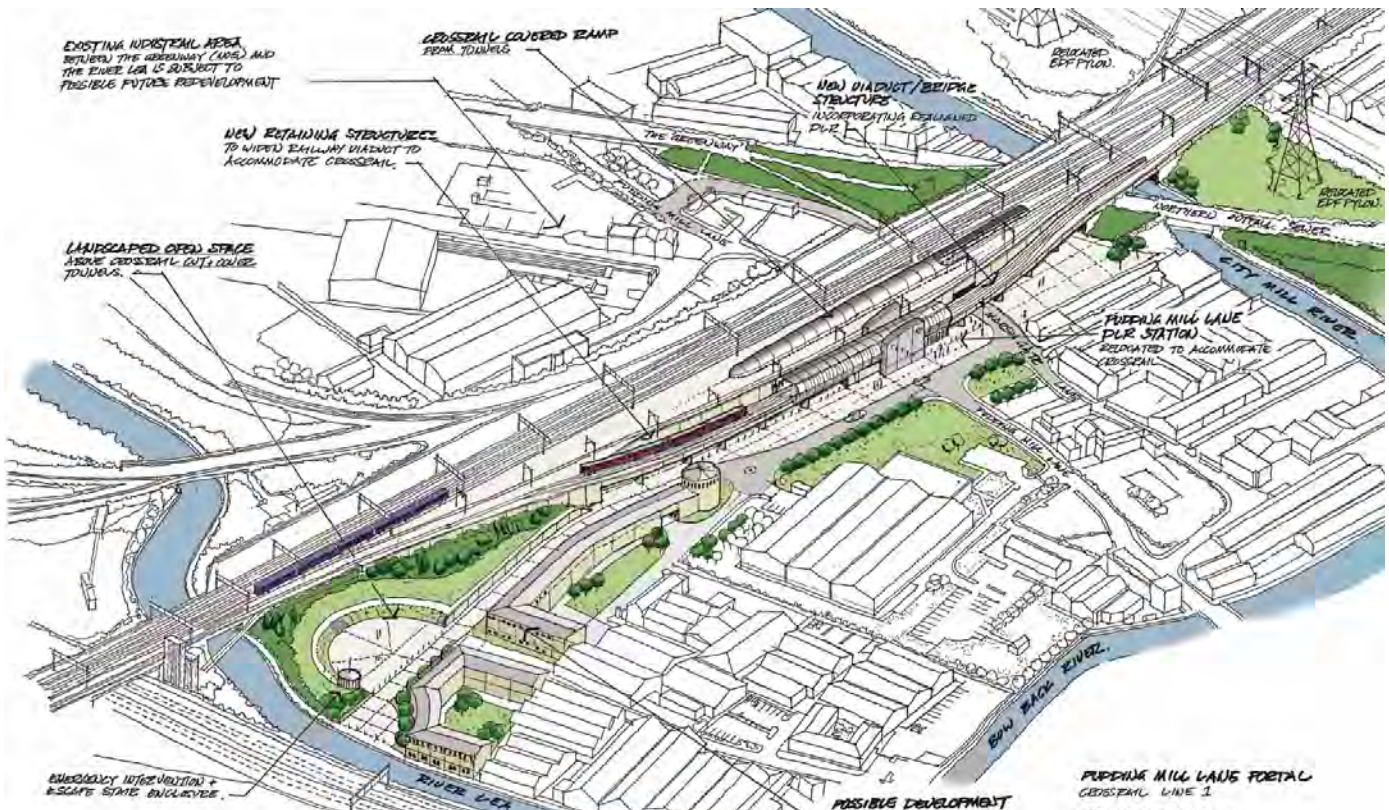


A portal for the Crossrail tunnels is proposed at Pudding Mill Lane. The tunnel portal would be used as the entrance/exit for Crossrail trains to operate between the Great Eastern Line and two new tunnels through the centre of London.

In order to accommodate Crossrail, the existing railway viaduct would be widened. The Docklands Light Railway (DLR) viaduct and station at Pudding Mill Lane would be relocated to the south. Space would be provided for the DLR to construct a second line and serve the station with longer trains if required.

Crossrail's tunnel boring machines would be launched from the site under the River Lea towards central London. The River Lea bed would be protected during construction of the Crossrail tunnels. The river would continue to be navigable.

Bow Midland Yard, an existing rail sidings and depot facility, would be used for the transport of materials for construction and the removal of material excavated from tunnel construction by rail. An area currently used as a waste transfer site would need to be relocated.



Artist's Impression – Pudding Mill Lane Portal



Proposed Pudding Mill Lane Portal – Section

Pudding Mill Lane

Proposed Tunnel Portal (2)



The existing underpass at Pudding Mill Lane would be closed to vehicular traffic and a new road connection to Marshgate Lane would be provided.

A number of utilities, including local water pipes and sewers, would need to be diverted.

Construction of the portal would require some commercial premises to be relocated. These issues are being considered on a site by site basis with the relevant property owners.

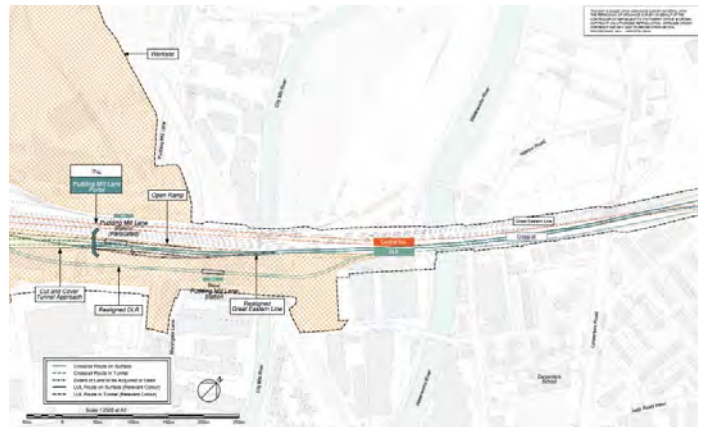
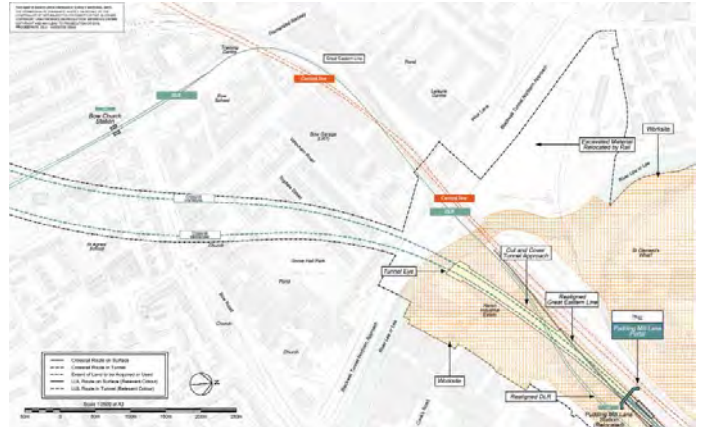
A shaft used to launch tunnel boring machines would also be used for emergency escape and access to and from the tunnels. Upon completion of construction, this area could be integrated with local development to provide a new public open space.

Construction of the portal would take approximately 5 - 6 years.

The likely environmental effect of the proposals is:

- Impact upon the River Lea and City Mills River which are Sites of Nature Conservation Importance. Surveys are currently being undertaken in these locations and discussions would be held with the Environment Agency

Crossrail and the Olympic bid team have been working together since last year to ensure that both projects complement each other. The projects would work closely together at the detailed planning stage to ensure that both schemes can be delivered. The projects add value to each other because they would both bring long term significant regeneration to east London.



Proposed Pudding Mill Lane Portal



Pudding Mill Lane



Pudding Mill Lane DLR station

Stratford

Proposed Station Improvements

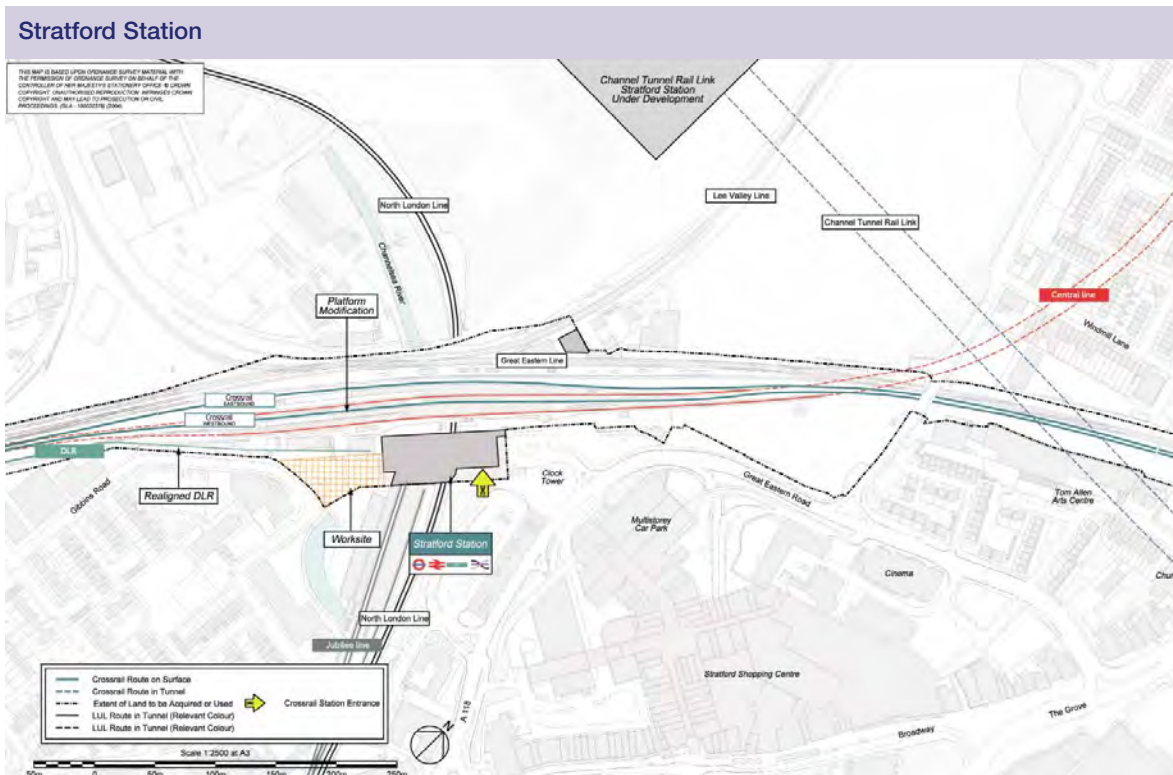


A review of the design and layout of Stratford Station is currently being carried out alongside a number of major local development proposals, including the Channel Tunnel Rail Link and the London 2012 Olympic bid. This process is being led by Transport for London. It is expected that a number of station improvements would be carried out over the next few years.

Any station improvements would be agreed with the relevant railway bodies, Transport for London, the London Borough of Newham and the local community.

The DLR Station would be moved south prior to the opening of Crossrail. This would enable the existing DLR bay (platform 4) to be filled in to provide for a wider platform for Crossrail trains using platform 5.

Work on the station platforms would be co-ordinated from a temporary worksite at the railway car park off Gibbins Road. The platform modifications would be carried out over approximately 3 months.



Stratford

Proposed Service Improvements



Crossrail would improve train services to and from Stratford by providing journey time savings and a greater variety of journey opportunities.

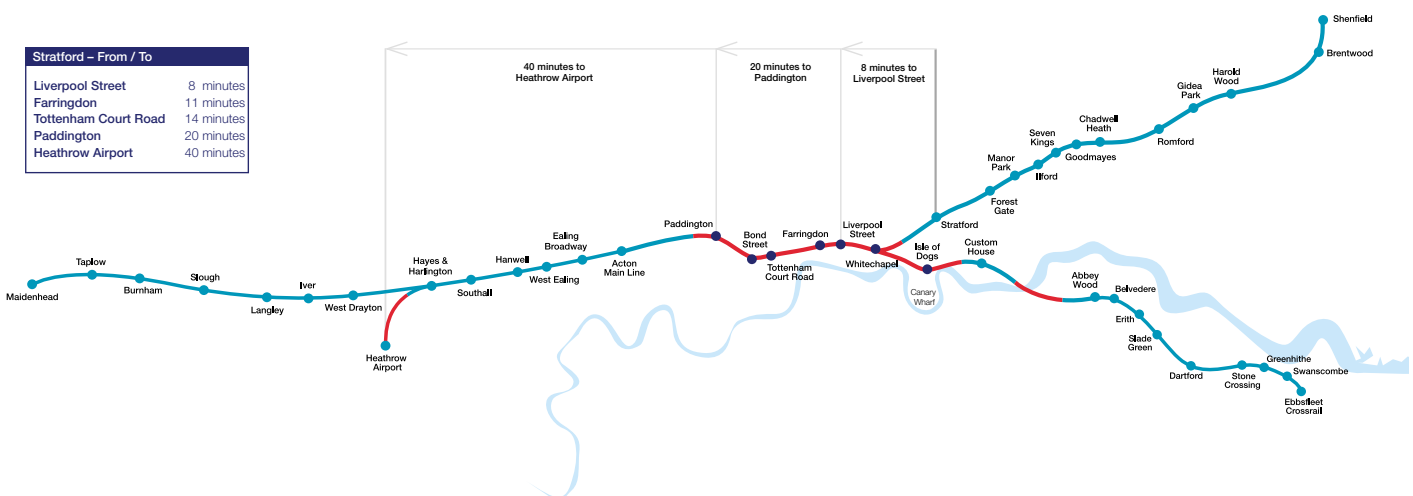
During peak periods Crossrail could provide up to 2 additional train services per hour to and from Stratford.

The Crossrail timetable and service pattern would be set by the relevant railway bodies in consultation with the train operating company responsible for operating Crossrail services.



Stratford Station

Typical Crossrail journey times from Stratford



Forest Gate

Proposed Station Improvements



Platform extensions are proposed at Forest Gate to provide for new 10-car trains.

Work on the station platforms (platform 1 & 2/3) would be co-ordinated from a temporary worksite next to the station. Some minor track work would be required to enable the platform extensions.

This work would be carried out over approximately 5 months.

The likely environmental effect of the proposals is noise from construction. This would be mitigated to reduce noise at source.

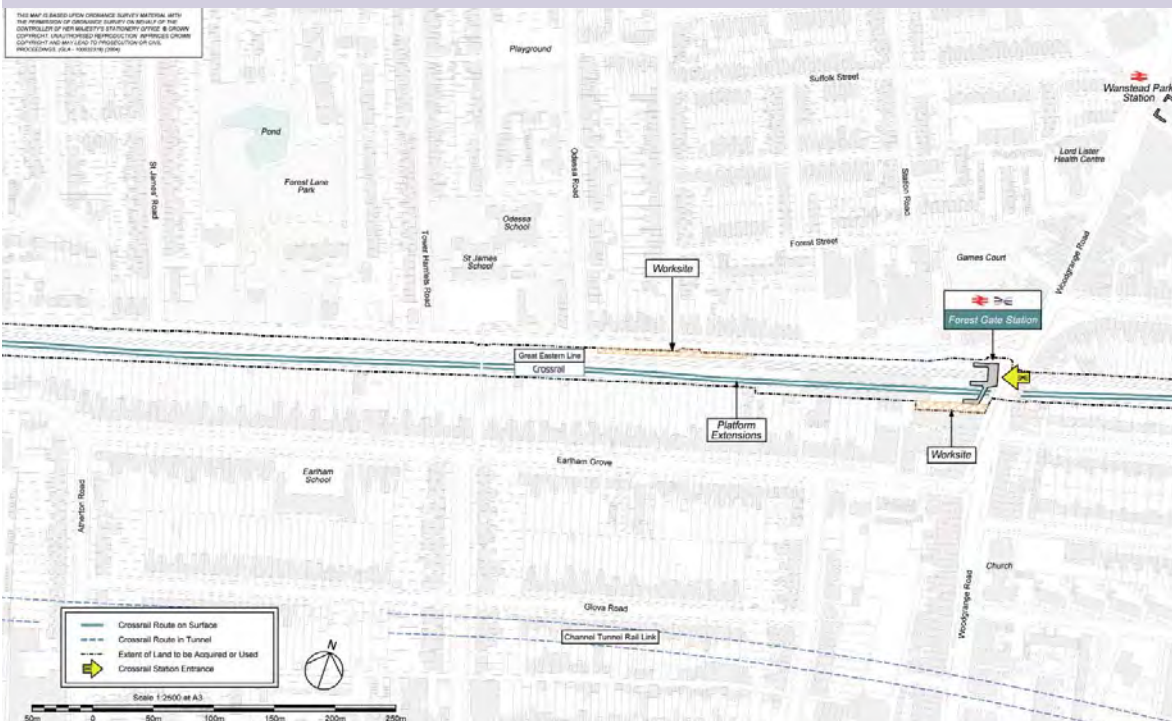
As part of the development of Crossrail at Forest Gate, a number of minor improvements are being considered including:

- Improved cycling facilities
- Better links with bus services
- Passenger facility improvements
- New information systems

No other major alterations to the station are currently proposed.

Any improvements would be discussed with the relevant railway bodies, Transport for London, the London Borough of Newham and the local community.

Forest Gate Station



Forest Gate

Proposed Service Improvements



Crossrail would improve train services to and from Forest Gate by providing journey time savings and a greater variety of journey opportunities.

With Crossrail operational, four times more seats would be available on trains to central London from Forest Gate as a result of longer, more frequent trains.

During peak periods Crossrail could provide up to:

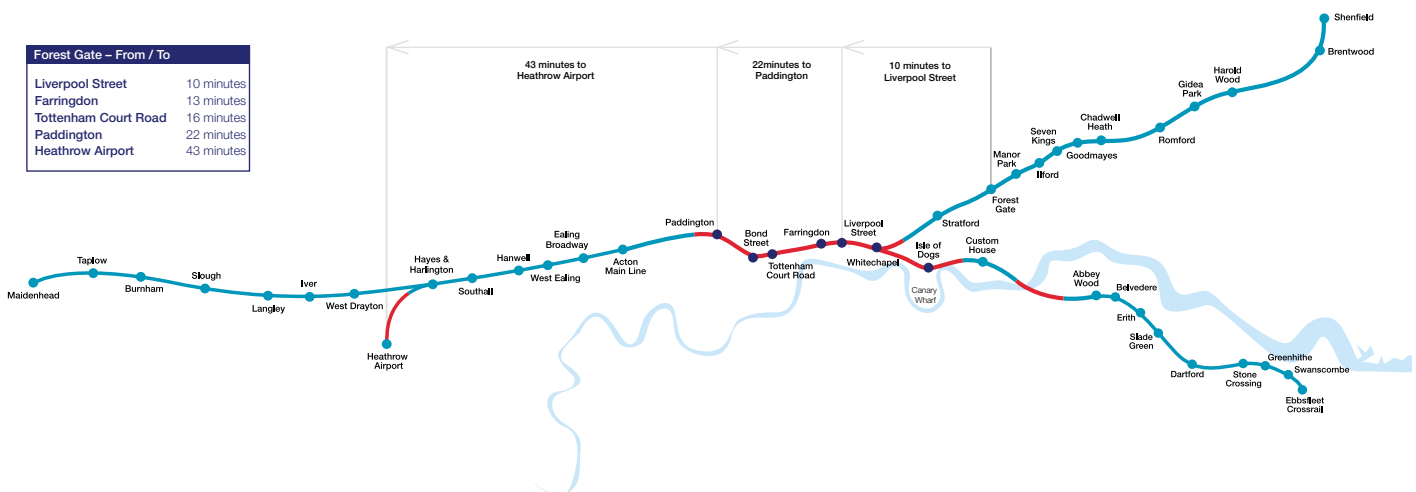
- 12 additional train services per hour to central London from Forest Gate

The Crossrail timetable and service pattern would be set by the relevant railway bodies in consultation with the train operating company responsible for operating Crossrail services.



Forest Gate Station

Typical Crossrail journey times from Forest Gate



Manor Park

Proposed Station Improvements



Platform extensions are proposed at Manor Park to provide for new 10-car Crossrail trains. This would require the existing freight loop to be removed.

