

**Thames Tideway Tunnel**  
Thames Water Utilities Limited



# Application for Development Consent

Application Reference Number: WWO10001

## Transport Assessment

Doc Ref: **7.10.20**

**Deptford Church Street**

**Main Report**

APFP Regulations 2009: Regulation **5(2)(q)**

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January 2013

**Thames  
Tideway Tunnel**



Creating a cleaner, healthier River Thames

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# Thames Tideway Tunnel

## Transport Assessment

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## 23 Deptford Church Street

### 23.1 Introduction

- 23.1.1 This site-specific *Transport Assessment (TA)* presents the findings of the assessment of the transport issues of the Thames Tideway Tunnel project at the Deptford Church Street site located within the London Borough (LB) of Lewisham.
- 23.1.2 The assessment takes into consideration the changes as a result of all other Thames Tideway Tunnel project sites to ensure that results indicate the significance of each individual site in combination with construction works being undertaken at other sites.
- 23.1.3 The site comprises a triangle of land between Deptford Church Street (A2209), Coffey Street and Crossfield Street, the Limit of Land Acquired or Used (LLAU) covers an area of 1.2 hectares (ha). The site is located in the LB of Lewisham and the boundary with the Royal Borough (RB) of Greenwich lies 50m to the north and 300m to the east.
- 23.1.4 The purpose of this *TA* is to identify the site context, development proposals and any transport implications arising from these proposals to ensure that appropriate mitigation measures are identified, where necessary.
- 23.1.5 The *TA* draws on a number of project-wide or common documents which include the *Transport Strategy* and the *Code of Construction Practice (CoCP)*. Further detail on these documents which form the background to the *TA* can be found in Section 1 of the *TA*.
- 23.1.6 The *TA* structure is as follows:
- a. Section 23.2 includes a description of the proposed development. This details construction phasing, vehicle and person trip generation and construction traffic routing. It also provides details on transport during the operational phase.
  - b. Section 23.3 outlines the assessment methodology used for the *TA* for the construction and operational phases.
  - c. Section 23.4 details the baseline conditions on the transport network surrounding the site, including survey data analysis and accident analysis.
  - d. Section 23.5 provides the assessment of the construction phase of the project, including a comparison between the construction base case and the construction development case. This section also outlines sensitivity testing for the highway network.
  - e. Section 23.6 provides the assessment of the operational phase of the project.
  - f. Section 23.7 presents a summary of the *TA* findings.

## 23.2 Proposed development

- 23.2.1 The development at the Deptford Church Street site would link the existing Deptford Storm Relief Sewer through a CSO drop shaft to a connection tunnel from Greenwich Pumping Station to Chambers Wharf. Figure 23.2.1 in the Deptford Church Street *Transport Assessment* figures indicates the Deptford Church Street site location.
- 23.2.2 The Deptford Church Street site is located approximately 1km south of the River Thames in the LB of Lewisham. The site is bounded by Coffey Street to the north, Crossfield Street to the south and Deptford Church Street (A2209) to the east.
- 23.2.3 There is road access to the site via Crossfield Street and Deptford Church Street (A2209) approximately 600m of Deptford Bridge (A2), which forms part of the Transport for London Road Network (TLRN).

### Construction

- 23.2.4 The construction site would be located on an area of open land used as an amenity area between Crossfield Street and Coffey Street. The northbound carriageway and part of the western footway of Deptford Church Street (A2209) local to the site would need to be closed for a period of time during the works.
- 23.2.5 During construction it is anticipated that transport networks may be affected as a result of the additional construction traffic associated with the Deptford Church Street site and other construction sites with construction routes along Deptford Church Street (A2209), vehicle and pedestrian diversions along Deptford Church Street (A2209) and the temporary suspension of parking bays and informal parking.
- 23.2.6 Construction at the Deptford Church Street site is anticipated to last for approximately three and a half years. There would be two phases of construction: phase 1 covering site set-up and drop shaft construction and phase 2 - construction of other structures. The highway layout during construction phases plans are provided in the Deptford Church Street *Transport Assessment* figures.
- 23.2.7 *Stage 1 Road Safety Audits* have been carried out on the illustrative highway layouts proposed for this site. The *Road Safety Audit* reports for this site are contained in Section 23 Appendix E.
- 23.2.8 Phase 1 of construction would take place in the amenity area bounded by Deptford Church Street (A2209), Crossfield Street and Coffey Street. Phase 2 of construction would also take place in the amenity area and would also involve works in a section of the northbound carriageway of Deptford Church Street (A2209) during part of the phase, when the interception chamber under the highway is being constructed.
- 23.2.9 During phase 1 of construction Coffey Street and Crossfield Street would be temporarily linked to the northwest of the site, to allow through traffic access between the two. Crossfield Street and Coffey Street would then operate in a one-way direction with traffic entering Crossfield Street and exiting via Coffey Street. To accommodate a temporary fire refuge point

for St. Joseph’s RC Primary School an enclosed area would be created outside the school on Crossfield Street and the highway layout would be altered to accommodate this.

- 23.2.10 In addition to the measures outlined in para 23.2.9, for part of Phase 2 the two northbound lanes, and a section of the western footway of Deptford Church Street (A2209) along the eastern boundary of the site, would be closed whilst structures are constructed under the carriageway. The traffic management measures for this phase would use the southbound carriageway as a two-way single carriageway for the duration of the construction work, with a minimum lane width of 3.25m being maintained in both directions.
- 23.2.11 To accommodate these arrangements in Phase 2, the northbound and southbound bus lanes along Deptford Church Street (A2209) would be suspended. The pedestrian crossing at the junction of Coffey Street and Deptford Church Street (A2209) would be moved approximately 70m to the north. Four bus stops would require relocation; the northbound and southbound bus stops on Deptford Church Street (A2209) to the north of the junction with Coffey Street would be moved to approximately 100m north of the junction with Bronze Street. To the south of the junction of Deptford Church Street (A2209) and Crossfield Street both the northbound and southbound bus stops would be relocated approximately 30m further to the south.
- 23.2.12 There would be a gated access for the right-turn in / right-turn out movement for construction traffic entering the site from Crossfield Street and exiting onto Coffey Street.
- 23.2.13 During construction, all materials would be transported by road.
- 23.2.14 Parking for five essential maintenance/operational vehicles would be provided on site. No worker parking would be provided.
- 23.2.15 Construction details for the site relevant to the construction transport assessment are summarised in Table 23.2.1.

**Table 23.2.1 – Construction traffic details**

Description	Assumption
Assumed peak period of construction lorry movements	Site Year 1 of construction
Assumed average peak daily construction lorry vehicle movements (in peak month of Site Year 1 of construction)	64 movements per day (32 vehicle trips) For seven months
Typical types of lorry requiring access (comprising rigid-bodied, flatbed and articulated vehicles)	Excavation material lorries Ready mix concrete mixer lorries Steel reinforcement lorries Office delivery lorries

Description	Assumption
	Plant and equipment lorries Imported fill lorries

*Note: a movement is a construction vehicle moving either to or from the site. A Site Year is a 12 month period, one in a series of Site Years; Site Year 1 commences at the start of construction.*

### Construction routes

- 23.2.16 Figure 23.2.2 in the Deptford Church Street *Transport Assessment* figures shows the anticipated route for construction vehicles serving the Deptford Church Street site. The Deptford Church Street site is located approximately 600m from Deptford Bridge (A2) which forms part of the TLRN. Deptford Church Street (A2209) itself is part of the Strategic Road Network (SRN). Construction routes have been discussed with both Transport for London (TfL) and the Local Highway Authority.
- 23.2.17 The main junctions along the construction traffic route are:
- a. Deptford Church Street (A2209)/ Coffey Street
  - b. Deptford Church Street (A2209)/ Crossfield Street
  - c. Creek Road (A200)/ Deptford Church Street (A2209)
  - d. Deptford Bridge (A2)/ Deptford Broadway (A2)/ Deptford Church Street (A2209)/ Brookmill Road.
- 23.2.18 Construction vehicles would take routes via the TLRN for as much of the route as is practicable. The construction traffic would be directed towards the site along Deptford Church Street (A2209) from Deptford Bridge (A2) in the south.
- 23.2.19 The site would be accessed by vehicles from Crossfield Street, by turning left from the northbound carriageway of Deptford Church Street (A2209).
- 23.2.20 Vehicles leaving the site via Coffey Street would be directed north along Deptford Church Street (A2209) and then east along Creek Road (A200), south along Norman Road (B206) and Greenwich High Road (A206) back to the A2. This vehicle routing would be applied during both phases of construction.
- 23.2.21 The exact routing would depend on the material origin and destinations which are detailed in the *Project-wide TA (contained within Section 3)*.

### Proposed construction flows

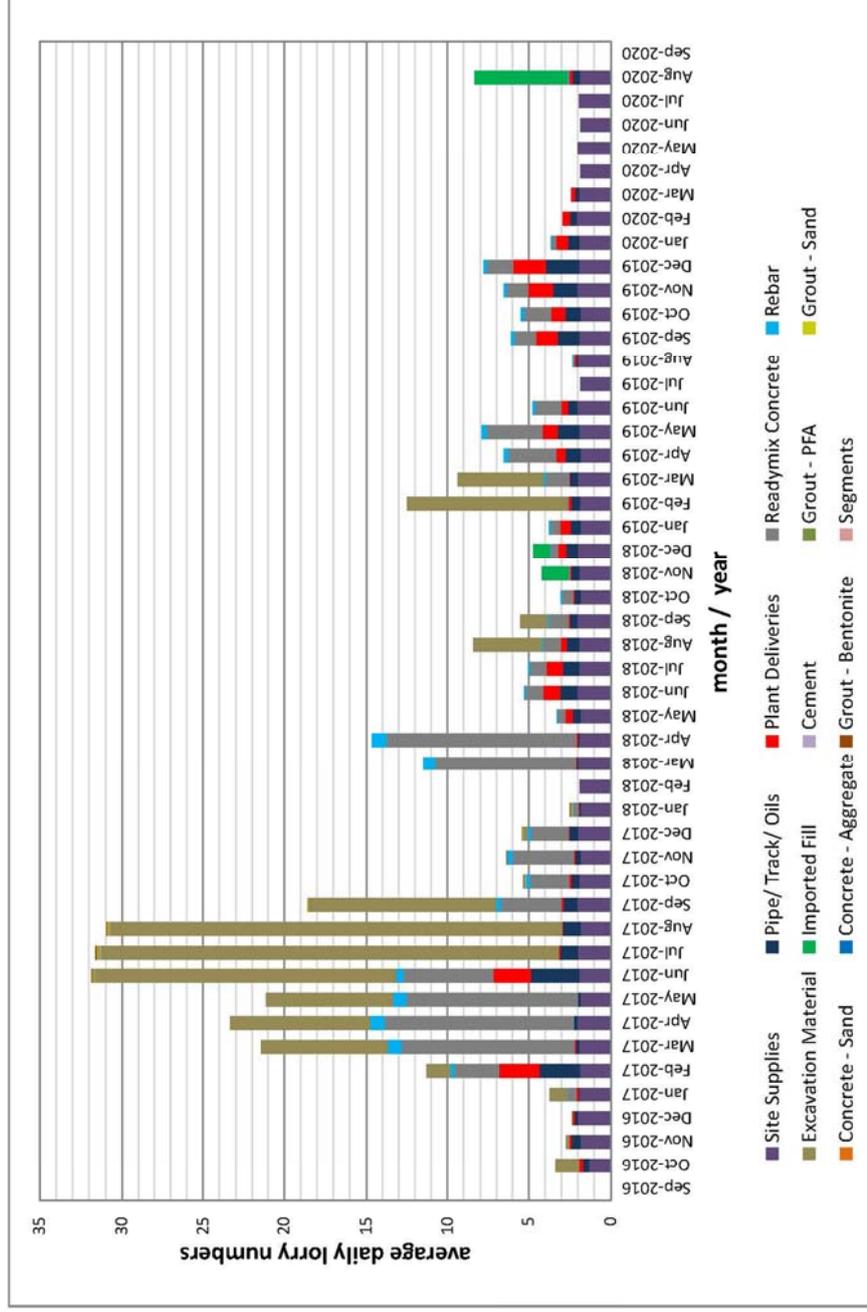
#### Construction vehicles

- 23.2.22 Vehicle movements would take place during the standard day shift of ten hours on weekdays (08:00 to 18:00) and five hours on Saturdays (08:00 to 13:00). During a period of extended hours working there would be days when work would extend up to 22.00 for large concrete pours for diaphragm wall construction. Outside this period it would only be in exceptional circumstances that heavy goods vehicle (HGV) and abnormal load movements could occur up to 22:00 on weekdays for large concrete

pours and later at night on agreement with the London Borough (LB) of Lewisham.

- 23.2.23 A site-specific peak construction assessment year has been identified. The histogram in Plates 23.2.1 shows that the peak site-specific activity at the Deptford Church Street site would occur in Site Year 1 of construction. This site-specific peak is earlier than the overall project-wide construction peak activity year of 2019.
- 23.2.24 This *TA* assesses this site-specific peak construction year. As detailed in Table 23.2.1, there would be an estimated 64 average peak daily construction lorry vehicle movements in the peak month of this peak year and Plates 23.2.1 shows how the number of vehicular movements would vary throughout the construction period.

**Plates 23.2.1 – Estimated construction lorry profile**



*Note: Plate shows approximate volumes and number of vehicle trips based upon assumed timings for the works. It is not a programme and remains subject to change.*

- 23.2.25 The assessment has been based on 10% of the daily number of lorry journeys occurring in the peak hours, which has been agreed with TfL as a reasonable approach. It is recognised that it may be desirable to reduce the number of construction lorry movements in peak hours and the mechanisms for addressing this would form part of the *Traffic Management Plans* (TMP) which are required as part of the *CoCP*.
- 23.2.26 As the *Project-wide TA* explains, the TfL Highway Assignment Models (HAMs) used for the strategic highway modelling represent peak hours of 08:00 to 09:00 and 17:00 to 18:00 and these have been taken as being the network-wide AM and PM peak hours in the project-wide and site-specific assessments.
- 23.2.27 The 07:00 to 09:00 and 17:00 to 19:00 periods identified from the local traffic surveys are busier on the network in the weekday than those encountered at the weekends (this is discussed in Section 23.4). Whilst the AM and PM peak hours differ slightly from these network-wide peak hours, the assessment at this site has been based on a combination of the highest hourly number of movements for construction and worker vehicles in the periods between 07:00 to 09:00 and 17:00 to 19:00. These have been applied to the network-wide peak hours to take account of the highest number of movements that could be generated by the site in these periods.
- 23.2.28 Hourly construction vehicle trips during the inter-peak period are not expected to exceed the hourly trips assumed for the 08:00 to 09:00 and 17:00 to 18:00 periods used in this assessment and in practice, the peaks for each of these groups would not occur concurrently and therefore the assessment is considered to be reasonable. The peak travel periods used for the modelling in this assessment are therefore the weekday periods between 08:00 and 09:00 and 17:00 and 18:00.
- 23.2.29 Other construction vehicle movements associated with site operations and contractor activities would be cars and light goods vehicles (LGVs). The construction worker vehicle movements expected to be generated by the Deptford Church Street site are shown in Table 23.2.4.

**Construction workers**

- 23.2.30 The construction site is expected to require a maximum workforce of 40 workers on site at any one time. The number and type of workers is shown in Table 23.2.2.

**Table 23.2.2 – Maximum estimated construction worker numbers**

Contractor		Client
Staff*	Labour**	Staff***
08:00-18:00	08:00-18:00	08:00-18:00
15	20	5

\*Staff Contractor – engineering and support staff to direct and project manage the engineering work and site.

\*\*Labour – those working on site doing engineering, construction and manual work.

\*\*\*Staff Client – engineering and support staff managing the project and supervising the Contractor.

23.2.31 The worker mode split outlined in Table 23.2.3 has been derived by taking the highest number of workers during the peak month and calculating the percentage of trips by mode using the 2001 Census<sup>i</sup> journey to work data for the area in the vicinity of the Deptford Church Street site. The Census data indicates that the predominant mode of travel for journeys to work in this area is by private car.

23.2.32 As parking on some of the surrounding streets are restricted, and measures to reduce car use would be incorporated into site-specific *Travel Plan* requirements, the number of construction workers driving to the site is likely to be much lower than shown in the table. However, the assessment has been based on the mode splits shown in Table 23.2.3 in order to ensure that the potential effects on the highway network are identified.

**Table 23.2.3 – Transport mode split**

Mode	Percentage of trips to site	Equivalent number of worker trips (based on 40 worker trips)	
		AM peak hour (07:00-08:00)	PM peak hour (18:00-19:00)
Bus	14%	6	6
National Rail	12%	5	5
Tube	0%	0	0
DLR	8%	3	3
Car driver	50%	20	20
Car passenger	3%	1	1
Cycle	3%	1	1
Walk	9%	4	4
River	0%	0	0
Other (taxi/motorcycle)	1%	<1	<1
<b>Total</b>	100%	40	40

23.2.33 It is difficult to predict with certainty the directions to and from which workers at the site would travel. Staff could potentially be based in the local area or in the wider Greater London area and are unlikely to have the same trip origin-destination distributions as construction lorries.

<sup>i</sup> Based on 2001 Census. This type of data had not been released from the 2011 Census at the time of the assessment.

- 23.2.34 On this basis it has been assumed that the origins of worker vehicle trips would be similar to the origins of trips to the zone in the TfL Highway Assignment Model in which the Deptford Church Street site is located.
- 23.2.35 As indicated in Table 23.2.3 it is assumed that the predominant mode of travel for journeys to work in this area is by private car. However, a significant proportion of journeys would be made by public transport and it is assumed that the primary public transport services used would be from the nearest National Rail/DLR station on Deptford Bridge (A2) and the bus stops on Deptford Church Street (A2209), Deptford Bridge (A2) and Creek Road (A200).

**Vehicle movements summary**

- 23.2.36 The total anticipated number of construction-related vehicle movements in the peak month of activity at this site is set out in Table 23.2.4.

**Table 23.2.4 – Peak construction works vehicle movements**

Vehicle type	Vehicle movements per time period				
	Total daily	07:00 to 08:00	08:00 to 09:00	17:00 to 18:00	18:00 to 19:00
Construction vehicle movements 10%*	64	0	7	7	0
Other construction vehicle movements**	36	4	4	4	4
Worker vehicle movements***	40	20	0	0	20
<b>Total</b>	<b>140</b>	<b>24</b>	<b>11</b>	<b>11</b>	<b>24</b>

\* The assessment has been based on 10% of the daily construction lorry movements associated with materials taking place in each of the peak hours.

\*\* Other construction vehicle movements includes cars and light goods vehicles associated with site operations and contractor activity.

\*\*\*Worker vehicle numbers based on 50% of workers driving, derived by taking the highest number of workers during the peak month and calculating the % of trips using the 2001 Census Journey to Work data. This represents an unconstrained case, as there would be no parking on site for workers and the Draft Project Framework Travel Plan and site-specific Travel Plan would include measures to restrict workers from parking in surrounding streets.

- 23.2.37 Assuming that all construction materials are transported by road, an average peak flow of 140 vehicle movements a day is expected during the months of greatest activity during Site Year 1 of construction at this site. At other times in the construction period, vehicle flows would be lower than this average peak figure.

23.2.38 Table 23.2.4 shows that the Deptford Church Street site would generate approximately 11 vehicle movements in both the AM and PM peak hours.

**Code of Construction Practice**

23.2.39 Measures incorporated into the *Code of Construction Practice (CoCP)*<sup>ii</sup> Part A (Section 5) to reduce transport effects include:

- a. site specific *Traffic Management Plans (TMP)*: to set out how vehicular access to the site would be managed so as to minimise impact on the local area and communicate this with the local borough and other stakeholders. This includes any works on the highway, diversion or temporary closure of the highway or public right of way
- b. HGV management and control: to ensure construction vehicles use appropriate routes to the sites and the vehicle fleet and/or drivers meet current safety and environmental standards.

23.2.40 In addition to the general measures within the *CoCP Part A*, the following measures have been incorporated into the *CoCP Part B* (Section 5) relating to the Deptford Church Street site:

- a. site gate access would be from Deptford Church Street (A2209) and Crossfield Street. A right turn only is required from Crossfield Street. No other access route is permitted
- b. site egress would be onto Coffey Street with only a right turn from the site and then left turn onto Deptford Church Street (A2209). No other access route is permitted
- c. the connection works within Deptford Church Street (A2209) are to be planned to minimise the duration of the construction works. The bus lanes are to be suspended during this phase of works
- d. one lane in each direction is to be maintained at all times. The minimum width of traffic lanes to be retained is 3.25m
- e. adequate notice is required for the suspension of bus lanes and relocation of the bus stops. Bus stop relocation to be confirmed with TfL and the LB of Lewisham
- f. access/egress into Coffey Street to be maintained at all times unless otherwise agreed
- g. on-street parking spaces along Coffey Street would be suspended and the unmarked kerbside parking capacity along Crossfield Street would be prohibited
- h. relocation of the existing pedestrian crossing at corner of Deptford Church Street (A2209) and Coffey Street to be confirmed with TfL and the LB of Lewisham

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<sup>ii</sup> The Code of Construction Practice (CoCP) is provided in Vol 1 Appendix A. It contains general requirements (Part A), and site specific requirements for this site (Part B).

- i. the footway diversion along Deptford Church Street site is to be adequately signed
- j. the contractor is to liaise with St Paul's Church to coordinate traffic movements to and from the site, including:
  - (i) limit vehicle movements during funeral arrivals and departures
  - (ii) facilitate horse delivery lorries for horse-drawn hearses
  - (iii) complete Saturday works and traffic movements before 13:00.

23.2.41 Based on current travel planning guidance including TfL's 'Travel Planning for new development in London (TfL, 2011)<sup>1</sup>', this development falls within the threshold for producing a Strategic Framework Travel Plan. A *Draft Project Framework Travel Plan* has been prepared based on the TfL ATTrBuTE guidance<sup>2</sup>. The *Draft Project Framework Travel Plan* addresses project-wide travel planning measures, including the need for a project-wide Travel Plan Manager, initial travel surveys during construction and a monitoring framework. It also contains requirements and guidelines for the development of site-specific measures. The site-specific travel planning measures of relevance to the *Draft Project Framework Travel Plan* are as follows:

- a. information on existing transport networks and travel initiatives for the Deptford Church Street site
- b. a mode split established for the Deptford Church Street site construction workers to establish and monitor travel patterns
- c. site-specific targets and interim targets based on the mode share which would link to objectives based on local, regional and national policy
- d. a nominated person with responsibility for managing the *Travel Plan* monitoring and action plans specifically for this site

#### Other measures during construction

23.2.42 Embedded design measures which are not outlined in the *CoCP* but are relevant to the transport assessment include the following:

- a. removal of the footway/verge at the western end of Crossfield Street in Phase 1 of construction
- b. during Phase 2 of construction, removal of the central reservation along Deptford Church Street (A2209) to accommodate contraflow working as part of traffic management measures (to maintain two-way traffic flow).

#### Operation

23.2.43 In the operational phase the highway layout and car parking provision around the Deptford Church Street site would be reinstated to the existing layout. The site would be accessed from Crossfield Street with exit onto Coffey Street.

23.2.44 During operation it is anticipated that there would be no significant changes to the transport infrastructure and operation within the local area,

because maintenance trips to the site would be infrequent and short-term. On this basis the only issues considered during the operational phase are:

- a. effects on car parking
- b. effects on highway operation.

23.2.45 There would be potential for some operational issues to arise as a result of the short-term changes to the physical aspects of access to the site for maintenance. These have only been considered qualitatively because the changes required to the highway network during maintenance activity would be minor and temporary, meaning that a quantitative assessment is not required. The scope of this analysis has been discussed with the LB of Lewisham and TfL.

23.2.46 Access would be required for a light commercial vehicle on a three to six monthly maintenance schedule. During ten-yearly inspections, space to locate two large cranes and associated support vehicles within the site area would be required. The cranes would facilitate lowering and recovery of tunnel inspection teams and to provide duty/standby access for personnel. This may require temporary suspension of on-street parking along Coffey Street and unmarked kerbside parking along Crossfield Street.

23.2.47 During operation, maintenance vehicles would enter the site via a right turn from Crossfield Street and exit by turning right onto Coffey Street and then left onto Deptford Church Street (A2209). The highway layout during operation plans are provided in the Deptford Church Street *Transport Assessment* figures and indicate the operational phase permanent works.

## 23.3 Assessment methodology

### Engagement

23.3.1 An extensive scoping and technical engagement process has been undertaken. All consultee comments relevant to this site are presented in Volume 23 of the *Environmental Statement*.

23.3.2 Whilst the effects associated with transport for the operational phase have been scoped out of the *Environmental Statement*, the *TA* examines the operational phase in order to satisfy the relevant stakeholders that technical issues have been addressed (for example, those associated with access for maintenance activities).

### Consultees

23.3.3 Throughout the scoping and technical engagement process, the key stakeholders with regards to transport, primarily TfL and the relevant local authority for each site, have been consulted. For Deptford Church Street, the LB of Lewisham has been consulted and the comments which have arisen relating directly to the Deptford Church Street site have been recorded and responded to accordingly.

23.3.4 The key issues arising from the stakeholder engagement are:

- a. the need to minimise disruption to the operation of the SRN / TLRN during construction and maintain two way operation on Deptford Church Street (A2209) at all times
- b. the need to ensure that traffic management arrangements cater adequately for cycle movements
- c. concerns to minimise any disruption to the frequency and reliability of bus services
- d. the need to ensure that diversions for pedestrians are safe and adequately signed
- e. the impact of parking suspensions along Crossfield Street and Coffey Street should be addressed in the assessment
- f. all proposed site accesses, traffic management arrangements, diversionary routes (for vehicles, pedestrians and cyclists) etc must all be designed and appropriately assessed (safety audit) so as to minimise the risk of accidents.

23.3.5 The key technical issues raised have been addressed as far as is practicable at this stage within this *TA*, the *Project-wide TA* and the *Environmental Statement*, in consultation with both TfL and the LB of Lewisham.

### Construction

23.3.6 The assessment methodology for the construction phase follows that described in the *Project-wide TA*. There are no site-specific variations for undertaking the construction assessment of this site.

23.3.7 The effect of all other Thames Tideway Tunnel project sites on the area surrounding the Deptford Church Street site has been taken into account within the assessment of the peak year of construction at this site.

### Construction assessment area

23.3.8 The assessment area for the Deptford Church Street site includes the site access onto Crossfield Street, site exit onto Coffey Street and their junctions with Deptford Church Street (A2209) and covers cycle routes within the area. The assessment area also includes the junction of Deptford Church Street (A2209) and Creek Road (A200) to the north of the site and the junction of Deptford Church Street (A2209) and Deptford Bridge (A2) to the south.

23.3.9 Consideration has also been given to the potential impacts on pedestrian and cycle routes and on bus services and rail or river services within 640m and 960m of the site respectively. The Public Transport Accessibility Level (PTAL) of the site, calculated using TfL's approved PTAL methodology, assumes a walking speed of 4.8km/h and considers rail stations within a 12 minute walk (960m) of the site and bus stops within an eight minute walk (640m).

23.3.10 The extent of the assessment area for the local highway network modelling has been informed by considering the volume of construction traffic at this site and the degree of impact that would be experienced at

the nearest junction of the construction vehicle route with the SRN or TLRN. Where the assessment shows that the forecast impacts at this junction would not be significant, junctions further afield on the strategic network have not been assessed. Where impacts are forecast to be significant, a wider area of the local network has been considered in the assessment.

#### Construction assessment year

- 23.3.11 To assess the busiest case scenario for the Deptford Church Street locality, the peak construction traffic year has been identified. This ensures that the assessment for the Deptford Church Street site takes into consideration the heaviest flow of construction vehicles at this site on local roads for the local modelling assessment.
- 23.3.12 The site-specific peak construction traffic year at Deptford Church Street is Site Year 1 of construction.
- 23.3.13 The assessment of the aggregated Thames Tideway Tunnel project construction traffic flows on the wider highway network is included within the *Project-wide TA*.

#### Highway network modelling

- 23.3.14 The assessment for each site takes account of construction vehicle movements associated with the Deptford Church Street site, together with construction traffic from other Thames Tideway Tunnel project sites that would use the highway network in the vicinity of this site in Site Year 1 of construction.
- 23.3.15 As indicated in the *Project-wide TA*, the TfL HAMs have been used as part of the assessment. The strategic highway modelling has used three of the HAMs, which cover west, central and east London. These three models cover the locations of all of the Thames Tideway Tunnel project sites and this approach has been agreed with TfL.
- 23.3.16 The HAMs have been developed by TfL using GLA employment and population forecasts, which are based on the employment and housing projections, set out in the London Plan (GLA, 2011)<sup>3</sup>. As a result the assessment inherently takes into account a level of future growth and development across London.
- 23.3.17 For future year assessments for the Deptford Church Street site, the TfL East London HAM (ELHAM) has been used to test the strategic highway network impacts associated with this site. Construction traffic associated with other Thames Tideway Tunnel project sites using routes in this area has been included in the ELHAM scenarios.
- 23.3.18 Construction lorry, operational and worker vehicle trips associated with the project peak month were assigned to ELHAM to create the scenarios for testing strategic highway impacts.
- 23.3.19 ELHAM also provides factors for the increase in vehicle-kilometres in the borough between the ELHAM model base and forecast years (2008/9 and 2021 respectively). The relevant growth factor for the LB of Lewisham was applied to the traffic data collected in 2011 in the vicinity of the

Deptford Church Street site to produce base case traffic flows for the purposes of local highway modelling.

