

## 12. Environmental baseline and assessment of impacts: Southeastern section

### 12.1 Introduction

12.1.1 This chapter describes the southeast route section of Crossrail from the Isle of Dogs station to the Crossrail terminus at Abbey Wood, the baseline situation and the significant temporary and permanent socio-economic impacts that will arise from its construction and operation.

12.1.2 The basic socio-economic and demographic characteristics of the areas in this section served by Crossrail are set out in *Table 12.1*.

**TABLE 12.1: SOCIO-ECONOMIC AND DEMOGRAPHIC CHARACTERISTICS OF THE SOUTH EAST SECTION**

Age structure	<16 26%	16-25 13%	26-35 17%	36-45 16%	46-55 11%	56-65 7%	>65 10%
Ethnic groups	White % 68%	Mixed % 3%	Asian % 6%	Black % 18%	Chinese % 4%		
Qualifications	No qualifications 35%	Level 1 17%	Level 2 17%	Level 3 7%	Level 4/5 18%	Other 7%	
Econ activity / unemployment	Economic Activity Rate 63%	Unemployment Rate 10%					
Number of jobs	Jobs 5,637						
Social grade	AB 16%	C1 28%	C2 15%	D 21%	E 20%		

### 12.2 Overview of Crossrail works in southeastern route section

12.2.1 Through the southeast route section, Crossrail services will, for the most part, use existing main line railway: they will pass through the Royal Docks area using the North London line, between Custom House and North Woolwich stations; and they will follow the North Kent line through Greenwich, Bexley and into Kent, although some new track will be required to accommodate Crossrail services. Two sections of new railway will be required.

12.2.2 East of the Isle of Dogs, the twin-bored tunnel beneath London will be continued beneath the River Lea and Newham, before emerging at a portal on Victoria Dock Road onto the North London line. Two new shaft structures will be required: in Blackwall and on the Limmo Peninsula of the River Lea.

12.2.3 A new twin-bored tunnel will be required beneath the Thames in order to link North Woolwich station (on the North London line) with Plumstead station (on the North Kent line). New portal structures will be located at each site and two

shafts structures will be provided south of the Thames on Warren Lane and on Arsenal Way, in the Royal Arsenal.

12.2.4 Between Plumstead and a point about 200 m east of Abbey Wood stations, two new tracks will be provided in order to serve up to eight Crossrail trains per hour in each direction. The widened railway corridor that this will entail will require works to, or replacement of, some overbridges.

12.2.5 Custom House station and Abbey Wood station will be reconstructed. Silvertown station will be demolished, although with passive provision for a new Crossrail station in the future.

12.2.6 The main elements of the scheme within this route section are summarised in *Table 12.2* below.

**TABLE 12.2: MAIN ELEMENTS OF THE SCHEME WITHIN THE SOUTHEAST ROUTE SECTION (ROUTE WINDOWS WITH MAJOR WORKS ARE HIGHLIGHTED)**

<b>Route Window</b>	<b>Major Project Works</b>	<b>Local Authority</b>
SE1 Blackwall Way and Limmo Peninsula shafts Blackwall Way to Tarling Road.	Blackwall Way shaft Limmo Peninsular shaft	LB Tower Hamlets LB Newham
SE2 Custom House Station Tarling Road to Prince Regent Footbridge.	Victoria Dock portal Reconstruction of Custom House station; modifications to DLR platform.	LB Newham
SE3 Connaught Tunnel Prince Regent Footbridge to Lord Street.	Refurbishment of Connaught Tunnel Demolition of Silvertown station	LB Newham
SE4 North Woolwich Portal and Thames Tunnel Lord Street to 80 Beresford Street.	North Woolwich portal New twin-bore tunnel (Thames Tunnel) Warren Lane shaft	LB Newham LB Greenwich
SE5 Arsenal Way Shaft 80 Beresford Street to Ann Street bridge.	New twin-bore tunnel (Thames Tunnel) Arsenal Way shaft	LB Greenwich
SE6 Plumstead Portal Ann Street bridge to Marmadon Road	Plumstead portal Replacement of White Hart Road bridge Two new tracks and track realignment	LB Greenwich
SE6A Manor Wharf SE7 Church Manorway Bridge Marmadon Road to De Lucy Street.	Excavated materials handling site Two new tracks and track realignment Replacement of footbridges on Church Manorway and Bostall Manorway Works to Eynsham Drive bridge	LB Bexley LB Greenwich
SE8 Abbey Wood Station and Sidings De Lucy Street to Tunstock Way	New Abbey Wood sidings Two new tracks and track realignment Two new platforms and new elevated station.	LB Greenwich LB Bexley

## 12.3 Route window SE1: Blackwall Way & Limmo Peninsula Shafts

### Baseline

- 12.3.1 The central features of this route window are Blackwall Way and Limmo Peninsula Shafts, both located east of Canary Wharf, close to the River Lee and surrounded by residential and office developments, brownfield sites and industrial premises.