Work on the station platforms (platform 1 and 2/3) would be co-ordinated from a temporary worksite at the eastern end of the station. Some minor track work would be required to enable the platform extensions.

The work would be carried out over approximately 7 months.

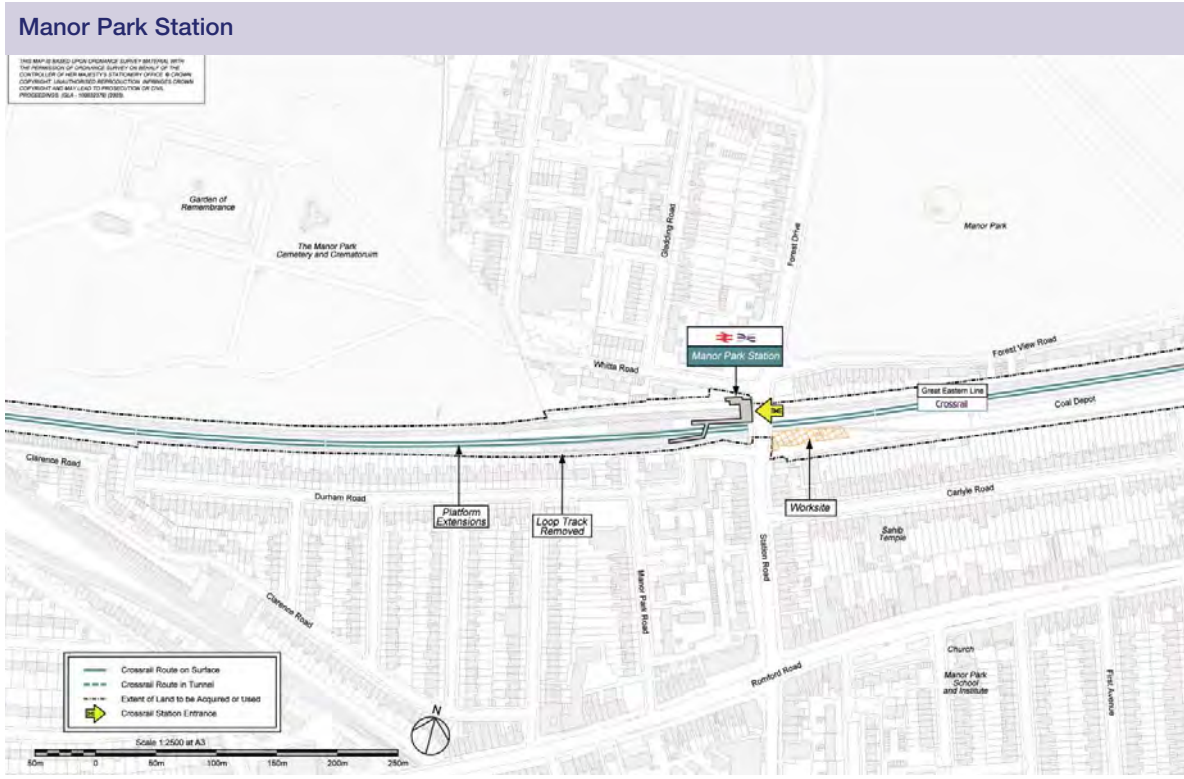
The likely environmental effect of the proposals is noise impact from construction. This would be mitigated to reduce noise at source.

As part of the development of Crossrail at Manor Park, a number of minor improvements are being considered including:

- Pedestrian access improvements
- Improved facilities for taxis
- Better links with bus services
- Passenger facility improvements
- New information systems

No other major alterations to the station are currently proposed.

Any improvements would be discussed with the relevant railway bodies, Transport for London, the London Borough of Newham and the local community.



Manor Park

Proposed Service Improvements



Crossrail would improve train services to and from Manor Park by providing journey time savings and a greater variety of journey opportunities.

With Crossrail operational, four times more seats would be available on trains to central London from Manor Park as result of longer, more frequent trains.

During peak periods, Crossrail could provide up to:

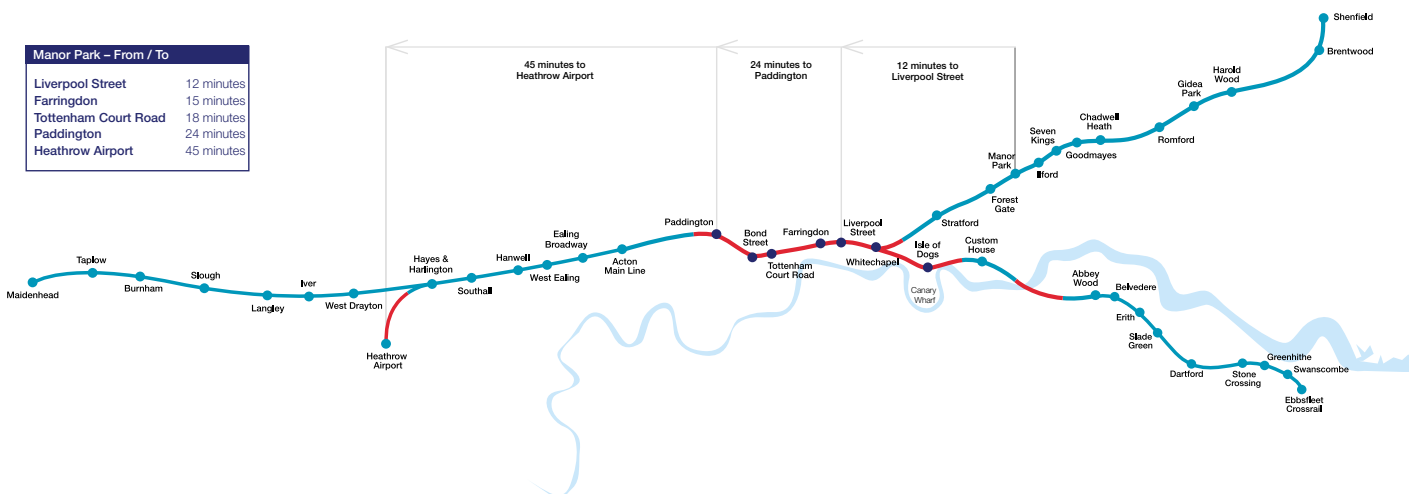
- 12 additional train services per hour to central London from Manor Park

The Crossrail timetable and service pattern would be set by the relevant railway bodies in consultation with the train operating company responsible for operating Crossrail services.



Manor Park Station

Typical Crossrail journey times from Manor Park



Ilford

Proposed Service Improvements



Crossrail would improve train services to and from Ilford by providing some journey time savings and a greater variety of journey opportunities.

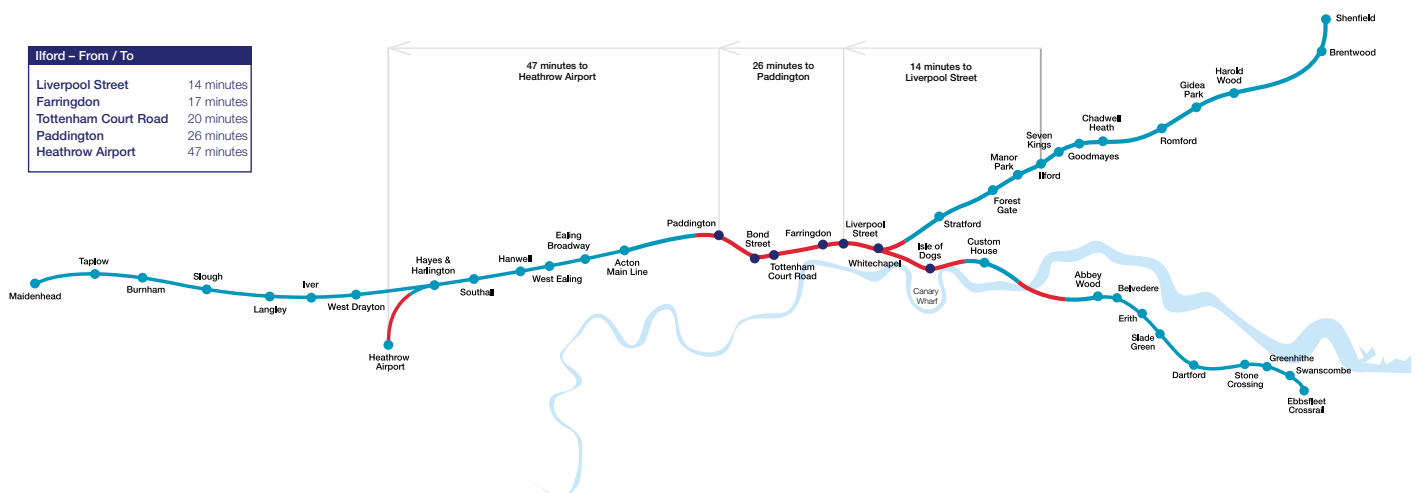
With Crossrail operational, the total number of seats available on trains to central London from Ilford would increase by about a half as result of longer, more frequent trains.

During peak periods Crossrail could provide up to 6 additional train services per hour from Ilford to central London.

The Crossrail timetable and service pattern would be set by the relevant railway bodies in consultation with the train operating company responsible for operating Crossrail services.



Typical Crossrail journey times from Ilford



Iford

Proposed Station Improvements



Crossrail propose major improvements to Iford station. These improvements would be integrated with the regeneration of the town centre and the potential development of a new public transport interchange that could include East London Transit services.

Crossrail propose to extend the station platforms at Iford to provide for new 10-car Crossrail trains.

Work on the station platforms (3 & 4) would be co-ordinated from a temporary worksite next to the station. The bay platform (5) would be closed and filled in to allow more room for passengers.

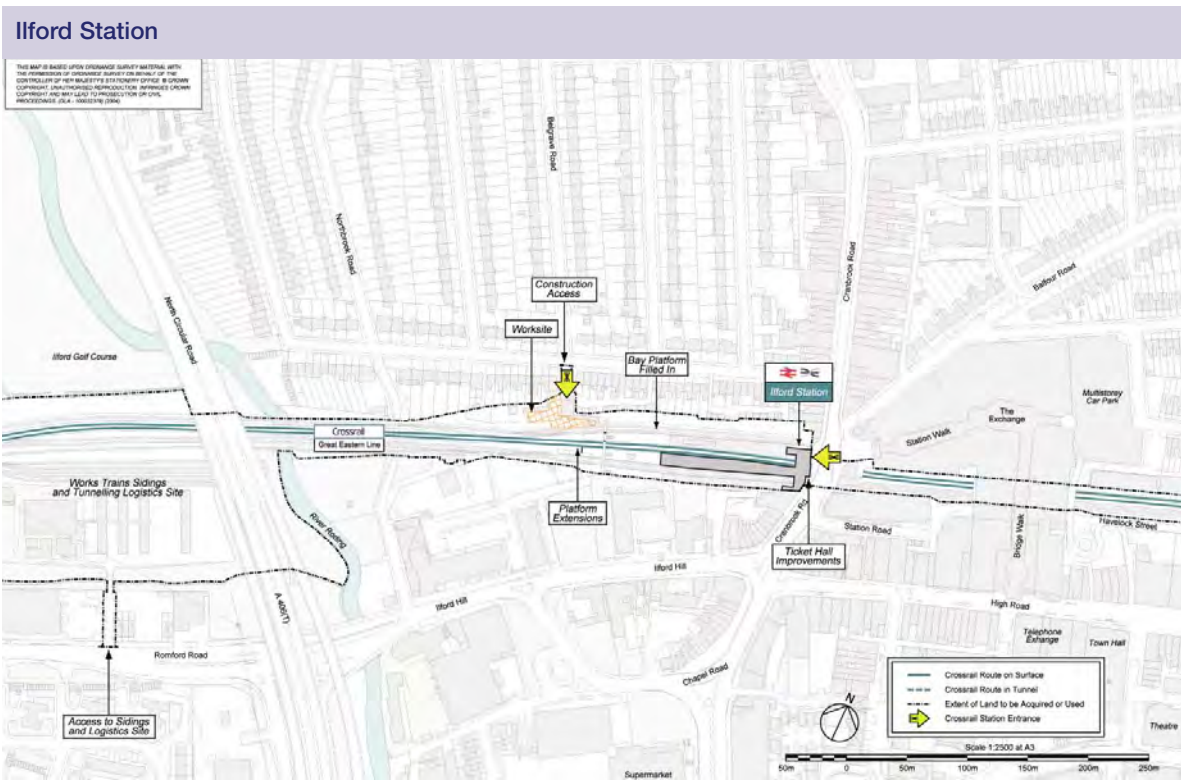
Some minor track work would be required to enable the platform modifications.

Redevelopment of the station would be carried out over approximately 12 months.

As part of the development of Crossrail at Iford, a number of improvements are proposed including:

- Improved access for those with mobility difficulties, including lifts
- Ticket hall enhancements, including extra ticket gates

Any improvements would be discussed with the relevant railway bodies, Transport for London, the London Borough of Redbridge and the local community.



Ilford

Proposed Works Train & Logistics Site



It is proposed that Aldersbrook sidings, near Ilford, are used as a logistics site to accommodate works trains that would be used during the fitting out of the Crossrail tunnels.

The existing sidings on the site would be refurbished and part of the old railway training school would be used to store material such as railway track and cabling for the Crossrail tunnels.

The site would be required by Crossrail for approximately 5 - 6 years.

Access for vehicles would be off the Romford Road (A118).

The likely environmental effect of the proposals may include noise from construction. This would be mitigated by reducing noise at source.



Proposed Aldersbrook Sidings

Ilford



Seven Kings

Proposed Service Improvements



Crossrail would improve train services to and from Seven Kings by providing journey time savings and a greater variety of journey opportunities.

With Crossrail operational, the total number of seats available on trains to central London from Seven Kings would more than double as result of longer, more frequent trains.

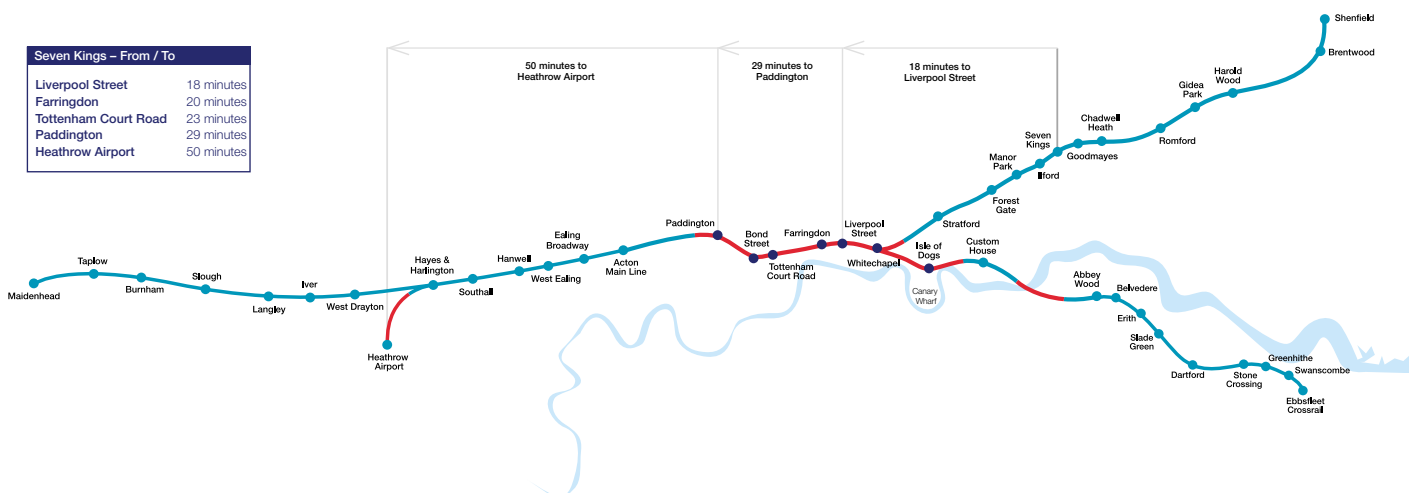
During peak periods Crossrail could provide up to 9 additional train services per hour from Seven Kings to central London.

The Crossrail timetable and service pattern would be set by the relevant railway bodies in consultation with the train operating company responsible for operating Crossrail services.



Seven Kings Station

Typical Crossrail journey times from Seven Kings



Goodmayes

Proposed Station Improvements



Platform extensions are proposed at Goodmayes to provide for new 10-car Crossrail trains.

Work on the station platforms (3 & 4) would be co-ordinated from a temporary worksite to the east of Chadwell Heath Station.

The work would be carried out over approximately 4 months.

The likely environmental effect of the proposals is noise impact from construction. These would be mitigated by controlling noise at source.

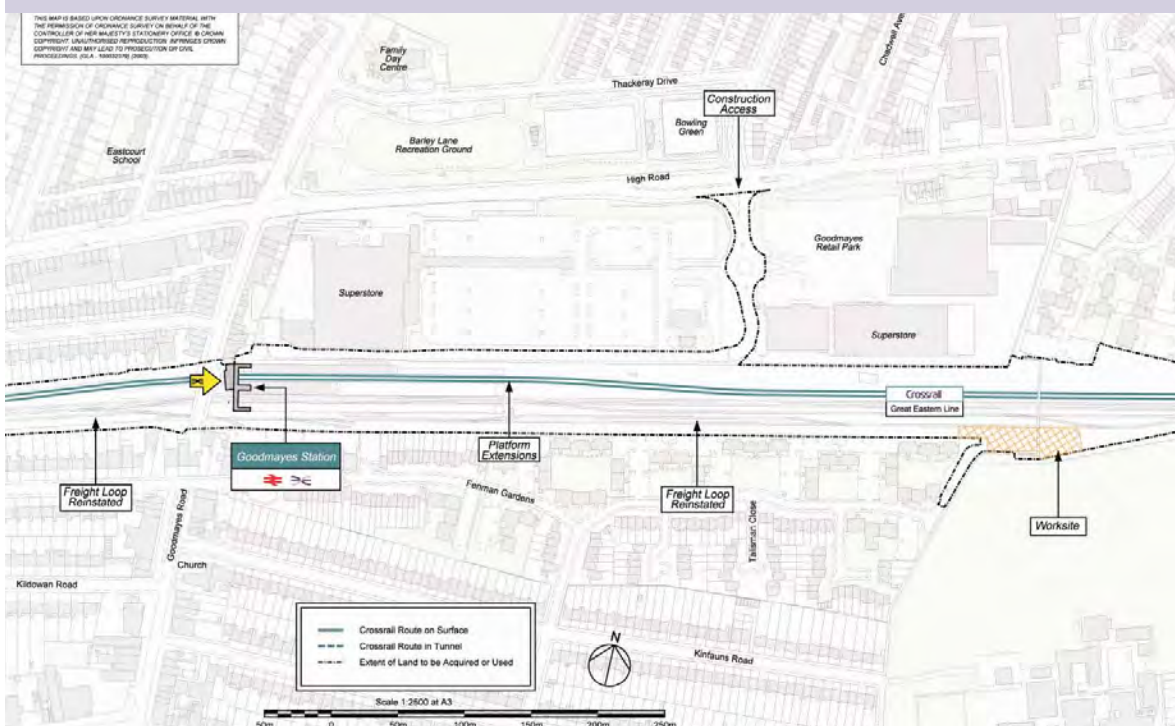
As part of the development of Crossrail at Goodmayes, a number of minor improvements are being considered:

- Improved cycling facilities
- Pedestrian access improvements
- Passenger facilities improvements
- New information systems

No other major alterations to the station are proposed.

Any improvements would be discussed with the relevant railway bodies, Transport for London, the London Borough of Redbridge and the local community.

Goodmayes Station



Goodmayes

Proposed Service Improvements



Crossrail would improve train services to and from Goodmayes by providing journey time savings and a greater variety of journey opportunities.

With Crossrail operational, the total number of seats available on trains to central London from Goodmayes would more than double as result of longer, more frequent trains.