23.3.20 Construction lorry, operational and worker vehicle movements (where relevant) associated with the Deptford Church Street site for the site-specific peak month were added to the 2021 base case flows to provide the development case flows for local modelling.

23.3.21 This approach provides a robust assessment case for local modelling as the baseline traffic has been forecast to 2021, which is later than the site-specific peak year of construction, and no allowance has been made for existing traffic that might divert to other routes as a consequence of the use of local roads by the project related traffic.

### Sensitivity testing

23.3.22 Within the TA, a sensitivity test on the operation of the highway network has been undertaken to examine the implications for the network if all construction materials were to be transported by road. As this site is only served by road, only additional vehicles associated with other Thames Tideway Tunnel sites using the highway network around the Deptford Church Street site have been taken into account.

23.3.23 The sensitivity test is considered to reflect a maximum sensitivity test which takes account of the possibility that construction traffic peaks might change, leading to greater coincidence of peaks between construction sites in the assessment, and the potential for some day-to-day variation in the number of construction vehicle movements in each month.

23.3.24 In practice the potential for increased coincidence of construction peaks between sites is limited because of the sequential nature of the construction activities required. Day-to-day variation of any significance, if it occurs, is most likely to affect a limited number of days during the project and the assessment already examines the activity in the peak month of construction at each site.

### Operation

23.3.25 The assessment methodology for the operational phase follows that described in the *Project-wide TA*. There are no site-specific variations for undertaking the operational assessment of this site.

23.3.26 Given the level of transport activity associated with the Thames Tideway Tunnel project during the operational phase, only the localised transport issues around the Deptford Church Street site have been assessed. Other Thames Tideway Tunnel project sites would not affect the area around Deptford Church Street in the operational phase and therefore they have not been considered in the assessment.

### Operational assessment area

23.3.27 The assessment area for the operational assessment remains the same as for the construction assessment as outlined in paras 23.3.8 to 23.3.9.

### Operational assessment year

- 23.3.28 The operational assessment year has been taken as Year 1 of operation which is the year in which it is assumed that the Thames Tideway Tunnel project would become operational. As transport activity associated with the operational phase would be very low, there is no requirement to assess any other year beyond that date.

## 23.4 Baseline

- 23.4.1 This section sets out the baseline conditions on the local transport network in the vicinity of the Deptford Church Street site in 2012, with the exception of the traffic survey data which was collected in 2011.

### Policy review

- 23.4.2 The site is located within the LB of Lewisham; the relevant national, regional and local policy documents have been reviewed and included in Appendix A.

### Existing land use

- 23.4.3 The site is a public open space featuring an area of grass and a number of mature trees.
- 23.4.4 It is located within the St. Paul's Conservation area. St Paul's Church and Churchyard is located to the north of Coffey Street. St Joseph's RC primary school is located about 55m to the south of the site and the closest residential properties lie approximately 50m to the east of the site on Bronze Street. There is also a playground approximately 85m north of the site beyond St Paul's Churchyard and a swimming pool approximately 30m south of the site on Giffin Street. The closest commercial units are located approximately 10m from the site along Crossfield Street.

### Existing access

- 23.4.5 The site is not currently accessible by vehicle. There is pedestrian and cycle access into the amenity area from the northern footway of Crossfield Street and the southern footway of Coffey Street which is indicated in Figure 23.4.1 in the Deptford Church Street *Transport Assessment* figures.

### Pedestrian network and facilities

- 23.4.6 The key pedestrian network related to the Deptford Church Street site comprises:
- a. Coffey Street providing an east-west link between Deptford Church Street (A2209) to the west and Crossfield Street to the east
  - b. Crossfield Street providing a northwest-southeast link between Deptford Church Street (A2209) to the east and Deptford High Street to the west
  - c. Deptford Church Street (A2209) providing a north-south link between Creek Road (A200) to the north and Deptford Broadway (A2)/ Deptford Bridge (A2)/ Brookmill Road to the south

- d. Deptford High Street providing a north-south link between Evelyn Street (A200) to the north and Deptford Broadway (A2) to the south.
- 23.4.7 The Thames Path and the London Strategic Walk network in the vicinity of the site are shown on Figure 23.4.1 in the Deptford Church Street *Transport Assessment* figures.
- 23.4.8 The Thames Path (a Public Right of Way) is approximately 600m walking distance to the north of the site. The Thames Path runs along Borthwick Street and continues to the east along the River Thames and Glaisher Street, and to the west along Watergate Street and Prince Street.
- 23.4.9 Coffey Street shown in Plate 23.4.1 provides an east-west link for pedestrians between Deptford Church Street (A2209) to the east and Crossfield Street to the west. It has footways of between 2.9m and 3.9m wide on both sides of the two-way road. A 20mph speed limit applies to Coffey Street and a raised table pedestrian crossing is provided on Coffey Street at its junction with Deptford Church Street (A2209).

**Plate 23.4.1 – Footway along Coffey Street**



- 23.4.10 Crossfield Street provides a northwest-southeast link between Deptford High Street to the northwest and Deptford Church Street (A2209) to the southeast.
- 23.4.11 Crossfield Street has footways of between 1m and 1.85m wide on both sides of the road as shown in Plate 23.4.2; however, for about 20m of Crossfield Street west of its junction with Deptford Church Street (A2209), pedestrian footway is only provided on the north side of Crossfield Street.
- 23.4.12 To the northwest of the site, raised table pedestrian crossings are provided on Crossfield Street (as shown in Plate 23.4.3) where the road meets Coffey Street in a turning area. These treatments promote slow

traffic speeds in the vicinity of St Joseph's RC primary school and St Paul's Church.

- 23.4.13 There are currently no parking restrictions along 90m of Crossfield Street from its junction with Deptford Church Street (A2209); cars commonly mount the pavement to park, which can block pedestrian access.

**Plate 23.4.2 – Footway along Crossfield Street**



**Plate 23.4.3 – Raised table pedestrian crossing on Crossfield Street**



- 23.4.14 Deptford Church Street (A2209) has footways of between 3m and 4.3m wide on both sides of the two-way dual carriageway, providing a continuous north-south link between Creek Road (A200) to the north and Deptford Bridge (A2) to the south. Signalised pedestrian crossings are provided at some of the junctions along the length of Deptford Church Street (A2209) to aid pedestrians to cross the road.
- 23.4.15 At the junction of Creek Road (A200) and Deptford Church Street (A2209), signalised pedestrian crossing facilities are provided on the east and south sides of the junction to aid north-south and east-west pedestrian movements.
- 23.4.16 At the signalised junction of Deptford Bridge (A2) and Deptford Church Street (A2209), pedestrian crossing facilities with dropped kerbs are provided at all crossing points.
- 23.4.17 Additional signalised pedestrian crossings are located to the south of the Deptford Church Street (A2209) / Coffey Street junction, and on the north and west sides of the Deptford Church Street (A2209) / Giffin Street junction.
- 23.4.18 At the roundabout junction of Deptford Church Street (A2209), Creekside and Reginald Road, pedestrian refuge islands and dropped kerbs are provided at all approaches to the roundabout with pedestrian guardrails round the roundabout for the safety of the pedestrians.
- 23.4.19 Deptford High Street runs to the west of the site, parallel to Deptford Church Street (A2209) providing a north-south link between Creek Road (A200) and Evelyn Street (A200) to the north and New Cross Road (A2) to the south.

- 23.4.20 The road has footways of approximately 2.7m wide on both sides and a 20mph speed limit applies. Deptford High Street between the junction with Reginald Road and the junction with New Cross Road (A2) is part of a one way system.
- 23.4.21 There is a market along Deptford High Street between its junction with Giffin Street and its junction with New Cross Road (A2) on Wednesdays and Saturdays. On these days motor vehicles and motorcycles are banned from using the street.
- 23.4.22 Zebra crossing facilities are provided at some points along Deptford High Street to aid east-west pedestrian movements. One of the zebra crossings is located to the south of the Creek Road (A200) / Evelyn Street (A200) / Deptford High Street / Watergate Street junction.
- 23.4.23 Further zebra crossings are provided to the east of the junction of Deptford High Street and Crossfield Street, and to the west of the junction of Deptford High Street and Resolution Way, outside Deptford Rail station.
- 23.4.24 Crossfield Street, Coffey Street, Giffin Street, Frankham Street, and Reginald Road provide east-west links between Deptford High Street and Deptford Church Street (A2209).

### Cycle network and facilities

- 23.4.25 The existing cycle network and facilities in the vicinity of the site are described below and shown on Figure 23.4.1 in the Deptford Church Street *Transport Assessment* figures.
- 23.4.26 There are no strategic cycle routes in the immediate vicinity of the site. Cyclists are permitted to use the bus lanes along Deptford Church Street (A2209), northbound and southbound.
- 23.4.27 The nearest National Cycle Network (NCN) route to the site is NCN Route 21 (on road) which runs south from Greenwich to Crawley, then east to Groombridge and south to Eastbourne, with a short final loop northwards again to its end at Pevensey.
- 23.4.28 The Greenwich to Crawley cycle route starts by leaving NCN Route 4 beside the River Thames and following the Waterlink Way south through southeast London, generally on well-surfaced bridleways and residential roads and climbing gently.
- 23.4.29 The NCN Route 21 in the area local to the site runs along Creekside (as shown in Plate 23.4.4) to the east of the site and continues north along Copperas Street and eventually links to NCN Route 4 on Creek Road (A200). NCN Route 21 continues south turning onto Deptford Church Street (A2209) at the mini-roundabout to the south of the site.
- 23.4.30 The southbound NCN Route 21 runs south through Lewisham (the Waterlink Way) to Crawley, and then via East Grinstead and Eridge to Heathfield and Eastbourne.

**Plate 23.4.4 – NCN Route 21 along Creekside**



- 23.4.31 There are bus lanes along both sides of Deptford Church Street (A2209) as shown in Plate 23.4.5, which can be used by cyclists. The bus lanes operate between 07:00 and 19:00.

**Plate 23.4.5 – Bus lane along Deptford Church Street (A2209)**



### **Barclays Cycle Superhighways**

- 23.4.32 Currently, there are no Barclays Cycle Superhighway (CS) routes close to the site. However, CS5 which would run between Lewisham and Victoria

is planned to be launched in 2013, and route CS4 running between Woolwich and London Bridge is planned to be opened in 2015.

### **Barclays Cycle Hire Scheme**

- 23.4.33 There are no Barclays Cycle Hire docking stations in the vicinity of the site.

### **Cycle parking**

- 23.4.34 Four Sheffield Cycle Stands are provided approximately 200m walking distance to the east of the site along Bronze Street, to the west of the junction with Creekside, with capacity for up to eight bicycles. Additionally two Sheffield Cycle Stands are provided along Deptford High Street approximately 300m walking distance to the west of the site. One is located outside Deptford Rail station, and one to the south of the junction with Crossfield Street.

### **Public transport**

#### **Public Transport Accessibility Level**

- 23.4.35 The Public Transport Accessibility Level (PTAL) of the site has been calculated using TfL's approved PTAL methodology (TfL, 2010)<sup>4</sup> (analysis is included in Appendix B).
- 23.4.36 The site has a PTAL rating of 4, rated as 'moderate' (with 1 being the lowest accessibility and 6b being the highest accessibility). The following sections detail the public transport services in the vicinity of the site, which are shown in Figure 23.4.2 in the Deptford Church Street *Transport Assessment* figures.

#### **Bus services**

- 23.4.37 A total of six daytime bus routes and three night bus routes operate within 640m walking distance of the site. These bus services form a comprehensive network, extending outwards in all directions from the site. Table 23.4.1 provides a summary of the daytime bus services and their frequencies during the weekday and weekend peaks.

**Table 23.4.1 – daytime weekday peak hour local bus services and frequencies (number of buses per hour)**

Bus number	Origin - destination	Nearest bus stop to Deptford Church Street site	Approximate walking distance from Deptford Church Street (m)	Weekday peak hour two-way frequencies	
				AM peak (08:00-09:00)	PM peak (17:00-18:00)
47	Catford Bus Garage - Shoreditch	Wavelengths	170	13	14
53	Trafalgar Square – Plumstead	Deptford Bridge	675	17	17
177	Thamesmead Town Centre – Peckham Bus Station	Deptford Bridge	675	11	11
188	North Greenwich Station – Russell Square	MacMillan Student Village	340	16	16
199	Canada Water Bus Station – Catford Bus Garage	MacMillan Student Village	340	11	11
453	Great Central Street – Deptford Bridge	Deptford Bridge	675	17	18

Source: Transport for London (TfL) (2011) Timetables. Available at [www.tfl.gov.uk](http://www.tfl.gov.uk) (site last accessed December 2012)

- 23.4.38 These bus routes operate from the following bus stops:
- Wavelengths bus stop on Deptford Church Street (A2209), northbound and southbound, 170m to the south
  - Deptford Bridge bus stop on Deptford Bridge (A2), eastbound and westbound, 675m to the southeast
  - MacMillan Student Village bus stop on Creek Road (A200), eastbound and westbound, 340m to the northeast

23.4.39 On average there are approximately 85 daytime bus services in total per hour in the AM peak and 87 bus services in total per hour in the PM peak within a 640m walking distance of the site.

23.4.40 There are approximately ten night-time bus services per hour Monday – Friday between 00:00 – 06:00 and a total of 15 night-time bus services per hour on Saturdays between 00:00 – 06:00 within a 640m walking distance of the site.

### **Docklands Light Railway (DLR)**

23.4.41 Deptford Bridge Docklands Light Railway (DLR) station is the closest DLR station to site, located approximately 600m walk to the south. The station provides access direct to Bank to the north and Lewisham to the south. Figure 23.4.2 in the Deptford Church Street *Transport Assessment* figures indicates the DLR stations in the vicinity of the site.

23.4.42 The first weekday DLR service to Bank is at 05:30 running until 00:30 with a frequency of approximately every four minutes during the AM peak and PM peak periods.

23.4.43 During the week, the DLR services to Lewisham starts at 05:30 running until 00:30 with a frequency of approximately every two to four minutes during the AM peak and every four minutes during the PM peak.

23.4.44 During the AM and PM peaks an average of 15 services run to Lewisham and 15 services to Bank from Deptford Bridge.

23.4.45 During the AM peak hour approximately five direct services operate between Lewisham and Stratford. At other times, passengers travelling to Stratford must interchange at Canary Wharf.

23.4.46 To access Tower Gateway, passengers may interchange at Shadwell, and for Woolwich Arsenal they may interchange at Canary Wharf and Poplar.

23.4.47 The same services can also be accessed at Cutty Sark and Greenwich DLR stations, approximately 690m and 890m walking distance to the northeast and east of the site respectively.

23.4.48 Table 23.4.2 provides a summary of the DLR services and their frequencies during the weekday and weekend peaks.

### **National Rail**

23.4.49 As shown on Figure 23.4.2 in the Deptford Church Street *Transport Assessment* figures the closest National Rail station to the site is Deptford, located approximately 300m walking distance to the west of the site.

- 23.4.50 Deptford station provides access to Southeastern train services to and from Dartford, Slade Green, Crayford, London Charing Cross, London Cannon Street and London Bridge.
- 23.4.51 In the AM peak hour there are approximately 12 services in total (eight northbound and four southbound). In the PM peak there are approximately 11 services in total (seven northbound and four southbound.).
- 23.4.52 Table 23.4.3 provides a summary of the National Rail services and their frequencies during the weekday and weekend peaks.

**Table 23.4.2 – Existing Docklands Light Railway weekday peak hour services and frequencies (number of services per hour)**

Line	Origin - destination	Approximate walking distance from Deptford Church Street site (m)	Weekday peak hour two-way frequencies	
			AM peak (08:00-09:00)	PM peak (17:00-18:00)
DLR	Lewisham – Bank	600	15	15
DLR	Lewisham - Stratford	600	5	-

Source: Transport for London (TfL) (2012) Timetables. Available at [www.tfl.gov.uk](http://www.tfl.gov.uk) (site last accessed December 2012)

**Table 23.4.3 – Existing National Rail weekday peak hour services and frequencies (number of services per hour)**

National Rail station	Origin - destination	Approximate walking distance from Deptford Church Street site (m)	Weekday peak hour two-way frequencies	
			AM peak (08:00-09:00)	PM peak (17:00-18:00)
Deptford	London Charing Cross – Dartford Slade Green, Crayford	300	12	11

Source: Railplanner information and timetables: [www.nationalrail.co.uk](http://www.nationalrail.co.uk) (site last accessed December 2012)

## Highway network and operation

- 23.4.53 The site is bounded by Coffey Street to the north, Crossfield Street to the south and to the west, and Deptford Church Street (A2209) to the east, as shown in Figure 23.2.1 in the Deptford Church Street *Transport Assessment* figures.
- 23.4.54 Crossfield Street west of the site is a one-way road, eastbound from Deptford High Street. Crossfield Street east of the site is a two-way road that is accessed from Deptford Church Street (A2209) only and is blocked at the western end. Coffey Street is a two way road that accommodates a turning area that accommodates a drop off / pick up area for the local school and links to Deptford High Street to the west. On both east and west sides of the turning area, raised table pedestrian crossings are provided with keep clear road markings on the west side of the area adjacent to the entrance to the primary school.
- 23.4.55 Deptford Church Street (A2209) forms part of the SRN. It is a dual carriageway with one general traffic lane and a bus lane in each direction. The road leads to Creek Road (A200) to the north, which also forms part of the SRN. The road separates into two lanes and a bus lane on the northbound approach to the signalised junction with Creek Road (A200) and two lanes on the southbound approach.
- 23.4.56 Deptford Church Street (A2209) links to Deptford Bridge (A2) and Brookmill Road to the south at a signalised junction. The road separates into three lanes on the southbound approach and two lanes on the northbound exit. Deptford Bridge (A2) forms part of the TLRN.
- 23.4.57 Deptford High Street runs in a north-south direction to the west of the site, and accommodates two-way traffic movements between the junction with Creek Road (A200), Evelyn Street (A200), both part of the SRN, and Watergate Street in the north and the junction with Giffin Street.
- 23.4.58 Between the junction with Giffin Street and the junction with Deptford Bridge (A2), Deptford High Street is a one-way southbound route.
- 23.4.59 Local highway modelling has been undertaken to determine the operation of the following junctions in the baseline situation:
- Deptford Church Street (A2209) and Coffey Street
  - Deptford Church Street (A2209) and Crossfield Street
  - Deptford Church Street (A2209) and Giffin Street
  - Creek Road (A200) and Deptford Church Street (A2209)
  - Deptford Broadway (A2)/ Deptford Bridge (A2)/ Deptford Church Street (A2209) and Brookmill Road (A2210)
- 23.4.60 The results of this modelling are discussed in paras. 23.4.115 to 23.4.128.
- ## Parking
- 23.4.61 Figure 23.4.3 in the Deptford Church Street *Transport Assessment* figures shows the locations of the existing car parking facilities in the vicinity of the

site. The existing off-street/private car parking and car clubs parking spaces are also shown in this figure.

**Existing on-street car and motorcycle parking**

- 23.4.62 Coffey Street which borders the site to the north has 14 unrestricted parking bays. Crossfield Street which borders the site to the south has unmarked kerbside capacity for 39 cars. Deptford Church Street (A2209) has unmarked kerbside parking for five cars located outside the Birds Nest Pub approximately 400m walking distance from the site.
- 23.4.63 There are 26 car parking bays along Deptford High Street. Parking is prohibited between 08:00 and 18:30 Monday to Saturday. The restrictions permit a maximum stay of 30 minutes with no return within two hours between 10:00 to 18:30, at no charge.
- 23.4.64 There are also five on-street car parking bays along Bronze Street to the west of the junction with Creekside with no restrictions or charges. The car parking bays are located on the northern side of Bronze Street.
- 23.4.65 In total, there is capacity for approximately 285 vehicles in the form of unmarked unrestricted kerb side parking along Creekside and Bronze Street, located approximately 155m walk to the east of the site.
- 23.4.66 The only residents permit parking bays close to the site are located along Giffin Street, with 13 bays provided. These parking bays are restricted to permit holders only between 09:00 and 18:00 Monday to Friday, and between 09:00 and 13:30 on Saturdays.
- 23.4.67 On Frankham Street, there are eight blue badge parking bays which are restricted to blue badge holders only. Pay and display car parking is provided on both sides of Frankham Street which gives convenient access to Deptford High Street. There are a total of 111 parking bays on Frankham Street. There is a maximum stay of four hours allowed between 09:00 and 18:00 Monday to Friday and between 09:00 and 13:30 Saturday.
- 23.4.68 There are no motorcycle parking bays in close proximity to the site.
- 23.4.69 Table 23.4.4 summarises the parking restrictions and the number of bays on the roads in the vicinity of the site. The availability and usage of parking capacity on a weekday and a Saturday on the roads in the vicinity of the site is summarised later in this section in Table 23.4.9.

**Table 23.4.4 – Existing on-street car parking in the vicinity of the Deptford Church Street site**

Road name	Type of parking and number of bays				
	Pay and display	Resident	Blue badge	Unrestricted	Short-term
Albury Street	0	0	0	56	0
Bronze Street	0	0	0	9	0

Road name	Type of parking and number of bays				
	Pay and display	Resident	Blue badge	Unrestricted	Short-term
Coffey Street	0	0	0	14	0
Creekside	0	0	0	81	0
Crossfield Street	0	0	0	39	0
Deptford Church Street	0	0	0	5	0
Deptford High Street	0	0	0	0	26
Ffinch Street	0	0	0	0	0
Frankham Street	57	0	8	0	0
Giffin Street	0	13	0	0	0
Hamilton Street	0	0	0	0	0
Hyde Street	0	0	0	20	0
Mary Ann Gardens	0	0	0	33	0

Note: \*The maximum stay for short-term parking bays is 20 minutes.

### Existing off-street/private car parking

- 23.4.70 The closest off-street car park to the site is located on Frankham Street, managed by the LB of Lewisham and is approximately 400m walking distance to the south of the site. This is a shared use car park which can be used by pay and display users, and permit holders. The charged hours are 08:00 – 18:30 Monday to Saturday and outside these hours the car park is free of charge.
- 23.4.71 The car park provides 49 parking bays and one parking bay for blue badge holders. The maximum stay is six hours and there is no charge for motorcycles and blue badge holders. The charges are shown in Table 23.4.5.

**Table 23.4.5 – Frankham Street off-street parking charges**

Duration	Charge
Up to 1 hour	£1.40
Up to 2 hour	£2.80
Up to 3 hour	£4.20

Duration	Charge
Up to 4 hour	£5.60
Up to 6 hour	£8.40

### Coach parking

- 23.4.72 There are no coach parking spaces within 640m walking distance of the site.

### Car clubs

- 23.4.73 Car clubs provide members with easy access to cars for short-term use. Cars are available as and when needed and allow members to access a car without purchase, storage and operational costs associated with owning a private car.
- 23.4.74 When surveys were undertaken in May 2011, one car club parking space operated by ZipCar was located on Reginald Road, approximately 485m walking distance to the south of the site.

### Servicing and deliveries

- 23.4.75 One loading bay is located along Creekside approximately 600m walking distance east of the site. The loading bay is located approximately 320m south of the junction with Bronze Street and at a length of 15.5m it can accommodate up to two lorries. No time restriction or charge applies to this bay.

### Baseline survey data

#### Description of data

- 23.4.76 Junction movement data were collected from TfL for Deptford Church Street (A2209) and have been analysed to identify the traffic flows along this route in 2011. The information is discussed further in para. 23.4.95. The analysis of this data was undertaken and the information used to validate the traffic surveys undertaken in 2011.
- 23.4.77 Baseline survey data were collected in three phases in May, June and July 2011 to establish the existing transport movements in the area. Figure 23.4.4 in the Deptford Church Street *Transport Assessment* figures indicates the survey locations in the vicinity of the site. Appendix A of the project wide *TA* includes the *Baseline Data Report* which further details the surveys undertaken and the data collected.
- 23.4.78 As part of surveys in May and July 2011, manual and automated traffic surveys were undertaken to establish specific traffic, pedestrian and cycle movements including turning volumes, queue lengths, saturation flows, degree of saturation and traffic signal timings. Parking surveys were undertaken to establish the availability and usage of parking in the vicinity of the site.
- 23.4.79 The scope of the surveys in terms of location and time periods was considered to ensure that the data required for assessment was collected. In some cases ATC data was collected on links to validate the junction

count data and provide information for noise and air quality assessments. Pedestrian and cycle count data was collected at locations where flows could be affected by pedestrian and cycle diversions during construction, the generation of additional trips or where conflicts could occur with construction vehicles. Parking survey data was collected where it was possible that parking suspensions would be necessary or where additional parking demand might be generated by the proposed development.

23.4.80 Traffic surveys were carried out on a weekday and a weekend to represent a weekly profile of traffic at particular locations. Where two weekly profiles have been surveyed, the busiest survey was used.

23.4.81 The *Baseline Data Report* presents the method for field survey data collection and data collected through other sources. Base case traffic flows for local junction models have been derived from the baseline data. These baseline flows have then been factored to reflect traffic growth between the baseline and base case periods.

23.4.82 The surveys undertaken and their locations are summarised in Table 23.4.6.

**Table 23.4.6 – Survey types and locations**

Survey type and location	Date
<b>Junction survey (including pedestrian and cycle movements)</b>	
Deptford Church Street (A2209) / Giffin Street.	17 May 2011
Deptford Church Street (A2209) / Deptford Bridge (A2) / New Cross Road (A2) / Brookmill Road (A2210).	and 11-12 May 2011
Creek Road (A200) / Deptford Church Street (A2209).	
<b>Automatic Traffic Count (ATC)</b>	
Deptford Church Street (A2209).	21-27 May 2011
New Cross Road (A2) to east of junction with Watson's Street.	28 May – 03 June 2011 04 – 10 June 2011
<b>Pedestrian and cycle surveys</b>	
Deptford High Street pedestrian crossing to north of junction with Crossfield Street.	11-12 May 2011
Deptford High Street pedestrian crossing adjacent to the railway station.	07 and 14 May 2011
Deptford Church Street (A2209) pedestrian crossing at junction with Coffey Street.	
<b>Parking surveys</b>	
Coffey Street	14 July 2011
Crossfield Street	

Survey type and location	Date
Bronze Street	
Creekside	
Deptford High Street	
Mary Ann Building	
Albury Street	
Giffin Street	
Frankham Street	
Hamilton Street East (excluding permit holder parking)	

- 23.4.83 The following ATC and junction surveys are on construction traffic routes to and from the Deptford Church Street site:
- a. ATC on Deptford Church Street (A2209) to the south of the junction of Deptford Church Street (A2209) and Crossfield Street
  - b. ATC on New Cross Road (A2) to east of junction with Watson's Street
  - c. Deptford Church Street (A2209) / Giffin Street junction
  - d. Deptford Church Street (A2209) / Deptford Bridge (A2) / New Cross Road (A2) / Brookmill Road (A2210) junction
  - e. Creek Road (A200) / Deptford Church Street (A2209).

#### Results of the surveys

- 23.4.84 The surveys inform the baseline situation in the area surrounding the site and are summarised in the following paragraphs.

#### Pedestrians

- 23.4.85 Table 23.4.7 indicates the pedestrian flows surrounding the site during the AM, PM and weekend peak hours. Pedestrian surveys around the site during the AM and PM peaks indicate that there is a relatively balanced flow of pedestrians during the AM peak hour along the western footway of Deptford Church Street (A2209) crossing the junction with Coffey Street with approximately 15 travelling north and 19 south. The flow is similarly balanced during the PM peak hour with approximately 30 pedestrians travelling north and 26 south. During the AM and PM peak hours approximately seven and ten pedestrians respectively cross the junction of Deptford Church Street (A2209) and Bronze Street heading north along the eastern footway of Deptford Church Street (A2209). Approximately 23 and 20 cross the junction heading south along Deptford Church Street (A2209) during the AM and PM peak hours.
- 23.4.86 Pedestrian surveys were also undertaken to understand the number of pedestrians using the controlled crossing on Deptford Church Street (A2209) to the south of Coffey Street. Approximately 49 and 39 cross Deptford Church Street (A2209) heading eastbound during the AM and

PM peak hour respectively. Approximately 84 and 36 travel westbound during the AM and PM peak hours.

- 23.4.87 Two pedestrian crossings along Deptford High Street were also surveyed. At the crossing adjacent to the railway station approximately 54 and 64 pedestrians travel east during the AM and PM peak hours. Approximately 53 and 58 head west during the AM and PM peak hours. At the crossing along Deptford High Street north of the junction with Crossfield Street approximately 81 and 44 head east during the AM and PM peak hours. Approximately 57 and 43 travel westbound during the AM and PM peak hours.

### **Cyclists**

- 23.4.88 Cycle surveys around the site indicate the existing usage of cycle routes within the area. Table 23.4.8 indicates the flows of bicycles along the main routes surrounding the site.
- 23.4.89 There is a reasonably heavy tidal flow of cyclists travelling along Deptford Church Street (A2209) during the AM and PM peak hours. Cycle flows are heaviest in the AM peak hour and are tidal, with around 140 cyclists heading north in this peak hour. In the PM peak hour the flow is also very tidal with around 80 cyclists heading south.