### Main works

- 12.3.2 To comply with safety requirements, Crossrail will construct two shafts between the Isle of Dogs station and Victoria Dock portal.

### Temporary impacts and mitigation

- 12.3.3 There will be a loss of some 30 car parking spaces at the Reuters building. While this will be a temporary disruption, it is not envisaged to have a temporary significant impact on employment.

### Permanent impacts and mitigation

- 12.3.4 There are no significant impacts.

## 12.4 Route window SE2: Custom House Station

### Baseline

- 12.4.1 This route window covers two construction sites; Victoria Dock Portal and Custom House Station. The area north of Victoria Dock Road is characterised by residential uses while that to the south by the ExCel Exhibition Centre and the basins of the Victoria Royal Docks with its mixed-use regeneration developments on both sides of the water feature. Custom House station is located south of Victoria Dock Road near its junction with Freemasons Road. The ExCel Centre is located south of the station and beyond that the Royal Victoria Dock. Residential areas and a recreation ground lie to the north of the alignment.
- 12.4.2 Within one kilometre of Custom House Station are approximately 3,000 jobs and 440,000m<sup>2</sup> of commercial floor space of which around 50% are factories and warehouses.
- 12.4.3 This is a Regeneration Area with considerable development potential related to its availability of land, proximity to the London City Airport and the provision of new public transport links.

### Main works

- 12.4.4 Proposed works within the route window comprise the construction of the Victoria Dock portal, a new station at Custom House station, the installation of overhead line electrification equipment, and the construction of twin-bore tunnels. The route window lies within LB Newham.

### Temporary impacts and mitigation

- 12.4.5 Part of the ExCel Centre's lorry holding space will be required during construction works. In addition construction works will displace a local taxi office. Whilst this will be disruptive neither will have a significant impact on employment and, therefore, no adverse impacts on employment will occur. Construction work will lead to the demolition of the Barge Hotel which is a hostel for the homeless, this is covered in the community assessment.

#### **Permanent impacts and mitigation**

- 12.4.6 The completed Victoria Dock portal works will result in a permanent loss of a strip of the ExCel Centre lorry parking area which is used in the lorry management arrangements for the set up and break down of exhibitions. This is likely to be disruptive for the ExCel centre, but is unlikely to result in job losses. As such there will be no significant permanent impacts.

### 12.5 Route window SE3: Connaught Tunnel

#### **Baseline**

- 12.5.1 This area is characterised by light industrial estates, derelict land, London City Airport and by the residential settlements of North Woolwich served by local amenities. The Connaught Tunnel passes beneath Connaught Passage with Royal Victoria Dock to the west and Royal Albert Dock to the east. The ExCel Centre is located to the west of the tunnel which is flanked by modern hotels and office blocks. The north tunnel is adjacent to the Royal Albert Dock to the north and the Royal Victoria Dock to the south.

#### **Main works**

- 12.5.2 The proposed works within the route window comprise the alteration and refurbishment of the Connaught Tunnel to OHLE, the demolition of Silvertown station, and the installation of OHLE.

#### **Temporary impacts and mitigation**

- 12.5.3 The works will not have a material impact on employment in the area, although they impinge on land at the Ramada Hotel on Festoon Street, and hence there are no significant temporary impacts.

#### **Permanent impacts and mitigation**

- 12.5.4 There are no significant impacts.

### 12.6 Route window SE4: North Woolwich Portal and Thames Tunnel

#### **Baseline**

- 12.6.1 This route window covers North Woolwich Portal, the Thames Tunnel and Warren Lane Shaft. The area around North Woolwich Portal is characterised by residential developments, brownfield and industrial sites. The Warren Lane Shaft is itself based in a park with the surrounding area characterised by commercial premises. There are around 12,600 people employed in the area.

### **Main works**

- 12.6.2 The proposed works within this route window comprise the construction of the North Woolwich portal, the twin bore Thames Tunnel, Warren Lane shaft, and the installation of OHLE equipment.

### **Temporary impacts and mitigation**

- 12.6.3 Construction activity will require use of 21 industrial units on the Standard Industrial Estate, Factory Road. At present 15 of the units are empty and are being actively marketed. When fully occupied, the units could accommodate 120-220 employees. Occupiers affected are Canning Car Hire, Blessed Cash & Carry, Fortivo International, Resolution Productions, Permaguard and Archfield Shipping. Given the cumulative loss of industrial floorspace in this location and at Pudding Mill Lane, that this industrial estate is a protected employment area in the Newham UDP, and an identified Preferred Industrial Location in the London Plan, this is a significant impact.

### **Permanent impacts and mitigation**

- 12.6.4 Once the works are completed worksites will be available for possible redevelopment mitigating the possible loss of jobs outlined above. It is anticipated that there will no significant permanent impacts.