During peak periods Crossrail could provide up to:

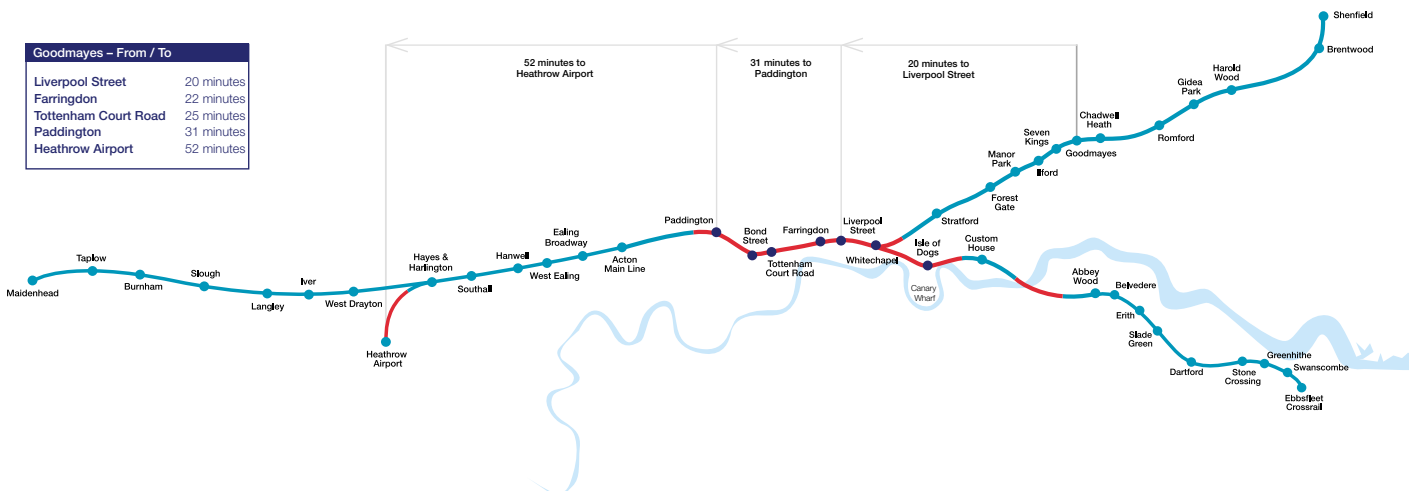
- 9 additional train services per hour from Goodmayes to central London

The Crossrail timetable and service pattern would be set by the relevant railway bodies in consultation with the train operating company responsible for operating Crossrail services



Goodmayes Station

Typical Crossrail journey times from Goodmayes



Goodmayes to Chadwell Heath Proposed Freight Loop



Crossrail propose to reinstate an old freight loop between Goodmayes and Chadwell Heath stations to increase capacity for freight services. The proposed loop would permit freight trains to be overtaken by passenger trains between Shenfield and Stratford. This new facility would be constructed within the railway boundary.

The existing disused sidings would be removed and new track installed.

Construction would be co-ordinated from temporary worksites at either end of the proposed loop and off Express Drive. The worksite compounds would be surrounded by wooden hoardings.

The work would be carried out over approximately 12 to 18 months.

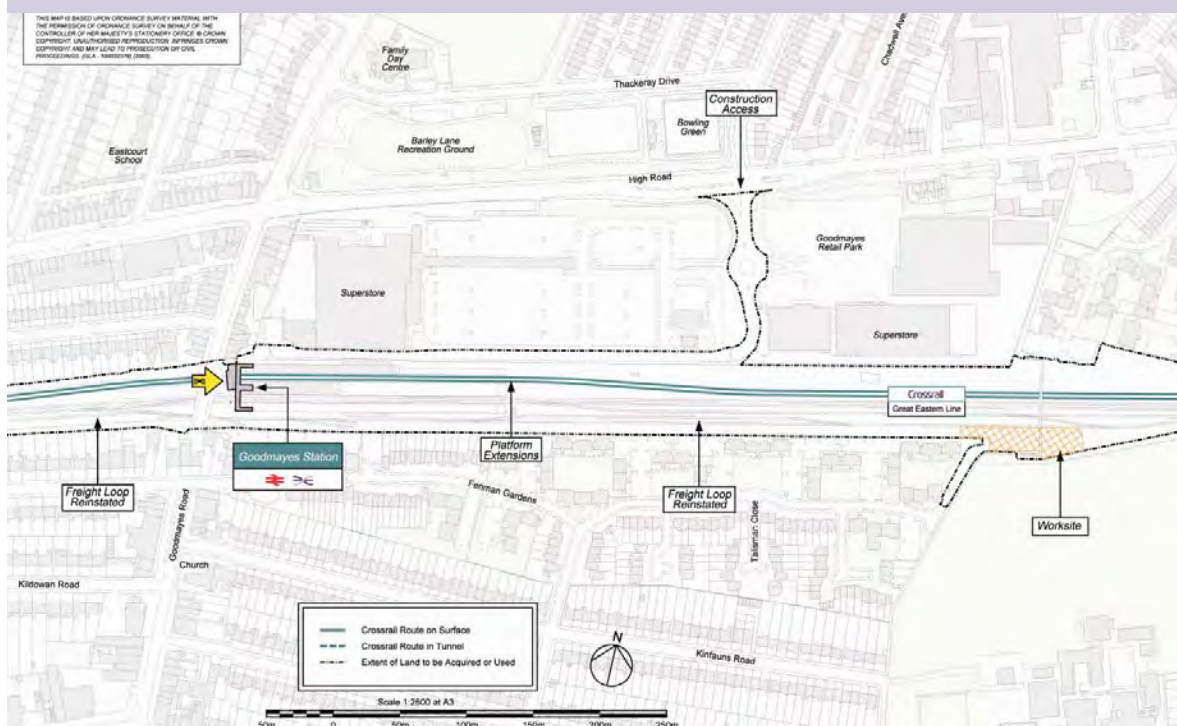
The likely environmental effects of the proposals are:

- **Loss of vegetation.** This could be mitigated through replacement planting
- **Noise and dust impact due to construction activity.** These would be mitigated to control any potential effects at source



Goodmayes – Chadwell Heath

Proposed Goodmayes – Chadwell Heath Freight Loop



Chadwell Heath

Proposed Station Improvements



Platform extensions are proposed at Chadwell Heath to provide for new 10-car Crossrail trains.

Work on the station platforms (3 & 4) would be co-ordinated from a temporary worksite to the east of Chadwell Heath Station.

The work would be carried out over approximately 4 months.

The likely environmental effect of the proposals is noise from construction. This would be mitigated by controlling noise at source.

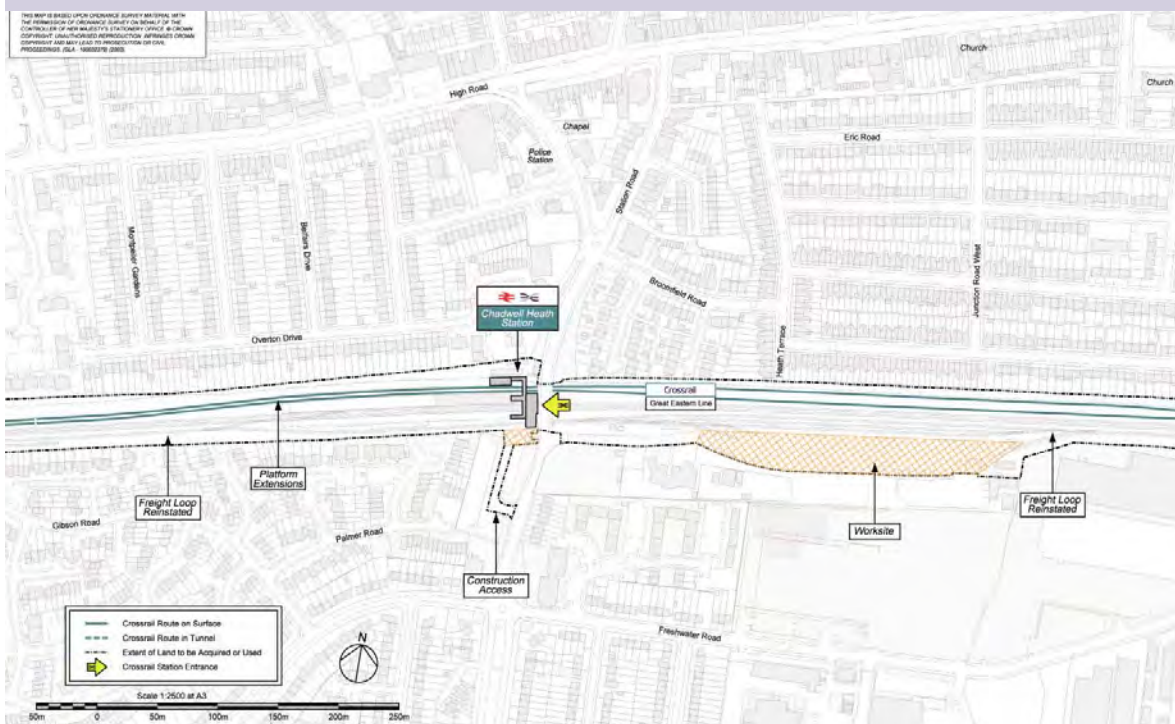
As part of the development of Crossrail at Chadwell Heath, a number of minor improvements are being considered including:

- Pedestrian access improvements
- Improved cycling facilities
- Parking improvements
- Improved taxi and passenger drop-off
- Passenger facility improvements
- New information systems

No other major alterations to the station are currently proposed.

Any improvements would be discussed with the relevant railway bodies, Transport for London, the London Borough of Redbridge and the local community.

Chadwell Heath Station



Chadwell Heath

Proposed Service Improvements



Crossrail would improve train services to and from Chadwell Heath by providing journey time savings and a greater variety of journey opportunities.

With Crossrail operational, the total number of seats available on trains to central London from Chadwell Heath would almost double. This is a result of longer, more frequent trains.

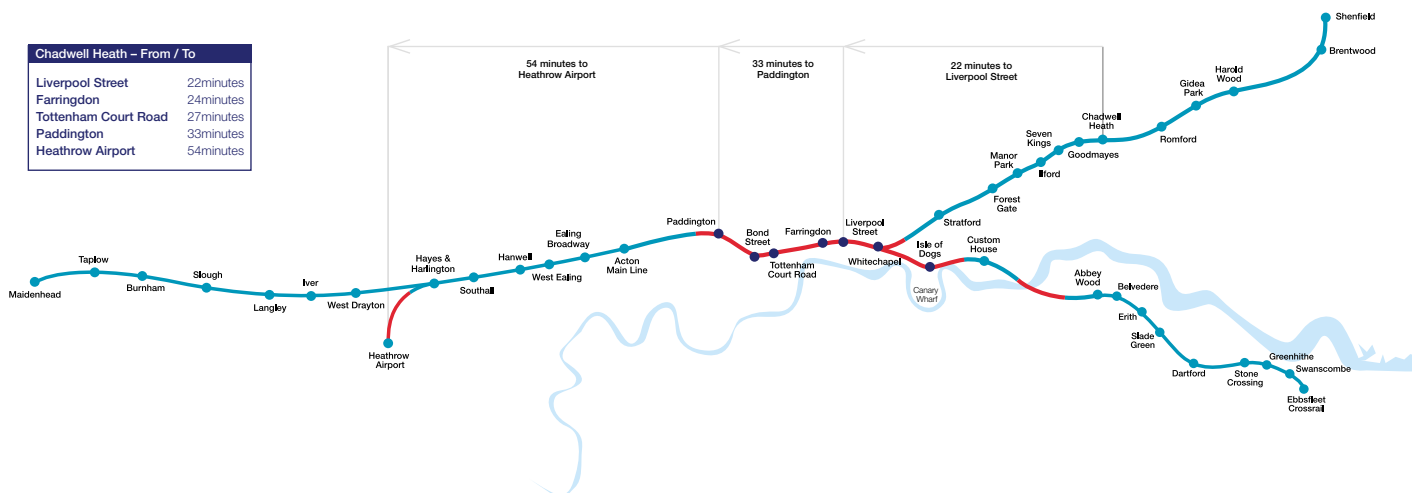
During peak periods, Crossrail could provide up to 8 additional train services per hour from Chadwell Heath to central London.

The Crossrail timetable and service pattern would be set by the relevant railway bodies in consultation with the train operating company responsible for operating Crossrail services.



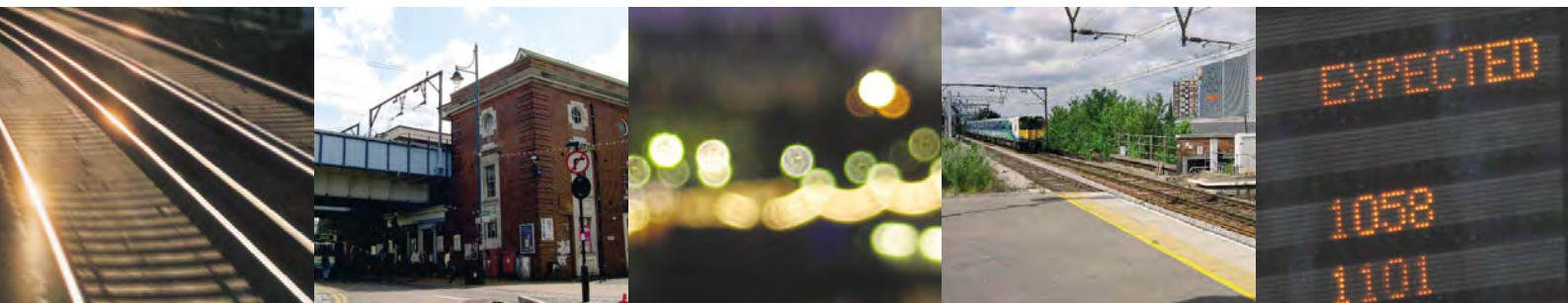
Chadwell Heath Station

Typical Crossrail journey times from Chadwell Heath



Romford

Proposed Station Improvements (1)



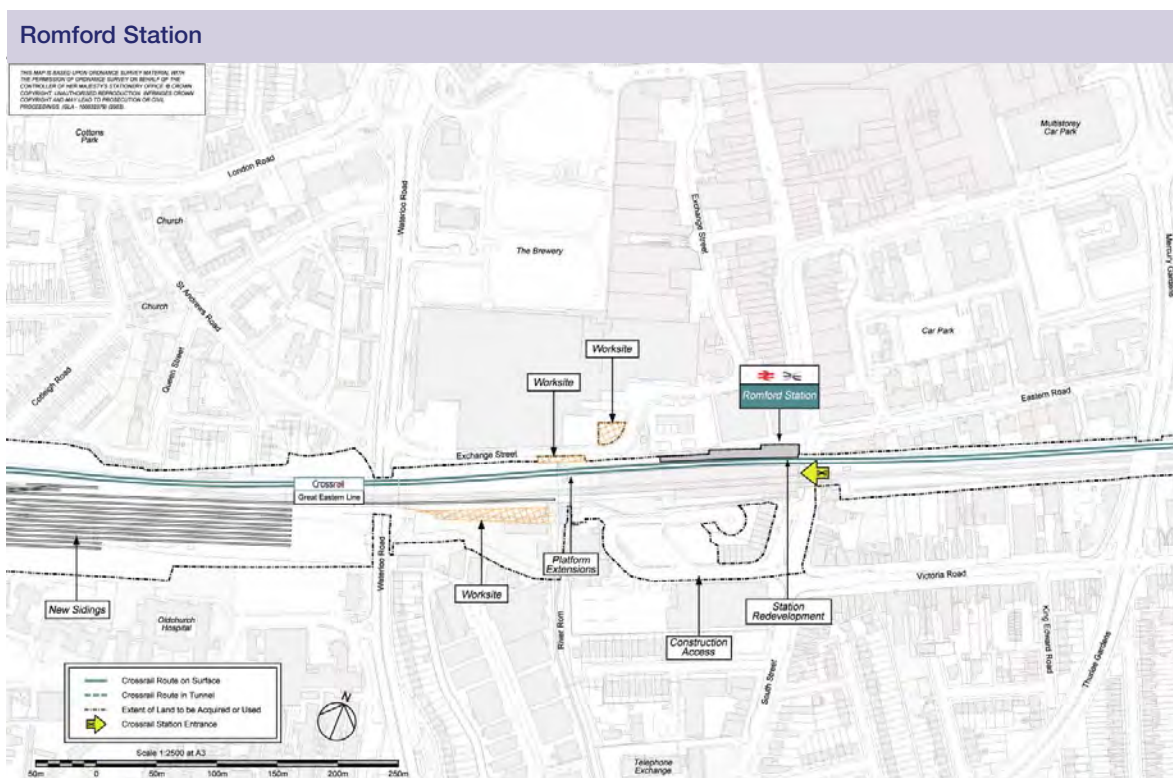
Crossrail propose to redevelop Romford Station with improved access and station facilities, including a new ticket hall. There would be new entrances from the street, access for those with mobility difficulties and general improvements such as station security measures, information displays and new passenger facilities.

The station redevelopment would be co-ordinated by a temporary worksite off Exchange Street.

A range of measures are being considered to improve links with other types of transport including:

- Improved cycling facilities
- Better links with bus services
- Pedestrian access improvements

Any improvements would be discussed with the relevant railway bodies, Transport for London, the London Borough of Havering and the local community.



Romford

Proposed Station Improvements (2)



Redevelopment of the station would be carried out over approximately 12 months. The ticket hall work would be planned to keep the station operational at all times. This would involve temporary ticketing facilities during construction.

Crossrail propose to extend the station platforms at Romford for new 10-car trains.

At the western end of the station, a new structure is required to support the platform extension over the embankment and the River Rom.

There is a small area of trees and bushes that would need to be removed. Upon the completion of works, it could be replaced with newly planted vegetation.

The likely environmental effect of the proposals is:

- **Noise and dust impacts from construction.** These would be mitigated by controlling noise at source. Appropriate dust mitigation techniques would be incorporated within the Crossrail Construction Code.



Artist's Impression – Proposed Station Redevelopment



Artist's Impression – Proposed New Ticket Hall

Romford

Proposed Service Improvements



Crossrail would improve train services to and from Romford by providing some journey time savings and a greater variety of new journey opportunities.

With Crossrail operational, the total number of seats available on trains to central London from Romford would increase by two thirds. This is a result of longer, more frequent trains.

During peak periods, Crossrail could provide up to:

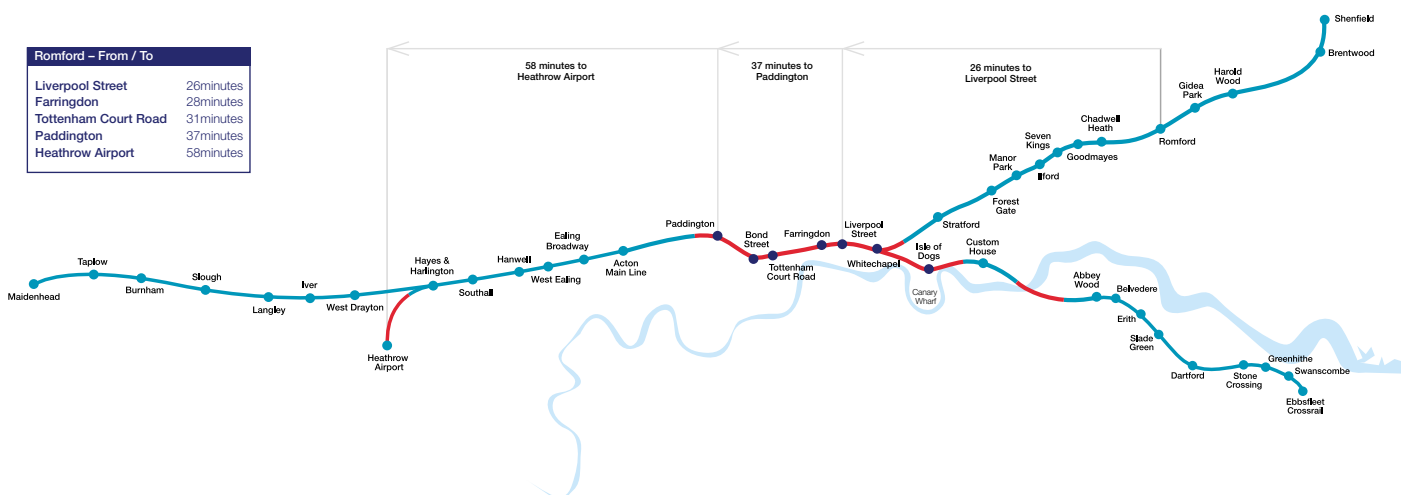
- 6 additional train services per hour from Romford to central London

The Crossrail timetable and service pattern would be set by the relevant railway bodies in consultation with the train operating company responsible for operating Crossrail services.