**Table 23.4.7 – Existing pedestrian flows**

Road/route	Direction	Weekday			Weekend
		AM peak hour (08:00-09:00)	Inter-peak hour (12:00-13:00)	PM peak hour (17:00-18:00)	
<b>Junction Counts (pedestrian crossings)</b>					
Deptford Church Street (A2209) (western footway)	Northbound	15	11	30	6
Deptford Church Street (A2209) (western footway)	Southbound	19	21	26	16
Deptford Church Street (A2209) (eastern footway)	Northbound	7	8	10	24
Deptford Church Street (A2209) (eastern footway)	Southbound	23	5	20	6
<b>Specific surveys</b>					
Pedestrian Crossing on Deptford Church Street (A2209) to the south of Coffey Street	Eastbound	49	27	39	29
Pedestrian Crossing on Deptford Church Street (A2209) to the south of Coffey Street	Westbound	84	45	36	51
Deptford High Street pedestrian crossing adjacent to the railway station	Eastbound	54	56	64	28
Deptford High Street pedestrian crossing adjacent to the railway station	Westbound	53	59	58	40
Deptford High Street pedestrian crossing to north of junction with Crossfield Street.	Eastbound	81	32	44	50
Deptford High Street pedestrian crossing to north of junction with Crossfield Street.	Westbound	57	44	43	37

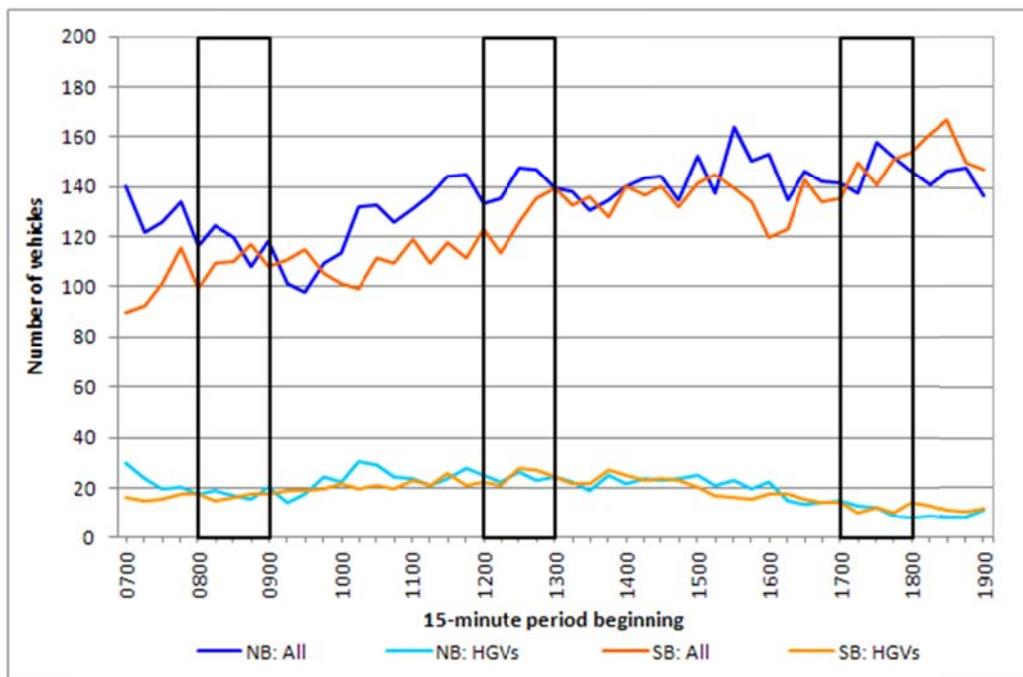
**Table 23.4.8 – Existing cycle flows**

Road/route	Direction	Weekday			Weekend
		AM peak hour (08:00-09:00)	Inter-peak hour (12:00-13:00)	PM peak hour (17:00-18:00)	Saturday peak hour (13:00-14:00)
Deptford Church Street (A2209)	Northbound	142	9	10	16
Deptford Church Street (A2209)	Southbound	6	8	84	13

**Traffic flows**

- 23.4.90 ATC data collected as part of the surveys has been analysed to identify the existing traffic flows along Deptford Church Street (A2209). Weekday flows have been used as this is when the greatest impacts from the project are likely to be experienced. The weekday vehicle and HGV flows for a 12-hour period (07:00-19:00) are shown in Plates 23.4.6.
- 23.4.91 Plates 23.4.6 indicates that the weekday PM peak hour for Deptford Church Street (A2209) is the busiest weekday hour with a maximum of approximately 160 vehicles every 15 minutes in each direction. There are approximately 590 and 580 vehicles per hour in the northbound and southbound directions respectively. This equates to approximately 1170 vehicles per hour two-way in the PM peak hour.
- 23.4.92 During the AM peak hour there is a peak 15 minute flow of approximately 125 vehicles northbound and 150 vehicles southbound. There are approximately 470 and 435 vehicles per hour in the northbound and southbound directions respectively. This equates to approximately 905 vehicles per hour two-way in the AM peak hour.

**Plates 23.4.6 – Existing weekday 15-minute traffic flows on Deptford Church Street (A2209) (ATC survey)**

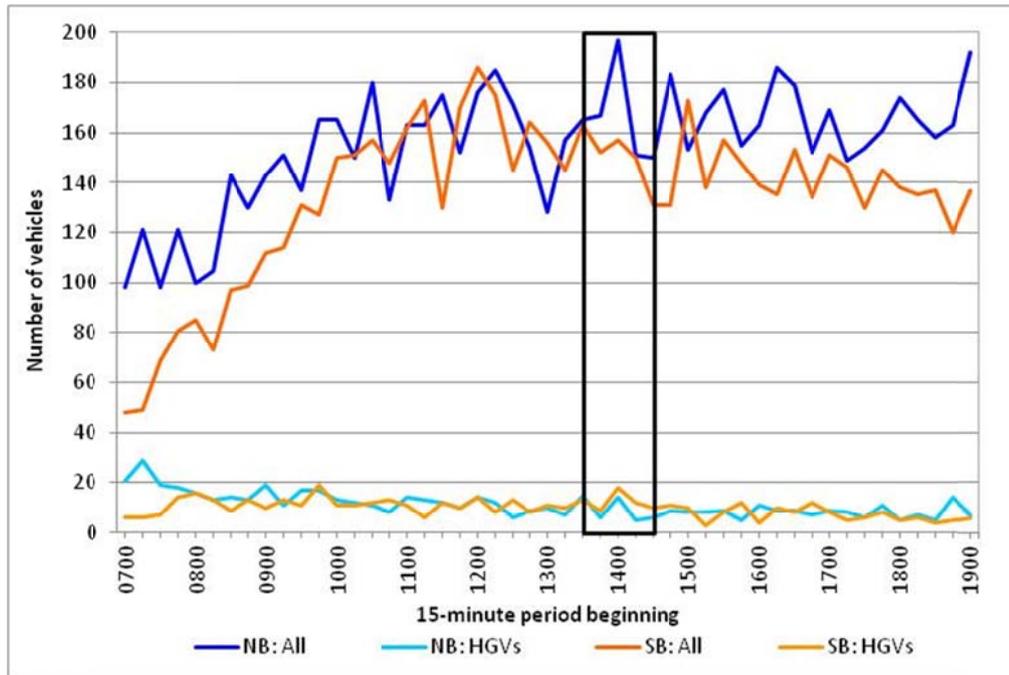


*NB – Northbound, SB – Southbound. The black box represents the peak hour traffic flows used for the traffic assessment*

- 23.4.93 Plate 23.4.7 indicates that the Saturday profile which shows the peak hour flow is between 13:30 and 14:30, with approximately 200 northbound and 155 southbound vehicles during the peak 15 minutes in each direction. This equates to approximately 1300 vehicles per hour two-way in the Saturday peak hour.
- 23.4.94 The peak flow on a Sunday falls between 16:00 to 17:00, with a flow of approximately 185 northbound and 130 southbound vehicles during the

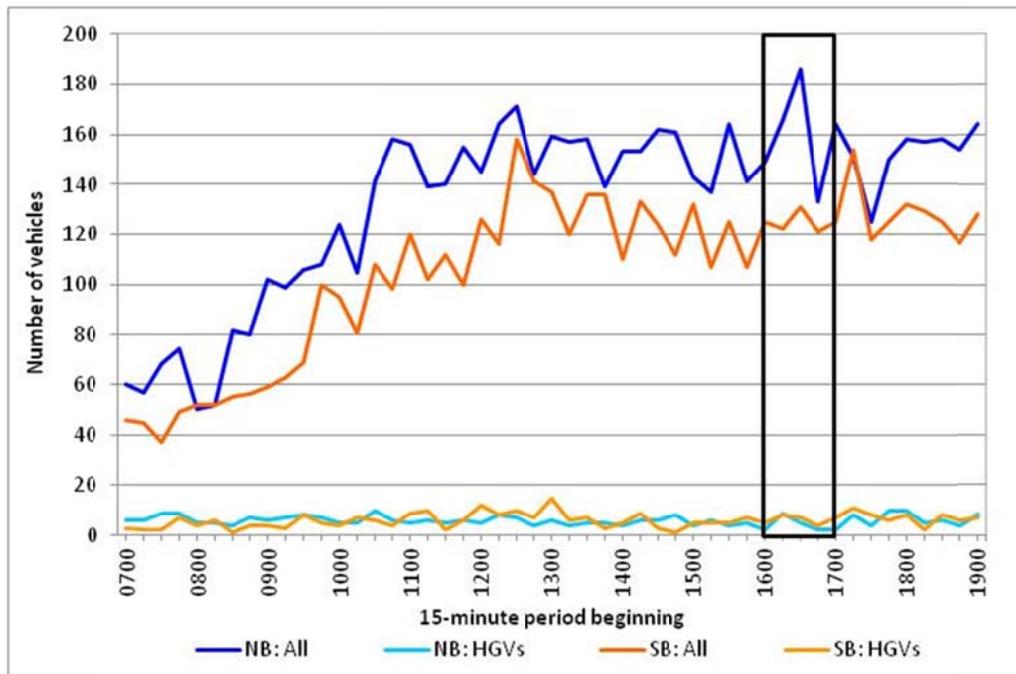
peak 15 minutes in each direction as indicated in Plate 23.4.8. This equates to approximately 1100 vehicles per hour two-way in the Sunday peak hour.

**Plate 23.4.7 – Existing Saturday 15-minute traffic flows on Deptford Church Street (A2209) (ATC survey)**



NB – Northbound, SB – Southbound. The black box represents the peak hour traffic flows used for the traffic assessment

**Plate 23.4.8 – Existing Sunday 15-minute traffic flows on Deptford Church Street (A2209) (ATC survey)**



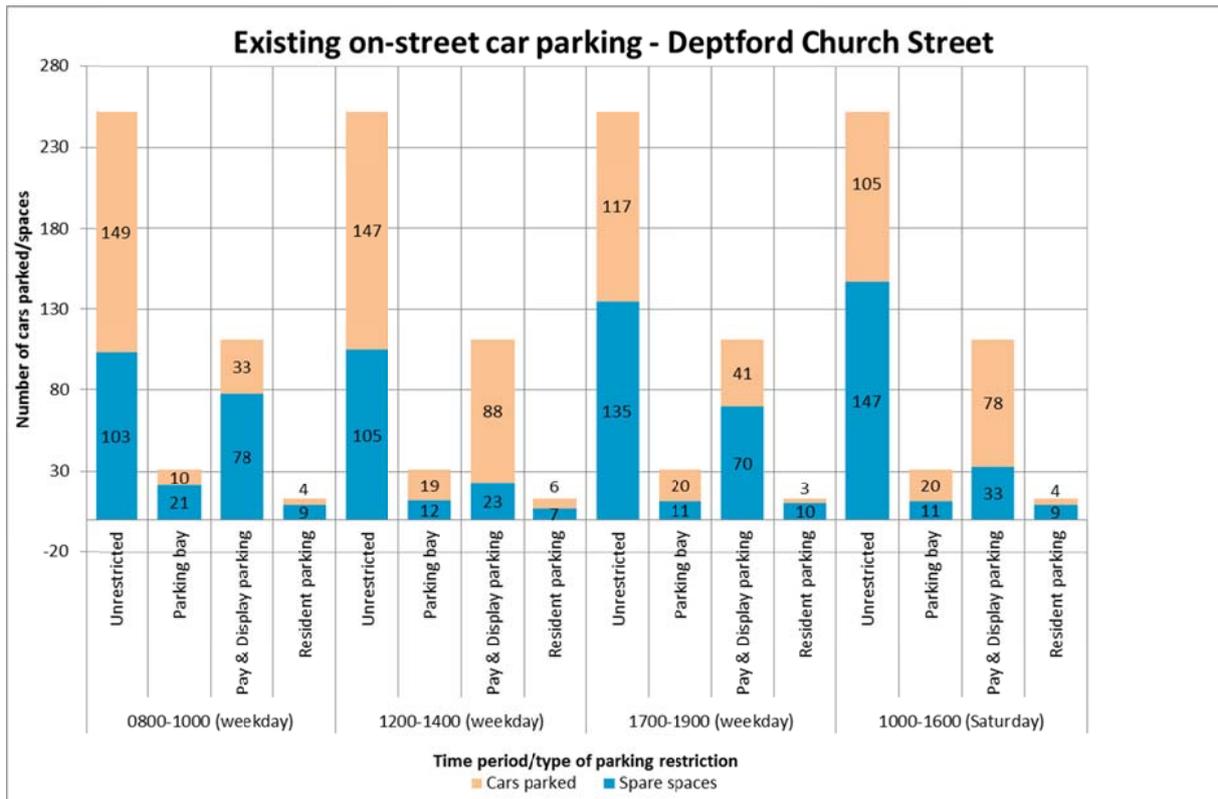
NB – Northbound, SB – Southbound. The black box represents the peak hour traffic flows used for the traffic assessment

- 23.4.95 TfL carried out a survey at the junction of Deptford Broadway (A2) and Deptford Bridge (A2) with Brookmill Road (A2210) and Deptford Church Street (A2209) in 2010. Analysis of this data identified the two-way traffic flows along Deptford Church Street (A2209). This showed that the weekday AM peak hour two-way traffic flows were 1,313 vehicles and the PM peak hour two-way traffic flows were 1,371 vehicles.
- 23.4.96 The junction surveys undertaken in 2011 have been validated against the TfL junction data. The baseline traffic flow diagrams in Figures 23.4.5 and 23.4.6 in the Deptford Church Street *Transport Assessment* figures show the AM and PM peak hour traffic. Figures 23.4.7 and 23.4.8 in the Deptford Church Street *Transport Assessment* figures show the junction survey data collected.
- 23.4.97 The junction surveys indicate that there is a total flow of 3,360 and 3,600 in the AM and PM peak hours respectively using the junction of Deptford Broadway (A2) and Deptford Bridge (A2) with Brookmill Road (A2210) and Deptford Church Street (A2209). The total two-way flow along Deptford Church Street (A2209) was 1,375 in the AM peak hour and 1,493 in the PM peak hour.
- 23.4.98 Comparison of the 2011 junction survey against the TfL junction survey data shows that the 2011 data is slightly higher, but of a similar order of magnitude, to that indicated in survey data for this junction obtained from TfL.

#### **Parking**

- 23.4.99 Plate 23.4.9 shows a histogram of the car parking availability and usage in the area surrounding Deptford Church Street during the AM, inter-peak, PM peaks on a weekday and during the weekend peak period.

**Plate 23.4.9 – Existing on-street car parking availability and usage**



23.4.100 Table 23.4.9 indicates the parking capacity available throughout a weekday and on a Saturday on the roads in the vicinity of the site.

**Table 23.4.9 – Parking and loading availability and usage**

Location	Number and Type of Bays		No. of spaces available			
			Weekday			Saturday
			08:00-10:00	12:00-14:00	17:00-19:00	12:00-14:00
Albury Street	Unrestricted bays	56	31	30	28	35
Bronze Street	Unrestricted bays	9	1	1	2	4
Coffey Street	Unrestricted bays	14	2	2	7	5
Creekside	Unrestricted bays	81	23	23	39	42
	Loading bays	1	1	1	1	1
Crossfield Street	Unrestricted bays	39	12	14	26	26
Deptford Church Street	Unrestricted bays	5	5	5	5	5

- 23.4.101 The results of the parking surveys indicate that on average the maximum occupancy of unrestricted parking bays surrounding the site is between 44% and 56% during weekdays. On Saturdays the average maximum occupancy is 40%.
- 23.4.102 The average maximum occupancy of short term (20 minutes) parking bays in the vicinity of the site varies throughout the day ranging from 31% to 63% during weekdays. During a Saturday the average maximum occupancy is 63%.
- 23.4.103 Surveys were also undertaken to establish the usage of the loading bay along Creekside. Results indicate there is ample capacity as the loading bay along this road is not heavily used for the majority of the day.

### Local highway modelling

- 23.4.104 To establish the existing capacity on the local highway network, a scope was discussed with TfL and the LB of Lewisham to model the following five junctions in the vicinity of the site by building a TRANSYT model:
- Deptford Church Street (A2209) and Coffey Street
  - Deptford Church Street (A2209) and Crossfield Street
  - Deptford Church Street (A2209) and Giffin Street
  - Creek Road (A200) and Deptford Church Street (A2209)
- 23.4.105 A LinSig model was built for the junction of Deptford Broadway (A2)/ Deptford Bridge (A2)/ Deptford Church Street (A2209) and Brookmill Road (A2210) as it is a stand-alone junction.
- 23.4.106 In addition, the pedestrian crossing on Deptford Church Street (A2209) to the south of the junction with Coffey Street has also been included in the TRANSYT model.
- 23.4.107 Traffic models for these junctions have been developed for this assessment and where possible suitable models from TfL have been used. The models have been constructed using on-site measurements of classified vehicle volumes and queue lengths.
- 23.4.108 The signal timings used in the assessment have been obtained from the TfL Signal Timing Sheet for these junctions.
- 23.4.109 The TfL modelling guidelines (TfL, 2010)<sup>5</sup> and Modelling Audit Process (MAP) (TfL, 2011)<sup>6</sup> have been used as the basis for preparing and checking models and their outputs. All required input data has been used in order to calibrate the model. Where TfL models have been used, saturation flows have been retained where no change is proposed to junctions; where changes are proposed, saturation flows have been calculated and compared with site observations to determine suitable values. Validation of the models has been based on observed data including signal timings, vehicle volumes and queue lengths to provide the key criteria for comparison with modelled queue lengths.

- 23.4.110 The models are considered suitable for this planning stage and are intended to demonstrate the nature of the effects of the additional vehicles generated by the Thames Tideway Tunnel project in this location. It is acknowledged that these models may require further refinement as the project moves from planning to detailed design stage; however as a period of time will elapse before construction commences at this site, it will be necessary in any case to review and revalidate the models against traffic conditions at that time, as is normal practice.
- 23.4.111 As the strategic modelling for the project-wide assessment has not identified any major issues at other junctions in the vicinity of the site, no local modelling is required for other junctions.
- 23.4.112 The baseline model therefore accounts for the current traffic and transport conditions within the vicinity of the site.
- 23.4.113 The weekday AM and PM baseline model queues for the five junctions were compared against observed queue lengths for the peak periods to validate the LinSig and TRANSYT models and to ensure a reasonable representation of existing conditions.
- 23.4.114 Figures 23.4.5 and 23.4.6 in the Deptford Church Street *Transport Assessment* figures indicate the traffic flows which were used for the baseline AM and PM peak hour assessments. They take TfL and survey data into account.

**Table 23.4.10 – Baseline TRANSYT model outputs for the north end of Deptford Church Street (A2209)**

Approach	Movement	Weekday							
		AM peak hour (08:00-09:00)				PM peak hour (17:00-18:00)			
		Flow (PCU)	DoS	MMQ (PCU)	Delay per PCU (Seconds)	Flow (PCU)	DoS	MMQ (PCU)	Delay per PCU (Seconds)
<b>Junction of Creek Road (A200) and Deptford Church Street (A2209)</b>									
Creek Road (A200) - westbound	Left	46	30%	1	47	62	26%	2	39
	Left (Buses)	10	30%	1	47	10	26%	2	39
	Ahead (middle lane)	234	61%	17	22	162	43%	9	27
	Ahead (offside lane)	700	61%	17	22	292	43%	9	27
	Ahead (nearside lane)	191	20%	2	7	408	57%	8	13
Creek Road (A200) - eastbound	Ahead (middle lane)	190	20%	2	7	408	57%	8	13
	Right	372	40%	8	27	563	49%	11	23
	Right (Buses)	26	40%	8	27	68	49%	11	23
Deptford Church Street (A2209) - northbound	Left (nearside lane)	73	9%	0	10	49	5%	1	11
	Left (middle lane)	349	22%	2	10	535	26%	12	13
	Right	12	7%	0	29	88	32%	2	52
		<b>PRC</b>		<b>Total Delay (PCU Hours)</b>		<b>PRC</b>		<b>Total Delay (PCU Hours)</b>	
<b>Overall junction performance</b>		48%		11.43		58%		14.52	

Approach	Movement	Weekday							
		AM peak hour (08:00-09:00)				PM peak hour (17:00-18:00)			
		Flow (PCU)	DoS	MMQ (PCU)	Delay per PCU (Seconds)	Flow (PCU)	DoS	MMQ (PCU)	Delay per PCU (Seconds)
<b>Deptford Church Street (A2209) pedestrian crossing near Coffey Street</b>									
Deptford Church Street (A2209) - northbound	Ahead (nearside lane)	73	5%	0	1	49	3%	0	1
	Ahead (offside lane)	360	24%	0	2	560	36%	1	2
Deptford Church Street (A2209) - southbound	Ahead (nearside lane)	36	2%	0	1	78	5%	1	6
	Ahead (offside lane)	418	27%	0	2	625	40%	10	12
		<b>PRC</b>		<b>Total Delay (PCU Hours)</b>		<b>PRC</b>		<b>Total Delay (PCU Hours)</b>	
<b>Overall junction performance</b>			233%		0.46		125%		2.08
<b>Junction of Deptford Church Street (A2209) and Coffey Street</b>									
Deptford Church Street (A2209) - northbound	Ahead	360	19%	0	1	593	31%	9	2
	Ahead / left	73	4%	0	1	49	3%	0	1
Deptford Church Street (A2209) - southbound	Ahead (nearside lane)	36	2%	0	1	78	4%	0	1
	Ahead (offside lane)	418	21%	4	1	625	32%	8	2
Coffey Street	Left	38	6%	0	3	39	7%	0	3
		<b>PRC</b>		<b>Total Delay (PCU Hours)</b>		<b>PRC</b>		<b>Total Delay (PCU Hours)</b>	
<b>Overall junction performance</b>			329%		0.28		181%		0.74

Approach	Movement	Weekday							
		AM peak hour (08:00-09:00)				PM peak hour (17:00-18:00)			
		Flow (PCU)	DoS	MMQ (PCU)	Delay per PCU (Seconds)	Flow (PCU)	DoS	MMQ (PCU)	Delay per PCU (Seconds)
<b>Junction of Deptford Church Street (A2209) and Crossfield Street</b>									
Deptford Church Street (A2209) - northbound	Ahead / left	73	4%	0	1	49	3%	0	1
	Ahead	358	18%	0	1	550	28%	10	3
Deptford Church Street (A2209) - southbound	Ahead (nearside lane)	36	2%	0	1	78	4%	0	1
	Ahead (offside lane)	418	21%	0	1	625	32%	0	1
Crossfield Street	Left	22	4%	0	3	10	2%	0	3
		<b>PRC</b>		<b>Total Delay (PCU Hours)</b>		<b>PRC</b>		<b>Total Delay (PCU Hours)</b>	
<b>Overall junction performance</b>		329%		0.26		181%		0.68	
<b>Junction of Deptford Church Street (A2209) and Giffin Street</b>									
Deptford Church Street (A2209) - northbound	Ahead / left	381	53%	7	23	300	57%	6	32
	Ahead	348	43%	6	21	305	52%	6	30
Deptford Church Street (A2209) - southbound	Ahead / right	418	52%	4	18	625	106%	39	160
	Ahead	36	4%	0	18	78	13%	1	12
Giffin Street	Left / right	35	17%	1	42	468	106%	30	181
		<b>PRC</b>		<b>Total Delay (PCU Hours)</b>		<b>PRC</b>		<b>Total Delay (PCU Hours)</b>	

Approach	Movement	Weekday							
		AM peak hour (08:00-09:00)				PM peak hour (17:00-18:00)			
		Flow (PCU)	DoS	MMQ (PCU)	Delay per PCU (Seconds)	Flow (PCU)	DoS	MMQ (PCU)	Delay per PCU (Seconds)
<b>Overall junction performance</b>		70%		7.14		-18%		56.78	

*Note: DoS represents Degree of Saturation; the ratio of flow to capacity. MMQ represents Mean Maximum Queue for the busiest-case 15 minute modelled period (in vehicle lengths). Delay represents the mean delay per PCU. PCU represents Passenger Car Unit. PRC represents Practical Reserve Capacity; measure of how much additional traffic could pass through a junction whilst maintaining a maximum DoS of 90% on all lanes. PCU value for a car is one PCU. Vans and three-axle vehicles are 1.5 PCUs, vehicles with four or more axles are 2.3 PCUs. Buses and coaches are two PCUs. Motorcycles are 0.4 PCUs and pedal cycles are 0.2 PCUs*

**Table 23.4.11 – Baseline LinSig model outputs for Deptford Broadway (A2)/ Deptford Bridge (A2)/ Deptford Church Street (A2209) and Brookmill Road (A2210) junction**

Approach	Movement	Weekday							
		AM peak hour (08:00-09:00)				PM peak hour (17:00-18:00)			
		Flow	DoS	MMQ (vehicles)	Delay (seconds)	Flow	DoS	MMQ (vehicles)	Delay (seconds)
Deptford Church Street (A2209) - southbound	Left	253	19%	1	8	375	32%	3	14
	Ahead / right	313	65%	7	37	397	65%	9	36
Deptford Bridge (A2)	Ahead / left	686	82%	14	32	565	77%	8	26
	Ahead / right	686	76%	9	30	566	99%	17	91

Transport Assessment

Approach	Movement	Weekday									
		AM peak hour (08:00-09:00)					PM peak hour (17:00-18:00)				
		Flow	DoS	MMQ (vehicles)	Delay (seconds)	Flow	DoS	MMQ (vehicles)	Delay (seconds)		
Brookmill Road (A2210)	Ahead / left /right	469	85%	12	48	461	78%	12	42		
	Ahead (nearside lane)	89	22%	2	32	114	19%	2	26		
Deptford Broadway (A2)	Ahead (middle lane)	311	70%	7	42	427	64%	10	33		
	Ahead / right	435	89%	11	60	575	82%	13	43		
	Left	120	21%	1	4	130	22%	1	4		
		PRC					PRC				
<b>Overall junction performance</b>		1.2%					-9.6				
		Total Delay (PCU Hours)					Total Delay (PCU Hours)				
		33.47					40.67				

*Note: DoS represents Degree of Saturation; the ratio of flow to capacity. MMQ represents Mean Maximum Queue for the busiest-case 15 minute modelled period (in vehicle lengths). Delay represents the mean delay per PCU. PCU represents Passenger Car Unit. PRC represents Practical Reserve Capacity; measure of how much additional traffic could pass through a junction whilst maintaining a maximum DoS of 90% on all lanes. PCU value for a car is one PCU. Vans and three-axle vehicles are 1.5 PCUs, vehicles with four or more axles are 2.3 PCUs. Buses and coaches are two PCUs. Motorcycles are 0.4 PCUs and pedal cycles are 0.2 PCUs*

- 23.4.115 Table 23.4.10 shows the modelling outputs for the baseline case. The results indicate that all the junctions operate within capacity during the AM and PM peak hours. The exceptions to this are the junction of Deptford Church Street (A2209) and Giffin Street which operates above capacity during the PM peak hour and the junction of Deptford Broadway (A2)/ Deptford Bridge (A2)/ Deptford Church Street (A2209) and Brookmill Road (A2210) also operates above capacity during the PM peak hour.
- 23.4.116 At the junction of Deptford Church Street (A2209) and Creek Road (A200) the Creek Road (A200) westbound ahead movements are the busiest operating at 61% capacity, the greatest delay is found on the Creek Road (A200) westbound left movement with an average of 47 seconds during the AM peak hour. During the PM peak hour the Creek Road (A200) eastbound ahead movement is the busiest operating at 57% capacity, the greatest delay occurs on the Deptford Church Street (A2209) northbound right turn movement with an average delay of 52 seconds.
- 23.4.117 The TRANSYT junction model output shows that total delay at the junction of Deptford Church Street (A2209) and Creek Road (A200) is 11.43 PCU Hours in the AM peak period assessed and 14.52 PCU Hours in the PM peak period assessed. These equate to 19 seconds per PCU in the AM peak period assessed and 20 seconds per PCU in the PM peak period assessed.
- 23.4.118 At the pedestrian crossing along Deptford Church Street (A2209) to the south of Coffey Street the Deptford Church Street (A2209) southbound offside lane is the busiest operating at 27% capacity with an average delay of 2 seconds. During the PM peak hour the same movement operates at 40% capacity with a delay of 12 seconds.
- 23.4.119 The TRANSYT junction model output shows that total delay at the pedestrian crossing along Deptford Church Street (A2209) to the south of Coffey Street is 0.46 PCU Hours in the AM peak period assessed and 2.08 PCU Hours in the PM peak period assessed. These equate to 1 second per PCU in the AM peak period assessed and 6 seconds per PCU in the PM peak period assessed.
- 23.4.120 At the junction of Deptford Church Street (A2209) and Coffey Street the Deptford Church Street (A2209) southbound offside lane is the busiest operating at 21%. The greatest delay is on the Coffey Street left movement which has an average delay of 3 seconds during the AM peak hour. During the PM peak hour the Deptford Church Street (A2209) southbound offside lane is the busiest operating at 32%. The greatest delay is on the Coffey Street left movement which has an average delay of 3 seconds.
- 23.4.121 The TRANSYT junction model output shows that total delay at the junction of Deptford Church Street (A2209) and Coffey Street is 0.28 PCU Hours in the AM peak period assessed and 0.74 PCU Hours in the PM peak period assessed. These equate to 1 second per PCU in the AM peak period assessed and 2 seconds per PCU in the PM peak period assessed.
- 23.4.122 At the junction of Deptford Church Street (A2209) and Crossfield Street the Deptford Church Street (A2209) southbound offside lane is the busiest

operating at 21%. The greatest delay is on the Crossfield Street left movement which has an average delay of 3 seconds during the AM peak hour. During the PM peak hour the Deptford Church Street (A2209) southbound offside lane is the busiest operating at 32%. The greatest delay is on the Crossfield Street left movement which has an average delay of 3 seconds.