## 12.7 Route window SE5: Arsenal Way Shaft

### **Baseline**

- 12.7.1 The Royal Arsenal is currently undergoing major development as part of regeneration initiatives promoted by the local authority and the London Development Agency. The area south of Plumstead Road is dominated by residential use. The Arsenal Way shaft site lies to the north of Plumstead Road (A206) and is bounded by industrial buildings and offices to the north, and Woolwich town centre to the south.

### **Main works**

- 12.7.2 The proposed works within this route window comprise the construction of the twin bored Thames Tunnel and Arsenal Way shaft.

### **Temporary impacts and mitigation**

- 12.7.3 The shaft's head building will be built on the surface car park site adjacent to Plumstead Road. The worksite will result in temporary loss of car parking used by businesses on Cornwallis Road. Although this will be disruptive for businesses detailed design will seek to minimise impacts and it is likely that businesses would be able to continue to operate. As such no significant impact on employment will occur.

### **Permanent impacts and mitigation**

- 12.7.4 The permanent shaft structure will result in permanent loss of car parking used by businesses on Cornwallis Road. However, no significant impact on employment will occur.

## 12.8 Route window SE6: Plumstead Portal

### **Baseline**

- 12.8.1 This route window features Plumstead portal east of Plumstead Station on the existing North Kent Line. The railway line acts as a physical barrier between two distinctive urban setting: a dense residential area towards the south and an area characterised by industrial estates, brownfield and various light industrial premises in the north. The Plumstead portal site is located on land at Plumstead Goods Yard. The surrounding land uses include commercial and residential areas. Residential areas lie to the south of the surface route alignment, centred along Plumstead High Street (A206).

### **Main works**

- 12.8.2 The proposed works within the route window comprise the construction of the twin bore Thames Tunnel, Plumstead portal, White Hart Road Bridge, track realignment of the existing railway corridor, and the installation of OHLE equipment.

### **Temporary impacts and mitigation**

- 12.8.3 The construction site will mainly be located on the adjoining Plumstead Goods Depot. The works will require the acquisition of sites which are presently used for timber (Conmax Timber Merchants Ltd) and scrap yards.
- 12.8.4 The potential loss of job on this site is not deemed to be significant in relation to the total of jobs available in the area hence there are no significant temporary impacts.

### **Permanent impacts and mitigation**

- 12.8.5 There are no significant impacts.

## 12.9 Route window SE6A: Manor Wharf

### **Baseline**

- 12.9.1 The route window lies within in a primarily industrial area.

### **Main works**

- 12.9.2 . The proposed works comprise the refurbishment of Manor Wharf at the site of the former Belvedere power station. Works will require the replacement of fendering to the jetty, with works undertaken from boats, and some dredging of the wharf to enable barge access. A conveyor will be constructed to allow excavated material to be loaded onto barges.

### **Temporary impacts and mitigation**

12.9.3 The works will not have a material impact on employment in the area and hence there are no significant temporary impacts.

### **Permanent impacts and mitigation**

12.9.4 The addition of a new working wharf may lead to new economic activity in the area. However, this is not regarded as significant.

## 12.10 Route window SE7: Church Manorway Bridge

### **Baseline**

12.10.1 Crossrail now follows the existing North Kent Line railway corridor. The route window is increasingly residential in nature with local community and retail facilities.

### **Main works**

12.10.2 The proposed works within the route window comprise track realignment and the provision of two additional tracks within the existing railway corridor, the construction of new footbridges at Church Manorway and Bostall Manorway, the strengthening of Eynsham Drive Bridge, a 2 m high noise barrier will be erected for the length of the route window on both sides of the railway, and the installation of OHLE equipment.

### **Temporary impacts and mitigation**

12.10.3 Construction activity will have no material impact on businesses in the area and hence there are no temporary significant impacts.

### **Permanent impacts and mitigation**

12.10.4 There are no significant impacts.

## 12.11 Route window SE8: Abbey Wood

### **Baseline**

12.11.1 The route follows the existing rail line serving a high density residential area around Abbey Wood station. The area is almost entirely residential punctuated by urban green spaces. A small industrial estate lies to the north of the station, and a single commercial building belonging to British Telecom overlooks the southern side of the station. There are approximately 2500 jobs and over 30,000m<sup>2</sup> of commercial floor space within the station catchment area.

### **Main works**

12.11.2 The proposed works within the route window comprise the reconstruction of Abbey Wood station, track realignment, the provision of two additional tracks within the existing railway corridor, and the installation of OHLE equipment.

### **Temporary impacts and mitigation**

12.11.3 Construction work will have no material impact on employment in the area and hence there are no temporary significant impacts.

### **Permanent impacts and mitigation**

12.11.4 There are no significant impacts.