Romford Station

Typical Crossrail journey times from Romford



Romford

Proposed Crossrail Train Depot



Romford

Depot Selection Process



A depot is essential for maintenance and operation of the new railway.

In 2003, Crossrail carried out a study to identify a site that would be suitable for a train maintenance depot. Initially, 42 possible sites in London and surrounding areas were identified. These sites were subjected to a selection process in line with Government guidelines.

Following further examination, it became evident that all of the sites presented likely environmental and community issues, but that it would not be feasible to construct a depot at many of the locations.

The only viable location for a depot would be along the Great Eastern Line because this is where Crossrail would start operating services during the staged construction and opening of the railway.

A number of options were discarded for a variety of factors including:

- Environmental and community impact
- Practical difficulties involved with construction
- Safety and operational conflict with existing services
- Construction and operational cost
- Conflict with planning policy
- Poor accessibility
- Property impact
- Lack of space

The options of using existing railway land at Ilford and Stratford were ruled out because the locations considered are required for other railway and development purposes.

To select a preferred location, the remaining options were assessed against the following criteria:

- Accessibility
- Economy
- Environment
- Integration
- Safety

Following a series of reviews, the long list of options was reduced to two options:

- “green field” site between Harold Wood and Brentwood (Brentwood M25)
- “brown field” site near Romford (Romford Railway Goods Yard and Gasworks)

One of the advantages of the site at Romford is that a large part of it is already used for railway and industrial purposes. It has been concluded that the depot site near Romford would be preferred on planning and environmental grounds compared with other options. However, this preferred location raises other issues that are being considered in more detail in conjunction with key stakeholders and the local community.



Potential Depot Locations Studied

Romford

Proposed Train Maintenance Depot (1)



Crossrail are proposing a train maintenance depot and control centre at Romford railway goods yard and gasworks. Although the depot would be situated on existing railway and industrial land, rail access would be required through the extension of the railway boundary on adjacent Green Belt land.

It would have the capacity to maintain the proposed Crossrail fleet including an area for trains to be cleaned, a maintenance building for up to 8 trains and sidings for up to 15 trains.

The proposed layout is currently being reviewed as part of the ongoing environmental impact assessment and from comment received during consultation.

Key Construction Issues

The depot would be constructed over approximately 5 - 6 years. In practice, construction would be focused in different areas for a period of months at a time.

It is proposed to co-ordinate construction from temporary working sites at Westlands Playfields and industrial land off Crow Lane.

Crossrail services would use the two tracks on the northern side of the Great Eastern Line. As a result, a rail underpass (tunnel) would need to be constructed for Crossrail trains to access the depot and avoid operational conflicts with rail services on the other two tracks.



Proposed Romford Depot

Romford

Proposed Train Maintenance Depot (2)



The rail underpass linking Crossrail tracks with the depot would be constructed along the southern edge of Westlands Playing Fields. This would affect land immediately to the north of the railway and could require the relocation of the West Ham United training gymnasium.

During construction of the rail underpass, 2 - 3 playing fields at Westlands could be affected. Following construction, the playing fields would be restored.

A new bridge to carry the Crossrail lines to the main depot facilities would be required over Jutsums Lane. In order to allow clearance for vehicles under the bridge, the road levels would be altered. However, the height restriction for heavy goods vehicles would remain.

The main depot facilities would be constructed on derelict land next to the gasworks. The main depot building would be approximately 260 metres long, 70 metres wide and 14 metres high. In order to make the depot grounds level, the land on which the main depot building would be situated would need to be raised by 3 – 4 metres.



Romford Gasworks

Proposed Depot Building – Section



Romford

Proposed Train Maintenance Depot (3)



Associated Implications

The proposed depot site is approximately 2.5 kilometres in length.

The existing railway maintenance and works trains facility would be relocated to another location along the Great Eastern Line.

There would be office and operational facilities situated within the main depot building. A Crossrail control centre would be located within the depot grounds.

A number of utilities, including local water pipes and gas mains, would need to be diverted.

It may be necessary to relocate one of the gasholders and some of the high-pressure pipelines. This could be accommodated on existing gasworks land.

Landscaping would be used to screen the depot and reduce the impact of the depot development upon surrounding areas including the Oldchurch Hospital grounds and properties at Beechfield Gardens.

The depot would be operational 24 hours a day.

The depot could provide new jobs for approximately 400 people including drivers, technicians, cleaners and management.

Transport Issues

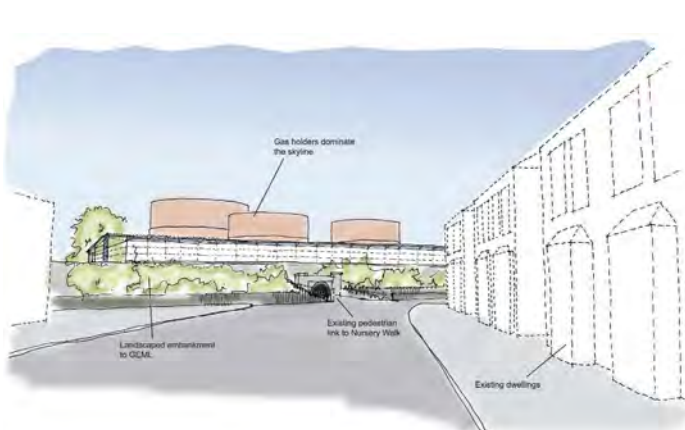
The main access route to the depot would be provided along Sandgate Close. Alternative access would be provided off Jutsums Lane and Nursery Walk.

The London Road (A118) and Crow Lane would be used as the main routes for construction traffic.

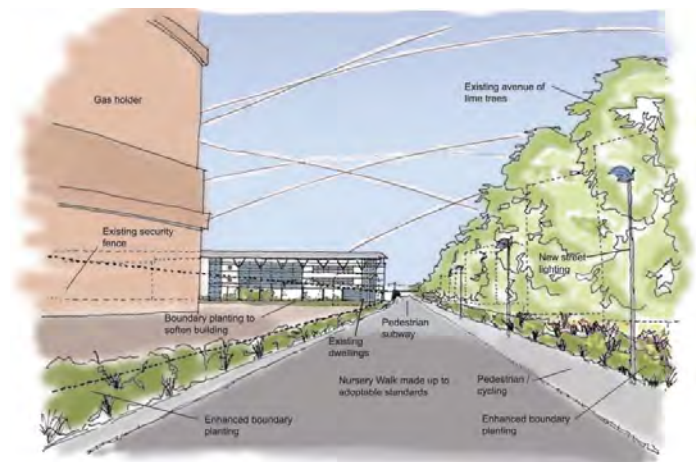
Up to 250 permanent car parking spaces would be provided. Overflow parking could be provided on derelict gasworks land to the west of Sandgate Close.

Footpath 123 that runs along the southern side of the railway would need to be diverted between Sandgate Close and Nursery Walk.

The Nursery Walk subway for pedestrians and cyclists would need to be extended.



Artist's Impression of Depot Building from Cotleigh Road



Artist's Impression of Depot Building from Nursery Walk

Romford

Proposed Train Maintenance Depot (4)



Environmental

The depot proposal is being considered as part of the ongoing environmental impact assessment. The following section summarises the likely environmental effects and likely mitigation measures:

- **Development of Green Belt land and potential loss of recreational space**
- **Noise from construction. This would be reduced at source and controlled by the Crossrail Construction Code with which all contractors would be required to comply and which would be agreed with the London Borough of Barking & Dagenham and the London Borough of Havering**
- **Noise from the operation of the depot. If the noise impacts prove to be excessive it may be possible to mitigate them using measures such as noise barriers**
- **Dust impacts on nearby buildings during construction. Appropriate dust mitigation techniques would be incorporated within the Crossrail Construction Code**
- **Treatment of contaminated land at the gasworks may be required**
- **Loss of habitat within a Site of Importance for Nature Conservation. Upon the works completion, replacement vegetation would be planted where appropriate**
- **A listed coal tax marker may need to be relocated to accommodate the works**
- **Visual impact of the depot building, which could be reduced using measures such as planting**
- **Artificial lighting would be required at the site, but would be designed and directed to reduce impact upon the surrounding area**



Westlands Playing Fields

Romford

Potential Depot Options (1)



Great Eastern Mainline Sites

Site: GE1

Description: Cowbridge Grange Farm

Summary reason for elimination:

- Environmental impacts
- Conflicts with planning policy

Site: GE2

Description: Little Cowbridge Grange

Summary reason for elimination:

- Environmental impacts
- Conflicts with planning policy

Site: GE3

Description: Bushwood Site

Summary reason for elimination:

- Environmental impacts
- Conflicts with planning policy

Site: GE4

Description: Shenfield Sewage Works

Summary reason for elimination:

- Environmental impacts
- Conflicts with planning policy
- Safety and operational issues

Site: GE5

Description: Hutton Country Park

Summary reason for elimination:

- Environmental impacts
- Conflicts with planning policy

Site: GE6

Description: Shenfield Industrial Estate

Summary reason for elimination:

- Environmental impacts
- Conflicts with planning policy
- Safety and operational issues

Site: GE7

Description: Shenfield Arnolds Wood

Summary reason for elimination:

- Environmental impacts
- Conflicts with planning policy
- Construction difficulties
- Poor accessibility

Site: GE8

Description: Brentwood Station Car Park

Summary reason for elimination:

- Operational constraints
- Conflicts with planning policy

Site: GE8a

Description: Brentwood Station Car Park Extended

Summary reason for elimination:

- Operational constraints
- Conflicts with planning policy

Site: GE9

Description: Brentwood Allotments

Summary reason for elimination:

- Environmental impacts
- Conflicts with planning policy
- Operational constraints
- Safety and operational issues

Site: GE10

Description: Brentwood A12 Hotel

Summary reason for elimination:

- Environmental impacts
- Conflicts with planning policy

Site: GE11

Description: Brentwood M25

Summary reason for elimination:

- Environmental impacts
- Conflicts with planning policy

Romford

Potential Depot Options (2)



Great Eastern Mainline Sites

Site: GE11a

Description: Brentwood M25/A12

Summary reason for elimination:

- Environmental impacts
- Conflicts with planning policy

Site: GE12

Description: Harold Court

Summary reason for elimination:

- Environmental impacts
- Conflicts with planning policy
- Safety and operational issues

Site: GE13

Description: Harold Court Industrial Extended

Summary reason for elimination:

- Community impacts
- Environmental impacts
- Conflicts with planning policy

Site: GE14

Description: Romford Gasworks

Summary reason for elimination:

- Operational constraints
- Safety issues

Site: GE15

Description: Romford Goods Yard

Summary reason for elimination:

- Operational constraints
- Safety issues

Site: GE15a

Description: Romford Goods Yard/Gasworks Comb

Summary reason for elimination:

- Preferred Location

Site: GE16

Description: Romford Playing Fields

Summary reason for elimination:

- Environmental impacts
- Conflicts with planning policy

Site: GE17

Description: Chadwell Heath Yard

Summary reason for elimination:

- Operational constraints
- Safety issues

Site: GE17a

Description: Chadwell Heath Yard Extended

Summary reason for elimination:

- Operational constraints
- Safety issues

Site: GE18

Description: Ilford Depot

Summary reason for elimination:

- Continuing railway use

Site: GE19

Description: Thornton Fields Carriage Sidings

Summary reason for elimination:

- Environmental impacts
- Conflicts with planning policy
- Operational constraints

Site: GE20

Description: Mile End

Summary reason for elimination:

- Environmental impacts
- Conflicts with planning policy
- Safety and operational issues

Site: GE21

Description: East of Goodmayes

Summary reason for elimination:

- Community impacts
- Operational constraints
- Safety and operational issues

Site: GE22

Description: Ardleigh Green

Summary reason for elimination:

- Operational constraints
- Safety issues

Romford

Potential Depot Options (3)



Dockland Sites

Site: D1

Description: Beckton Former Gasworks

Summary reason for elimination:

- Conflicts with planning policy
 - Poor accessibility
 - Construction cost
-

Site: D2

Description: Stratford Old Freight Liner Terminal

Summary reason for elimination:

- Conflicts with development proposals
 - Conflicts with planning policy
-

Site: D3

Description: North Woolwich Line

Summary reason for elimination:

- Community impacts
 - Conflicts with planning policy
 - Conflicts with planning policy
-

North Kent Line Sites

Site: NK1

Description: Plumstead Goods Yard Southern Ext

Summary reason for elimination:

- Project phasing and train commissioning constraints
-

Site: NK2

Description: Plumstead Goods Yard Extended

Summary reason for elimination:

- Project phasing and train commissioning constraints
-

Site: NK2a

Description: Plumstead Sites Combined

Summary reason for elimination:

- Project phasing and train commissioning constraints
-

Site: NK3

Description: Slade Green Depot

Summary reason for elimination:

- Project phasing and train commissioning constraints
-

Site: NK4

Description: Belvedere

Summary reason for elimination:

- Project phasing and train commissioning constraints
-

Site: NK5

Description: Angerstein Wharf

Summary reason for elimination:

- Project phasing and train commissioning constraints
-

Romford

Potential Depot Options (4)



Great Western Mainline Sites

Site: GW1

Description: Old Oak Common Depot

Summary reason for elimination:

- Project phasing and train commissioning constraints
-

Site: GW2

Description: North Pole Depot

Summary reason for elimination:

- Project phasing and train commissioning constraints
-

Site: GW3

Description: Southall Sidings

Summary reason for elimination:

- Project phasing and train commissioning constraints
-

Site: GW4

Description: Southall Gasworks

Summary reason for elimination:

- Project phasing and train commissioning constraints
-

Site: GW5

Description: West Drayton Coal Depot

Summary reason for elimination:

- Project phasing and train commissioning constraints
-

Site: GW6

Description: Alperton Lane

Summary reason for elimination:

- Project phasing and train commissioning constraints
-

Gidea Park

Proposed Station Improvements



Platform extensions are proposed at Gidea Park for new 10-car Crossrail trains.

Work on the station platforms (3 & 4) would be co-ordinated from a temporary worksite on the station car park.

The work would be carried out over approximately 4 months.

The likely environmental effect of the proposals is noise from construction. This would be mitigated by controlling noise at source.

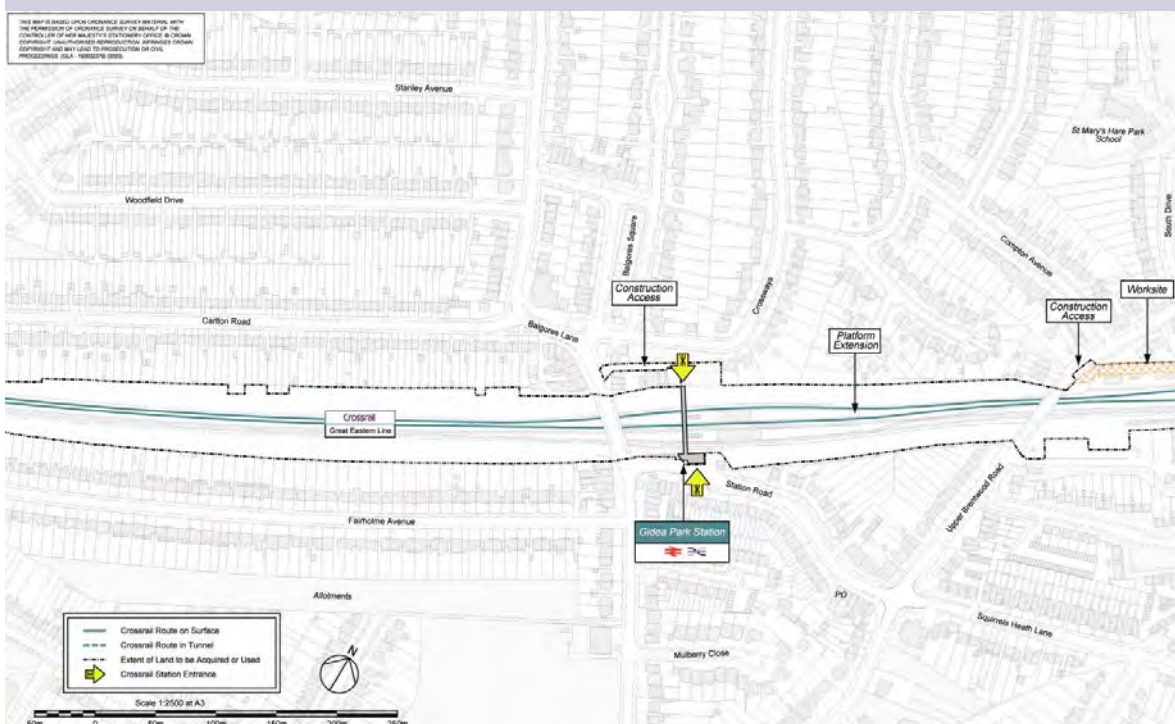
As part of the development of Crossrail at Gidea Park, a number of minor improvements are being considered including:

- Pedestrian access improvements
- Improved cycling facilities
- Improved passenger drop-off facilities
- Passenger facility improvements
- New information systems

No other major alterations to the station are currently proposed.

Any improvements would be discussed with the relevant railway bodies, Transport for London, the London Borough of Havering and the local community.

Gidea Park Station



Gidea Park

Proposed Service Improvements



Crossrail would improve train services to and from Gidea Park by providing journey time savings and a greater variety of journey opportunities.

With Crossrail operational, the total number of seats available on trains to central London from Gidea Park would increase by two thirds. This is a result of longer, more frequent trains.

During peak periods Crossrail could provide up to:

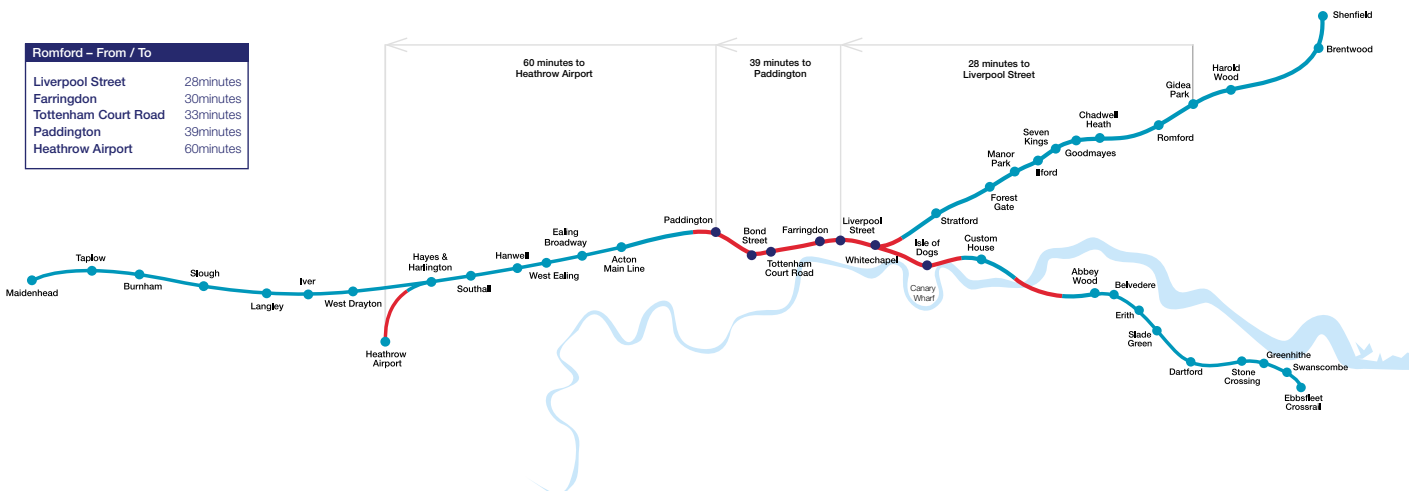
- 7 additional train services per hour from Gidea Park to central London

The Crossrail timetable and service pattern would be set by the relevant railway bodies in consultation with the train operating company responsible for operating Crossrail services.