- 23.4.123 The TRANSYT junction model output shows that total delay at the junction of Deptford Church Street (A2209) and Crossfield Street is 0.26 PCU Hours in the AM peak period assessed and 0.68 PCU Hours in the PM peak period assessed. These equate to 1 second per PCU in the AM peak period assessed and 2 seconds per PCU in the PM peak period assessed.
- 23.4.124 At the junction of Deptford Church Street (A2209) and Giffin Street the Deptford Church Street (A2209) northbound ahead and left movement is the busiest operating at 53% capacity. The Giffin Street left and right movement experiences the greatest delay with an average of 42 seconds. During the PM peak hour the Deptford Church Street (A2209) southbound ahead and right and the Giffin Street left and right movement are the busiest operating above capacity at 106%. The greatest delay is experienced on the Giffin Street arm with an average delay of 181 seconds.
- 23.4.125 The TRANSYT junction model output shows that total delay at the junction of Deptford Church Street (A2209) and Giffin Street is 7.14 PCU Hours in the AM peak period assessed and 56.78 PCU Hours in the PM peak period assessed. These equate to 21 second per PCU in the AM peak period assessed and 115 seconds per PCU in the PM peak period assessed.
- 23.4.126 Table 23.4.11 shows the outputs of the validated model for the junction of Deptford Broadway (A2), Deptford Bridge (A2), Deptford Church Street (A2209) and Brookmill Road (A2210).
- 23.4.127 During the AM and PM peak hours the junction operates close to capacity in the AM peak hour and above capacity during the PM peak hour. During the AM peak hour the Deptford Broadway (A2) ahead and right movement operates at 89% capacity and experiences a delay of approximately 60 seconds. During the PM peak hour the Deptford Bridge (A2) ahead and right movement operates at 99% capacity and experiences a delay of approximately 91 seconds.
- 23.4.128 The LinSig model output shows that the total delay is 33.47 PCU Hours in the AM peak period assessed and 40.67 PCU Hours in the PM peak period assessed. These equate to 36 second per PCU in the AM peak period assessed and 41 seconds per PCU in the PM peak period assessed.

### Accident analysis

- 23.4.129 Accident data in the assessment area for the most recent five-year period available were obtained from TfL.

- 23.4.130 A total of two serious and 17 slight accidents have occurred in the Deptford Church Street assessment area over the five years for which accident data was obtained and analysed. There were no fatal accidents.
- 23.4.131 The largest number of road traffic accidents occurred at the junction of Creek Road (A200) / Deptford Church Street (A2209), and at the junction of Deptford Church Street (A2209) / Giffin Street; most of which were classified as slight with two serious accidents.
- 23.4.132 Of the two serious accidents that happened in the study area, one occurred at the junction of Deptford Church Street (A2209) / Giffin Street and one at the junction of Creek Road (A200) / Deptford Church Street (A2209). Careless driving and not looking properly were the main causes of the accidents. These accidents therefore did not happen as a result of road geometry.
- 23.4.133 Overall, the slight accidents that occurred were mainly caused by not looking properly, reckless driving and poor manoeuvres, indicating that the accidents were not due to highway geometry.
- 23.4.134 Of the total slight and serious accidents, three accidents involved LGVs and one involved a medium goods vehicle (MGV). The accidents that involved LGVs were slight accidents and the accident involving a MGV was a serious accident. The accidents were caused by not looking properly, reckless driving, and following too close, and not as a result of the road geometry.
- 23.4.135 Table 23.4.12 and Figure 23.4.9 in the Deptford Church Street *Transport Assessment* figures indicates the accidents that have occurred within the vicinity of the site.

**Table 23.4.12 – Accident severity from 2006 to 2011**

Location	Slight	Serious	Fatal	Total
Coffey Street	0	0	0	0
Crossfield Street	1	0	0	1
Deptford Church Street (A2209) between the junction with Creek Road (A200) and the junction with Giffin Street	1	0	0	1
Creek Road (A200) / Deptford Church Street (A2209) junction	6	1	0	7
Deptford Church Street (A2209) / Coffey Street junction	0	0	0	0
Deptford Church Street (A2209) / Crossfield Street junction	1	0	0	1
Deptford Church Street/Giffin Street junction	8	1	0	9
<b>Total</b>	<b>17</b>	<b>2</b>	<b>0</b>	<b>19</b>

- 23.4.136 Of the two pedestrian-injury accidents, both occurred on the roads expected to be used by construction vehicles within the study area. Inspection of the data showed that none of these occurred at junctions with signalised pedestrian crossing facilities, with the remaining accidents occurring at locations without signal control. Of the five cyclist-injury accidents, all occurred on the roads expected to be used by construction vehicles within the study area. Figure 23.4.10 in the Deptford Church Street *Transport Assessment* figures shows pedestrian and cyclist accidents by severity.
- 23.4.137 In the context of the construction HGV movements associated with the Deptford Church Street site, the accident risk to these modes of travel would be managed by providing pedestrian and cyclist awareness training for commercial drivers associated with the construction works as set out in the *CoCP*. For sections of road affected by road works, the risk to all road users would be managed by the contractor(s) in accordance with the provisions made under the Traffic Signs Manual Chapter 8 - Traffic Safety Measures and Signs for Road Works (DfL, 2009)<sup>7</sup>.
- 23.4.138 Appendix D provides a full analysis of accidents within the local area surrounding the Deptford Church Street site.

## 23.5 Construction assessment

- 23.5.1 The *TA* for the Deptford Church Street site including both qualitative and quantitative analysis has been undertaken drawing on discussions with TfL and the Local Highway Authorities, knowledge of the transport networks and their operational characteristics in the vicinity of each site and the anticipated construction programme, duration and levels of construction activity.
- 23.5.2 The construction assessment compares a construction base case, which represents transport conditions in the assessment year without the Thames Tideway Tunnel project, with a construction development case, which represents conditions with the Thames Tideway Tunnel under construction. The construction base case does not include any traffic related to the Thames Tideway Tunnel, whether from the Deptford Church Street site or from other sites.

### Construction base case

- 23.5.3 As described in Section 23.3 above, the construction assessment year for transport issues in relation to this site is Site Year 1 of construction.

### Pedestrians and cyclists

- 23.5.4 There are no proposals to change the pedestrian network by Site Year 1 of construction and the network will operate as indicated in the baseline situation.
- 23.5.5 It is anticipated that there will be changes to the cycling network by Site Year 1 of construction. CS4 is a planned future route running between Woolwich and London Bridge which is expected to open by Site Year 1 of construction. The route runs along Creek Road (A200), approximately

200m to the north of the site. By 2013, CS5 will have opened, running from Lewisham to Victoria. It will travel east to west in the area of the A2, some 565m to the south of the site.

### Public transport

- 23.5.6 In terms of the public transport network, there are no London Underground services in the vicinity of the Deptford Church Street site and there are no specific commitments to improvements to the DLR or National Rail networks that would affect this site.
- 23.5.7 Due to the traffic growth in the construction base case compared to the baseline situation, bus journey times along Deptford Church Street (A2209) and within the wider area may be affected. The effect on journey times in the construction base case, compared to the baseline situation, is detailed under the highway operation and network assessment (paras. 23.5.19 and 23.5.20). Comparing the results of the model for the baseline and base cases and considering the average delays on the movements made by buses along Deptford Church Street, the anticipated change in journey times would be a decrease of 5 seconds for northbound bus services and an increase of 15 seconds for southbound bus services in the AM peak hour. In the PM peak hour the anticipated change in journey times would be a decrease of 10 seconds for northbound bus services and an increase of 5 seconds for southbound bus services.
- 23.5.8 These decreases in average delay are due to signal optimisation and it is assumed that this would be carried out by TfL as part of their on-going maintenance regime.
- 23.5.9 It is anticipated that patronage on public transport services may change between the baseline situation and Site Year 1 of construction. Future patronage changes on bus and rail will be driven by a range of complex factors and there are inherent uncertainties in setting a patronage level for a future year. Therefore, in order to ensure that a busiest case scenario is addressed in assessing the result of additional construction worker journeys by public transport, the capacity for public transport services in the construction base case has been assumed to remain the same as capacity in the baseline situation. This ensures a robust assessment.

### Highway network and operation

- 23.5.10 Baseline traffic flows (determined from the junction surveys) have been used and forecasting carried out to understand the capacity on the highway network in the vicinity of the Deptford Church Street site in Site Year 1 of construction without the Thames Tideway Tunnel project. The scope of this analysis has been discussed with the LB of Lewisham and TfL.
- 23.5.11 Strategic highway network modelling has been undertaken at a project-wide level using the TfL HAMs, which include forecasts of employment and population growth in line with the London Plan (GLA, 2011)<sup>8</sup>. Growth factors have been derived at individual borough level by comparing the 2008/9 base and 2021 forecast years in the HAMs, as described in the *Project-wide TA*.

23.5.12 For the Deptford Church Street site, ELHAM has been used. The relevant growth factor for this site is described in para. 23.5.16 which was applied to the survey flows undertaken in 2011 to produce flows for the base and development cases.

23.5.13 It should be noted that these factors represent growth over the period to 2021, which is beyond Site Year 1 of construction at the Deptford Church Street site and therefore ensures that the construction base case for the highway network is robust.

### Committed developments

23.5.14 The construction base case takes into account new developments that would be complete or under construction within the vicinity of the site by Site Year 1 of construction at the Deptford Church Street site. The committed developments in the immediate vicinity of the site are listed in Volume 23 Appendix N of the *Environmental Statement* and are:

- a. Greenwich Reach East
- b. site of old Seagar Distillery
- c. Greenwich Industrial Estate
- d. Bardsley Lane
- e. land opposite North Greenwich Pier
- f. land at Stockwell Street and John Humphries House.

23.5.15 Development at the Giffin Street Regeneration Area, Creekside Village East, Convoys Wharf (Phases 1 and 2) and Heathside and Lethbridge Estate would be under construction in Site Year 1 of construction. The strategic and local highway modelling has taken these committed developments into consideration.

### Local highway modelling

23.5.16 The growth factors for the LB of Lewisham based on ELHAM have been discussed with TfL and the LB of Lewisham and applied equally to all of the baseline traffic flow movements. The growth factors are:

- a. Weekday AM Peak growth factor – +4.7%
- b. Weekday PM Peak growth factor – +3.8%

23.5.17 Paras. 23.4.104 and 23.4.105 explain the definition of the assessment area for local highway network modelling. At this site, the assessment examines a number of junctions in the vicinity of the site because these junctions form part of a linked signal network.

23.5.18 The resulting construction base case TRANSYT and LinSig models for the Deptford Church Street site indicate that there will be changes in queue lengths and changes to average delays at the junctions along Deptford Church Street (A2209) in the construction base case, compared to baseline conditions. Table 23.5.1 and Table 23.5.2 indicate the construction base case model outputs.

**Table 23.5.1 – Construction base case TRANSYT model outputs for the north end of Deptford Church Street (A2209)**

Approach	Movement	Weekday							
		AM peak hour (08:00-09:00)				PM peak hour (17:00-18:00)			
		Flow (PCU)	DoS	MMQ (PCU)	Delay per PCU (Seconds)	Flow (PCU)	DoS	MMQ (PCU)	Delay per PCU (Seconds)
<b>Junction of Creek Road (A200) and Deptford Church Street (A2209)</b>									
Creek Road (A200) - westbound	Left	49	31%	1	48	65	24%	2	42
	Left (Buses)	10	31%	1	48	10	24%	2	42
	Ahead (middle lane)	234	65%	18	24	162	51%	11	15
	Ahead (offside lane)	736	65%	18	24	305	51%	11	15
	Ahead (nearside lane)	201	21%	3	7	425	44%	9	10
Creek Road (A200) - eastbound	Ahead (middle lane)	200	21%	3	7	425	44%	9	10
	Right	391	40%	8	26	586	44%	13	23
	Right (Buses)	26	40%	8	26	68	44%	13	23
Deptford Church Street (A2209) - northbound	Left (nearside lane)	73	9%	0	3	49	4%	0	3
	Left (middle lane)	407	25%	1	3	517	23%	1	3
	Right	13	7%	0	23	92	31%	2	19
		<b>PRC</b>		<b>Total Delay (PCU Hours)</b>		<b>PRC</b>		<b>Total Delay (PCU Hours)</b>	
<b>Overall junction performance</b>		38%		11.53		76%		13.04	

Approach	Movement	Weekday							
		AM peak hour (08:00-09:00)				PM peak hour (17:00-18:00)			
		Flow (PCU)	DoS	MMQ (PCU)	Delay per PCU (Seconds)	Flow (PCU)	DoS	MMQ (PCU)	Delay per PCU (Seconds)
<b>Deptford Church Street (A2209) pedestrian crossing near Coffey Street</b>									
Deptford Church Street (A2209) - northbound	Ahead (nearside lane)	73	8%	0	10	49	3%	0	1
	Ahead (offside lane)	379	44%	3	12	584	36%	0	2
Deptford Church Street (A2209) - southbound	Ahead (nearside lane)	36	4%	0	16	78	5%	0	1
	Ahead (offside lane)	440	51%	4	16	651	40%	1	2
		<b>PRC</b>		<b>Total Delay (PCU Hours)</b>		<b>PRC</b>		<b>Total Delay (PCU Hours)</b>	
<b>Overall junction performance</b>			76%		3.58		125%		0.72
<b>Junction of Deptford Church Street (A2209) and Coffey Street</b>									
Deptford Church Street (A2209) - northbound	Ahead	379	20%	0	1	584	30%	7	1
	Ahead / left	73	4%	0	1	49	2%	0	1
Deptford Church Street (A2209) - southbound	Ahead (nearside lane)	36	2%	0	1	78	4%	0	1
	Ahead (offside lane)	440	22%	0	1	651	33%	0	2
Coffey Street	Left	40	6%	0	3	41	7%	0	3
		<b>PRC</b>		<b>Total Delay (PCU Hours)</b>		<b>PRC</b>		<b>Total Delay (PCU Hours)</b>	
<b>Overall junction performance</b>			309%		0.29		173%		0.59

Approach	Movement	Weekday							
		AM peak hour (08:00-09:00)				PM peak hour (17:00-18:00)			
		Flow (PCU)	DoS	MMQ (PCU)	Delay per PCU (Seconds)	Flow (PCU)	DoS	MMQ (PCU)	Delay per PCU (Seconds)
<b>Junction of Deptford Church Street (A2209) and Crossfield Street</b>									
Deptford Church Street (A2209) - northbound	Ahead / left	24	4%	0	1	49	3%	0	1
	Ahead	376	19%	0	1	574	29%	12	4
Deptford Church Street (A2209) - southbound	Ahead (nearside lane)	36	2%	0	1	78	4%	0	1
	Ahead (offside lane)	440	22%	0	1	651	33%	0	1
Crossfield Street	Left	73	4%	0	3	10	2%	0	3
		<b>PRC</b>		<b>Total Delay (PCU Hours)</b>		<b>PRC</b>		<b>Total Delay (PCU Hours)</b>	
<b>Overall junction performance</b>		309%		0.28		173%		0.86	
<b>Junction of Deptford Church Street (A2209) and Giffin Street</b>									
Deptford Church Street (A2209) - northbound	Ahead / left	397	48%	6	18	311	50%	7	30
	Ahead	366	39%	6	17	318	46%	7	29
Deptford Church Street (A2209) - southbound	Ahead / right	440	47%	1	4	651	94%	11	47
	Ahead	36	4%	0	2	78	11%	1	17
Giffin Street	Left / right	47	28%	1	48	463	94%	18	78
		<b>PRC</b>		<b>Total Delay (PCU Hours)</b>		<b>PRC</b>		<b>Total Delay (PCU Hours)</b>	

Approach	Movement	Weekday						
		AM peak hour (08:00-09:00)			PM peak hour (17:00-18:00)			
		Flow (PCU)	DoS	MMQ (PCU)	Delay per PCU (Seconds)	Flow (PCU)	DoS	MMQ (PCU)
<b>Overall junction performance</b>		88%		4.85		-4%		24.05

Notes: 1. DoS represents Degree of Saturation; the ratio of flow to capacity. MMQ represents Mean Maximum Queue for the busiest-case 15 minute modelled period (in vehicle lengths). Delay represents the mean delay per PCU. PCU represents Passenger Car Units. PRC represents Practical Reserve Capacity; measure of how much additional traffic could pass through a junction whilst maintaining a maximum DoS of 90% on all lanes. PCU value for a car is one PCU. Vans and three-axle vehicles are 1.5 PCUs, vehicles with four or more axles are 2.3 PCUs. Buses and coaches are two PCUs. Motorcycles are 0.4 PCUs and pedal cycles are 0.2 PCUs.

2. Assessment has assumed that traffic signal optimisation has been undertaken as detailed in Section 3 of the TA

**Table 23.5.2 – Construction base case LinSig model outputs the Deptford Bridge (A2)/Deptford Church Street (A2209)/Deptford Broadway (A2)/Brookmill Road (A2210) junction**

Approach	Movement	Weekday											
		AM peak hour (08:00-09:00)					PM peak hour (17:00-18:00)						
		Flow	DoS	MMQ (vehicles)	Delay (seconds)	Flow	DoS	MMQ (vehicles)	Delay (seconds)	Flow	DoS	MMQ (vehicles)	Delay (seconds)
Deptford Church Street (A2209) - southbound	Left	266	19%	1	7	390	33%	3	12				
	Ahead / right	329	64%	7	35	413	79%	10	40				
Deptford Bridge (A2)	Ahead / left	642	80%	13	32	645	87%	10	28				
	Ahead / right	799	81%	10	32	532	82%	9	39				
Brookmill Road (A2210)	Ahead / left / right	492	82%	12	41	480	88%	13	44				
	Ahead (nearside lane)	238	67%	6	45	344	73%	8	37				
Deptford Broadway (A2)	Ahead (middle lane)	280	71%	7	46	400	75%	10	37				
	Ahead / right	357	76%	7	47	416	83%	7	45				
	Left	126	23%	0	4	135	22%	0	4				
<b>Overall junction performance</b>		<b>PRC</b>					<b>PRC</b>					<b>Total Delay (PCU Hours)</b>	
		10%					11%					35.33	
		33.50					35.33						

Notes: 1. DoS represents Degree of Saturation; the ratio of flow to capacity. MMQ represents Mean Maximum Queue for the busiest-case 15 minute modelled period (in vehicle lengths). Delay represents the mean delay per PCU. PCU represents Passenger Car Units PRC represents Practical Reserve Capacity; measure of how much additional traffic could pass through a junction whilst maintaining a maximum DoS of 90% on

*all lanes. PCU value for a car is one PCU. Vans and three-axle vehicles are 1.5 PCUs, vehicles with four or more axles are 2.3 PCUs. Buses and coaches are two PCUs. Motorcycles are 0.4 PCUs and pedal cycles are 0.2 PCUs.*

*2. Assessment has assumed that traffic signal optimisation has been undertaken as detailed in Section 3 of the TA*

- 23.5.19 At the junction of Creek Road (A200) and Deptford Church Street (A2209) Creek Road (A200) westbound ahead movements would be the busiest operating at 65% capacity. The greatest delay would be approximately 48 seconds on the Creek Road (A200) westbound left movement during the AM peak hour. During the PM peak hour the Creek Road (A200) westbound ahead movements would be the busiest operating at 51% capacity. The greatest delay would be experienced on the Creek Road (A200) westbound left movement with an average of 42 seconds.
- 23.5.20 The TRANSYT junction model output shows that total delay at the junction of Deptford Church Street (A2209) and Creek Road (A200) is 11.53 PCU Hours in the AM peak period assessed and 13.04 PCU Hours in the PM peak period assessed. These equate to 19 seconds per PCU in the AM peak period assessed and 17 seconds per PCU in the PM peak period assessed.
- 23.5.21 At the pedestrian crossing along Deptford Church Street (A2209) to the south of Coffey Street. During the AM peak hour the Deptford Church Street (A2209) southbound ahead offside lane is the busiest operating at 51% capacity. The greatest delay would be experienced on the same movement with an average delay of 16 seconds. During the PM peak hour the Deptford Church Street (A2209) southbound ahead offside lane is the busiest operating at 40% capacity. The same movement and the Deptford Church Street (A2209) northbound offside lane would experience the greatest average delay with two seconds.
- 23.5.22 The TRANSYT junction model output shows that total delay at the pedestrian crossing along Deptford Church Street (A2209) to the south of Coffey Street is 3.58 PCU Hours in the AM peak period assessed and 0.72 PCU Hours in the PM peak period assessed. These equate to 14 seconds per PCU in the AM peak period assessed and 2 seconds per PCU in the PM peak period assessed.
- 23.5.23 During the AM peak hour at the junction of Deptford Church Street (A2209) and Coffey Street the Deptford Church Street (A2209) southbound ahead offside lane would be the busiest operating at 22% capacity. The greatest delay would be experienced on the Coffey Street left turn movement with an average delay of 3 seconds. During the PM peak hour the Deptford Church Street (A2209) southbound ahead offside lane would be busiest at 33% capacity. The greatest delay would be experienced on the Coffey Street left turn movement with an average delay of 3 seconds.
- 23.5.24 The TRANSYT junction model output shows that total delay at the junction of Deptford Church Street (A2209) and Coffey Street is 0.29 PCU Hours in the AM peak period assessed and 0.59 PCU Hours in the PM peak period assessed. These equate to 1 second per PCU in the AM peak period assessed and 2 seconds per PCU in the PM peak period assessed.
- 23.5.25 At the junction of Deptford Church Street (A2209) and Crossfield Street the Deptford Church Street (A2209) southbound ahead offside lane is the busiest during the AM and PM peak hours operating at 22% and 33% capacity. The Crossfield Street left turn movement would be the busiest during the AM peak hour with an average delay of 3 seconds. During the

PM peak hour the greatest delay would be experienced on the Deptford Church Street (A2209) northbound ahead movement with an average of 4 seconds.

- 23.5.26 The TRANSYT junction model output shows that total delay at the junction of Deptford Church Street (A2209) and Crossfield Street is 0.28 PCU Hours in the AM peak period assessed and 0.86 PCU Hours in the PM peak period assessed. These equate to 1 second per PCU in the AM peak period assessed and 2 seconds per PCU in the PM peak period assessed.
- 23.5.27 During the AM peak hour at the junction of Deptford Church Street (A2209) and Giffin Street the Deptford Church Street (A2209) northbound movement would be the busiest operating at 48% capacity. The greatest delay would be experienced on the Giffin Street junction with an average of 48 seconds. During the PM peak hour the Deptford Church Street (A2209) southbound ahead and right movement and the Giffin Street arm would operate at 94% capacity. The greatest delay would be experienced on the Giffin Street arm with an average of 78 seconds.
- 23.5.28 The TRANSYT junction model output shows that total delay at the junction of Deptford Church Street (A2209) and Giffin Street is 4.85 PCU Hours in the AM peak period assessed and 24.05 PCU Hours in the PM peak period assessed. These equate to 14 second per PCU in the AM peak period assessed and 48 seconds per PCU in the PM peak period assessed.
- 23.5.29 At the junction of Deptford Broadway (A2), Deptford Bridge (A2), Deptford Church Street (A2209) and Brookmill Road, the Deptford Bridge (A2) head and left movement would be the busiest operating at 80% capacity during the AM peak hour. The greatest delay would be experienced on the Deptford Broadway (A2) ahead and right movement with an average delay of 47 seconds. During the PM peak hour the Brookmill Road (A2210) arm would be the busiest operating at 88% capacity. The greatest delay would be experienced on the Deptford Broadway (A2) ahead and right movement with an average delay of 45 seconds.
- 23.5.30 The LINSIG junction model output shows that total junction delay is 33.50 PCU Hours in the AM peak period assessed and 35.33 PCU Hours in the PM peak period assessed. These equate to 34 seconds per PCU in the AM peak period assessed and 34 seconds per PCU in the PM peak period assessed.

### **Construction development case**

- 23.5.31 This section summarises the findings of the assessment undertaken for the peak year of construction at the Deptford Church Street site (Site Year 1 of construction).

### **Pedestrian routes**

- 23.5.32 As discussed in section 23.2 there would be no change to pedestrian facilities during Phase 1 of construction, during Phase 2 of construction, the footways immediately adjacent to the site would be affected by the works. The highway layout plans during construction phases plans are

provided in the Deptford Church Street *Transport Assessment* figures and show the footway closures during construction.

- 23.5.33 During Phase 2, construction works would take place in the northbound carriageway and western footway of Deptford Church Street (A2209), requiring the western footway to be closed for a length of approximately 75m. The pedestrian crossing at the junction of Deptford Church Street (A2209) and Coffey Street would be relocated to 70m north of the junction of Deptford Church Street (A2209).
- 23.5.34 Pedestrians travelling along the western footway would be required to cross Deptford Church Street (A2209) using the existing pedestrian crossing at the junction of Deptford Church Street (A2209) and Giffin Street and at the relocated pedestrian crossing 80m north of Bronze Street. Alternatively pedestrians could walk around the site via Crossfield Street and Coffey Street removing the need to cross Deptford Church Street (A2209) twice.
- 23.5.35 Using the mode split of worker trips shown in Table 23.2.3 above, it is anticipated that 43% of worker trips (18 trips in each peak hour) would be made by foot, including all those travelling by National Rail, DLR and bus who would complete their journeys by foot.
- 23.5.36 Taking into consideration the pedestrian diversions in Phase 2 of construction the greatest effect on pedestrians would be on the eastern footway along Deptford Church Street (A2209) to which pedestrians would be diverted from the closed western footway of Deptford Church Street (A2209) and Crossfield Street and Coffey Street which pedestrians could also use to avoid crossing Deptford Church Street (A2209).
- 23.5.37 It is anticipated that the pedestrian diversions around the Deptford Church Street site would result in a worst case total journey time increase of approximately 2 minutes 45 seconds for those heading north and south on the western footway of Deptford Church Street (A2209), due to being required to cross to the eastern footway and back again, and an extension of 190m in the pedestrian journey distance, based on a walking speed of 1.3m/s.
- 23.5.38 Pedestrians wishing to cross Deptford Church Street (A2209) to or from Coffey Street heading east or west would have to use the relocated pedestrian crossing 70m to the north. They would experience a total worst case increase of approximately 1 minute 45 seconds, due to an increased journey distance of 140m.
- 23.5.39 Given the small increase in pedestrian numbers against baseline usage, an extension to the length of the pedestrian phase at the junction of Deptford Church Street (A2209) and Giffin Street and the pedestrian crossing to the south of Coffey Street are not required. In addition, as the assessment assumes that all construction workers would travel in the peak hours, the increase in pedestrian numbers against baseline usage during the peak hours due to construction workers walking is considered to be a conservative estimate because, due to the site working start and finish times, many workers would be travelling outside of peak network hours.

23.5.40 During all construction work and on any section of road subject to temporary diversions or restrictions imposed by roadworks associated with the Deptford Church Street site, the risk to all road-users would be managed by the contractor(s) in accordance with the provisions made under the Traffic Signs Manual Chapter 8 - Traffic Safety Measures and Signs for Road Works (DfL, 2009)<sup>9</sup>. This will include compliance with the Equality Act 2010 (HM Government 2010)<sup>10</sup> to ensure safe passage for mobility and visually impaired pedestrians.

#### Cycle routes

- 23.5.41 Cyclists using the highway would experience an additional delay to journey time as a result of the construction works at the Deptford Church Street site. The effect on journey times is identified in the TRANSYT and LinSig modelling which is outlined in the highway operation and network assessments.
- 23.5.42 During Phase 2 of construction cyclists travelling the length of Deptford Church Street would experience a decrease in delay of approximately 1 second if travelling north and an increase in delay of 1 second if heading south during the AM peak hour. During the PM peak hour cyclists heading north would experience an increase in delay of 1 second if heading north and an increase of 1 second if heading south.
- 23.5.43 At the junction of Deptford Broadway (A2), Deptford Bridge (A2), Deptford Church Street (A2209) and Brookmill Road during the AM peak hour the greatest change to delay would be an increase of approximately 6 seconds on the Deptford Broadway (A2) ahead movement. During the PM peak hour the greatest change would be an increase of approximately 49 seconds on the Deptford Broadway (A2) ahead and right movement.
- 23.5.44 With regard to accidents and safety, cyclists would not be required to make any additional road crossings as a result of the diversions and lane adjustments along Deptford Church Street (A2209). The additional flow of construction vehicles would be approximately 11 two-way movements per hour and traffic management measures on Deptford Church Street (A2209), when required, would be configured to maintain appropriate traffic lane widths to accommodate cyclists.
- 23.5.45 Measures set out in the *CoCP* described in paras. 23.2.39 and 23.2.40 include increasing driver awareness of restrictions on the road network and marshalling of traffic at the site access. During all construction work and on any section of road subject to temporary diversions or restrictions imposed by roadworks associated with the Deptford Church Street site, the risk to all road-users would be managed by the contractor(s) in accordance with the provisions made under the Traffic Signs Manual Chapter 8 - Traffic Safety Measures and Signs for Road Works (DfL, 2009)<sup>11</sup>. This would include compliance with TfL guidance (Cyclists at Roadworks – Guidance (DfL, 1999)<sup>12</sup>) to ensure safe passage for cyclists.
- 23.5.46 During the construction period, the operation and layout of the road network will change. These changes include the linking of Crossfield and Coffey Street, conversion of Coffey Street and Crossfield Street to one-way working and the narrowing and introduction of a contraflow along

Deptford Church Street (A2209). A minimum carriageway width of either 4m (where HGVs can safely overtake cyclists) or 3.25m (where HGVs cannot overtake cyclists) would be retained for traffic in each direction. Where necessary, carriageway widths of less than 3.25m would be agreed with the LB of Southwark prior to execution of any works.