Gidea Park Station

Typical Crossrail journey times from Gidea Park



Gidea Park

Proposed Alterations to Sidings



Crossrail propose to alter the existing train stabling sidings at Gidea Park to accommodate up to nine, 10-car trains during off-peak hours and overnight. The existing train sidings accommodate nine, 8-car trains.

Construction would be co-ordinated from a temporary worksite next to the existing train sidings. Work would take place over different periods within a two year timeframe.

A temporary access road for the modifications to the sidings is proposed off Upper Brentwood Road.

New retaining walls would be constructed within the site.

During construction the site would be enclosed by site hoardings.

The likely environmental effects of the proposals are:

- Noise impact on nearby buildings due to construction. These would be mitigated by controlling noise at source. This would be incorporated within the Crossrail Construction Code with which all contractors would be required to comply and which would be discussed with the London Borough of Havering
- Dust impacts on nearby buildings during construction. Appropriate dust mitigation techniques would be incorporated within the Crossrail Construction Code
- Artificial lighting would be required at the site, but would be designed and directed to reduce impacts upon surrounding areas

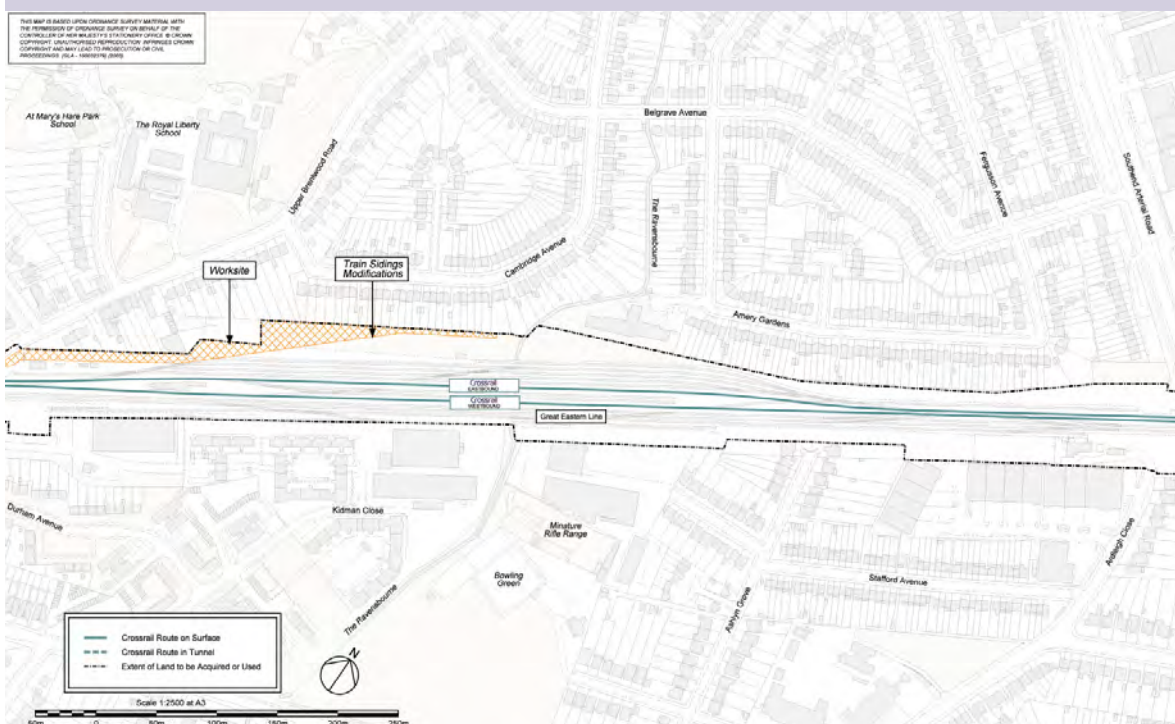


Gidea Park Sidings

Gidea Park Sidings



Gidea Park Sidings



Harold Wood

Proposed Station Improvements



Platform extensions are proposed at Harold Wood to provide for new 10-car Crossrail trains.

Work on the station platforms (3 & 4) would be co-ordinated from a temporary worksite at the station car park.

The work would be carried out over approximately 5 months.

The likely environmental effect of the proposals is noise from construction. This would be mitigated by controlling noise at source.

As part of the development of Crossrail at Harold Wood, a number of minor improvements are being considered including:

- Pedestrian access improvements
- Improved cycling facilities
- Better links with bus services
- Improved passenger drop-off facilities
- Passenger facility improvements
- New information systems

No other major alterations to the station are currently proposed.

Any improvements would be discussed with the relevant railway bodies, Transport for London, the London Borough of Havering and the local community.

Harold Wood Station



Harold Wood

Proposed Service Improvements



Crossrail would improve train services to and from Harold Wood by providing journey time savings and a greater variety of journey opportunities.

With Crossrail operational, the total number of seats available on trains to central London from Harold Wood would almost double as a result of longer, more frequent trains.

During peak periods, Crossrail could provide up to:

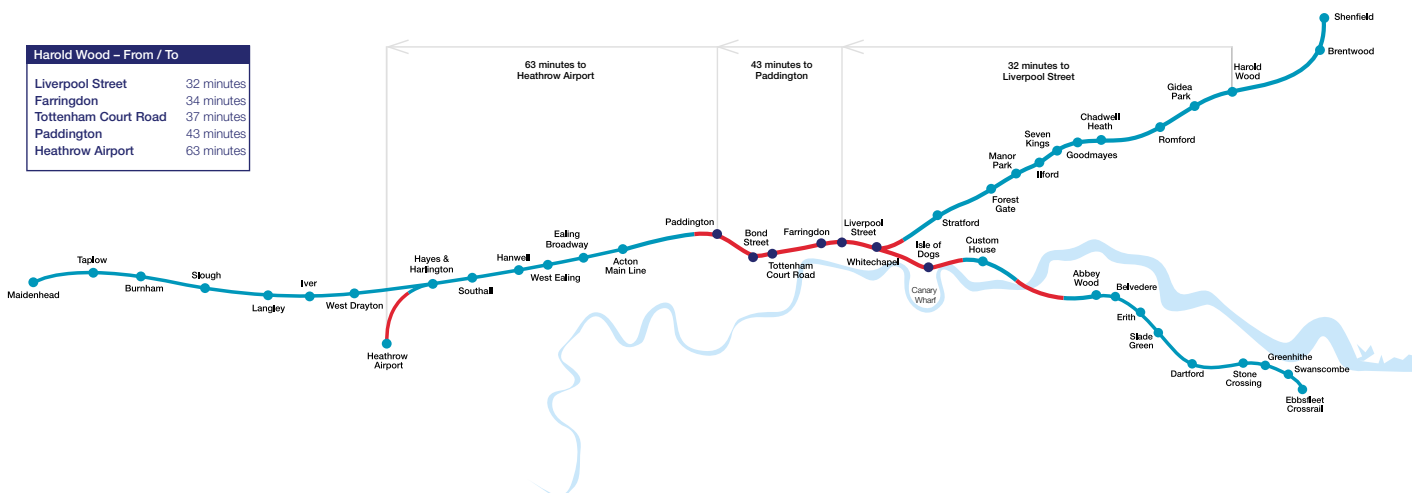
- 5 additional train services per hour from Harold Wood to central London

The Crossrail timetable and service pattern would be set by the relevant railway bodies in consultation with the train operating company responsible for operating Crossrail services.



Harold Wood Station

Typical Crossrail journey times from Harold Wood



Brentwood

Proposed Station Improvements



Platform extensions are proposed at Brentwood to provide for new 10-car Crossrail trains.

Work on the station platforms (3 & 4) would be co-ordinated from a temporary worksite on the station car park.

The work would be carried out over approximately 5 months.

The likely environmental effect of the proposals is noise from construction. This would be mitigated by controlling noise at source.

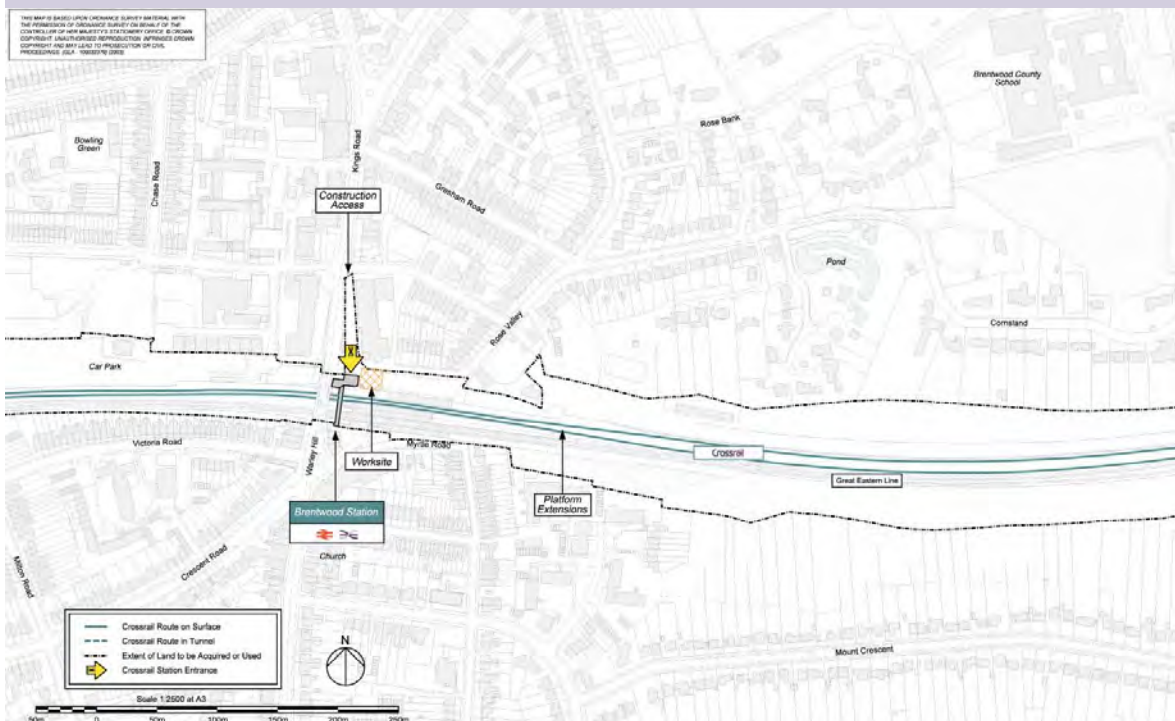
As part of the development of Crossrail at Brentwood, a number of minor improvements are being considered including:

- Pedestrian access improvements
- Improved cycling facilities
- Passenger facility improvements
- New information systems

No other major alterations to the station are currently proposed.

Any improvements would be discussed with the relevant railway bodies, Essex County Council, Brentwood Borough Council and the local community.

Brentwood Station



Brentwood

Proposed Service Improvements



Crossrail would improve train services to and from Brentwood by providing journey time savings and a greater variety of journey opportunities.

With Crossrail operational, the total number of seats available on trains to central London from Brentwood would increase by almost double as a result of longer, more frequent trains.

During peak periods, Crossrail could provide up to:

- 5 additional train services per hour to and from Brentwood

The Crossrail timetable and service pattern would be set by the relevant railway bodies in consultation with the train operating company responsible for operating Crossrail services.



Brentwood Station

Typical Crossrail journey times from Brentwood



Shenfield

Proposed Station Improvements and Turnback Sidings



A number of minor improvements are being considered by Crossrail at Shenfield, including pedestrian access improvements and improved cycling facilities. Any improvements would be discussed with the relevant railway bodies, Essex County Council, Brentwood Borough Council and the local community.

Modification of the track layout and train sidings are proposed at Shenfield to enable Crossrail trains to be reversed.

Work to the stabling sidings would be carried out within the railway boundary. However, a temporary worksite would be set-up off Hunter Avenue.

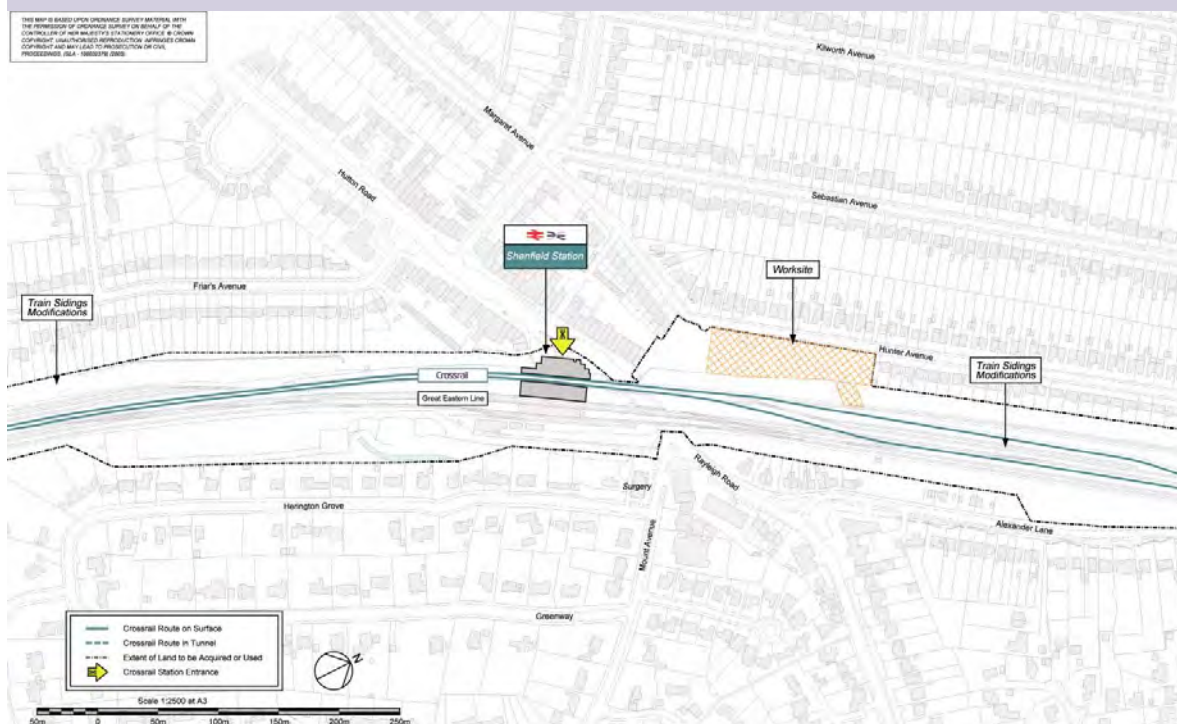
New retaining walls would be constructed to support the proposed train sidings.

The work would be carried out over approximately 7 months.

The likely environmental effects of the proposals are:

- Noise from construction activities and operational noise as a result of trains using the sidings. These would be mitigated by controlling noise at source
- There is a small area of trees and bushes that would need to be removed. Upon the completion of work, they could be replaced with newly planted vegetation

Shenfield Station



Shenfield

Proposed Service Improvements



Crossrail would improve train services to and from Shenfield by providing journey time savings and a greater variety of journey opportunities.

With Crossrail operational, the total number of seats available on trains to central London from Shenfield would increase as result of longer, more frequent trains.

During peak periods, Crossrail could provide up to:

- 5 additional train services per hour from Shenfield to central London

The Crossrail timetable and service pattern would be set by the relevant railway bodies in consultation with the train operating company responsible for operating Crossrail services.



Shenfield Station

Typical Crossrail journey times from Shenfield



E43.1

North Kent Line

Proposed Service Improvements



Crossrail propose to improve rail services on the North Kent Line with:

- New and more frequent trains
- Faster journeys to Docklands, the City, West End and west London
- Improved links to Heathrow Airport and Essex
- Additional capacity and reduced crowding

Crossrail would operate up to 12 trains an hour to and from Abbey Wood Station of which 4 trains per hour would serve Ebbsfleet.

There are no proposals to reduce the level of service on the North Kent Line. Crossrail would operate in addition to existing services to London terminals. Existing users should experience significant crowding relief because of the customers who transfer to Crossrail.

Prior to the opening of Crossrail, the timetable and service pattern would be set by the relevant railway bodies in consultation with the train operating company responsible for operating Crossrail services.



North Kent Line



Possible Crossrail Train

Limmo Peninsula

Proposed Shaft (1)



Crossrail propose a shaft at the Limmo Peninsula. The shaft would provide ventilation, emergency access and evacuation from the two Crossrail tunnels.

The Limmo Peninsula would be used as a worksite for up to six years to construct the shaft and launch the tunnel boring machines for the tunnel drive to and from the Isle of Dogs station and Victoria Dock Portal.

Construction of the shaft would be combined with a new building to accommodate ventilation fans and emergency access and escape facilities.

An open area at surface level would be designated for train evacuation.

The shaft would be designed in keeping with its surroundings.

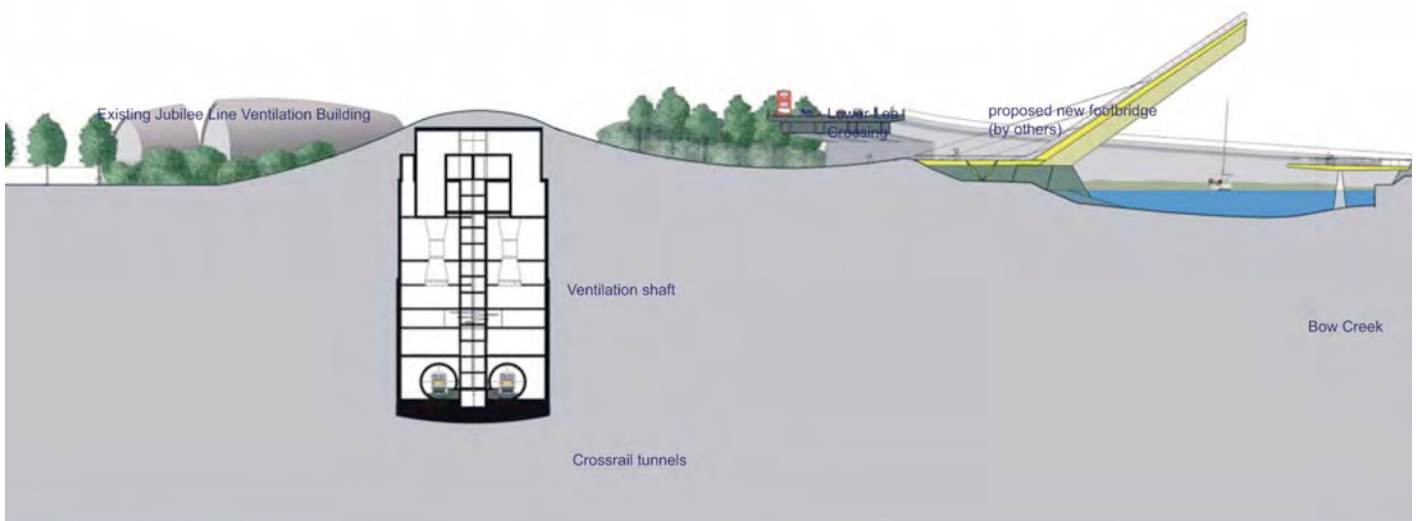


Artist's Impression – Limmo Shaft



Proposed Limmo Shaft

Proposed Limmo Shaft – Section



Limmo Peninsula

Proposed Shaft (2)



Limmo Peninsula is currently being used to construct the new DLR extension to London City Airport. The DLR works include a new slip road from the eastbound carriageway of the Lower Lea Crossing which would provide permanent access to the Peninsula, the Crossrail shaft and any future development.

The London Borough of Newham is considering proposals for the future development of the Limmo Peninsula that could include residential and commercial development.