### **Bus routes and patronage**

- 23.5.47 The number 47 and N47 bus services run to the east of the site along Deptford Church Street (A2209). The bus stops located along Deptford Church Street (A2209) would be temporarily relocated during Phase 2 of construction. Four bus stops would be relocated; the northbound and southbound bus stops along Deptford Church Street (A2209) to the north of the junction with Coffey Street would be moved approximately 50m north of the junction with Bronze Street. To the south of the junction of Deptford Church Street (A2209) and Crossfield Street both the northbound and southbound bus stops would be relocated approximately 60m further south.
- 23.5.48 During Phase 2 of construction, the bus lanes in both the northbound and southbound directions would be temporarily suspended to enable two-way single carriageway working for all traffic using the eastern (southbound) carriageway of Deptford Church Street (A2209).
- 23.5.49 Additional construction vehicles serving the site and the traffic management arrangements along Deptford Church Street (A2209) would affect bus journey times along Deptford Church Street (A2209) and in the wider area. The effect on journey times is detailed in the highway operation and network assessment. During the AM peak hour there would not be an increase to bus journey times if heading north, and buses travelling south would experience an additional 1 second delay. During the PM peak hour there would not be an increase to bus journey times if heading north, and buses heading south would experience an additional 1 second delay.
- 23.5.50 This reduction in journey time is a result of increased green time due to traffic signal optimisation. In the context of the local area and general journey times for bus services, the changes in delay are not considered a significant change for bus users.
- 23.5.51 It is expected that approximately six additional two-way worker trips would be made by bus during the AM and PM peak hours. The area is served by a large number of bus routes with multiple origins and destinations, providing a total of 85 and 87 buses per hour within 640m walking distance during the AM and PM peak hours. On this basis the additional worker trips made by bus in the peak hours would be capable of being accommodated on the base case bus services and would typically be within the normal daily variation in bus patronage on these routes.

### **DLR and patronage**

- 23.5.52 No DLR stations are directly adjacent to the site and therefore none would be directly affected by the construction works. It is estimated that three construction workers and labourers would use DLR services to access the site. This would result in less than one additional person trip per DLR

service during the AM and PM peak hours. This is based on at least 15 services in each direction during the AM and PM peak hours.

- 23.5.53 This would result in an insignificant number of additional passengers on each DLR service in the local area, which could be easily accommodated within existing capacity.

#### National rail and patronage

- 23.5.54 No rail stations are directly adjacent to the site and therefore none would be directly affected by the construction works.

- 23.5.55 It is anticipated that approximately five construction workers and labourers would use National Rail services to access the site which would result in less than one additional person trip on National Rail services in each of the AM and PM peak hours. This is based on a service of 12 arrivals during the AM peak hour and 11 departures during the PM peak hour.

- 23.5.56 This would result in an insignificant number of additional passengers on each National Rail service in the local area, which could be easily accommodated within existing capacity.

#### Parking

- 23.5.57 The construction site would require the temporary restriction of eight on-street parking bays along Coffey Street and the prohibition of uncontrolled parking along part of Crossfield Street during both phases of construction to enable lorries to access and leave the site. Parking would not be restricted on Crossfield Street between the site entrance and the newly created junction of Crossfield and Coffey Street to maintain a supply of parking for services in the local area. Parking would not be provided elsewhere in the local area, as parking occupancy surveys undertaken in July 2011 suggest that there would be ample unused capacity.

- 23.5.58 The highway layout during construction phase plans in the Deptford Church Street *Transport Assessment* figures summarise the proposed suspension and removal of parking bays and informal parking associated with the construction works at the Deptford Church Street site.

- 23.5.59 Parking would be provided for five essential maintenance vehicles within the site. These spaces would not be available for construction worker parking. Measures would be taken for this site to discourage workers from travelling by car, including promoting the use of public transport, walking or cycling through the *Draft Project Framework Travel Plan* and site-specific *Travel Plan*.

- 23.5.60 However, using the 2001 census data, 20 workers could be expected to drive to the Deptford Church Street site per day, as outlined in Table 23.4.4. There is unrestricted parking on several streets in the surrounding area; parking surveys show that there is ample spare capacity, and therefore if workers do drive to the site (despite *Travel Plan* measures) and park in surrounding streets, this would not significantly reduce the availability of car parking in the local area, even allowing for the temporary restriction of parking spaces on Coffey Street and Crossfield Street.

## Highway assessment

### Highway layout

- 23.5.61 The highway layout during construction phase plans are provided in the Deptford Church Street *Transport Assessment* figures and show the highway layout during Phases 1 and 2 of the construction works at the Deptford Church Street site. The site is on the western side of Deptford Church Street (A2209) and would be accessed from the northbound lane via Crossfield Street. Egress from the site would be achieved by turning right onto Coffey Street and then left onto Deptford Church Street (A2209).
- 23.5.62 During both phases of construction Crossfield and Coffey Street would be linked to the west of the site, in order to maintain vehicle access as Coffey Street which would be made one-way (eastbound) only to accommodate the construction works at the Deptford Church Street site. It is not expected that this change to highway layout would have a significant impact on the surrounding highway network.
- 23.5.63 The swept path movement plans are provided in the Deptford Church Street *Transport Assessment* figures and show that the construction vehicles would be able to safely enter and leave the site.

### Highway network

- 23.5.64 Construction lorry movements would be limited to the day shift only (08:00 to 18:00). In exceptional circumstances HGV and abnormal load movements could occur up to 22:00 for large concrete pours and later at night by agreements with the LB of Lewisham and TfL.
- 23.5.65 Table 23.2.4 in Section 23.2 shows the construction lorry movement assumptions for the local peak traffic periods. These are based on the peak months of construction activity at this site. The table also shows the construction worker vehicle movements expected to be generated by the site.
- 23.5.66 Assuming that all construction material at this site is transported by road, an average peak flow of 140 vehicle movements a day is expected during the months of greatest activity during Site Year 1 at this site. At other times in the construction period, vehicle flows would be lower than this average peak figure. Table 23.2.4 shows that in the AM and PM peak periods, the Deptford Church Street site would generate approximately 11 vehicle movements.
- 23.5.67 The *Project-wide TA* explains the method used to assign construction traffic to the HAMs, from which the likely changes in turning movements at local junctions have been identified and added to the construction base case flows.

- 23.5.68 The assignment of construction lorry trips has been undertaken using OmniTrans<sup>iii</sup> software, which enables a fixed assignment to be created for these trips in order to ensure that they are assigned only to the proposed construction routes. The OmniTrans outputs also identify lorry traffic which would be associated with the Deptford Church Street site, or with other Thames Tideway Tunnel project sites, that would use routes in the vicinity of the Deptford Church Street site. Figure 23.5.1 in the Deptford Church Street *Transport Assessment* figures shows the OmniTrans plot for the local road network around the Deptford Church Street site.
- 23.5.69 In addition to the construction HGV movements associated with the Deptford Church Street site, it is anticipated that there would be three two-way HGV movements on this road during each of the peak hours associated with other Thames Tideway Tunnel project sites during Site Year 1 of construction at Deptford Church Street.
- 23.5.70 Changes to the highway network during construction and the additional construction traffic generated by the project may lead to local changes in traffic flow and capacity. Local modelling has been undertaken to assess the effect on the highway operation resulting from the layout changes and construction traffic flows.
- 23.5.71 The local LinSig and TRANSYT models have been used to apply the construction traffic demands and local geometrical changes to the construction base case to determine the changes in the highway network operation due to the project (ie, comparison of base and development cases).
- 23.5.72 The construction development case model includes the optimisation of traffic signal timings in order to maximise capacity and minimise overall delay at the junctions which have been assessed using the LinSig and TRANSYT models.
- 23.5.73 A summary of the construction assessment results for the weekday AM and PM peak hours in Phase 1 of construction for the junctions to the north end of Deptford Church Street (A2209) are presented in Table 23.5.3. Table 23.5.5 and Table 23.5.6 show a summary of the results for construction Phase 2 in the weekday AM and PM peak hours respectively. Table 23.5.7 and Table 23.5.8 show the summary results for the junction of Deptford Church Street (A2209), Deptford Bridge (A2), Brookmill Road (A2210) and Deptford Broadway (A2) for both Phases 1 and 2 of construction in the AM and PM peak hours.

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<sup>iii</sup> OmniTrans is a software package used for multi-modal transport network modelling and in this case has been used to produce assignments of construction traffic across the proposed network of routes to be used for the project.

**Table 23.5.3 – Construction TRANSYT model outputs for the north end of Deptford Church Street (A2209) (AM peak hour) – Phase 1**

Approach	Movement	Flow (PCU)	Weekday										
			DoS					AM peak hour (08:00-09:00)					
			Base case	Devt case	Change	Base case	MMQ (PCU)	Base case	Devt case	Change	Base case	Devt case	Change
<b>Junction of Creek Road (A200) and Deptford Church Street (A2209)</b>													
Creek Road (A200) - westbound	Left	49	31%	31%	0%	1	1	0	48	48	0	48	0
	Left (Buses)	10	31%	31%	0%	1	1	0	48	48	0	48	0
	Ahead (middle lane)	234	65%	63%	-2%	18	18	0	24	23	-1	23	-1
	Ahead (offside lane)	738	65%	63%	-2%	18	18	0	24	23	-1	23	-1
Creek Road (A200) - eastbound	Ahead (nearside lane)	203	21%	21%	0%	3	3	0	7	7	0	7	0
	Ahead (middle lane)	200	21%	21%	0%	3	3	0	7	7	0	7	0
	Right	395	40%	42%	+2%	8	8	0	26	27	+1	27	+1
	Right (Buses)	26	40%	42%	+2%	8	8	0	26	27	+1	27	+1
Deptford Church Street (A2209) - northbound	Left (nearside lane)	72	9%	9%	0%	0	0	0	3	3	0	3	0
	Left (middle lane)	372	25%	23%	-2%	1	1	0	3	4	+1	4	+1

Transport Assessment

Approach	Movement	Flow (PCU)	Weekday									
			AM peak hour (08:00-09:00)									
			DoS			MMQ (PCU)			Delay per PCU (Seconds)			
			Base case	Devt case	Change	Base case	Devt case	Change	Base case	Devt case	Change	
	Right	20	7%	11%	+4%	0	0	0	23	23	0	
			<b>PRC</b>			<b>Total Delay (PCU Hours)</b>						
<b>Overall junction performance</b>			38%	43%	+5%				11.53	11.54	+0.01	
<b>Deptford Church Street (A2209) pedestrian crossing near Coffey Street</b>												
Deptford Church Street (A2209) - northbound	Ahead (nearside lane)	73	8%	8%	0%	0	0	0	10	10	0	
	Ahead (offside lane)	383	44%	43%	-1%	3	2	-1	12	12	0	
Deptford Church Street (A2209) - southbound	Ahead (nearside lane)	36	4%	4%	0%	0	0	0	16	16	0	
	Ahead (offside lane)	445	51%	50%	-1%	4	4	0	16	15	-1	
			<b>PRC</b>			<b>Total Delay (PCU Hours)</b>						
<b>Overall junction performance</b>			76%	80%	+4%				3.58	3.49	-0.09	
<b>Junction of Deptford Church Street (A2209) and Coffey Street</b>												
Deptford Church Street (A2209) -	Ahead	383	20%	20%	0%	0	0	0	1	1	0	
	Ahead / left	73	4%	4%	0%	0	0	0	1	1	0	

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Approach	Movement	Flow (PCU)	Weekday												
			AM peak hour (08:00-09:00)						Delay per PCU (Seconds)						
			DoS		MMQ (PCU)		Delay per PCU (Seconds)		Base case		Dev't case				
Base case	Dev't case	Change	Base case	Dev't case	Change	Base case	Dev't case	Base case	Dev't case	Change					
northbound															
Deptford Church Street (A2209) - southbound	Ahead (nearside lane)	36	2%	2%	0%	0	0	0	0	0	1	1	0	0	
	Ahead (offside lane)	445	22%	23%	+1%	0	0	0	0	1	1	1	0	0	
Coffey Street	Left	48	6%	8%	+2%	0	0	0	0	3	3	0	0	0	
<b>PRC</b>												<b>Total Delay (PCU Hours)</b>			
<b>Overall junction performance</b>			309%	291%	-18%				0.29	0.30	+0.01				
<b>Junction of Deptford Church Street (A2209) and Crossfield Street</b>															
Deptford Church Street (A2209) - northbound	Ahead / left	73	4%	4%	0%	0	0	0	0	1	1	0	0	0	
	Ahead	396	19%	20%	+1%	0	0	0	0	1	1	0	0	0	
Deptford Church Street (A2209) - southbound	Ahead (nearside lane)	36	2%	2%	0%	0	0	0	0	1	1	0	0	0	
	Ahead (offside lane)	445	22%	23%	+1%	0	0	0	0	1	1	0	0	0	
Crossfield Street	Left	24	4%	N/A	N/A	0	0	0	0	3	3	N/A	N/A	N/A	

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Approach	Movement	Flow (PCU)	Weekday								
			AM peak hour (08:00-09:00)				MMQ (PCU)				
			DoS		Change		Base case		Dev't case		Change
		Base case	Dev't case	Base case	Change	Base case	Dev't case	Base case	Dev't case	Change	
			<b>PRC</b>						<b>Total Delay (PCU Hours)</b>		
<b>Overall junction performance</b>			309%	291%	-18%			0.28	0.28	0	
<b>Junction of Deptford Church Street (A2209) and Giffin Street</b>											
Deptford Church Street (A2209) - northbound	Ahead / left	397	48%	48%	0%	6	6	0	18	18	0
	Ahead	376	39%	40%	+1%	6	6	0	17	17	0
Deptford Church Street (A2209) – southbound	Ahead / right	445	47%	48%	+1%	1	1	0	4	4	0
	Ahead	36	4%	4%	0%	0	0	0	2	2	0
Giffin Street	Left / right	47	28%	28%	0%	1	1	0	48	48	0
			<b>PRC</b>						<b>Total Delay (PCU Hours)</b>		
<b>Overall network performance</b>			88%	88%	0%			4.85	4.90	+0.05	

Notes: 1. MMQ represents Mean Maximum Queue (pcu) for the busiest-case 15 minute modelled period. Queue lengths are presented in Passenger Car Units (PCUs) where one pcu represents one vehicle length. DoS represents Degree of Saturation, Delay represents the mean delay per vehicle. PRC represents overall Practical Reserve Capacity. Total delay represents the total delay at the junction. PCU value for a car is one PCU. Vans and three-axle vehicles are 1.5 PCUs, vehicles with four or more axles are 2.3 PCUs. Buses and coaches are two PCUs. Motorcycles and pedal cycles are 0.4 PCUs. Thames Tideway Tunnel construction vehicles would be a mixture of three- and four-axle vehicles and have therefore been given a PCU value of two.

2. Assessment has assumed that traffic signal optimisation has been undertaken as detailed in Section 3 of the TA.

**Table 23.5.4 – Construction TRANSYT model outputs for the north end of Deptford Church Street (A2209) (PM peak hour) – Phase 1**

Approach	Movement	Flow (PCU)	Weekday											
			DoS					PM peak hour (17:00-18:00)						
			Base case	Devt case	Change	Base case	Devt case	Change	Base case	Devt case	Change	Base case	Devt case	Change
<b>Junction of Creek Road (A200) and Deptford Church Street (A2209)</b>														
Creek Road (A200) - westbound	Left	67	24%	25%	+1%	2	2	0	42	42	0	42	42	0
	Left (Buses)	10	24%	25%	+1%	2	2	0	42	42	0	42	42	0
	Ahead (middle lane)	162	51%	51%	0%	11	11	0	15	15	0	15	15	0
	Ahead (offside lane)	310	51%	51%	0%	11	11	0	15	15	0	15	15	0
Creek Road (A200) - eastbound	Ahead (nearside lane)	425	44%	44%	0%	9	9	0	10	10	0	10	10	0
	Ahead (middle lane)	427	44%	44%	0%	9	9	0	10	10	0	10	10	0
	Right	590	44%	44%	0%	13	13	0	23	23	0	23	23	0
	Right (Buses)	68	44%	44%	0%	13	13	0	23	23	0	23	23	0
Deptford Church Street (A2209) - northbound	Left (nearside lane)	50	4%	4%	0%	0	0	0	3	3	0	3	3	0
	Left (middle lane)	521	23%	23%	0%	1	1	0	3	3	0	3	3	0
	Right	100	31%	33%	+2%	2	2	0	19	19	0	19	19	0

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Approach		Movement		Flow (PCU)		Weekday								
						PM peak hour (17:00-18:00)								
						DoS		MMQ (PCU)		Delay per PCU (Seconds)				
Base case	Devt case	Change	Base case	Devt case	Change	Base case	Devt case	Change	Base case	Devt case	Change			
<b>Overall junction performance</b>						76%	76%	0%				13.04	13.19	+0.15
<b>Deptford Church Street (A2209) pedestrian crossing near Coffey Street</b>														
Deptford Church Street (A2209) - northbound	Ahead (nearside lane)	49	3%	3%	0%	0	0	0	0	0	1	1	0	
	Ahead (offside lane)	594	36%	37%	+1%	0	0	0	0	2	2	2	0	
Deptford Church Street (A2209) - southbound	Ahead (nearside lane)	78	5%	5%	0%	0	0	0	0	1	1	1	0	
	Ahead (offside lane)	657	40%	41%	+1%	1	1	0	0	2	2	2	0	
<b>Overall junction performance</b>						125%	120%	-5%				0.72	0.73	+0.01
<b>Junction of Deptford Church Street (A2209) and Coffey Street</b>														
Deptford Church Street (A2209) - northbound	Ahead	594	30%	31%	+1%	7	7	0	0	1	1	1	0	
	Ahead / left	49	2%	2%	0%	0	0	0	0	1	1	1	0	
Deptford	Ahead (nearside)	78	4%	4%	0%	0	0	0	0	1	1	1	0	

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Approach		Movement	Flow (PCU)	Weekday													
				PM peak hour (17:00-18:00)						MMQ (PCU)				Delay per PCU (Seconds)			
				DoS		Change		Base case		Dev't case		Change		Base case		Dev't case	
		Base case	Dev't case	Change	Base case	Dev't case	Change	Base case	Dev't case	Change	Base case	Dev't case	Change	Base case	Dev't case		
Church Street (A2209) - southbound	lane)	Ahead (offside lane)	657	33%	33%	0%	0	0	0	0	2	2	0	0	0	0	
Coffey Street	Left	Left	50	7%	9%	+2%	0	0	0	0	3	3	0	0	0	0	
				<b>PRC</b>													
<b>Overall junction performance</b>				173%	173%	0%					0.59	0.61			+0.02		
<b>Junction of Deptford Church Street (A2209) and Crossfield Street</b>																	
Deptford Church Street (A2209) - northbound	Ahead / left	Ahead	49	3%	3%	0%	0	0	0	0	1	1	0	0	0	0	
Deptford Church Street (A2209) - southbound	Ahead (nearside lane)	Ahead (offside lane)	78	4%	4%	0%	0	0	0	0	1	1	0	0	0	0	
Crossfield Street	Left	Left	10	2%	2%	0%	0	0	0	0	3	3	0	0	0	0	
				<b>PRC</b>													
<b>Total Delay (PCU Hours)</b>																<b>Total Delay (PCU Hours)</b>	

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Approach		Movement		Flow (PCU)		Weekday									
						PM peak hour (17:00-18:00)				MMQ (PCU)					
						DoS		Change		Base case		Dev't case		Change	
Base case	Dev't case	Base case	Change	Base case	Dev't case	Base case	Dev't case	Base case	Dev't case	Base case	Dev't case	Change			
<b>Overall junction performance</b>						173%	173%	0%					0.86	0.88	+0.02
<b>Junction of Deptford Church Street (A2209) and Giffin Street</b>															
Deptford Church Street (A2209) - northbound	Ahead / left	311	50%	50%	0%	7	7	0	30	30	0	30	30	0	0
	Ahead	328	46%	47%	+1%	7	7	0	29	29	0	29	29	0	0
Deptford Church Street (A2209) - southbound	Ahead / right	657	94%	95%	+1%	11	12	+1	47	47	+4	51	51	+4	+4
	Ahead	78	11%	11%	0%	1	1	0	17	17	0	17	17	0	0
Giffin Street	Left / right	487	94%	99%	+5%	18	23	+5	78	78	+30	108	108	+30	+30
<b>Overall junction performance</b>						-4%	-10%	-6%					24.05	29.52	+5.47
						<b>PRC</b>						<b>Total Delay (PCU Hours)</b>			

Notes: 1. MMQ represents Mean Maximum Queue (pcu) for the busiest-case 15 minute modelled period. Queue lengths are presented in Passenger Car Units (PCUs) where one pcu represents one vehicle length. DoS represents Degree of Saturation, Delay represents the mean delay per vehicle. PRC represents overall Practical Reserve Capacity. Total delay represents the total delay at the junction. PCU value for a car is one PCU. Vans and three-axle vehicles are 1.5 PCUs, vehicles with four or more axles are 2.3 PCUs. Buses and coaches are two PCUs. Motorcycles and pedal cycles are 0.4 PCUs. Thames Tideway Tunnel construction vehicles would be a mixture of three- and four-axle vehicles and have therefore been given a PCU value of two.

2. Assessment has assumed that traffic signal optimisation has been undertaken as detailed in Section 3 of the TA.

**Table 23.5.5 – Construction TRANSYT model outputs for the north end of Deptford Church Street (A2209) (AM peak hour) – Phase 2**

Approach	Movement	Flow (PCU)	Weekday														
			DoS					MMQ (PCU)					AM peak hour (08:00-09:00)				
			Base case	Devt case	Change	Base case	Devt case	Change	Base case	Devt case	Change	Base case	Devt case	Change			
<b>Junction of Creek Road (A200) and Deptford Church Street (A2209)</b>																	
Creek Road (A200) - westbound	Left	50	31%	32%	+1%	1	1	0	48	48	0	48	48	0			
	Left (Buses)	10	31%	32%	+1%	1	1	0	48	48	0	48	48	0			
	Ahead (middle lane)	236	65%	68%	+3%	18	19	+1	24	25	+1	25	25	+1			
	Ahead (offside lane)	738	65%	68%	+3%	18	19	+1	24	25	+1	25	25	+1			
	Ahead (nearside lane)	203	21%	21%	0%	3	3	0	7	7	0	7	7	0			
Creek Road (A200) - eastbound	Ahead (middle lane)	200	21%	21%	0%	3	3	.0	7	7	0	7	7	0			
	Right	395	40%	38%	+2%	8	8	0	26	25	+1	25	25	+1			
	Right (Buses)	26	40%	38%	+2%	8	8	0	26	25	+1	25	25	+1			
Deptford Church Street (A2209) - northbound	Left (nearside lane)	73	9%	9%	0%	0	0	0	3	2	-1	2	2	-1			
	Left (middle lane)	382	25%	23%	+2%	1	0	-1	3	1	-2	3	1	-2			
	Right	20	7%	11%	+4%	0	0	0	23	24	+1	24	24	+1			
<b>PRC</b>																	
<b>Overall junction performance</b>			38%	32%	-6%						<b>Total Delay (PCU Hours)</b>	11.53	0.02	+7.97			

Approach	Movement	Flow (PCU)	Weekday									
			DoS					MMQ (PCU)				
			Base case	Devt case	Change	Base case	Devt case	Change	Base case	Devt case	Change	Base case
<b>Deptford Church Street (A2209) pedestrian crossing near Coffey Street</b>												
Deptford Church Street (A2209) - northbound	Ahead (nearside lane)	N/A	8%	N/A	N/A	0	N/A	N/A	N/A	10	N/A	N/A
	Ahead (offside lane)	476	44%	-40%	3	0	-3	2	-10			
	Ahead (nearside lane)	36	4%	0%	0	0	0	15	-1			
Deptford Church Street (A2209) - southbound	Ahead (offside lane)	395	51%	-5%	4	3	-1	15	-1			
	<b>PRC</b>											
<b>Overall junction performance</b>			76%	64%	-12%			3.58	3.91	+0.33		
<b>Junction of Deptford Church Street (A2209) and Coffey Street</b>												
Deptford Church Street (A2209) - northbound	Ahead	N/A	20%	N/A	0	N/A	N/A	1	N/A	N/A		
	Ahead / left*	404	4%	+17%	0	0	0	1	1	0		
Deptford Church Street (A2209) - southbound	Ahead (nearside lane)	N/A	2%	N/A	0	N/A	N/A	1	N/A	N/A		
	Ahead (offside lane)	481	22%	+2%	0	0	0	1	1	0		
Coffey Street	Left	72	6%	+5%	0	0	0	3	3	0		
<b>PRC</b>												<b>Total Delay (PCU Hours)</b>

Approach		Movement		Flow (PCU)		Weekday									
						AM peak hour (08:00-09:00)									
						DoS		MMQ (PCU)			Delay per PCU (Seconds)				
		Base case	Devt case	Change	Base case	Devt case	Change	Base case	Devt case	Change	Base case	Devt case	Change		
<b>Overall junction performance</b>		309%	275%	-34%							0.29	0.31	+0.02		
<b>Junction of Deptford Church Street (A2209) and Crossfield Street</b>															
Deptford Church Street (A2209) - northbound	Ahead / left*	4%	24%	+20%	0	4	+4	1	1	0					
	Ahead**	19%	N/A	N/A	0	N/A	N/A	1	N/A	N/A					
Deptford Church Street (A2209) - southbound	Ahead (nearside lane)	2%	N/A	N/A	0	N/A	N/A	1	N/A	N/A					
	Ahead (offside lane)	22%	24%	+2%	0	5	+5	1	1	0					
Crossfield Street	Left	4%	N/A	N/A	0	N/A	N/A	3	N/A	N/A					
<b>PRC</b>															
<b>Overall junction performance</b>		309%	275%	-34%							0.28	0.13	-0.15		
<b>Junction of Deptford Church Street (A2209) and Giffin Street</b>															
Deptford Church Street (A2209) - northbound	Ahead / left	48%	48%	0%	6	6	0	18	18	0					
	Ahead	39%	40%	+1%	6	6	0	17	17	0					
Deptford Church	Ahead / right	47%	48%	+1%	1	1	0	4	4	0					

Approach	Movement	Flow (PCU)	Weekday									
			AM peak hour (08:00-09:00)									
			DoS			MMQ (PCU)			Delay per PCU (Seconds)			
Base case	Devt case	Change	Base case	Devt case	Change	Base case	Devt case	Change	Base case	Devt case	Change	
Street (A2209) – southbound	Ahead	36	4%	4%	0%	0	0	0	2	3	+1	
Giffin Street	Left / right	47	28%	28%	0%	1	1	0	48	48	0	
<b>Overall network performance</b>			<b>PRC</b>						<b>Total Delay (PCU Hours)</b>			
			88%	88%	0%				4.85	4.91	+0.06	

Notes: 1. MMQ represents Mean Maximum Queue (pcu) for the busiest-case 15 minute modelled period. Queue lengths are presented in Passenger Car Units (PCUs) where one pcu represents one vehicle length. DoS represents Degree of Saturation, Delay represents the mean delay per vehicle. PRC represents overall Practical Reserve Capacity. Total delay represents the total delay at the junction. PCU value for a car is one PCU. Vans and three-axle vehicles are 1.5 PCUs, vehicles with four or more axles are 2.3 PCUs. Buses and coaches are two PCUs. Motorcycles and pedal cycles are 0.4 PCUs. Thames Tideway Tunnel construction vehicles would be a mixture of three- and four-axle vehicles and have therefore been given a PCU value of two.

2. Assessment has assumed that traffic signal optimisation has been undertaken as detailed in Section 3 of the TA.

\* In the construction base case, it is ahead and left movement, in the construction development case, it is ahead only.

\*\* In the construction base case, it is ahead only, in the construction development case, it is left only.