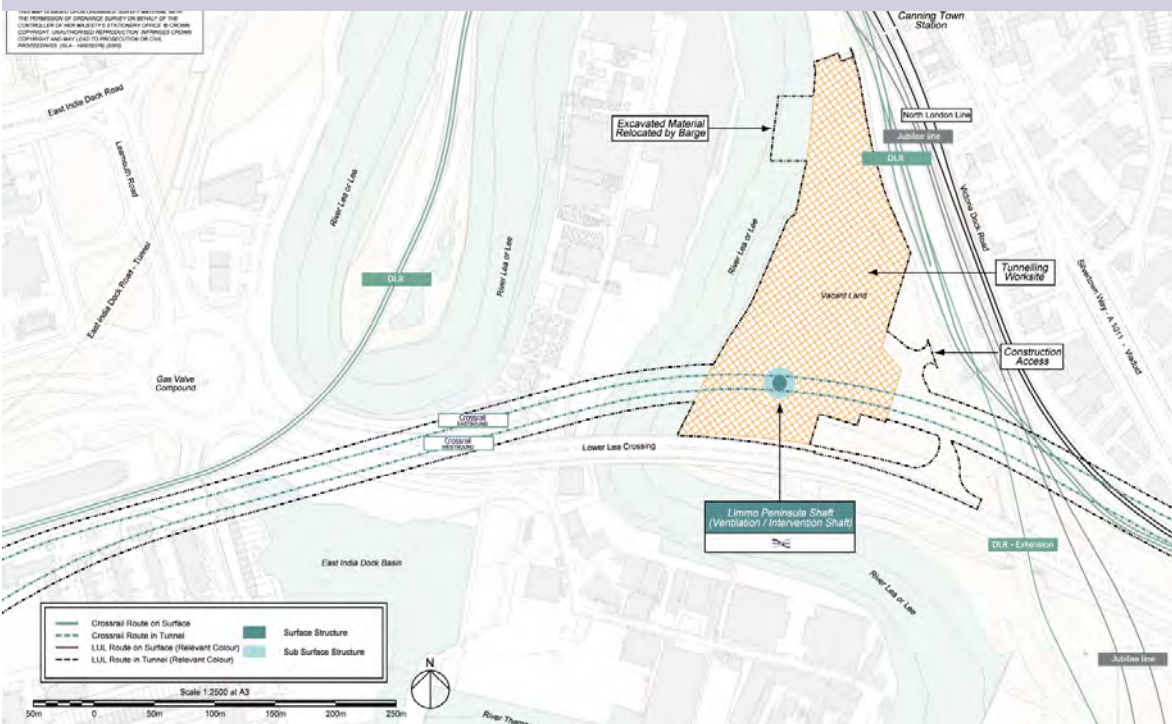
A new bridge for pedestrians and cyclists, known as the Leamouth Footbridge, is proposed by other parties over the River Lea. The proposed Crossrail shaft has been designed to take account of this new connection and other developments in the local area.

Some of the excavated material from Crossrail tunnelling could be transported by barge along the River Lea to landfill sites outside London.

Limmo Peninsula



Proposed Limmo Shaft



Victoria Dock

Proposed Tunnel Portal (2)



The likely environmental effects of the proposals are:

- **Noise from construction. This would be mitigated to control noise at source and would be incorporated within the Crossrail Construction Code with which all contractors would be required to comply and which would be discussed with the London Borough of Newham**
- **Operational noise from an increase in services**
- **Dust impact on nearby buildings during construction. Appropriate dust mitigation techniques would be incorporated within the Crossrail Construction Code**



Artist's Impression – Proposed Victoria Dock Portal



Proposed site of Victoria Dock Portal

Custom House Proposed Station Improvements (1)



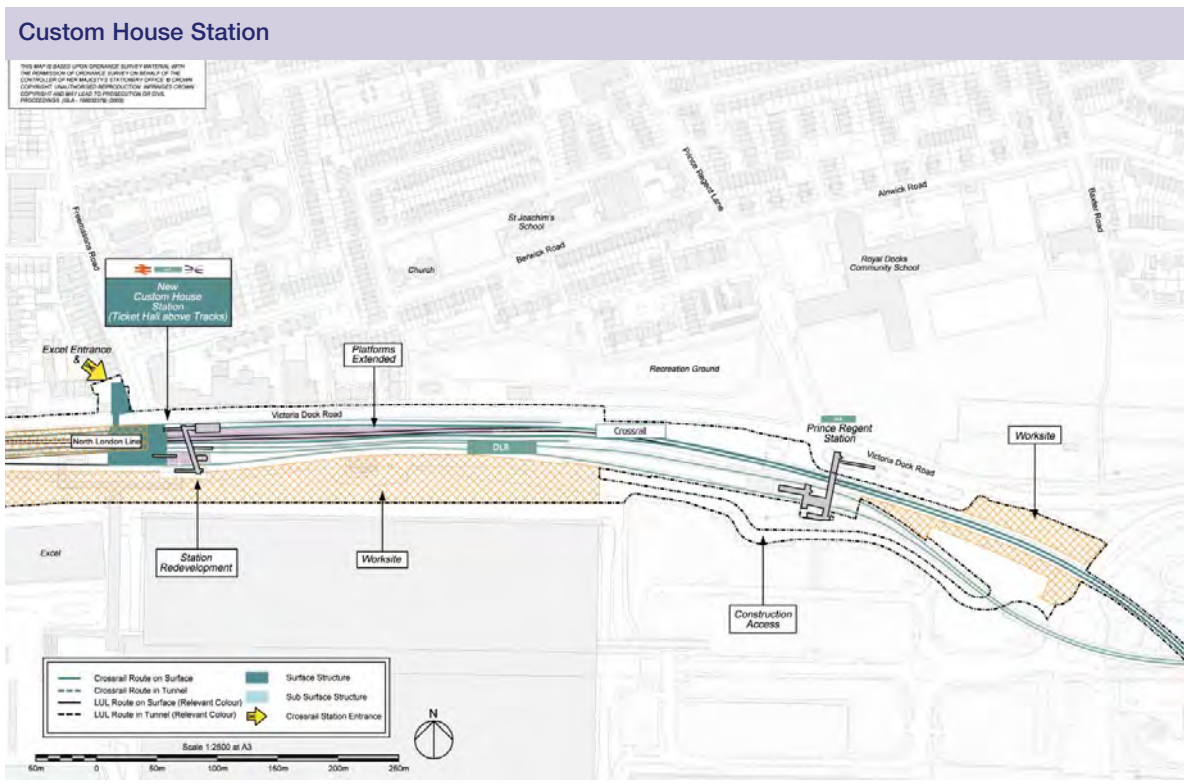
Custom House Station would be redeveloped to provide a new station interchange between Crossrail, Silverlink Metro, Docklands Light Railway (DLR) and local bus services.

The existing station would be demolished and replaced by a larger station with a high quality interchange with DLR services. The new ticket hall would be elevated above the tracks.

Two Crossrail platforms would be provided for new 10-car Crossrail trains, as well as platforms for DLR and Silverlink Metro services.

As part of the development of Crossrail at Custom House, a number of improvements are proposed including:

- Access for mobility impaired people, including lifts
- Ticket hall enhancements, including ticket gates
- Pedestrian access improvements
- Improved cycling facilities
- Enhanced interchange with local bus services
- Passenger facility improvements
- New information systems



Custom House

Proposed Station Improvements (2)



Any improvements would be discussed with the relevant railway bodies, Transport for London, the London Borough of Newham and the local community.

The redevelopment of Custom House station would temporarily require the use of part of ExCel's lorry park for construction and development purposes.

During tunnel portal construction, DLR services would be diverted, but remain open.

The work would be carried out over approximately 18 months.

The likely environmental effects of the proposals are:

- **Noise from construction.** This would be mitigated at source by the Crossrail Construction Code with which all contractors would be required to comply and which would be discussed with London Borough of Newham
- **Operational noise** as a result of an increase in services and the termination of Silverlink Metro services at Custom House
- **Dust impact on nearby buildings during construction.** Appropriate dust mitigation techniques would be incorporated within the Crossrail Construction Code

Custom House

Proposed Service Improvements



Crossrail would improve train services to and from Custom House Station by providing journey time savings, direct services to central London for the first time, as well as a greater variety of journey opportunities.

Approximately 1,100 passengers currently use Custom House Station in the morning peak period. By 2016, following the introduction of Crossrail and other transport improvements, it is expected that the number of people using Custom House Station would have doubled.

During peak periods, there would be 12 Crossrail trains per hour to and from Custom House Station.

The Crossrail timetable and service pattern would be set by the relevant railway bodies in consultation with the train operating company responsible for operating Crossrail services.

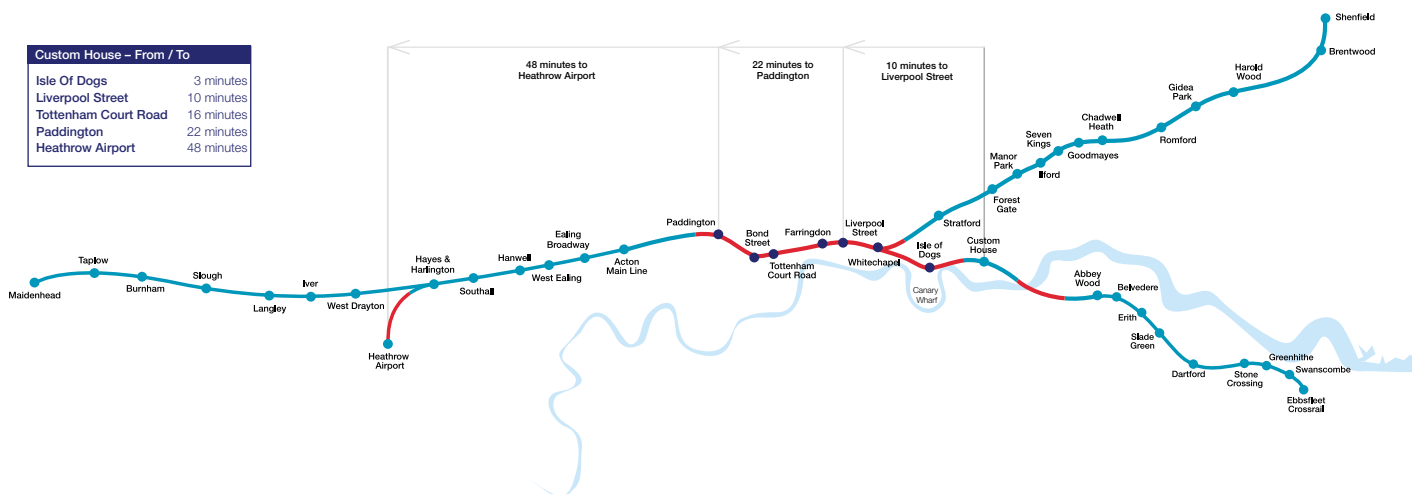
During the redevelopment of Custom House Station, Silverlink Metro services would terminate at Stratford rather than North Woolwich Station. Existing Silverlink Metro passengers would be able to use bus and alternative services provided by the DLR. Following the station redevelopment, Silverlink Metro services would terminate at Custom House.

Design of the new Crossrail Station at Custom House would allow for interchange with buses that could include a direct bus service to London City Airport.



Custom House Station

Typical Crossrail journey times from Custom House



Custom House to Silvertown

Proposed Track Improvements



Following improvements to the existing track, Crossrail propose to use the North London Line between Custom House and North Woolwich before travelling under the River Thames in a new tunnel.

Crossrail services would pass through the existing Connaught Tunnel. The tunnel would be significantly refurbished to accommodate Crossrail trains.

Crossrail propose to close Silvertown station. Passengers that currently use the station would be able to use services from new DLR stations at West Silvertown (Silvertown Way) or Pontoon Dock (North Woolwich Road).

The work would be carried out over approximately 12 months.

The likely environmental effects of the proposals are:

- Noise from construction and operational noise as a result of an increase in rail services. These would be mitigated to reduce noise at source
- Dust impact during construction. Appropriate dust mitigation techniques would be incorporated within the Crossrail Construction Code

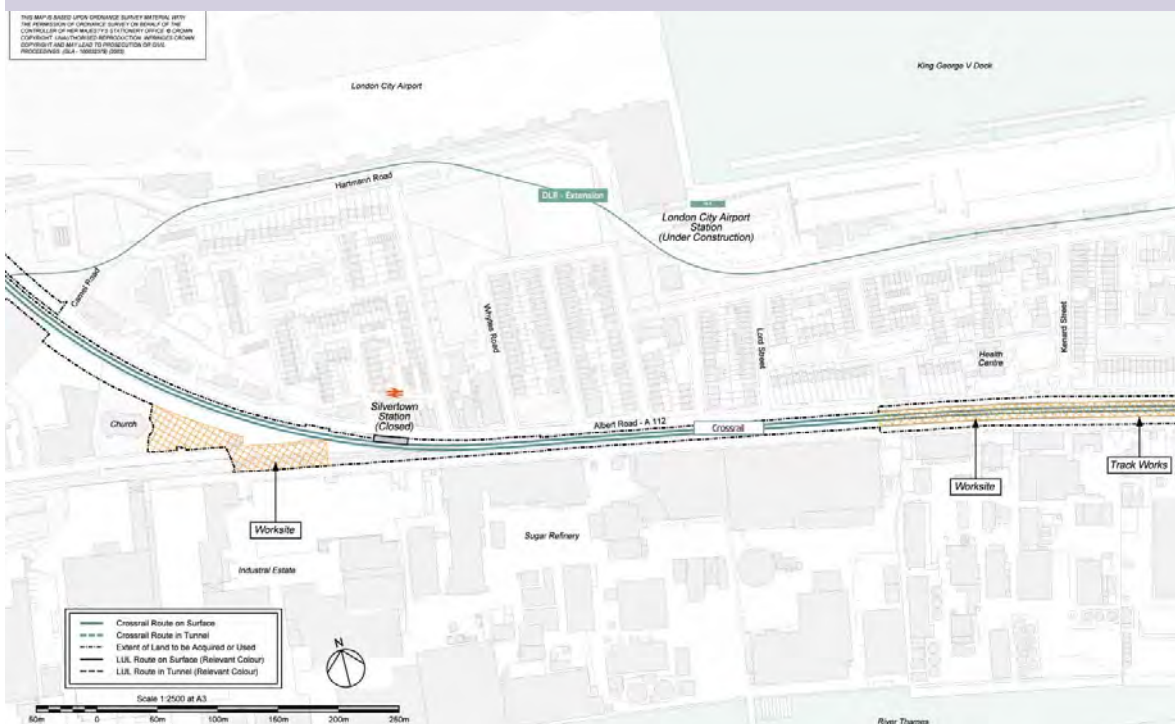


Custom House Station



Connaught Tunnel

Custom House – Silvertown



Thames Crossing

Proposed Tunnel Development



Crossrail propose a new rail connection between central London and Kent via Docklands. This would require track improvements along the North London Line and the development of new tunnels under the River Thames between North Woolwich and Plumstead.

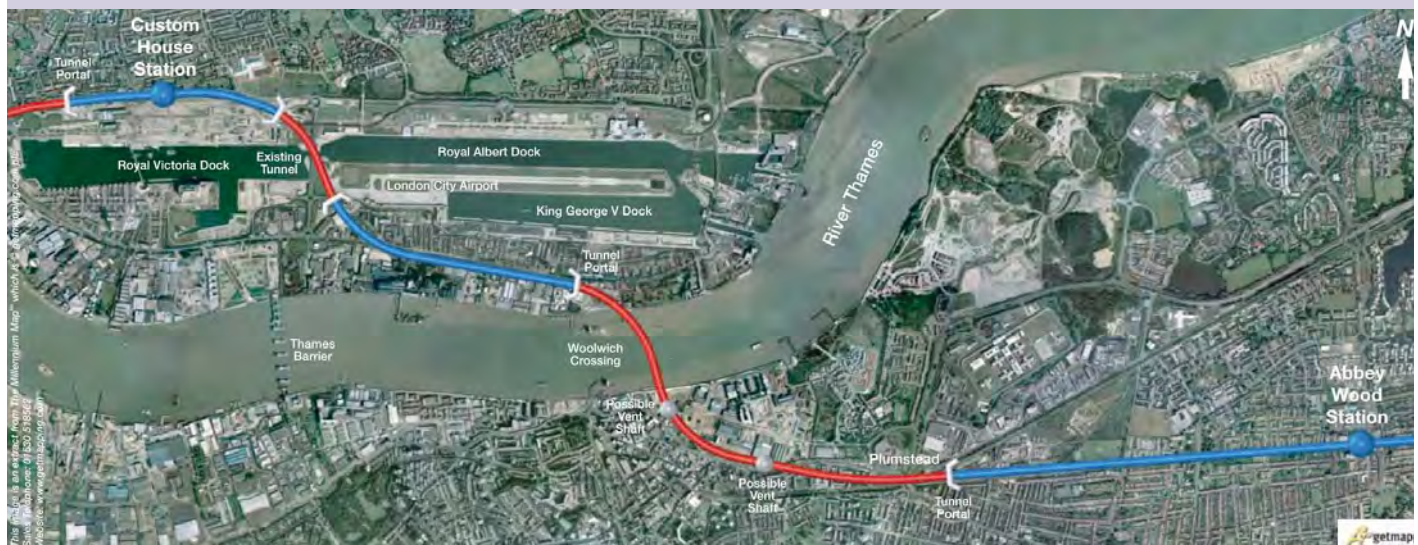


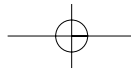
River Thames



Proposed Thames Crossing - Section

Proposed Thames Crossing





E53.1

North Woolwich Proposed Tunnel Portal



East of Silvertown, the Crossrail trains would gradually descend along the existing rail corridor (North London Line) to North Woolwich where a tunnel under the River Thames is proposed.

It is proposed that the tunnel entrance/exit (portal) would be constructed on vacant land next to North Woolwich Station.

North Woolwich Station would be closed. Existing Silverlink Metro passengers would be able to use the services from a new DLR station being constructed nearby at King George V (Pier Rd).

Crossrail's tunnel boring machine would be retrieved at North Woolwich following its drive from Plumstead.

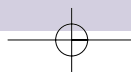
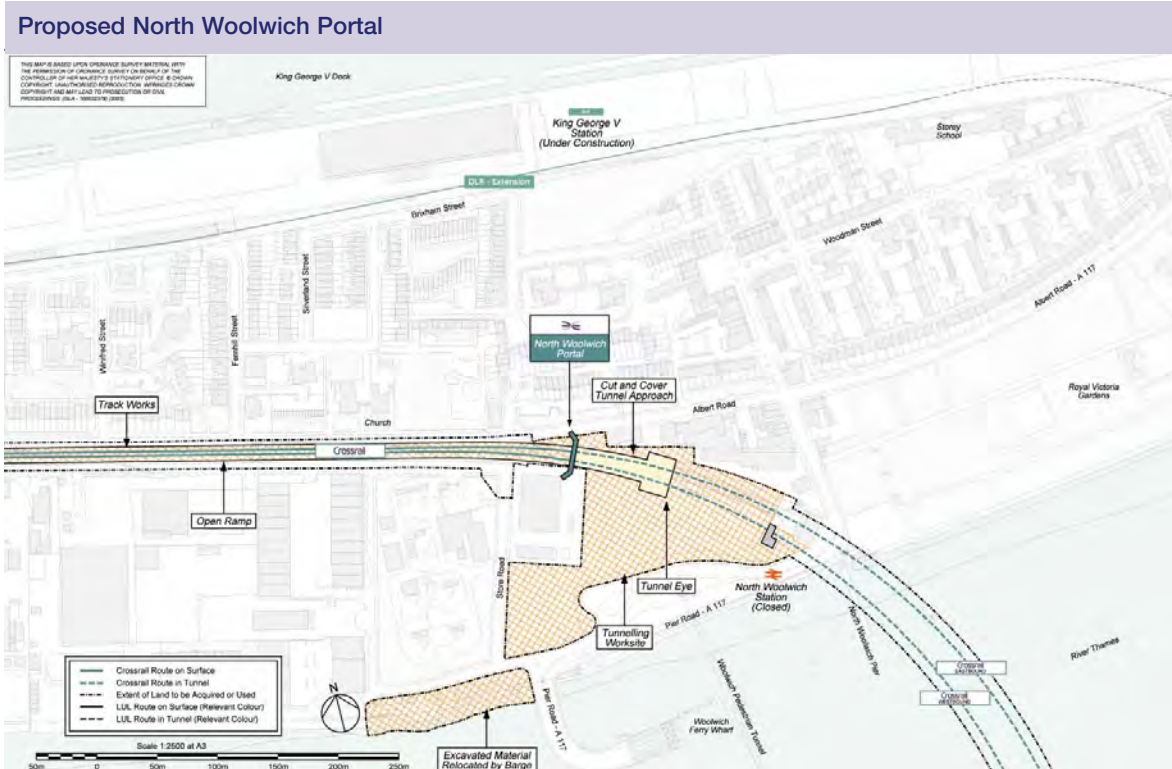
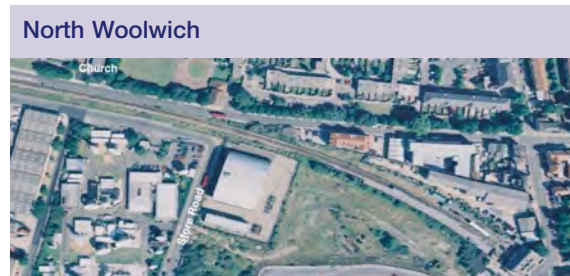
Part of Albert Road and Factory Road could be required for temporary construction purposes to enable improvements to the railway line.

Some of the excavated material from Crossrail tunnelling could be transported by barge along the River Thames to landfill sites outside London.

The work would be carried out over approximately 3 years.

The likely environmental effects of the proposals are:

- Noise impact from construction and operational noise from an increase in rail services. These would be mitigated by controlling noise at source
- Dust impact during construction. Appropriate dust mitigation techniques would be incorporated within the Crossrail Construction Code



Woolwich (Warren Lane) Proposed Shaft



A shaft is proposed at Warren Lane to provide ventilation, emergency escape and access to the Crossrail tunnels.

The shaft would be constructed from a temporary worksite off Warren Lane including part of the Royal Arsenal Gardens.

Construction of the shaft would require the demolition of a derelict warehouse building.

To reduce the impact on the area, most of the required equipment rooms would be contained underground.

Warren Lane Shaft design would take account of its setting including the River Thames, Royal Arsenal Gardens and local development.

Excavated material from shaft construction would be transported to landfill sites outside London.

The work would be carried out over approximately 2 years.

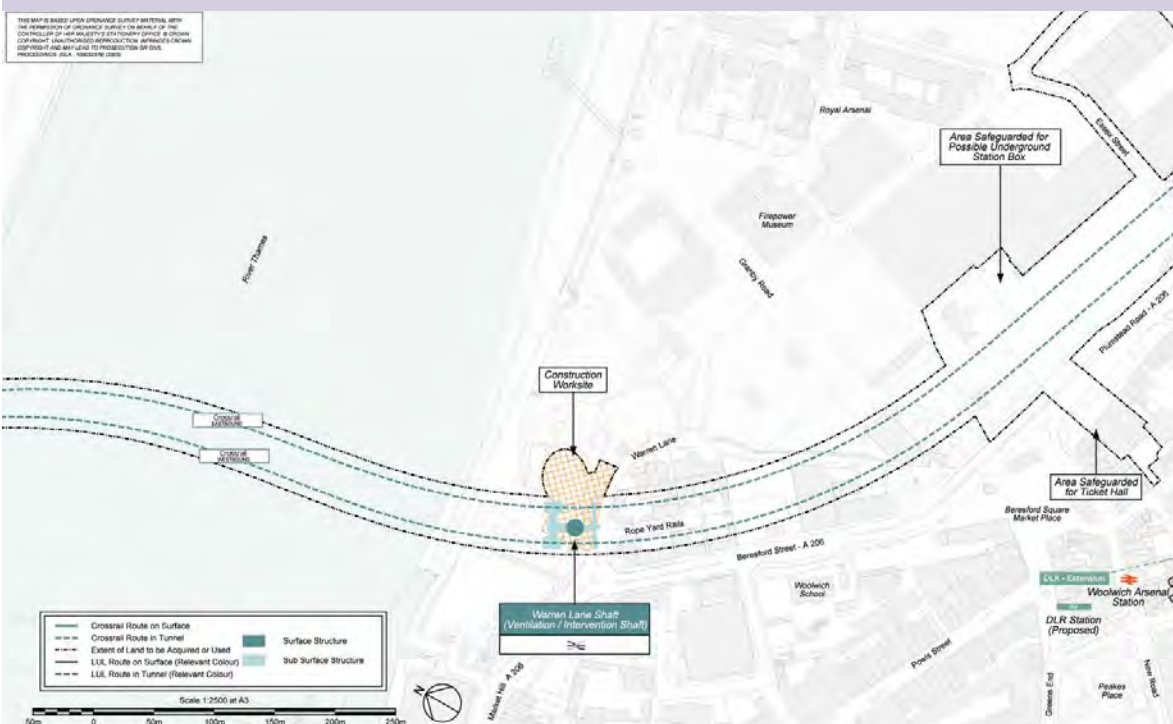


Proposed Warren Lane Shaft Site



Warren Lane Shaft – Artist's Impression

Proposed Warren Lane Shaft



Woolwich (Arsenal Way)

Proposed Shaft



A shaft is proposed at Arsenal Way to provide ventilation, emergency escape and access to the Crossrail tunnels.

The shaft would be constructed from a temporary worksite at the existing car park off Arsenal Way/Plumstead Road.

Two buildings are proposed at surface to contain the ventilation equipment and the stairs for access to and from the Crossrail tunnels. Between the two structures, an area would be provided for passengers in the event of a train evacuation. It is proposed to combine the development of the shaft structures with landscaping.

Most of the required equipment rooms would be contained underground and the shaft design would take account of its setting, including any local development.

Excavated material from shaft construction would be transported to landfill sites outside London.

The work would be carried out over approximately 2 years.

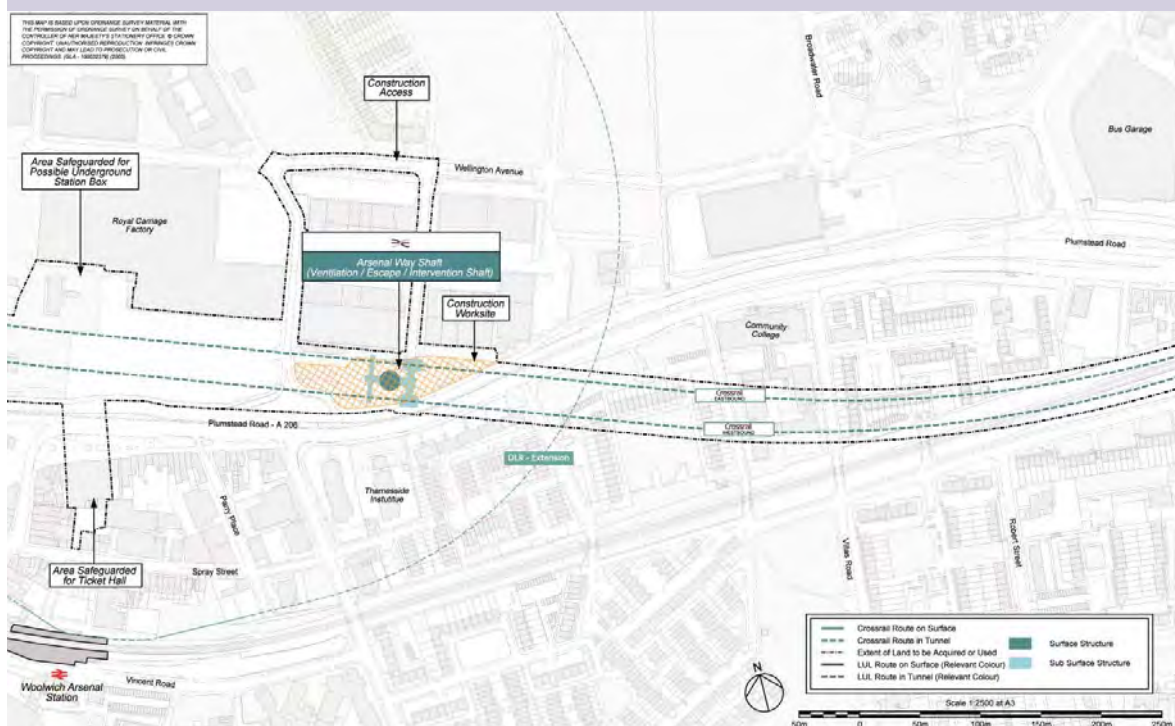


Arsenal Way Shaft – Artist's Impression



Proposed Arsenal Way Shaft Site

Proposed Arsenal Way Shaft



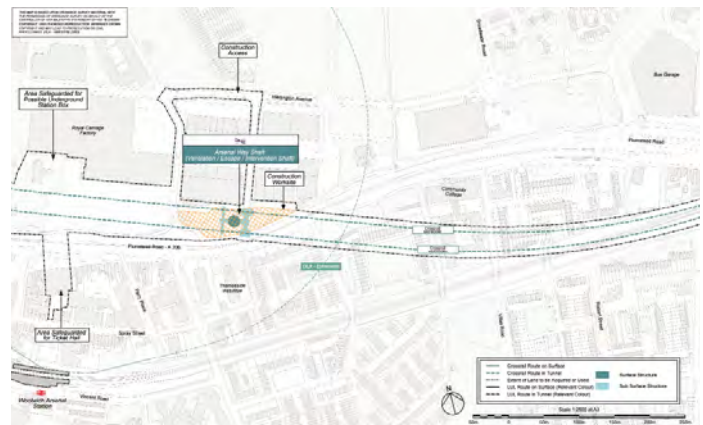
Woolwich

Safeguarded Station Box



As the Crossrail tunnels would pass under Woolwich at a depth of approximately 20 – 25 metres, the cost of constructing an underground station would be expensive. Furthermore, local bus improvements and the proposed extension of the DLR to Woolwich Arsenal should deliver many of the potential transport benefits that a Crossrail station could provide. Therefore, it is not proposed that a Crossrail station at Woolwich is in the Parliamentary Bill.

However, there have been local representations for a Crossrail station at Woolwich. As a result, design allows for the possible provision of an underground station and ticket hall at some point in the future if the development of a Crossrail station at Woolwich is proved to be viable.



Proposed Woolwich Station Safeguarded Box



Woolwich

Plumstead

Proposed Tunnel Portal (1)



A tunnel entrance and exit, or portal, for the Crossrail tunnels is proposed at Plumstead.

The tunnel portal would be used as the entrance/exit for Crossrail trains to operate between the North Kent Line and two new tunnels through the centre of London via Docklands. The Crossrail trains would surface from the tunnels within the existing railway boundary.

Existing North Kent Line services would be diverted to either side of the proposed Crossrail lines through the development of new track between Plumstead and Abbey Wood.

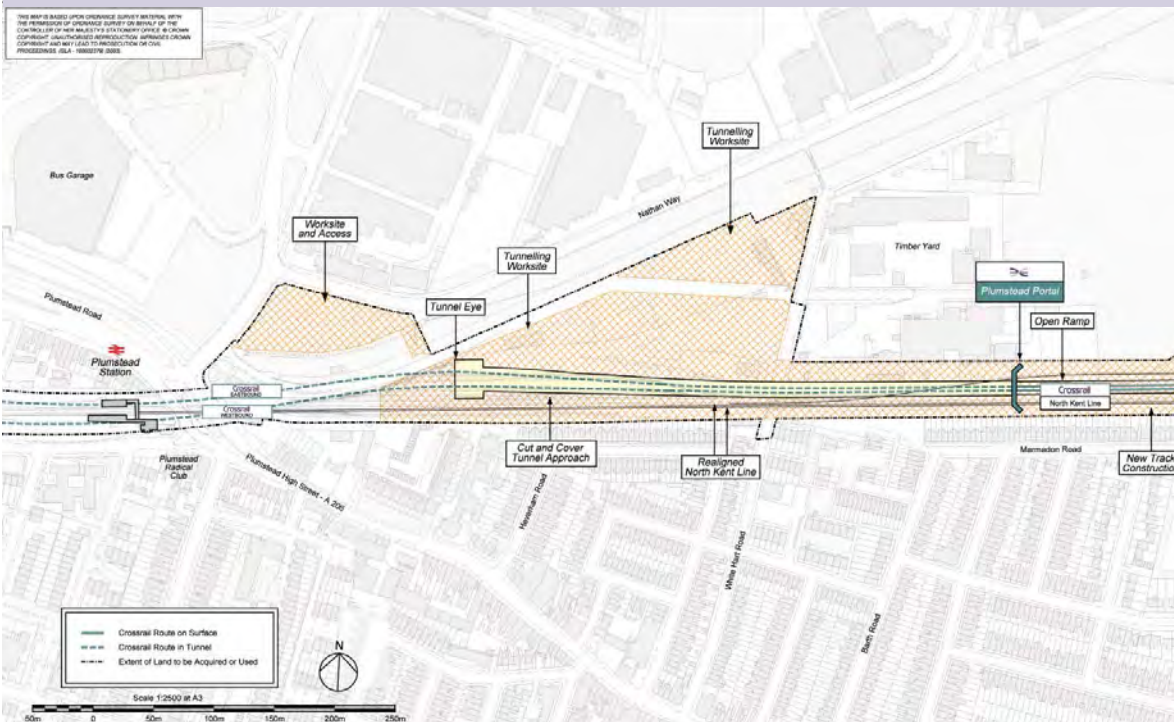
Construction would be phased to allow continued operation of services along the North Kent Line.

White Hart Road Bridge would be closed during construction to allow Crossrail tracks to pass beneath it and North Kent Lines to pass above it. Traffic would be temporarily diverted.



Proposed Plumstead Portal – Section

Proposed Plumstead Portal



Plumstead

Proposed Tunnel Portal (2)



A tunnel boring machine would be launched at Plumstead for its drive under the River Thames to North Woolwich.

Some excavated material from Crossrail tunnelling would be transported to landfill sites outside London.

The work would be carried out over approximately 3 years.

The likely environmental effects of the proposals are:

- **Noise from construction.** This would be mitigated to reduce noise at source and controlled by the Crossrail Construction Code with which all contractors would be required to comply and which would be discussed with the London Borough of Greenwich
- **Operational noise** as a result of an increase in services due to Crossrail



White Hart Road Bridge



Plumstead Sidings



Proposed Plumstead Portal Worksite

Plumstead to Abbey Wood

Proposed Track Improvements (1)



Crossrail propose introduction of a new track either side of the North Kent Line between the portal at Plumstead and Abbey Wood station. Crossrail services would operate on the inner pair of tracks and North Kent Line services on the outer tracks.

Construction of the new track would be carried out largely within the railway boundary. However, some temporary and permanent land take could be required including 2-3m of the rear garden at a number of properties. These property issues are being addressed on a site-by-site basis.

A noise and visual barrier could be constructed along the railway to reduce the possible effect of construction and operation of the railway.

As part of the construction of the new track the bridge piers at Eynsham Drive would be strengthened.

The existing footbridges over the railway at Bostall Manor Way and Church Manor Way would be demolished to make room for the new track. The footbridges would be replaced with new structures that provide access for those with mobility difficulties, including approach ramps.

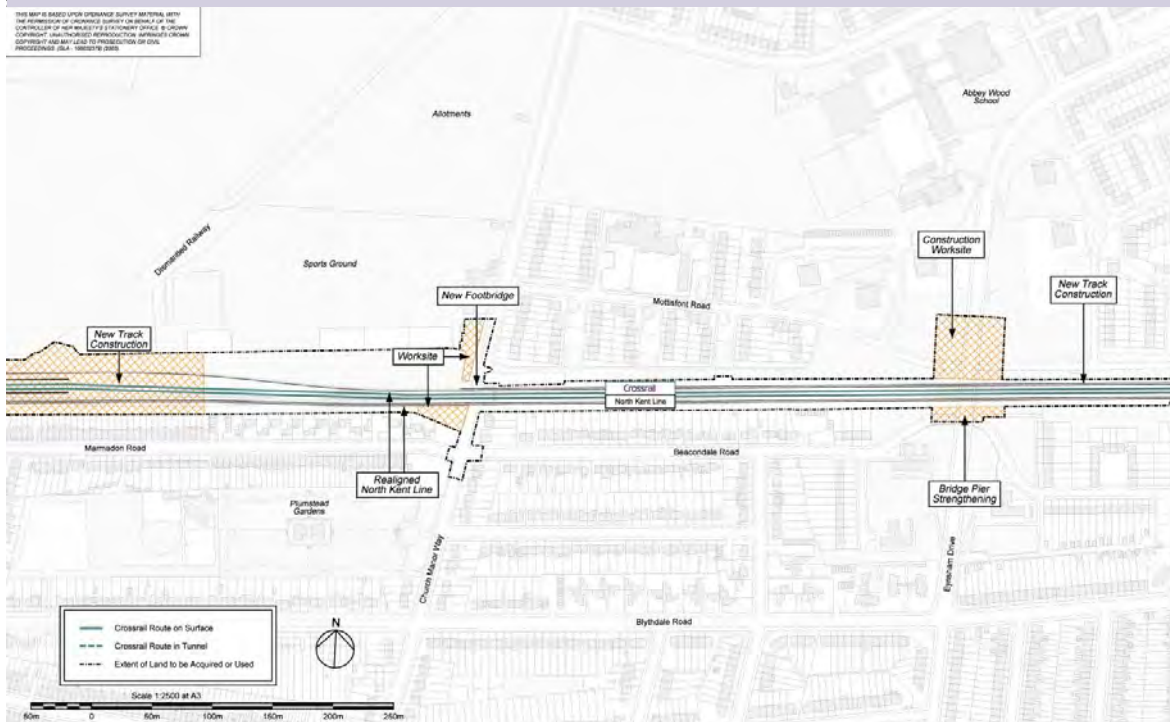


Plumstead Sidings



North Kent Line

Proposed track improvements at Plumstead – Abbey Wood



Plumstead to Abbey Wood

Proposed Track Improvements (2)



The likely environmental effects of the proposals are:

- Loss of existing trackside vegetation
- Noise impact due to construction. This would be mitigated to control the noise at source and would be incorporated within the Crossrail Construction Code with which all contractors would be required to comply and which would be discussed with the London Borough of Greenwich
- Operational noise impact as a result of an increase in services due to Crossrail
- Dust impact on nearby buildings during construction. Appropriate dust mitigation techniques would be incorporated within the Crossrail Construction Code



Church Manor Way Footbridge



North Kent Line

Abbey Wood

Proposed Station Improvements (2)



Any improvements would be discussed with the relevant railway bodies, Transport for London, the London Borough of Greenwich, London Borough of Bexley and the local community.

To accommodate the new track and station facilities it is proposed that part of Harrow Manor Way Bridge be reconstructed. It would be reduced to a single carriageway, two-way road for the duration of the bridge works. Reconstruction of the bridge would be carried out in stages so that the bridge could remain open to traffic at all times.

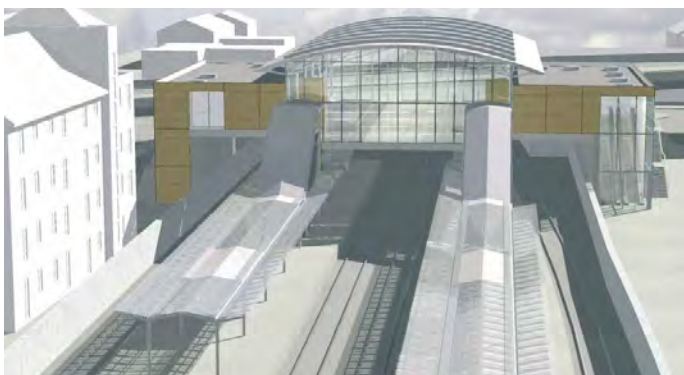
The new station and track layout would require 2 - 3 properties to be demolished. A section of land at the back of a number of residential properties would be required for construction work. These property issues are being addressed on a site-by-site basis.

Construction of the station redevelopment would be co-ordinated from a temporary worksite at the station car park off Felixstowe Road and Wilton Road.

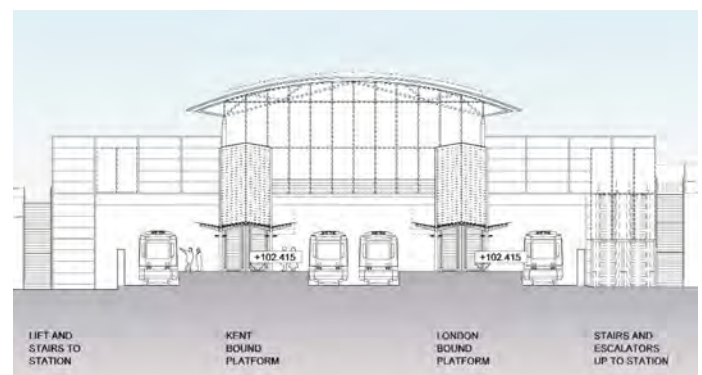
It would take approximately two years to complete the station redevelopment. Construction would be phased to allow continued operation of services along the North Kent Line.