**Table 23.5.6 – Construction TRANSYT model outputs for the north end of Deptford Church Street (A2209) (PM peak hour) – Phase 2**

Approach	Movement	Flow	Weekday											
			DoS					MMQ (vehicles)					Delay (seconds)	
			Base case	Devt case	Change	Base case	Devt case	Change	Base case	Devt case	Change	Base case	Devt case	
<b>Junction of Creek Road (A200) and Deptford Church Street (A2209)</b>														
Creek Road (A200) - westbound	Left	162	24%	56%	+32%	2	12	+10	42	50	+8			
	Left (Buses)	10	24%	33%	+9%	2	2	0	42	50	+8			
	Ahead (middle lane)	162	51%	56%	+5%	11	12	+1	36	38	+2			
	Ahead (offside lane)	307	51%	56%	+5%	11	12	+1	36	38	+2			
	Ahead (nearside lane)	427	44%	41%	-3%	9	7	-2	10	8	-2			
Creek Road (A200) - eastbound	Ahead (middle lane)	425	44%	41%	-3%	9	7	-2	10	8	-2			
	Right	590	44%	38%	-6%	13	12	-1	23	6	-17			
	Right (Buses)	68	44%	38%	-6%	13	12	-1	23	6	-17			
Deptford Church Street (A2209) - northbound	Left (nearside lane)	50	4%	4%	0%	0	0	0	3	2	-1			
	Left (middle lane)	522	23%	22%	-1%	1	0	-1	3	2	-1			
	Right	101	31%	45%	+14%	2	3	+1	19	31	+12			

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Approach		Movement		Flow		Weekday									
						PM peak hour (17:00-18:00)									
						DoS					MMQ (vehicles)				
						Base case	Devt case	Change	Base case	Devt case	Change	Base case	Devt case	Change	
						<b>PRC</b>									
<b>Overall junction performance</b>						76%	61%	-15%				13.04	13.17	+0.13	
<b>Deptford Church Street (A2209) pedestrian crossing near Coffey Street</b>															
Deptford Church Street (A2209) - northbound	Ahead (nearside lane)	N/A	3%	N/A	N/A	0	N/A	N/A	1	N/A	N/A	1	N/A	N/A	
	Ahead (offside lane)	671	36%	41%	+5%	0	1	+1	2	2	0	2	2	0	
Deptford Church Street (A2209) - southbound	Ahead (nearside lane)	78	5%	5%	0%	0	0	0	1	2	0	2	2	+1	
	Ahead (offside lane)	657	40%	41%	+1%	1	9	+8	2	2	0	2	2	0	
						<b>PRC</b>									
<b>Overall junction performance</b>						125%	120%	-5%				0.72	0.96	+0.24	
<b>Junction of Deptford Church Street (A2209) and Coffey Street</b>															
Deptford Church Street (A2209) - northbound	Ahead	N/A	30%	N/A	N/A	7	N/A	N/A	1	N/A	N/A	1	N/A	N/A	
	Ahead / left*	621	2%	32%	+30%	0	0	0	1	1	0	1	1	0	

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Approach	Movement	Flow	Weekday									
			PM peak hour (17:00-18:00)									
			DoS			MMQ (vehicles)			Delay (seconds)			
			Base case	Devt case	Change	Base case	Devt case	Change	Base case	Devt case	Change	
Deptford Church Street (A2209) - southbound	Ahead (nearside lane)	N/A	4%	N/A	N/A	0	N/A	N/A	1	N/A	N/A	
	Ahead (offside lane)	735	33%	37%	+4%	0	11	+11	2	2	0	
Coffey Street	Left	50	7%	9%	+2%	0	0	0	3	3	0	
			<b>PRC</b>						<b>Total Delay (PCU Hours)</b>			
<b>Overall junction performance</b>			173%	143%	-30%				0.59	0.62	+0.03	
<b>Junction of Deptford Church Street (A2209) and Crossfield Street</b>												
Deptford Church Street (A2209) - northbound	Ahead / left*	633	3%	32%	+29%	0	13	+13	1	2	+1	
	Ahead**	N/A	29%	N/A	N/A	12	N/A	N/A	4	N/A	N/A	
Deptford Church Street (A2209) - southbound	Ahead (nearside lane)	N/A	4%	N/A	N/A	0	N/A	N/A	1	N/A	N/A	
	Ahead (offside lane)	735	33%	37%	+4%	0	11	+11	1	2	+1	
Crossfield Street	Left	N/A	2%	N/A	N/A	0	N/A	N/A	3	N/A	N/A	

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Approach		Movement		Flow		Weekday							
						PM peak hour (17:00-18:00)							
						DoS				MMQ (vehicles)			
		Base case	Devt case	Change	Base case	Devt case	Change	Base case	Devt case	Change	Base case	Devt case	
		PRC								Total Delay (PCU Hours)			
<b>Overall junction performance</b>		173%	143%	-30%	0.86	0.76			+0.10				
<b>Junction of Deptford Church Street (A2209) and Giffin Street</b>													
Deptford Church Street (A2209) - northbound	Ahead / left	311	50%	0%	7	7	0	30	30	0			
	Ahead	328	46%	+1%	7	7	0	29	29	0			
Deptford Church Street (A2209) - southbound	Ahead / right	657	94%	+1%	11	15	+4	47	56	+9			
	Ahead	78	11%	0%	1	1	0	17	21	+4			
Giffin Street	Left / right	487	94%	+5%	18	23	+5	78	108	+30			
		PRC								Total Delay (PCU Hours)			
<b>Overall junction performance</b>		-4%	-10%	-6%	24.05	30.52			+6.47				

Notes: 1. MMQ represents Mean Maximum Queue (pcu) for the busiest-case 15 minute modelled period. Queue lengths are presented in Passenger Car Units (PCUs) where one pcu represents one vehicle length. DoS represents Degree of Saturation, Delay represents the mean delay per vehicle. PRC represents overall Practical Reserve Capacity. Total delay represents the total delay at the junction. PCU value for a car is one PCU. Vans and three-axle vehicles are 1.5 PCUs, vehicles with four or more axles are 2.3 PCUs. Buses and coaches are two PCUs. Motorcycles and pedal cycles are 0.4 PCUs. Thames Tideway Tunnel construction vehicles would be a mixture of three- and four-axle vehicles and have therefore been given a PCU value of two.

2. Assessment has assumed that traffic signal optimisation has been undertaken as detailed in Section 3 of the TA.  
 \* In the construction base case, it is ahead and left movement, in the construction development case, it is ahead only.  
 \*\* In the construction base case, it is ahead only, in the construction development case, it is left only.

**Table 23.5.7 – Construction LinSig model outputs for the Deptford Bridge (A2)/Deptford Church Street (A2209)/Deptford Broadway (A2)/Brookmill Road (A2210) junction (AM peak hour) – Phase 1 and 2**

Approach	Movement	Flow	Weekday											
			DoS						AM peak hour (08:00-09:00)					
			Base case	Dev't case	Change	Base case	MMQ (vehicles)	Change	Base case	Dev't case	Change	Base case	Dev't case	Change
Deptford Church Street (A2209) - southbound	Left	276	19%	19%	0%	1	1	0	7	7	0	7	7	0
	Ahead / right	330	64%	64%	0%	7	7	0	35	35	0	35	35	0
Deptford Bridge (A2)	Ahead / left	610	80%	78%	-2%	13	12	-1	32	31	-1	32	31	-1
	Ahead / right	859	81%	84%	+3%	10	11	+1	32	33	+1	32	33	+1
Brookmill Road (A2210)	Ahead / left / right	493	82%	82%	0%	12	12	0	41	41	0	41	41	0
Deptford Broadway (A2)	Ahead (nearside lane)	243	67%	74%	+7%	6	6	0	45	51	0	45	51	+6
	Ahead (middle lane)	280	71%	76%	+5%	7	7	0	46	51	0	46	51	+5
	Ahead Right	356	76%	80%	+4%	7	7	0	47	52	0	47	52	+5
	Left	127	23%	23%	0%	0	1	+1	4	4	+1	4	4	0

Overall junction performance	PRC			Total delay (seconds)	
	10%	7.2%	-2.8%	33.50	35.34

Notes: 1. MMQ represents Mean Maximum Queue (pcu) for the busiest-case 15 minute modelled period. Queue lengths are presented in Passenger Car Units (PCUs) where one pcu represents one vehicle length. DoS represents Degree of Saturation, Delay represents the mean delay per vehicle. PRC represents overall Practical Reserve Capacity. Total delay represents the total delay at the junction. PCU value for a car is one PCU. Vans and three-axle vehicles are 1.5 PCUs, vehicles with four or more axles are 2.3 PCUs. Buses and coaches are two PCUs. Motorcycles and pedal cycles are 0.4 PCUs. Thames Tideway Tunnel construction vehicles would be a mixture of three- and four-axle vehicles and have therefore been given a PCU value of two.

2. Assessment has assumed that traffic signal optimisation has been undertaken as detailed in Section 3 of the TA.

**Table 23.5.8 – Construction LinSig model outputs for the Deptford Bridge (A2)/Deptford Church Street (A2209)/Deptford Broadway (A2)/Brookmill Road (A2210) junction (PM peak hour) – Phase 1 and 2**

Approach	Movement	Flow	Weekday									
			PM peak hour (17:00-18:00)									
			DoS			MMQ (vehicles)			Delay (seconds)			
Base case	Devt case	Change	Base case	Devt case	Change	Base case	Devt case	Change	Base case	Devt case	Change	
Deptford Church Street (A2209) - southbound	Left	386	32%	33%	+1%	3	3	0	12	14	+2	
	Ahead / right	398	72%	79%	+7%	10	11	+1	40	47	+7	
Deptford Bridge (A2)	Ahead / left	739	81%	87%	+6%	10	13	+3	28	30	+2	
	Ahead / right	400	81%	82%	+1%	9	9	0	39	48	+9	
Brookmill Road (A2210)	Ahead / left / right	462	81%	88%	+7%	13	14	+1	44	57	+13	
Deptford	Ahead (nearside)	455	64%	73%	+9%	8	11	+3	37	37	0	



- 23.5.74 In construction Phase 1, the construction traffic generated in the construction development case would produce an increase in demand at all the modelled junctions and the Deptford Church Street (A2209) pedestrian crossing to the south of Coffey Street. In the AM peak hour, the maximum increase in delay of one second per vehicle over that in the construction base case would be experienced by vehicles using the Creek Road (A200) eastbound right and Deptford Church Street (A2209) north middle lane movements.
- 23.5.75 In the PM peak hour, the maximum increase to delay would be 30 seconds per vehicle at the left and right turn movement of Giffin Street.
- 23.5.76 The construction traffic and highway layout changes in the construction development case Phase 2 would produce a change in vehicle movements and operation of the junctions. The overall performance of the modelled junctions and the Deptford Church Street (A2209) pedestrian crossing to the south of Coffey Street would deteriorate in the AM and PM peak hours.
- 23.5.77 The Phase 2 construction development case model indicates that the additional road network delay during the AM peak hour as a result of the additional construction traffic and the highway layout changes would be a maximum of one second on the Creek Road (A200) westbound ahead movements, Creek Road (A200) eastbound right movements, Deptford Church Street (A2209) northbound right movement and the Deptford Church Street (A2209) southbound ahead movement at the junction with Giffin Street.
- 23.5.78 In the PM peak hour, the maximum increase to delay would be 30 seconds per vehicle at the left and right turn movement of Giffin Street.
- 23.5.79 At the junction of Deptford Broadway (A2), Deptford Bridge (A2), Deptford Church Street (A2209) and Brookmill Road there would be a maximum increase of approximately six seconds at the Deptford Broadway (A2) ahead nearside lane movement during the AM peak hour. During the PM peak hour there would be a maximum increase of approximately 49 seconds on the Deptford Broadway (A2) ahead and right movement.
- 23.5.80 Overall the increases in delay would be minimal and are not expected to have any significant impact on operation of the local highway network or the TLRN in particular.

### **Construction mitigation**

- 23.5.81 The project has been designed to limit the issues arising on transport networks as far as possible and many measures have been embedded directly in the design of the project. These are summarised in Table 23.5.9.

**Table 23.5.9 – Deptford Church Street design measures**

Phase	Issues	Design measures
Construction	Creating site access points	<ul style="list-style-type: none"> <li>• Creation of two new gated access points to allow right turn in from Crossfield Street and right turn out on to Coffey Street.</li> </ul>
	Closure of footways	<ul style="list-style-type: none"> <li>• Diversion of pedestrians from the western footway of Deptford Church Street (A2209) on to eastern footway during phase 2 of construction</li> <li>• Diversion would be adequately signed</li> </ul>
	Closure of northbound carriageway of Deptford Church Street (A2209) and creation of contraflow along southbound carriageway during Phase 2 of construction	<ul style="list-style-type: none"> <li>• Maintaining two-way traffic along Deptford Church Street (A2209)</li> <li>• Maintaining minimum lane widths of 3.25m in each direction</li> <li>• Temporary closure of existing signalised pedestrian crossing and relocation to the north of Bronze Street</li> <li>• Temporary removal of white lining and provision of new white lining and road markings as appropriate</li> <li>• Temporary closure and relocation of bus stops to accommodate temporary highway layout</li> </ul>
	Movement of construction traffic flows on the local highway network	<ul style="list-style-type: none"> <li>• Temporary introduction of one way working along Crossfield Street and Coffey Street to minimise conflict with construction vehicles during both phases of construction</li> <li>• Temporary linking of Crossfield Street and Coffey Street to accommodate one-way operation and to maintain access to adjacent properties</li> <li>• Traffic signal optimisation at the junctions along Deptford Church Street (A2209) to achieve the most efficient operation of the junctions</li> </ul>
	Creation of temporary fire assembly point for St. Joseph's RC	<ul style="list-style-type: none"> <li>• Temporary alteration of highway layout to accommodate temporary fire assembly point</li> </ul>

Phase	Issues	Design measures
	Primary School	<ul style="list-style-type: none"> <li>• Provision of appropriate signage</li> </ul>
Operation	Creating site access point	<ul style="list-style-type: none"> <li>• Provision of new dropped kerb access point, including traffic management (removable bollard or similar) for maintenance vehicles</li> <li>• To accommodate ten yearly maintenance vehicles - architect to advice on finishes / material</li> </ul>

23.5.82 The assessment particularly identifies increases in journey time and delay for pedestrians as a consequence of the diversions that would be necessary during construction at the Deptford Church Street site. Pedestrians would be able to avoid crossing Deptford Church Street (A2209) twice by walking around western edge of the site. However, further physical mitigation of the issues, beyond the measures embedded within the design, is not possible because there are no alternative or shorter diversion routes available within the local area.

**Sensitivity testing**

23.5.83 The assessment outcomes reported earlier are based on the *Transport Strategy*, as outlined in section 23.2. In that scenario, the number of construction vehicles generated by Deptford Church Street site in the peak year of construction would be approximately 11 vehicles in the AM and PM peak hours respectively which would use the junctions detailed in para. 23.4.104.

23.5.84 All materials at this site would be transported by road. However, given the proximity of this site to Chambers Wharf, at which river transport would be used, a sensitivity test has been undertaken to examine the implications of river transport being unavailable at Chambers Wharf for short periods of time, which could temporarily increase vehicle movements along Deptford Church Street (A2209). If construction materials were all transported by road at all sites, there would be ten vehicles per hour associated with other sites that would use Deptford Church Street (A2209) and the adjacent highway network in the AM and PM peak hours, compared to three in the *Transport Strategy*.

23.5.85 A summary of the construction assessment results from the TRANSYT and LinSig models for the junctions listed in para. 23.4.104 using the sensitivity test figures is presented in Table 23.5.10, Table 23.5.11, Table 23.5.12, and Table 23.5.13. As the Phase 2 highway layout presents the most onerous test, only the modelling results for this phase have been included.

**Table 23.5.10 – Construction LinSig model outputs for the north end of Deptford Church Street (A2209) (AM peak hour) – Phase 2, Sensitivity Test**

Approach	Movement	Flow (PCU)	Weekday											
			AM peak hour (08:00-09:00)					MMQ (PCU)					Delay per PCU (Seconds)	
			Base case	Sensitivity test	Change	Base case	Sensitivity test	Change	Base case	Sensitivity test	Change	Base case	Sensitivity test	Change
<b>Junction of Creek Road (A200) and Deptford Church Street (A2209)</b>														
Creek Road (A200) - westbound	Left	51	31%	26%	-5%	1	1	0	48	42	-6			
	Left (Buses)	10	31%	26%	-5%	1	1	0	48	42	-6			
	Ahead (middle lane)	236	65%	68%	+3%	18	19	+1	24	25	+1			
	Ahead (offside lane)	738	65%	68%	+3%	18	19	+1	24	25	+1			
	Ahead (nearside lane)	205	21%	22%	+1%	3	3	0	7	8	+1			
	Ahead (middle lane)	200	21%	22%	+1%	3	3	0	7	8	+1			
Creek Road (A200) - eastbound	Right	409	40%	43%	+3%	8	8	0	26	27	+1			
	Right (Buses)	26	40%	43%	+3%	8	8	0	26	27	+1			

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		Weekday									
		AM peak hour (08:00-09:00)									
Approach	Movement	Flow (PCU)	DoS			MMQ (PCU)			Delay per PCU (Seconds)		
			Base case	Sensitivity test	Change	Base case	Sensitivity test	Change	Base case	Sensitivity test	Change
Deptford Church Street (A2209) - northbound	Left (nearside lane)	73	9%	9%	0%	0	0	0	3	3	0
	Left (middle lane)	396	25%	23%	-2%	1	0	-1	3	2	-1
	Right	27	7%	12%	+5%	0	0	0	23	19	-4
			<b>PRC</b>						<b>Total Delay (PCU Hours)</b>		
<b>Overall junction performance</b>			38%	32%	-6%				11.53	12.06	0.53
<b>Deptford Church Street (A2209) pedestrian crossing near Coffey Street</b>											
Deptford Church Street (A2209) - northbound	Ahead (nearside lane)	N/A	8%	N/A	N/A	0	N/A	N/A	10	N/A	N/A
	Ahead (offside lane)	496	44%	56%	+12%	3	4	+1	12	16	+4
Deptford Church Street (A2209) - southbound	Ahead (nearside lane)	36	4%	4%	0%	0	0	0	16	18	+2
	Ahead (offside)	460	51%	52%	+1%	4	6	+2	16	17	+1



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		Weekday									
		AM peak hour (08:00-09:00)									
Approach	Movement	Flow (PCU)	DoS			MMQ (PCU)			Delay per PCU (Seconds)		
			Base case	Sensitivity test	Change	Base case	Sensitivity test	Change	Base case	Sensitivity test	Change
Deptford Church Street (A2209) - northbound	Ahead / left*	508	4%	26%	+22%	0	5	+5	1	1	0
	Ahead**	N/A	19%	N/A	N/A	0	N/A	N/A	N/A	N/A	N/A
Deptford Church Street (A2209) - southbound	Ahead (nearside lane)	N/A	2%	N/A	N/A	0	N/A	N/A	1	N/A	N/A
	Ahead (offside lane)	496	22%	25%	+3%	0	5	+5	1	1	0
Crossfield Street	Left	N/A	4%	N/A	N/A	0	N/A	N/A	3	N/A	N/A
			<b>PRC</b>						<b>Total Delay (PCU Hours)</b>		
<b>Overall junction performance</b>			309%	246%	-63%				0.28	0.28	0
<b>Junction of Deptford Church Street (A2209) and Giffin Street</b>											
Deptford Church Street (A2209) -	Ahead / left	397	41%	48%	+7%	6	6	0	18	18	0
	Ahead	415	39%	44%	+83%	6	7	+1	17	17	0

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		Weekday											
		AM peak hour (08:00-09:00)											
Approach	Movement	Flow (PCU)	DoS			MMQ (PCU)			Delay per PCU (Seconds)				
			Base case	Sensitivity test	Change	Base case	Sensitivity test	Change	Base case	Sensitivity test	Change		
northbound													
Deptford Church Street (A2209) – southbound	Ahead / right	460	47%	49%	+2%	1	0	-1	4	3	-1		
	Ahead	36	4%	4%	0%	0	0	0	2	3	+1		
Giffin Street	Left / right	47	28%	28%	0%	1	1	0	48	48	0		
		<b>PRC</b>						<b>Total Delay (PCU Hours)</b>					
<b>Overall network performance</b>			88%	84%	-4%				4.85	5.24	+0.39		

Notes: 1. MMQ represents Mean Maximum Queue (pcu) for the busiest-case 15 minute modelled period. Queue lengths are presented in Passenger Car Units (PCUs) where one pcu represents one vehicle length. DoS represents Degree of Saturation, Delay represents the mean delay per vehicle. PRC represents overall Practical Reserve Capacity. Total delay represents the total delay at the junction. PCU value for a car is one PCU. Vans and three-axle vehicles are 1.5 PCUs, vehicles with four or more axles are 2.3 PCUs. Buses and coaches are two PCUs. Motorcycles and pedal cycles are 0.4 PCUs. Thames Tideway Tunnel construction vehicles would be a mixture of three- and four-axle vehicles and have therefore been given a PCU value of two.

2. Assessment has assumed that traffic signal optimisation has been undertaken as detailed in Section 3 of the TA.

\* In the construction base case, it is ahead and left movement, in the construction development case, it is ahead only.

\*\* In the construction base case, it is ahead only, in the construction development case, it is left only.

**Table 23.5.11 – Construction LinSig model outputs for the north end of Deptford Church Street (A2209) (PM peak hour) – Phase 2, Sensitivity Test**

Approach	Movement	Flow (PCU)	Weekday														
			DoS					MMQ (PCU)					PM peak hour (17:00-18:00)				
			Base case	Sensitivity test	Change	Base case	Sensitivity test	Base case	Sensitivity test	Change	Base case	Sensitivity test	Change	Base case	Sensitivity test	Change	
<b>Junction of Creek Road (A200) and Deptford Church Street (A2209)</b>																	
Creek Road (A200) - westbound	Left	69	24%	22%	-2%	2	2	0	42	40	-2						
	Left (Buses)	10	24%	22%	-2%	2	2	0	42	40	-2						
	Ahead (middle lane)	162	51%	56%	+5%	11	12	+1	36	38	+2						
	Ahead (offside lane)	307	51%	56%	+5%	11	12	+1	36	38	+2						
Creek Road (A200) - eastbound	Ahead (nearside lane)	427	44%	52%	+8%	9	11	+2	10	15	+5						
	Ahead (middle lane)	527	44%	52%	+8%	9	11	+2	10	15	+5						
	Right	603	44%	45%	+1%	13	13	0	23	23	0						
	Right (Buses)	68	44%	45%	+1%	13	13	0	23	23	0						
Deptford Church Street	Left (nearside lane)	48	4%	4%	0%	0	0	0	3	3	0						

Transport Assessment

Approach		Movement	Flow (PCU)	Weekday									
				PM peak hour (17:00-18:00)									
				DoS			MMQ (PCU)			Delay per PCU (seconds)			
		Base case	Sensitivity test	Change	Base case	Sensitivity test	Change	Base case	Sensitivity test	Change			
(A2209) - northbound		Left (middle lane)	535	23%	23%	0%	1	1	0	3	2	-1	
		Right	128	31%	38%	+7%	2	3	+1	19	20	+1	
				<b>PRC</b>			<b>Total Delay (PCU Hours)</b>						
<b>Overall junction performance</b>				76%	61%	-15%					13.04	14.08	+1.04
<b>Deptford Church Street (A2209) pedestrian crossing near Coffey Street</b>													
Deptford Church Street (A2209) - northbound		Ahead (nearside lane)	N/A	3%	N/A	N/A	0	N/A	N/A	1	N/A	N/A	
		Ahead (offside lane)	711	36%	45%	+81%	0	8	+8	2	2	0	
Deptford Church Street (A2209) - southbound		Ahead (nearside lane)	78	5%	5%	0%	0	0	0	1	1	0	
		Ahead (offside lane)	672	40%	43%	+3%	1	11	+10	2	3	+1	
				<b>PRC</b>			<b>Total Delay (PCU Hours)</b>						
<b>Overall junction performance</b>				125%	100%	-25%					0.72	0.98	+0.25
<b>Junction of Deptford Church Street (A2209) and Coffey Street</b>													

Transport Assessment

Approach		Movement	Flow (PCU)	Weekday									
				PM peak hour (17:00-18:00)									
				DoS			MMQ (PCU)			Delay per PCU (seconds)			
Base case	Sensitivity test	Change	Base case	Sensitivity test	Change	Base case	Sensitivity test	Change	Base case	Sensitivity test	Change		
Deptford Church Street (A2209) - northbound	Ahead	N/A	N/A	30%	N/A	N/A	7	N/A	N/A	1	N/A	N/A	
	Ahead / left*	632	+31%	2%	33%		0	0	0	1	1	0	
Deptford Church Street (A2209) - southbound	Ahead (nearside lane)	N/A	N/A	4%	N/A	N/A	0	N/A	N/A	1	N/A	N/A	
	Ahead (offside lane)	750	+5%	33%	38%		0	13	+13	2	2	0	
Coffey Street	Left	79	+7%	7%	14%		0	0	0	3	4	+1	
				<b>PRC</b>									
<b>Overall junction performance</b>				173%	137%	-36%				0.59	0.68	+0.09	
<b>Junction of Deptford Church Street (A2209) and Crossfield Street</b>													
Deptford Church Street (A2209) - northbound	Ahead / left*	652	+30%	3%	33%		0	14	+14	1	3	+2	
	Ahead**	N/A	N/A	29%	N/A		12	N/A	N/A	4	N/A	N/A	
Deptford	Ahead	N/A	N/A	4%	N/A		0	N/A	N/A	1	N/A	N/A	

Transport Assessment

Approach		Movement	Flow (PCU)	Weekday									
				PM peak hour (17:00-18:00)									
				DoS			MMQ (PCU)			Delay per PCU (seconds)			
Base case	Sensitivity test	Change	Base case	Sensitivity test	Change	Base case	Sensitivity test	Change	Base case	Sensitivity test	Change		
Church Street (A2209) - southbound	(nearside lane)												
	Ahead (offside lane)	33%	+5%	0	13	+13	1	2			+1		
Crossfield Street	Left	2%	N/A	0	N/A	N/A	3	N/A			N/A		
				<b>PRC</b>			<b>Total Delay (PCU Hours)</b>						
<b>Overall junction performance</b>				173%	137%	-36%	0.86	0.78	-8				
<b>Junction of Deptford Church Street (A2209) and Giffin Street</b>													
Deptford Church Street (A2209) - northbound	Ahead / left	50%	-1%	7	7	0	30	29	-1				
	Ahead	46%	+2%	7	8	+1	29	28	-1				
Deptford Church Street (A2209) - southbound	Ahead / right	94%	0%	11	14	+3	47	50	+3				
	Ahead	11%	0%	1	1	0	17	19	+2				
Giffin	Left / right	94%	+9%	18	28	+10	78	145	+67				

Transport Assessment

		Weekday										
		PM peak hour (17:00-18:00)										
Approach	Movement	Flow (PCU)	DoS			MMQ (PCU)			Delay per PCU (seconds)			
			Base case	Sensitivity test	Change	Base case	Sensitivity test	Change	Base case	Sensitivity test	Change	
Street												
		<b>PRC</b>						<b>Total Delay (PCU Hours)</b>				
<b>Overall junction performance</b>			-4%	-14%	-10%			24.05	34.56	+10.51		

Notes: 1. MMQ represents Mean Maximum Queue (pcu) for the busiest-case 15 minute modelled period. Queue lengths are presented in Passenger Car Units (PCUs) where one pcu represents one vehicle length. DoS represents Degree of Saturation, Delay represents the mean delay per vehicle. PRC represents overall Practical Reserve Capacity. Total delay represents the total delay at the junction. PCU value for a car is one PCU. Vans and three-axle vehicles are 1.5 PCUs, vehicles with four or more axles are 2.3 PCUs. Buses and coaches are two PCUs. Motorcycles and pedal cycles are 0.4 PCUs. Thames Tideway Tunnel construction vehicles would be a mixture of three- and four-axle vehicles and have therefore been given a PCU value of two.

2. Assessment has assumed that traffic signal optimisation has been undertaken as detailed in Section 3 of the TA

\* In the construction base case, it is ahead and left movement, in the construction development case, it is ahead only.

\*\* In the construction base case, it is ahead only, in the construction development case, it is left only.

**Table 23.5.12 – Construction LinSig model outputs for the Deptford Bridge (A2)/Deptford Church Street (A2209)/Deptford Broadway (A2)/Brookmill Road (A2210) junction (AM peak hour) – Phase 1 and 2, Sensitivity Test**

Approach	Movement	Flow (PCU)	Weekday									
			AM peak hour (08:00-09:00)									
			DoS			MMQ (vehicles)			Delay (seconds)			
Base case	Sensitivity test	Change	Base case	Sensitivity test	Change	Base case	Sensitivity test	Change	Base case	Sensitivity test	Change	
Deptford Church Street (A2209) - southbound	Left	279	19%	19%	0%	1	1	0	7	7	0	0
	Ahead / right	330	64%	64%	0%	7	7	0	35	35	0	0
Deptford Bridge (A2)	Ahead / left	628	78%	78%	0%	12	12	0	31	31	0	0
	Ahead / right	856	84%	84%	0%	11	11	0	33	33	0	0
Brookmill Road (A2210)	Ahead / left / right	493	82%	82%	0%	12	12	0	41	41	0	0
	Ahead (nearside lane)	243	74%	79%	+5%	6	7	+1	51	59	+8	+8
Deptford Broadway (A2)	Ahead (middle lane)	278	76%	81%	+5%	7	8	+1	51	59	+8	+8
	Ahead	358	80%	86%	+6%	7	8	+1	52	60	+8	+8

Approach		Movement	Flow (PCU)	Weekday									
				AM peak hour (08:00-09:00)									
				DoS			MMQ (vehicles)			Delay (seconds)			
Base case	Sensitivity test	Change	Base case	Sensitivity test	Change	Base case	Sensitivity test	Change	Base case	Sensitivity test	Change		
		Right											
		Left	127	23%	23%	0%	1	1	0	4	4	0	
				<b>PRC</b>									
<b>Overall junction performance</b>				7%	5%	+2%				33.5	37.2	+3.7	

Notes: 1. MMQ represents Mean Maximum Queue (pcu) for the busiest-case 15 minute modelled period. Queue lengths are presented in Passenger Car Units (PCUs) where one pcu represents one vehicle length. DoS represents Degree of Saturation, Delay represents the mean delay per vehicle. PRC represents overall Practical Reserve Capacity. Total delay represents the total delay at the junction. PCU value for a car is one PCU. Vans and three-axle vehicles are 1.5 PCUs, vehicles with four or more axles are 2.3 PCUs. Buses and coaches are two PCUs. Motorcycles and pedal cycles are 0.4 PCUs. Thames Tideway Tunnel construction vehicles would be a mixture of three- and four-axle vehicles and have therefore been given a PCU value of two.

2. Assessment has assumed that traffic signal optimisation has been undertaken as detailed in Section 3 of the TA

**Table 23.5.13 – Construction LinSig model outputs for the Deptford Bridge (A2)/Deptford Church Street (A2209)/Deptford Broadway (A2)/Brookmill Road (A2210) junction (PM peak hour) – Phase 1 and 2, Sensitivity Test**

Approach	Movement	Flow (PCU)	Weekday									
			PM peak hour (17:00-18:00)									
			DoS			MMQ (vehicles)			Delay (seconds)			
			Base Case	Sensitivity test	Change	Base Case	Sensitivity test	Change	Base Case	Sensitivity test	Change	Base Case
Deptford Church Street (A2209) - southbound	Left	389	33%	33%	0%	3	3	0	12	14	+2	
	Ahead / right	398	79%	75%	-4%	11	10	-1	47	43	-4	
Deptford Bridge (A2)	Ahead / left	744	87%	90%	+3%	13	14	+1	30	36	+6	
	Ahead / right	409	82%	86%	+4%	9	10	+1	48	54	+6	
Brookmill Road (A2210)	Ahead / left / right	462	88%	85%	-3%	14	13	-1	57	50	-7	
	Ahead (nearside lane)	455	73%	76%	+3%	11	12	+1	37	39	+2	
Deptford Broadway (A2)	Ahead (middle lane)	522	75%	78%	+3%	13	13	0	37	39	+2	
	Ahead	142	83%	83%	0%	6	6	0	94	94	0	

Transport Assessment

Approach		Movement		Flow (PCU)		Weekday							
						PM peak hour (17:00-18:00)							
						DoS		MMQ (vehicles)		Delay (seconds)			
Base Case	Sensitivity test	Change	Base Case	Sensitivity test	Change	Base Case	Sensitivity test	Change	Base Case	Sensitivity test	Change		
	Right												
	Left	22%	22%	0%	0	1	+1	4	4	0			
		<b>PRC</b>										<b>Total delay (PCU Hours)</b>	
		<b>Overall junction performance</b>		2%	0.2%	-1.8%		35.3	40.6	+5.3			

Notes: 1. MMQ represents Mean Maximum Queue (pcu) for the busiest-case 15 minute modelled period. Queue lengths are presented in Passenger Car Units (PCUs) where one pcu represents one vehicle length. DoS represents Degree of Saturation, Delay represents the mean delay per vehicle. PRC represents overall Practical Reserve Capacity. Total delay represents the total delay at the junction. PCU value for a car is one PCU. Vans and three-axle vehicles are 1.5 PCUs, vehicles with four or more axles are 2.3 PCUs. Buses and coaches are two PCUs. Motorcycles and pedal cycles are 0.4 PCUs. Thames Tideway Tunnel construction vehicles would be a mixture of three- and four-axle vehicles and have therefore been given a PCU value of two.

2. Assessment has assumed that traffic signal optimisation has been undertaken as detailed in Section 3 of the TA

- 23.5.86 The results indicate that under the sensitivity test scenario the junctions along Deptford Church Street (A2209) would operate below capacity in both AM and PM peak hours, as would be the case for the EIA scenario. The junction of Deptford Bridge (A2)/ Deptford Broadway (A2)/ Deptford Church Street (A2209)/ Brookmill Road would operate below capacity in the AM peak hour and close to capacity in the PM peak hour.
- 23.5.87 In the sensitivity test scenario the greatest change to delay compared with the construction base scenario in the AM peak hour for the junctions along Deptford Church Street (A2209) would be an increase of 12 seconds at the Coffey Street left movement. During the PM peak hour the greatest change would be an increase of 67 seconds on the Giffin Street left and right movement.
- 23.5.88 At the junction of Deptford Bridge (A2)/ Deptford Broadway (A2)/ Deptford Church Street (A2209)/ Brookmill Road, the greatest change to delay in the sensitivity test scenario compared to the base case scenario would be an increase of 8 seconds on the ahead (nearside lane), ahead (middle lane) and right movements of Deptford Broadway (A2) during the AM peak hour. During the PM peak hour the greatest change to delay would be a reduction of seven seconds at the Brookmill Road (A2210) ahead, left and right movement. There would be an increase to delay of 6 seconds on both lanes of Deptford Bridge (A2).
- 23.5.89 It must be recognised that this analysis represents a maximum sensitivity test and that the construction logistics strategy envisages the use of the river to transport some of the construction materials required at other sites in the vicinity where construction traffic from those sites would use the highway network in the vicinity of the Deptford Church Street site. If the sensitivity test scenario did occur over a prolonged period, which is unlikely for the reasons given in Section 23.3, the design measures which have been embedded directly in the design of the project and are listed in Table 23.5.9 would remain appropriate and there would be no need for further mitigation measures.

## 23.6 Operational assessment

- 23.6.1 This section summarises the findings of the assessment undertaken for Year 1 of operation at the Deptford Church Street site.
- 23.6.2 The assessment of the operational phase is limited to the physical issues associated with accessing the site from the highway network as outlined in Section 23.2.

### Operational base case

- 23.6.3 The operational assessment year for transport is Year 1 of operation.
- 23.6.4 As explained in para. 23.2.43, the elements of the transport network that would be affected during operation are highway layout and operation and parking. For the purposes of the operational base case, it is anticipated that the highway layout and parking will be as indicated in the construction base case.

### Operational development case

- 23.6.5 The operational development case for the site includes any permanent changes in the vicinity of the Deptford Church Street site as a result of the Thames Tideway Tunnel project and takes into consideration the occasional maintenance activities required at the site.
- 23.6.6 As outlined in Section 23.2, during the operational phase, Deptford Church Street (A2209) and the parking along Coffey Street and Crossfield Street would be reinstated to the current layout.
- 23.6.7 The transport demands created by the development in the operational phase would be extremely low and limited to occasional maintenance visits every three to six months, large cranes may be required for access to the shaft and tunnel once every ten years.
- 23.6.8 The operational assessment has taken into consideration those elements that would be affected, which comprise the short term impacts parking and on the highway layout and operation when maintenance visits are made to the site.
- 23.6.9 The highway layout during operation plans are provided in the Deptford Church Street *Transport Assessment* figures and indicate the operational phase permanent works.
- 23.6.10 When maintenance activity takes place during the operational phase, pedestrians would not be diverted but would have to cross the site access point. When large maintenance vehicles are required to access the site, pedestrian movements could be assisted by a banksman in order to ensure pedestrian safety.

### Parking

- 23.6.11 No change is expected to car parking in the vicinity of the site, compared to the base case, as a result of the operational phase of the proposed development at the Deptford Church Street site.
- 23.6.12 When cranes are required to service the site, 14 parking bays would have to be temporarily restricted on Coffey Street and informal parking would be prohibited on Crossfield Street. This would be necessary to ensure that the vehicles have sufficient space to manoeuvre into the site. This temporary restriction would be on an infrequent basis and would occur approximately every ten years.
- 23.6.13 Taking into consideration the infrequent and temporary nature of the arrival of vehicles at the Deptford Church Street site which would require parking suspension, and the expectation that capacity would be available elsewhere in the immediate area to absorb any demand that is temporarily displaced, this presents no significant issues in relation to parking provision in the area.

### Highway layout and operation

- 23.6.14 As a result of the highway layout changes during the operational phase (detailed in Section 23.2) an assessment has been undertaken to ensure that the highway layout provided is adequate for the large vehicles required to access the site during the operational phase. Swept paths

have been undertaken for the largest vehicles including 11.36m mobile cranes, a 10m rigid vehicle and a 10.7m articulated vehicle. The swept path movement plans are contained in the Deptford Church Street *Transport Assessment* figures and show safe access/ egress at the site for the operational phase.

- 23.6.15 When larger vehicles are required to service the site, there may also be some temporary, short-term delay to other road users while manoeuvres are made. However, it is anticipated that the arrival of large vehicles would normally be scheduled to take place outside of the peak hours to minimise the effect on the local highway network.
- 23.6.16 Due to the infrequent nature of maintenance trips there is anticipated to be no significant change to the surrounding highway network during the operational phase at the Deptford Church Street site.

### **Operational mitigation**

- 23.6.17 Due to there being no significant changes to the transport networks during the operational phase, no mitigation is required.

## **23.7 Summary of Transport Assessment findings**

- 23.7.1 The key outcomes of this *TA* are indicated in Table 23.7.1.

**Table 23.7.1 – Deptford Church Street transport assessment results**

Phase	Mode of transport	Key Findings
Construction	Pedestrians	<p>Pedestrians heading north and south on Deptford Church Street (A2209) would be diverted to the eastern footway during Phase 2 of construction. Up to two minutes 45 seconds additional journey time would be incurred due to two additional road crossings and additional 190m on the diversion route.</p> <p>Additional journey time of approximately one minute 45 seconds for pedestrians heading east or west on Coffey Street / Crossfield Street, due to an increase of distance by 133m as a result of relocation of pedestrian crossing on Deptford Church Street (A2209).</p>
	Cyclists	<p>Minimal delay (maximum of approximately 49 seconds) experienced by cyclists at the Deptford Broadway ahead movement as a result of the additional construction traffic demand in the area.</p>
	Bus patronage and operators	<p>Approximately six worker trips would be made by bus which would not require additional services</p> <p>A maximum delay of approximately 1 second to bus services heading southbound along Deptford Church Street (A2209) during the AM and PM peak hours would be anticipated due to the additional construction vehicle movements in the area.</p>
	DLR and National Rail patronage	<p>Approximately three worker trips would be made by DLR and approximately five by National Rail, which could be accommodated on existing services.</p>
	Parking	<p>Eight parking bays would be suspended along Coffey Street and some informal parking would be prohibited along Crossfield Street. Capacity exists in the surrounding area to accommodate displaced demand. Although measures will be taken to discourage construction workers from driving to the site, up to 20 could drive. These workers could be accommodated in the local area.</p>
	Highway network and	<p>During Phase 2 of the works the northbound carriageway of Deptford Church Street (A2209) would be closed and the southbound direction would become a two-way single</p>

Phase	Mode of transport	Key Findings
	operation	<p>carriageway.</p> <p>Approximately 140 additional daily movements would be produced by the construction works at the Deptford Church Street site.</p> <p>Deptford Church Street (A2209) will be operating below capacity in the construction base case, except for the junction with Giffin Street, which will be operating above capacity. The addition of the Thames Tideway Tunnel traffic (anticipated to be 11 two-way vehicle movements during the peak hours) would have no significant effect on network operation.</p>
Operation	Parking	<p>14 parking bays would be suspended along Coffey Street and informal parking would be prohibited along Crossfield Street, approximately once every ten years. Displaced demand could be accommodated in surrounding streets for these short and infrequent periods.</p>
	Highway layout and operation	<p>Some network delay may be experienced by other road users when large vehicles are accessing the site, however this would be infrequent and temporary.</p>

## References

- 
- <sup>1</sup> Transport for London. *Travel Planning for new development in London*, Transport for London (2011).
- <sup>2</sup> Transport for London. ATTrBuTE guidance. Assessment Tool for Travel Plan Building Testing and Evaluation (ATTrBuTE) is a web based travel planning tool, which ensures that Travel Plans are in accordance with Transport for London's published guidance on travel planning for new development in London. Available at: <http://www.attrbute.org.uk/>.
- <sup>3</sup> Greater London Authority, *London Plan*, July 2011.
- <sup>4</sup> Transport for London, *Transport Assessment Best Practice guidance*, April 2010.
- <sup>5</sup> Transport for London (TfL), *Modelling Guidelines*, 2010.
- <sup>6</sup> Transport for London (TfL), *Modelling Audit Process (MAP)*, 2011.
- <sup>7</sup> Department for Transport (DfT), *Traffic Signs Manual Chapter 8 - Traffic Safety Measures and Signs for Road Works and Temporary Situations*, 2009.
- <sup>8</sup> Greater London Authority, 2011. See citation above.
- <sup>9</sup> Department for Transport (DfT), 2009. See citation above.
- <sup>10</sup> HM Government, *Equality Act 2010 – Guidance*, 2010.
- <sup>11</sup> Department for Transport (DfT), 2009. See citation above.
- <sup>12</sup> Department for Transport (DfT), *Traffic Advisory Leaflet 15/99 - Cyclists at Road Works*, December 1999.

**Thames Tideway Tunnel**  
Thames Water Utilities Limited



# Application for Development Consent

Application Reference Number: WWO10001

## Transport Assessment

Doc Ref: **7.10.20**

### **Deptford Church Street**

#### **Appendices**

APFP Regulations 2009: Regulation **5(2)(q)**

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# Thames Tideway Tunnel

## Transport Assessment

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## Appendix A: Policy review

### A.1 Introduction

- A.1.1 There are a number of documents containing planning policies that are relevant to transport matters for the proposed development at Deptford Church Street. This includes national, regional and local policies relevant to the site.
- A.1.2 This section reviews current documents relevant to the proposed development which is situated within the London Borough (LB) of Lewisham.

### A.2 National Policy

#### National Planning Policy Framework (March 2012)

- A.2.1 The Department for Communities and Local Government published the National Planning Policy Framework (NPPF) in March 2012. The NPPF replaces a variety of existing planning guidance, most notable the following document, Planning Policy Guidance 13: Transport (November 2010).
- A.2.2 The key objective of the NPPF is to create a policy context to support economic growth. The principle of the guidance is to place an emphasis on sustainable development, where environmental conditions should be considered alongside economical and social matters.
- A.2.3 It outlines the importance of local development plans and notes that where development accords with an up to date development plan then the proposals should be approved. Moreover, it suggests that local authorities should follow the approach of the presumption in favour of sustainable development.
- A.2.4 With particular reference to transport matters the documents states:  
*“In preparing local plans, local planning authorities should therefore support a pattern of development which, where reasonable to do so, and facilitates the use of sustainable modes of transport.”*
- A.2.5 The guidance goes on to advise at paragraph 32:  
*“All developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment. Plans and decisions should take account of whether:*
- a. the opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;*
  - b. safe and suitable access to the site can be achieved for all people; and*
  - c. improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development.*

*Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.”*

A.2.6 The document also states that:

*“Plans should protect and exploit opportunities for the use of sustainable transport modes for the movement of goods or people”. Therefore:*

*“A key tool to facilitate this would be a Travel Plan. All developments which generate significant amounts of movement should be required to provide a Travel Plan”.*

### **National Policy Statement for Waste Water (March 2012)**

A.2.7 The National Policy Statement for Waste Water was published by the Department of Environment, Food and Rural Affairs in March 2012. This National Policy Statement (NPS) sets out Government policy for the provision of major waste water infrastructures. The NPS does not recognise the Thames Tideway Tunnel project within the original thresholds which is contained within the Planning Act. However the document indicates that *“the Government has already stated its intention that the project should be considered at a national level”.*

A.2.8 The Secretary of State announced that development consent for the Thames Tideway Tunnel project should also be dealt with under the regime for nationally significant infrastructure projects under the Planning Act 2008.

A.2.9 The NPS for Waste Water seeks a sustainable long term solution to address the untreated sewage discharged into the river Thames and Thames Tideway Tunnel has been considered as the preferred solution.

A.2.10 With particular reference to transport matters the document states:  
*“The ES should include a transport assessment, using the NATA/WebTAG methodology stipulated in Department for Transport (DfT), or any successor to such methodology. Applicants should consult the Highways Agency and/or the relevant highway authority, as appropriate, on the assessment and on mitigation measures. The assessment should distinguish between the construction, operation and decommissioning project stages as appropriate”.*

A.2.11 The document states that the impacts on the surrounding transport infrastructure should be mitigated and where the mitigation measures are not sufficient the requirements to mitigate adverse impacts on transport networks should be considered.

A.2.12 Therefore it is advised to prepare a *Travel Plan* which includes demand management measures to mitigate transport impacts, and *“to provide details of proposed measures to improve access by public transport, walking and cycling, to reduce the need for parking associated with the proposal and to mitigate transport impacts”.*

A.2.13 The NPS for Waste Water prefers water-borne or rail transport over road transport and where there is likely to be substantial HGV traffic, the following measures should be looked:

- a. *“control numbers of HGV movements to and from the site in a specified period during its construction and possibly on the routing of such movements;*
- b. *make sufficient provision for HGV parking, either on the site or at dedicated facilities elsewhere, to avoid ‘overspill’ parking on public roads, prolonged queuing on approach roads and uncontrolled on-street HGV parking in normal operating conditions; and*
- c. *ensure satisfactory arrangements for reasonably foreseeable abnormal disruption, in consultation with network providers and the responsible police force”.*

A.2.14 The proposed development is located at a relatively moderate accessible transport hub and the proposed location has a Public Transport Accessibility Level (PTAL) rating of 4, rated as ‘moderate’. However, measures would be incorporated into *Project Framework Travel Plan* and site-specific *Travel Plan* to discourage construction workers from driving to and from the site and encourage the use of public transport, in order to minimise the number of additional worker car journeys.

## A.3 Regional policy

### The London Plan (July 2011)

A.3.1 The London Plan 2011 is produced by the Greater London Authority (GLA) and sets out the strategic planning guidance for London planning authorities. The Mayor of London is responsible for strategic planning and the production of a Spatial Development Strategy called The London Plan. The London plan sets out the integrated economic, environmental, transport and social framework for the development of London over the next 20-25 years. The Plan takes the year 2031 as its formal end date and its over-arching vision is supported by six detailed objectives for London:

- a. A city that meets the challenges of economic and population growth;
- b. An internationally competitive and successful city;
- c. A city of diverse, strong, secure and accessible neighbourhoods;
- d. A city that delights the senses;
- e. A city that becomes a world leader in improving the environment; and
- f. A city where it is easy, safe and convenient for everyone to access jobs, opportunities and facilities.

A.3.2 The last objective of the plan relates specifically to transport. Policies within the London Plan of relevance to the proposed development are outlined as follows:

A.3.3 **Policy 6.1 – Strategic Approach** advises that the mayor will work with all relevant partners to encourage the closer integration of transport and development by:

- a. Encouraging patterns and nodes of development that reduce the need to travel, especially by car;
- b. Seeking to improve the capacity and accessibility of public transport, walking and cycling, particularly in areas of greater demand;
- c. Supporting development that generates high levels of trips at locations with high public transport accessibility and/or capacity, either currently or via committed, funded improvement;
- d. Seeking to increase the use of the Blue Ribbon Network, especially the Thames, for passenger and freight use;
- e. Facilitating the efficient distribution of freight whilst minimising its impacts on the transport network;
- f. Supporting measures that encourage shifts to mode sustainable modes and appropriate demand management; and
- g. Promoting greater use of low carbon technology so that carbon dioxide and other contributors to global warming are reduced.

A.3.4 **Policy 6.2 – Providing public transport capacity and safeguarding land for transport** which notes that development proposals that do not provide adequate safeguarding for the schemes should be refused.

A.3.5 **Policy 6.3 – Assessing effects of development on transport capacity** outlines that development proposals should ensure that impacts on transport capacity and the transport network, at both a corridor and local level, are fully assessed. Development should not adversely affect safety on the transport network. Where existing transport capacity is insufficient for the travel generated by proposed developments, and no firm plans exist for an increase in capacity, boroughs should ensure that the development proposals are phased until it is known that these requirements can be met. The policy notes that the use of *Travel Plans* and addressing freight issues can help reduce the impact of development on the transport network.

A.3.6 **Policy 6.7 – Better streets and surface transport** notes that high levels of priority should be provided to bus routes and there should be direct, secure, accessible and pleasant walking routes to stops. The development would include provision of transport to and from public transport nodes where sites are at a distance from public transport services.

A.3.7 **Policy 6.9 – Cycling** presents measures to increase cycling mode share in London to 5 percent by 2026. Measures include completing the Cycle Super Highways and expanding the London cycle hire scheme. To support this, developments should provide cycle parking to at least the minimum standards, provide showers and changing facilities and facilitate the major cycling schemes in London (Super Highways / Cycle Hire).

A.3.8 **Policy 6.10 – Walking** recommends the use of shared space principles with simplified streetscape, de-cluttering and access for all. Developments should therefore ensure high quality pedestrian environments and emphasise the quality of pedestrian and street space. It points to the

‘Legible London’ pedestrian wayfinding system as a successful measure to support walking journeys.

A.3.9 **Policy 6.13 – Parking** outlines the need to seek an appropriate balance between promoting new development and preventing excessive car parking provision that can undermine cycling, walking and public transport use. As such, car parking should reduce as public transport accessibility (measured by PTAL) increases. The policy advises that *Transport Assessments* and *Travel Plans* for major developments should give details of proposed measures to improve non-car based access, reduce parking and mitigate adverse transport impacts.

A.3.10 **Policy 6.14 – Freight** notes that freight distribution should be improved and movement of freight by rail and waterway should be promoted. To support this, developments that generate high number of freight movements should be located close to major transport routes. In addition, the Freight Operators Recognition Scheme, construction logistics plans and delivery and servicing plans should be promoted. The policy also advises the increase in the use of the Blue Ribbon Network for freight transport.

### The Mayors Transport Strategy (GLA, 2010)

A.3.11 In addition to the London Plan, the Mayor has prepared a number of strategies that are essentially an extension of the London Plan. Published by the GLA in 2010, the Mayor’s Transport Strategy (MTS) (Greater London Authority, May 2010) envisages *“London’s Transport system excelling among that of global cities, providing access to opportunities for all people and enterprises while achieving the highest environmental standards and leading the world in its move towards tackling the urban transport challenges of the 21st century”*.

A.3.12 The MTS sets out a number of policy commitments or requirements which have implications for TfL and a range of other delivery partners including the GLA and the London boroughs. The policies that are relevant to the proposed development are:

- a. **Policy 4** indicating that the Mayor will seek “to improve people’s access to jobs, business’ access to employment markets, business to business access, and freight access by seeking to ensure appropriate transport capacity and connectivity is provided on radial corridors into central London”;
- b. **Policy 5** seeks “to ensure efficient and effective access for people and goods within central London”;
- c. **Policy 8** supports “a range of transport improvements within metropolitan town centres for people and freight that help improve connectivity and promote the vitality and viability of town centres, and that provide enhanced travel facilities for pedestrians and cyclists”;
- d. **Policy 9** states that the Mayor “will use the local and strategic development control processes”;
- e. **Policy 11** specifies that the Mayor will “encourage the use of more sustainable, less congesting modes of transport, set appropriate

parking standards, and aim to increase public transport, walking and cycling mode share”;

- f. **Policy 12** states that the Mayor “will seek to improve the distribution of freight through the provision of better access to/from Strategic Industrial Locations, delivery and servicing plans, and other efficiency measures across London”; and
- g. **Policy 15** and **Policy 16** indicate that the Mayor will seek to reduce emissions of air pollutants and noise impacts from transport respectively.

A.3.13 The *London Freight Plan, Sustainable Freight Distribution: a Plan for London* (TfL, June 2008) sets out the steps that have to be taken over the next five to ten years to identify and begin to address the challenge of delivering freight sustainably in the capital. Principles set in that document are expected to be relevant to the consideration of the construction logistics strategy for the proposed development.

## A.4 Local policy

A.4.1 The LB of Lewisham has a number of policies relevant to transport. These are the Local Development Framework (LDF) and the Unitary Development Plan (UDP). Both reflects regionally focused policies and are referred to where appropriate.

### Local Development Framework – Core strategy (June 2011)

A.4.2 The Lewisham LDF – Core Strategy was adopted in June 2011. It forms the key planning document that manages development and regeneration in the borough until 2026.

A.4.3 Transport policies within this document are concerned with ensuring improvements are made to the environment, and encouraging the use of sustainable transport.

A.4.4 **Policy 7 – Climate Change and Adapting to the Effects** aims to address climate change and adapt to its effects. This will be achieved by “*b. promoting the sustainable and efficient use of land and improving the integration of land use and transport in accordance with national and regional requirements*”.

A.4.5 **Policy 8 – Sustainable Design and Construction and Energy Efficiency** seeks to promote energy efficiency, sustainable design and sustainable construction.

A.4.6 **Policy 9 – Improving Local Air Quality** states that the council will manage and improve air quality along traffic corridors and congestion points. This will be achieved by “*working with Transport for London to manage and improve air quality along transport corridors and traffic congestion points*”.

A.4.7 **Policy 14 – Sustainable Movement and Transport** is concerned with promoting the use of sustainable modes of transport. This will be achieved through a number of measures, including:

- a. Promoting safety and access for pedestrians and cyclists;
- b. Maintaining and improving key walking and cycling links including the Thames Path;
- c. Requiring Travel Plans for developments that exceed the Department for Transport's (DfT's) threshold;
- d. Supporting the use of the River Thames for passenger transport and transport of construction materials to and from development sites;
- e. By supporting the use of the River Thames to transport freight.

### Unitary Development Plan (July 2004)

- A.4.8 The Unitary Development Plan (UDP) was adopted by the LB of Lewisham in July 2004, it is a technical town planning document that acts as a land use strategy document and also sets out policies that planning applications will be considered against.
- A.4.9 The transport related policies are mainly focused on environmental protection including reducing levels of congestion and pollution within the borough. It is envisaged that by mitigating these factors, improvements can be made to the local economy, as well as the health and quality of life of local residents. This will be achieved by a number of measures such as: integrating development with public transport; and encouraging walking and cycling.
- A.4.10 **Policy URB3 – Urban Design** aims to encourage good practise design within the borough. There are a number of elements relevant to transport, including:
- “(b) layout and access arrangements, which may include the avoidance of large areas of parking and servicing uninterrupted by landscaping”; and
  - “(f) where justified new building frontages should clearly delineate public routes where appropriate, and design should ensure that convenient and safe pedestrian access to local facilities and the public transport network are taken into account, including the needs of disabled people”.
- A.4.11 **Policy HSG4 - Residential Amenity** aims to improve and safeguard the character and amenities of residential areas in the borough, by:
- a. Calming and reducing extraneous traffic;
  - b. Restricting parking provision;
  - c. Banning lorries;
  - d. Improving the pedestrian environment; and
  - e. Improving access to public transport.
- A.4.12 **Policy STR.TRN 1** seeks to reduce the need to travel in order to protect the environment and quality of life of residents.
- A.4.13 **Policy STR.TRN 3** requires that provision is made for the safety of pedestrians, cyclists and people with disabilities.

- A.4.14 **Policy TRN 2 – Travel Impact Statements** states that developers are required to produce a travel impact statement for major developments. They assess the impact of all modes and their affects on congestion, safety and the environment.
- A.4.15 **Policy TRN 3 – Developer Contributions** details that developer contributions may be required facilitate the following improvements:
- a. Highway improvements;
  - b. Traffic management measures;
  - c. Public transport services; and
  - d. Accessibility for pedestrians and cyclists.
- A.4.16 **Policy TRN 5 – Green Travel Plans** will be encouraged by the council and in some circumstances will be required by a S106 agreement. They are intended to encourage a number of outcomes:
- a. Increased use of public transport;
  - b. Walking;
  - c. Cycling;
  - d. Car sharing;
  - e. Flexible working hours;
  - f. Home working; and
  - g. Controls on car parking.
- A.4.17 **Policy TRN 8 - Use of the River Thames** makes it clear that developments using the river for freight will be supported, providing that environmental considerations are taken into account.
- A.4.18 **Policy TRN 17 – Protecting Cyclists and Pedestrians** is concerned with protecting the safety of pedestrians, cyclists and those with disabilities.
- A.4.19 **Policy TRN 18 – The Road Hierarchy** states that the council will manage the use of roads by establishing a road hierarchy in order to channel traffic onto the most appropriate road. Four levels of road have been established:
- a. Strategic roads;
  - b. London distributor roads;
  - c. Local distributor roads; and
  - d. Local access roads.
- A.4.20 **Policy TRN 20 – Improving Road Safety** involves reducing the number of road accidents within the borough, for which developer contributions may be required.
- A.4.21 **Policy TRN 21 - Traffic Management** details that the council will introduce traffic calming measures, with the aim to:
- a. Reduce traffic to a level appropriate to the position of the road in the hierarchy;

- b. Re-allocate road space to essential traffic and more environmentally friendly modes;
- c. Reflect the requirements of land use along the road;
- d. In residential areas reduce motorised traffic and improve the environment for residents; and
- e. Take into account the needs of public transport operators.