The likely environmental effects of the proposals are:

- Noise impact due to construction activity. These would be mitigated as much as possible to control noise at source. These means would be incorporated within the Crossrail Construction Code with which all contractors would be required to comply and would be discussed with the London Boroughs of Greenwich and Bexley
- Operational noise impact as a result of Crossrail trains turning back
- Dust impact at nearby residential properties during construction. Appropriate dust mitigation techniques sites would be incorporated within the Construction Code



New Abbey Wood Station Artist's Impression



Proposed Abbey Wood Station Section

Abbey Wood

Proposed Service Improvements



Crossrail would improve train services to and from Abbey Wood Station by providing journey time savings and a greater variety of journey opportunities.

With Crossrail operational, the total number of seats available on trains to central London from Abbey Wood would almost double as a result of longer, more frequent trains.

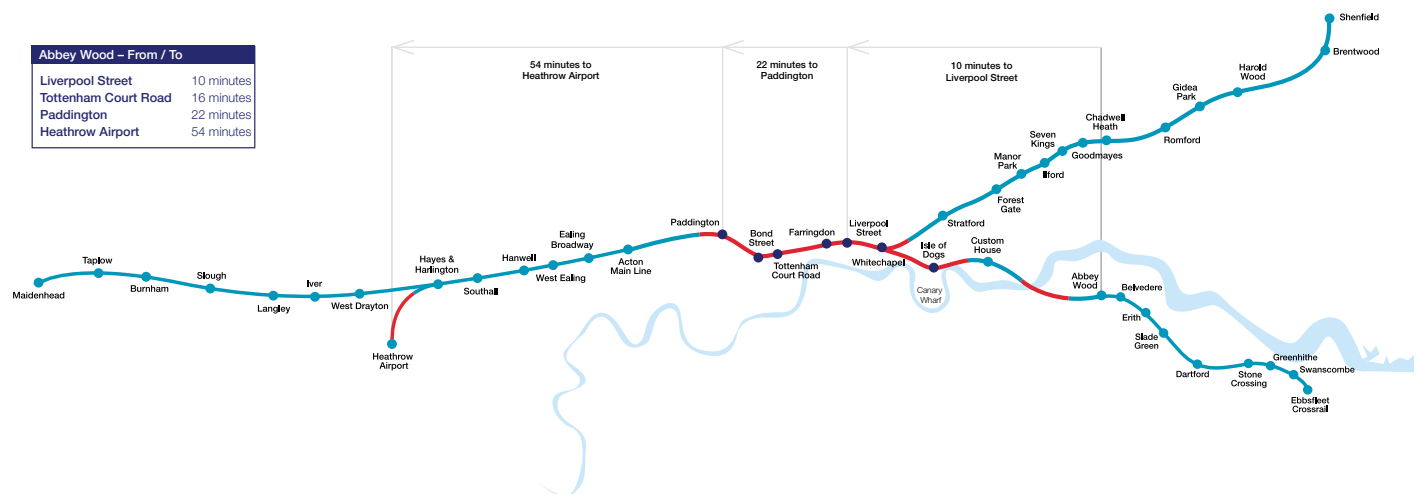
During peak periods, Crossrail could run up to 12 additional train services per hour.

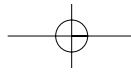
Prior to the opening of Crossrail, the timetable and service pattern would be set by the relevant railway bodies in consultation with the train operating company responsible for operating Crossrail services.



Abbey Wood Station

Typical Crossrail journey times from Abbey Wood





E64.1

Belvedere

Proposed Service Improvements



Crossrail would improve train services to and from Belvedere by providing journey time savings and a greater variety of journey opportunities.

With Crossrail operational, the total number of seats available on trains to central London from Belvedere would increase by nearly a half. This is a result of longer, more frequent trains.

During peak periods, Crossrail could provide up to:

- 4 additional train services per hour to and from Belvedere

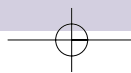
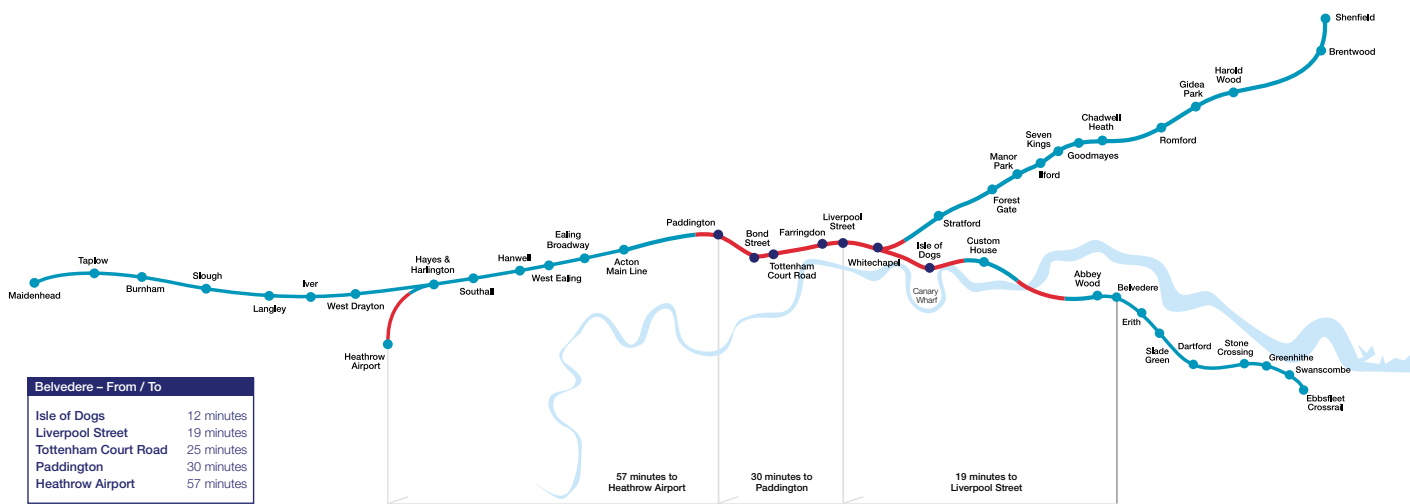
The Crossrail timetable and service pattern would be set by the relevant railway bodies in consultation with the train operating company responsible for operating Crossrail services.

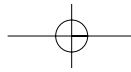
Crossrail does not currently propose any significant station alterations at Belvedere station.



Belvedere Station

Typical Crossrail journey times from Belvedere





E65.1

Erith

Proposed Service Improvements



Crossrail would improve train services to and from Erith by providing journey time savings and a greater variety of journey opportunities.

With Crossrail operational, the total number of seats available on trains to central London from Erith would increase by nearly a half as a result of longer, more frequent trains.

During peak periods, Crossrail could provide up to:

- 4 additional train services per hour to and from Erith

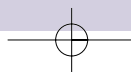
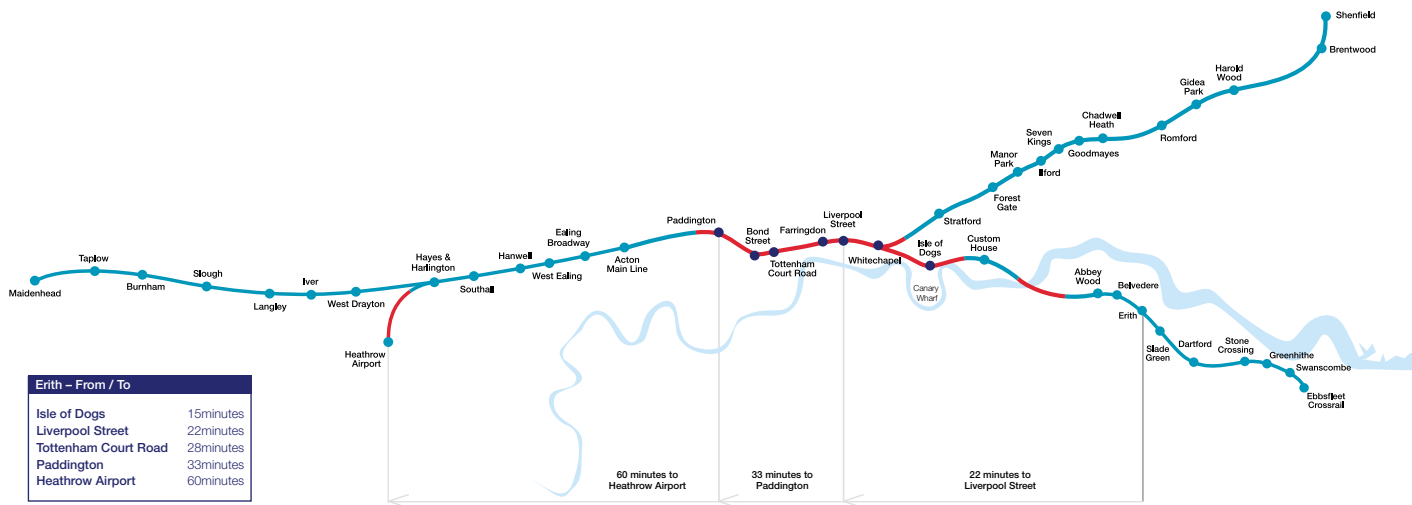
The Crossrail timetable and service pattern would be set by the relevant railway bodies in consultation with the train operating company responsible for operating Crossrail services.

Crossrail does not currently propose any significant station alterations at Erith station.



Erith Station

Typical Crossrail journey times from Erith



Slade Green

Proposed Service Improvements



Crossrail would improve train services to and from Slade Green by providing journey time savings and a greater variety of journey opportunities.

With Crossrail operational, the total number of seats available on trains to central London from Slade Green would increase by nearly a half as a result of longer, more frequent trains.

During peak periods, Crossrail could provide up to:

- 4 additional train services per hour to and from Slade Green

The Crossrail timetable and service pattern would be set by the relevant railway bodies in consultation with the train operating company responsible for operating Crossrail services.

Crossrail does not currently propose any significant station alterations at Slade Green station.



Slade Green Station

Typical Crossrail journey times from Slade Green



Slade Green

Proposed Train Sidings



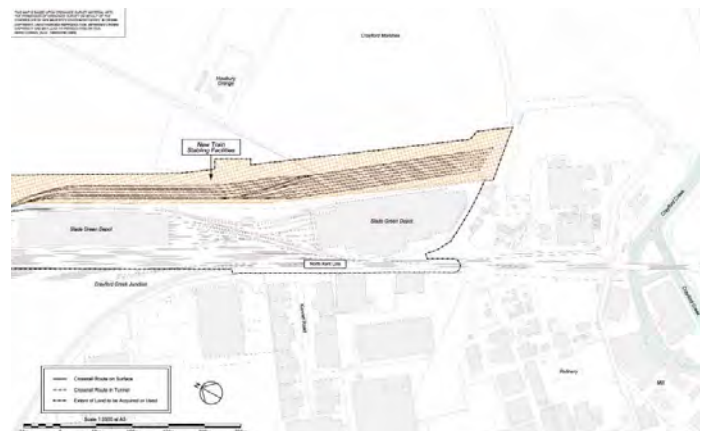
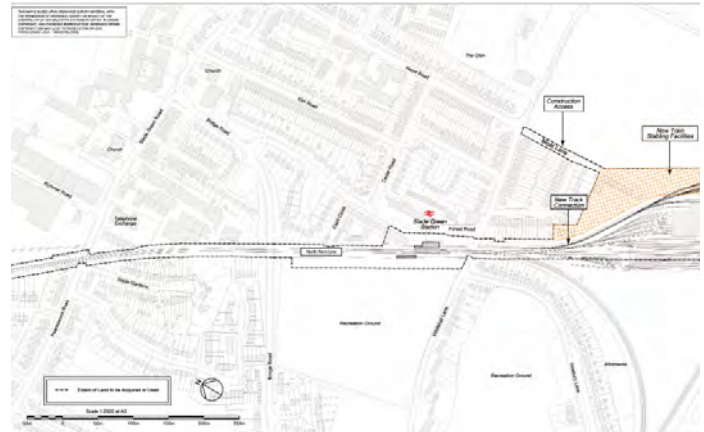
Crossrail are proposing new train sidings on an area of farmland next to the Slade Green train depot. The new sidings would enable up to 12 Crossrail trains to be stabled overnight and during off-peak hours.

Construction access would be needed off Moat Lane.

The likely environmental effects of the proposals are:

- Development of Green Belt land
- Noise from construction and operational noise as a result of trains using the sidings. These would be mitigated by controlling noise at source
- Dust impact on nearby buildings during construction. Appropriate dust mitigation techniques would be incorporated within the Crossrail Construction Code
- Visual intrusion upon adjacent areas, although the site forms an extension to an existing railway facility

There is no relationship between the proposed sidings for Crossrail and the freight depot proposals.



Slade Green Depot

Slade Green Depot



Proposed site of Slade Green Sidings

Dartford

Proposed Service Improvements



Crossrail would improve train services to and from Dartford by providing journey time savings and a greater variety of journey opportunities.

With Crossrail operational, the total number of seats available on trains to central London from Dartford would increase as a result of longer, more frequent trains.

During peak periods, Crossrail would provide up to:

- 2 additional train services per hour to and from Dartford

The Crossrail timetable and service pattern would be set by the relevant railway bodies in consultation with the train operating company responsible for operating Crossrail services.

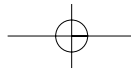
Crossrail does not currently propose any significant station alterations at Dartford station.



Dartford Station

Typical Crossrail journey times from Dartford





E69.1

Greenhithe

Proposed Service Improvements



Crossrail would improve train services to and from Greenhithe by providing journey time savings and a greater variety of journey opportunities.

With Crossrail operational, the total number of seats available on trains to central London from Greenhithe would increase by approximately 20%. This is a result of longer, more frequent trains.

During peak periods, Crossrail could provide up to:

- 2 additional train services per hour to and from Greenhithe

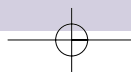
The Crossrail timetable and service pattern would be set by the relevant railway bodies in consultation with the train operating company responsible for operating Crossrail services.

Kent County Council and Network Rail are currently considering a major redevelopment of Greenhithe Station that could link the station with the proposed Fastrack public transport system.



Greenhithe Station

Typical Crossrail journey times from Greenhithe



Swanscombe

Proposed Service Improvements



Crossrail would improve train services to and from Swanscombe by providing journey time savings and a greater variety of journey opportunities.

With Crossrail operational, the total number of seats available on trains to central London from Swanscombe would increase by nearly a half. This is a result of longer, more frequent trains.

During peak periods, Crossrail could provide up to:

- 2 additional train services per hour to and from Swanscombe.

The Crossrail timetable and service pattern would be set by the relevant railway bodies in consultation with the train operating company responsible for operating Crossrail services.

Crossrail does not propose any significant station alterations at Swanscombe station.



Swanscombe Station

Typical Crossrail journey times from Swanscombe



Ebbsfleet

Proposed New Station (1)



Crossrail propose to construct a new station at Ebbsfleet that would serve local development and provide an interchange with new Channel Tunnel Rail Link services, Northfleet Station and the proposed Fastrack public transport system.

The new station would be connected to the North Kent Line through the construction of a short section of new track. Crossrail would construct stabling sidings for up to 4 trains to the east of the new station.



Artist's Impression New Ebbsfleet Crossrail Station

Typical Crossrail journey times from Ebbsfleet

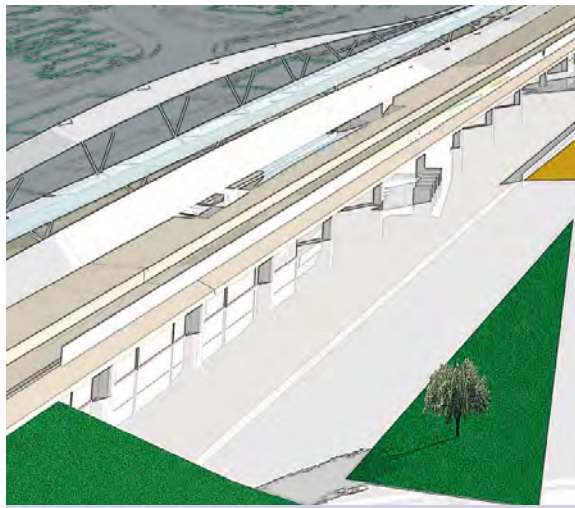


Ebbsfleet

Proposed New Station (2)

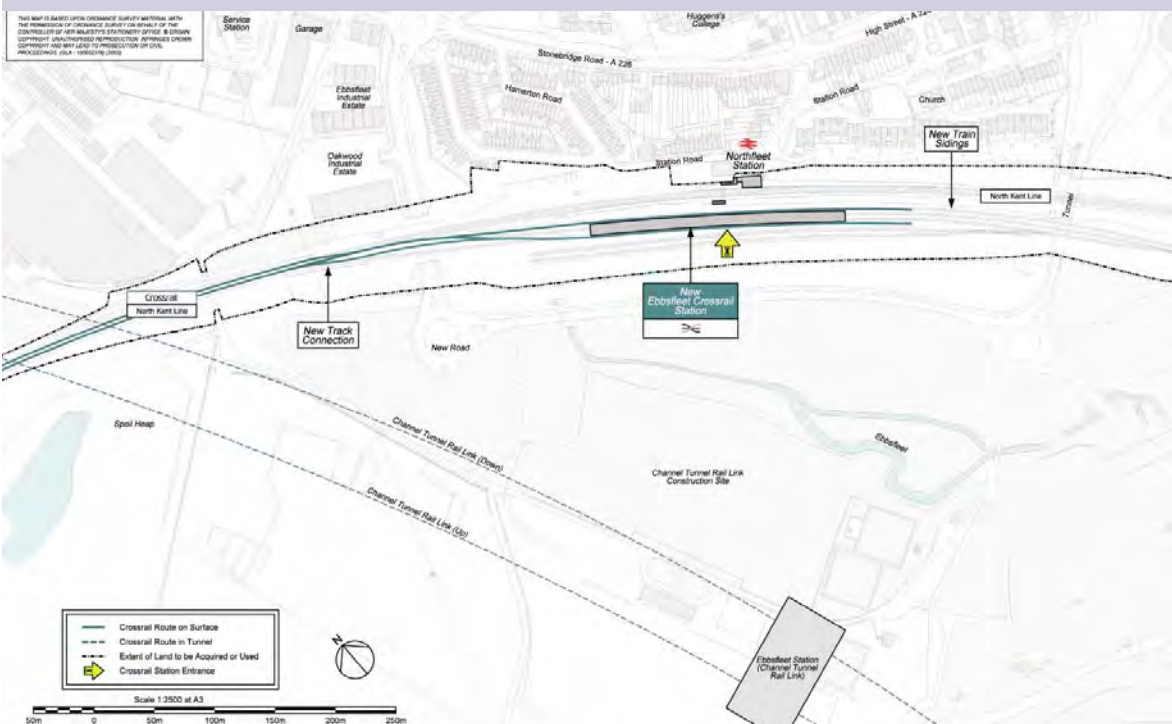


The Government has identified the Ebbsfleet Valley as one of the key areas for housing and job creation in the south-east of England. The provision of efficient transport links are seen as essential to help support local development.



Artist's Impression New Ebbsfleet Crossrail Station

Proposed Ebbsfleet Station



Stone Crossing

Proposed Service Improvements



Crossrail would improve train services to and from Stone Crossing by providing journey time savings and a greater variety of journey opportunities.

With Crossrail operational, the total number of seats available on trains to central London from Stone Crossing would increase by nearly a half.

This is a result of longer, more frequent trains.

During peak periods, Crossrail could provide up to:

- 2 additional train services per hour to and from Stone Crossing

The Crossrail timetable and service pattern would be set by the relevant railway bodies in consultation with the train operating company responsible for operating Crossrail services.

It is proposed to permanently close the level crossing and replace it with a fully accessible footbridge. Vehicular traffic would be diverted via alternative existing routes.



Stone Crossing Station

Typical Crossrail journey times from Stone Crossing