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# Appendix B: PTAL analysis

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# PTAI Study Report File Summary

## PTAI Run Parameters

PTAI Run: 20122409114823  
Description: 20122409114823  
Run by user: PTAL web application  
Date and time: 24/09/2012 11:48

## Walk File Parameters

Walk File: PLSQLTest  
Day of Week: M-F  
Time Period: AM Peak  
Walk Speed: 4.8 kph  
BUS Walk Access Time (mins): 8  
BUS Reliability Factor: 2.0  
LU LRT Walk Access Time (mins): 12  
LU LRT Reliability Factor: 0.75  
NATIONAL\_RAIL Walk Access Time (mins): 12  
NATIONAL\_RAIL Reliability Factor: 0.75  
Coordinates: 537301, 177401

Transport Assessment

Mode	Stop	Route	Distance (metres)	Frequency (vph)	Weight	Walk time (mins)	SWT (mins)	TAT (mins)	EDF	AI
BUS	D'FORD CHURCH ST RLY BDG	47	142.82	6.0	1.0	1.79	7.0	8.79	3.41	3.41
BUS	DEPTFORD BRIDGE	177	630.79	6.0	0.5	7.88	7.0	14.88	2.02	1.01
BUS	DEPTFORD BRIDGE	53	630.79	8.0	0.5	7.88	5.75	13.63	2.2	1.1
BUS	DEPTFORD BRIDGE	453	630.79	12.0	0.5	7.88	4.5	12.38	2.42	1.21
BUS	ROSE BRUFORD COLLEGE	188	451.02	8.0	0.5	5.64	5.75	11.39	2.63	1.32
BUS	ROSE BRUFORD COLLEGE	199	451.02	5.0	0.5	5.64	8.0	13.64	2.2	1.1
LU LRT	Deptford Bridge	Docklands Light Railway Bank to Lewisham DLR	667.31	15.0	1.0	8.34	2.75	11.09	2.7	2.7
NATIONAL_RAIL	DEPTFORD	DARTFORD to LONDON CHARING CROSS	371.93	1.0	0.5	4.65	30.75	35.4	0.85	0.42
NATIONAL_RAIL	DEPTFORD	SLADE GREEN to LONDON CHARING CROSS	371.93	1.0	0.5	4.65	30.75	35.4	0.85	0.42
NATIONAL_RAIL	DEPTFORD	LONDON CANNON STREET to LONDON CANNON STREET	371.93	0.67	0.5	4.65	45.53	50.18	0.6	0.3
NATIONAL_RAIL	DEPTFORD	BARNEHURST BR to LONDON CHARING CROSS	371.93	0.33	0.5	4.65	91.66	96.31	0.31	0.16
NATIONAL_RAIL	DEPTFORD	LONDON CHARING CROSS to DARTFORD	371.93	1.0	0.5	4.65	30.75	35.4	0.85	0.42
NATIONAL_RAIL	DEPTFORD	SLADE GREEN to	371.93	1.33	1.0	4.65	23.31	27.96	1.07	1.07

Transport Assessment

Mode	Stop	Route	Distance (metres)	Frequency (vph)	Weight	Walk time (mins)	SWT (mins)	TAT (mins)	EDF	AI
		LONDON CANNON STREET								
NATIONAL_RAIL	DEPTFORD	DARTFORD to LONDON CANNON STREET	371.93	1.0	0.5	4.65	30.75	35.4	0.85	0.42
NATIONAL_RAIL	DEPTFORD	LONDON CHARING CROSS to GRAVESEND BR	371.93	0.33	0.5	4.65	91.66	96.31	0.31	0.16

Total AI for this POI is 15.22.  
PTAL Rating is 4.

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## Appendix C: Local modelling outputs

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Transport Assessment

Network Results

TRANSYT Link Results Summary, baseline (AM peak hour)

Link	Node	Actual Flow (PCU/H)	Sat. Flow (PCU/H)	Degree Of Saturation (%)	Mean Cruise Time Per PCU (sec)	Mean Delay Time Per PCU (sec)	Uniform Delay (PCU-H/H)	Rand + OverSat Delay (PCU-H/H)	Cost Of Delay (£/H)	Mean Stops Per PCU (%)	Cost Of Stops (£/H)	Mean Max Queue (PCU)	Average Excess Queue (PCU)	P.I. (£/H)
1	1	700	3830	61	15	22	3.7	0.6	60.9	79	17.0	17	0.0	77.9
3	1	12	1807	7	3	29	0.1	0.0	1.4	81	4.4	0	0.0	5.7
4	1	349	3567	22	4	10	0.8	0.1	13.4	27	42.5	2	0.0	55.9
5	1	372	3660	40	6	27	2.4	0.3	39.0	82	7.1	8	0.0	46.1
6	1	190	3830	20	15	7	0.3	0.1	5.1	52	3.0	2	0.0	8.1
7	1	202	8000	5	18	0	0.0	0.0	0.2	0	0.0	0	0.0	0.2
8	1	1049	8000	17	18	0	0.0	0.1	1.1	0	0.1	0	0.0	1.2
9	1	191	3830	20	15	7	0.3	0.1	5.1	52	3.1	2	0.0	8.1
10	2	418	1965	21	18	1	0.0	0.1	2.1	13	0.0	4	0.0	2.2
12	1	191	8000	5	18	0	0.0	0.0	0.2	0	0.0	0	0.0	0.2
13	1	234	3830	61	15	22	1.2	0.2	20.4	79	5.7	17	0.0	26.1
18	2	360	1940	19	3	1	0.0	0.1	1.6	1	0.0	0	0.0	1.6
20	2	38	1741	6	15	3	0.0	0.0	0.5	0	0.0	0	0.0	0.5
21	3	418	1965	27	3	2	0.0	0.2	2.7	2	0.3	0	0.0	3.0
22	2	36	1965	2	18	1	0.0	0.0	0.1	1	0.0	0	0.0	0.1
23	3	360	1965	24	3	2	0.0	0.2	2.8	5	1.5	0	0.0	4.3
24	3	36	1965	2	3	1	0.0	0.0	0.2	2	0.0	0	0.0	0.2

Transport Assessment

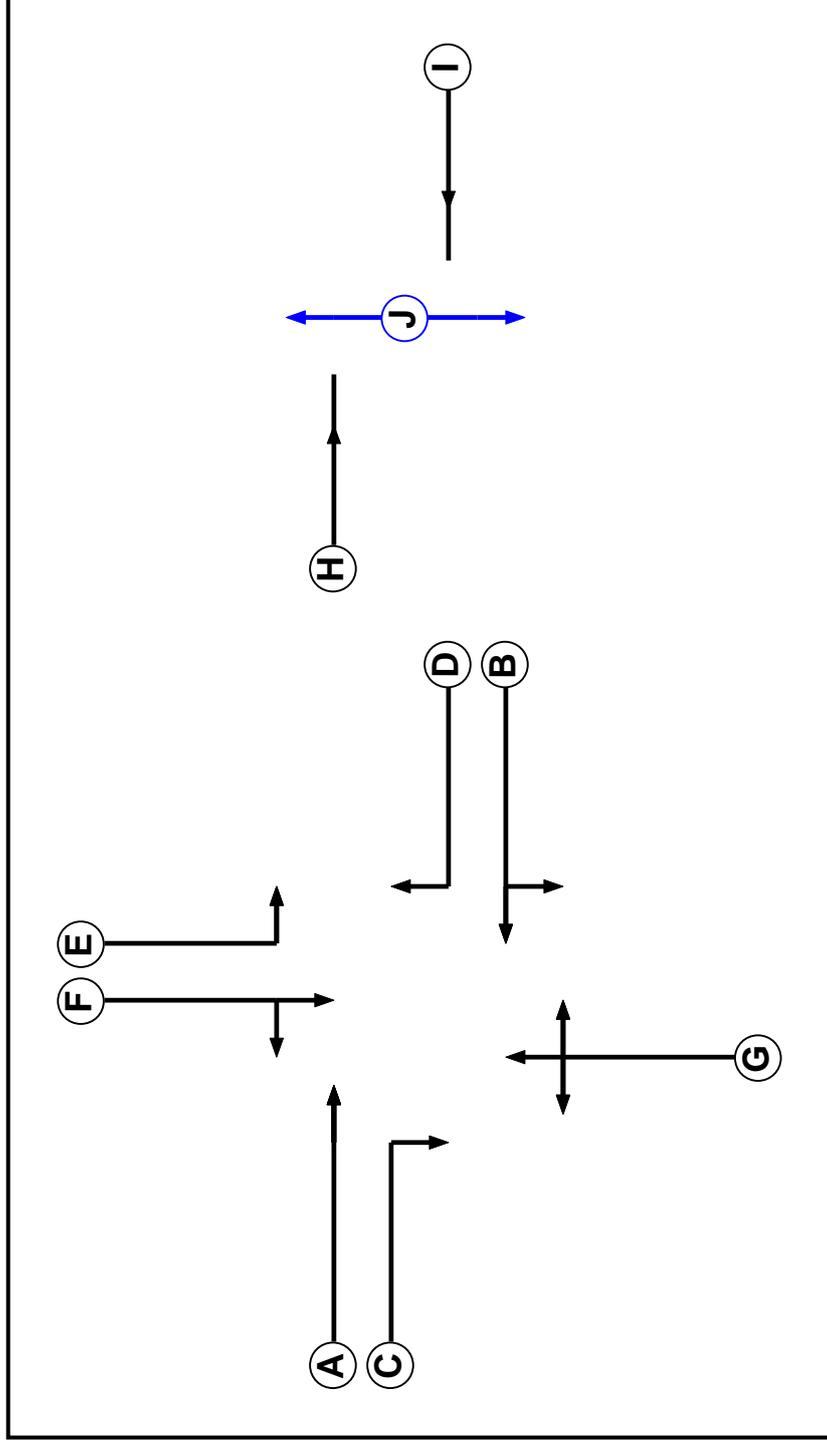
Link	Node	Actual Flow (PCU/H)	Sat. Flow (PCU/H)	Degree Of Saturation (%)	Mean Cruise Time Per PCU (sec)	Mean Delay Time Per PCU (sec)	Uniform Delay (PCU-H/H)	Rand + OverSat Delay (PCU-H/H)	Cost Of Delay (£/H)	Mean Stops Per PCU (%)	Cost Of Stops (£/H)	Mean Max Queue (PCU)	Average Excess Queue (PCU)	P. I. (£/H)
25	4	418	1965	21	3	1	0.0	0.1	1.9	1	0.7	0	0.0	2.6
26	2	73	1965	4	3	1	0.0	0.0	0.3	1	0.0	0	0.0	0.3
27	4	358	1954	18	7	1	0.0	0.1	1.6	1	0.1	0	0.0	1.7
28	3	73	1965	5	3	1	0.0	0.0	0.4	2	0.1	0	0.0	0.4
29	4	22	1599	4	15	3	0.0	0.0	0.3	0	0.0	0	0.0	0.3
30	5	418	1960	52	3	18	1.6	0.5	30.1	41	18.8	4	0.0	48.9
31	4	36	1965	2	3	1	0.0	0.0	0.1	1	0.0	0	0.0	0.2
32	5	348	1965	43	15	21	1.6	0.4	28.4	72	7.8	6	0.0	36.1
33	4	73	1965	4	7	1	0.0	0.0	0.3	1	0.0	0	0.0	0.3
34	5	35	1685	17	15	42	0.3	0.1	5.7	99	1.1	1	0.0	6.8
35	1	73	1786	9	3	10	0.2	0.1	3.0	25	8.1	0	0.0	11.1
36	1	26	3660	40	6	27	0.2	0.0	2.7	82	0.5	8	0.0	3.2
37	3	10	1000	9	6	50	0.1	0.0	2.0	109	0.0	0	0.0	2.0
38	4	20	8000	0	5	0	0.0	0.0	0.0	0	0.0	0	0.0	0.0
39	5	406	1965	23	5	1	0.0	0.1	1.9	1	1.7	0	0.0	3.6
40	5	36	1965	4	3	18	0.2	0.0	2.5	50	2.0	0	0.0	4.5
41	5	381	1758	53	15	23	1.9	0.6	34.3	77	9.1	7	0.0	43.4
42	5	320	8000	4	5	0	0.0	0.0	0.3	0	0.3	0	0.0	0.6
43	2	18	8000	0	5	0	0.0	0.0	0.0	0	0.0	0	0.0	0.0

Transport Assessment

Link	Node	Actual Flow (PCU/H)	Sat. Flow (PCU/H)	Degree Of Saturation (%)	Mean Cruise Time Per PCU (sec)	Mean Delay Time Per PCU (sec)	Uniform Delay (PCU-H/H)	Rand + OverSat Delay (PCU-H/H)	Cost Of Delay (£/H)	Mean Stops Per PCU (%)	Cost Of Stops (£/H)	Mean Max Queue (PCU)	Average Excess Queue (PCU)	P. I. (£/H)
44	1	307	8000	17	18	0	0.0	0.0	0.3	0	0.0	0	0.0	0.4
45	5	36	1965	23	5	1	0.0	0.0	0.2	1	0.2	0	0.0	0.3
46	1	10	10000	0	5	15	0.0	0.0	0.6	60	0.0	0	0.0	0.6
47	1	10	10000	0	8	22	0.1	0.0	0.9	73	0.0	0	0.0	0.9
48	1	10	10000	1	6	35	0.1	0.0	1.4	92	0.0	0	0.0	1.4
49	1	10	10000	1	3	28	0.1	0.0	1.1	82	0.0	0	0.0	1.1
50	1	46	1874	30	5	47	0.4	0.2	8.5	108	0.1	1	0.0	8.7
51	3	10	10000	1	6	34	0.1	0.0	1.3	90	0.0	0	0.0	1.3
52	5	10	10000	1	21	32	0.1	0.0	1.2	88	0.0	0	0.0	1.2
53	5	10	10000	1	9	32	0.1	0.0	1.2	88	0.0	0	0.0	1.2
54	1	10	1874	30	5	47	0.1	0.0	1.9	108	0.0	1	0.0	1.9

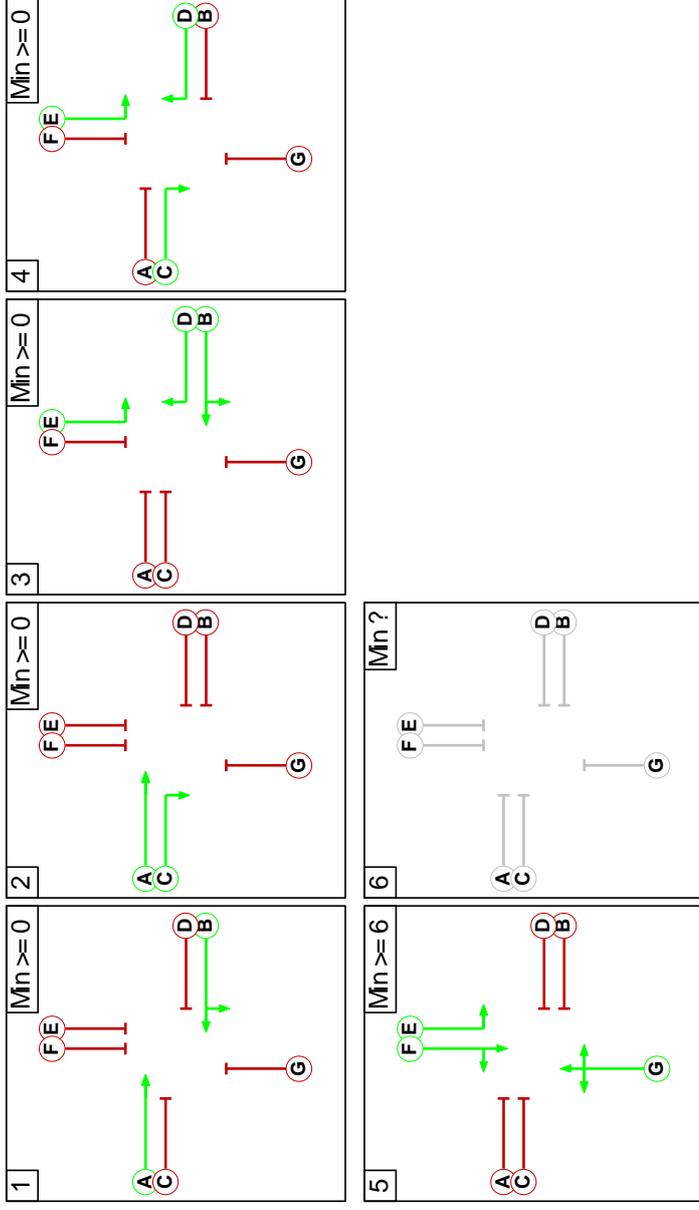


Phase Diagram

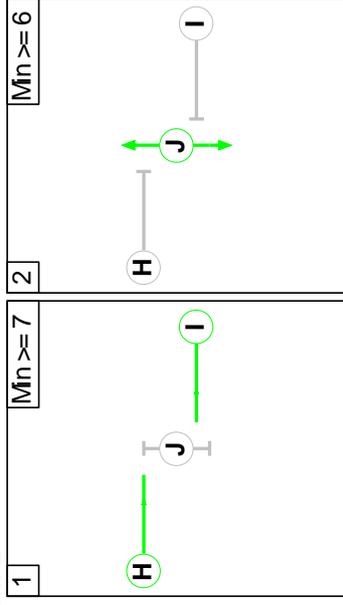


Stage Diagram

Stage Stream: 1



Stage Stream: 2



Phases in Stage

Stream	Stage No.	Phases in Stage
1	1	A B
1	2	A C
1	3	B D E
1	4	C D E
1	5	E F G
1	6	
2	1	H I
2	2	J

Phase Intergreens Matrix

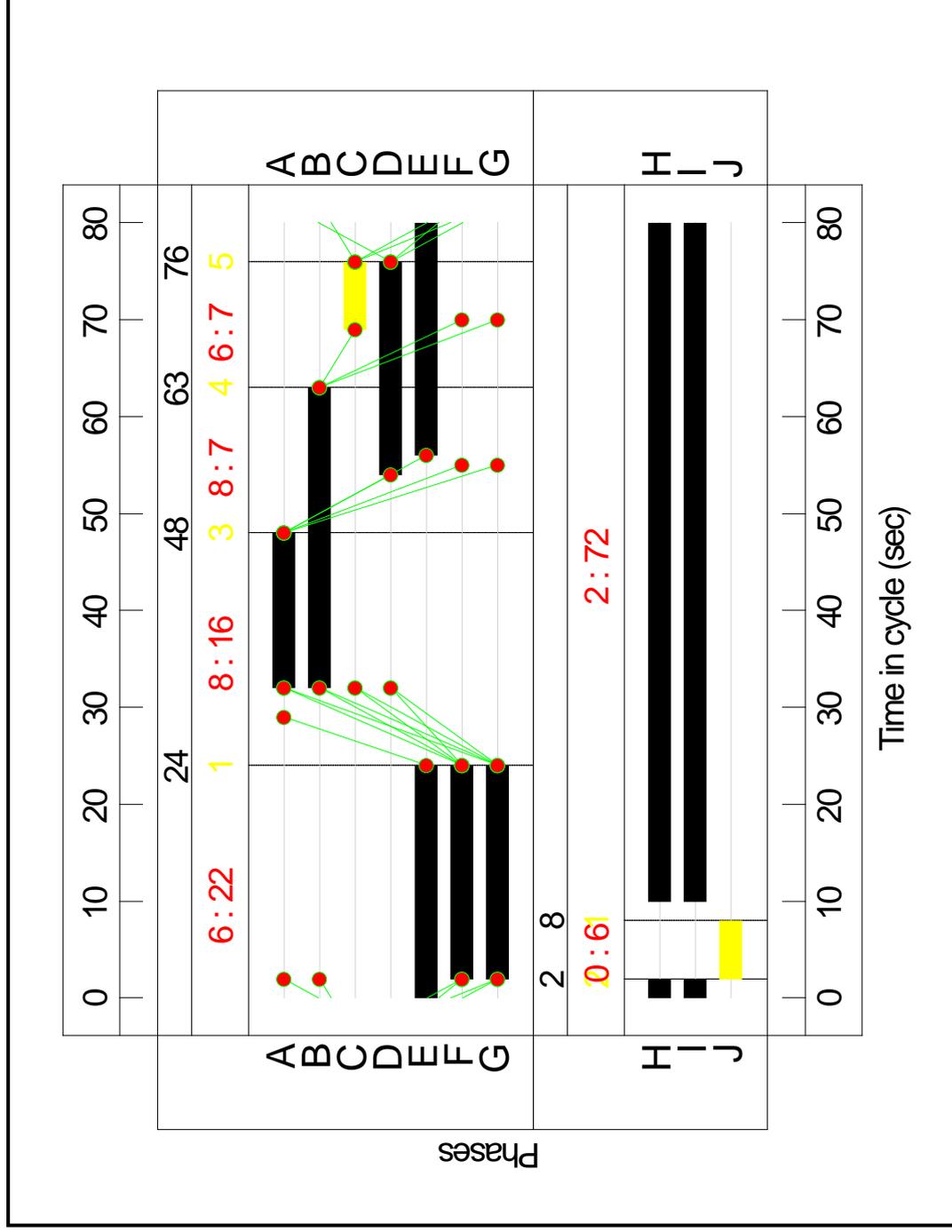
		Starting Phase										
		A	B	C	D	E	F	G	H	I	J	
Terminating Phase	A	-	-	6	8	7	7	7	-	-	-	-
	B	-	6	-	-	-	7	7	-	-	-	-
	C	-	6	-	-	-	6	6	-	-	-	-
	D	6	-	-	-	6	6	-	-	-	-	-
	E	5	-	-	-	-	-	-	-	-	-	-
	F	8	8	8	8	-	-	-	-	-	-	-
	G	8	8	8	8	-	-	-	-	-	-	-
	H	-	-	-	-	-	-	-	-	-	-	-
	I	-	-	-	-	-	-	-	-	-	-	-
	J	-	-	-	-	-	-	-	-	-	-	-

Traffic Flows, Desired

Desired Flow :

	Destination				Tot.
	A	B	C	D	
Origin					
A	0	253	252	61	566
B	368	0	190	814	1372
C	322	107	0	40	469
D	120	741	92	0	953
Tot.	810	1101	534	915	3360

Signal Timings Diagram



Transport Assessment

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	88.9%	181	51	3	33.5	-	-
A2 Deptford Bridge/ A2 New Cross Road/ A2209 Deptford Church Street/ A2210 Brookmill Road/ Haton Street	-	-	-	-	-	-	-	-	-	-	88.9%	181	51	3	33.5	-	-
1/2+1/1	A2209 Deptford Church Street Left	U	E		1	48	-	253	1769:1769	1356	18.7%	-	-	-	0.6	8.1	1.3
1/3	A2209 Deptford Church Street Ahead Right	O	F		1	22	-	313	1996	484	64.7%	60	0	1	3.2	37.2	6.7
2/1	A2 Deptford Bridge Ahead	U	-		-	-	-	686	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
2/2	A2 Deptford Bridge Ahead	U	-		-	-	-	686	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
3/2+3/1	A2 Deptford Bridge Left Ahead	U	B		1	31	-	686	1940:1752	838	81.9%	-	-	-	6.0	31.5	13.8
3/3+3/4	A2 Deptford Bridge Right Ahead	U	B D		1	31:22	-	686	2080:1892	903	76.0%	-	-	-	5.6	29.6	8.7

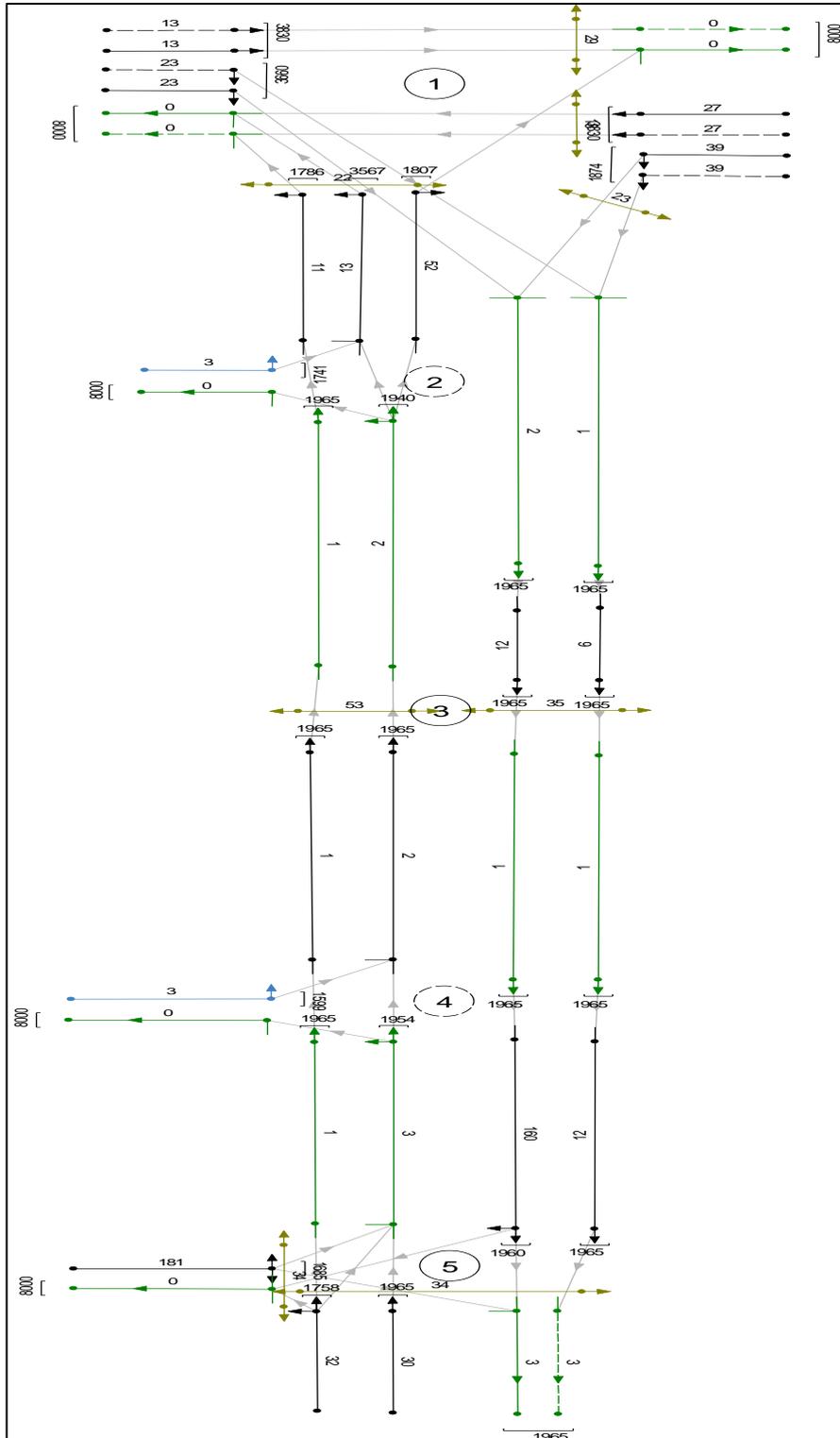
Transport Assessment

4/1	A2210 Brookmill Road Ahead Right Left	O	G	1	22	-	469	1924	553	84.8%	53	0	1	6.2	47.5	12.4		
5/1	A2 New Cross Road Ahead	U	A	1	16	-	89	1890	402	22.2%	-	-	-	0.8	31.8	1.8		
5/2	A2 New Cross Road Ahead	U	A	1	16	-	311	2105	447	69.5%	-	-	-	3.6	42.1	7.4		
5/3+5/4	A2 New Cross Road Ahead Right	U	A C	1	16:7	-	435	1965:1874	489	88.9%	-	-	-	7.3	60.3	11.2		
6/1		U	-	-	-	-	810	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0		
7/1	Ahead	U	-	-	-	-	270	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0		
7/2	Ahead	U	-	-	-	-	832	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0		
8/1		U	-	-	-	-	535	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0		
9/1		U	-	-	-	-	516	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0		
9/2		U	-	-	-	-	399	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0		
10/1	A2 New Cross Road Left	O	-	-	-	-	120	2115	563	21.3%	69	51	0	0.1	4.1	0.1		
11/1		U	-	-	-	-	270	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0		
11/2		U	-	-	-	-	832	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0		
12/1	A2 New Cross Road Ahead Ahead2	U	-	-	-	-	955	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0		
													C1 Stream: 1 PRC for Signalled Lanes (%): 1.2		Total Delay for Signalled Lanes (pcuHr): 33.34		Cycle Time (s): 80	
													C1 Stream: 2 PRC for Signalled Lanes (%): 0.0		Total Delay for Signalled Lanes (pcuHr): 0.00		Cycle Time (s): 80	
													PRC Over All Lanes (%): 1.2		Total Delay Over All Lanes (pcuHr): 33.47			

## C.2 Baseline results, PM peak hour

### Deptford Church Street (A2209)

#### Network Layout Diagram



Network Results

TRANSYT Link Results Summary, baseline (PM peak hour)

Link	Node	Actual Flow (PCU/H)	Sat. Flow (PCU/H)	Degree Of Saturation (%)	Mean Cruise Time Per PCU (sec)	Mean Delay Time Per PCU (sec)	Uniform Delay (PCU-H/H)	Rand + OverSat Delay (PCU-H/H)	Cost Of Delay (£/H)	Mean Stops Per PCU (%)	Cost Of Stops (£/H)	Mean Max Queue (PCU)	Average Excess Queue (PCU)	P.I. (£/H)	Green1 Start	Green1 End	Green2 Start	Green2 End
1	1	292	3830	43	15	27	1.9	0.2	30.9	82	7.4	9	0.0	38.3	8	29		
3	1	88	1807	32	3	52	1.0	0.2	17.9	112	43.8	2	0.0	61.7	70	1		
4	1	535	3567	26	4	13	1.7	0.2	27.1	90	214.3	12	0.0	241.3	36	1		
5	1	563	3660	49	6	23	3.2	0.4	51.5	79	10.4	11	0.0	61.9	36	63		
6	1	408	3830	57	15	13	1.1	0.3	20.7	79	9.9	8	0.0	30.6	8	29	56	63
7	1	496	8000	11	18	0	0.0	0.0	0.5	0	0.0	0	0.0	0.5				
8	1	827	8000	13	18	0	0.0	0.1	0.8	0	0.1	0	0.0	0.9				
9	1	408	3830	57	15	13	1.1	0.3	20.7	79	9.9	8	0.0	30.6	8	29	56	63
10	2	625	1965	32	18	2	0.1	0.2	4.9	41	0.2	8	0.0	5.1				
12	1	408	8000	11	18	0	0.0	0.0	0.4	0	0.0	0	0.0	0.4				
13	1	162	3830	43	15	27	1.1	0.1	17.2	82	4.1	9	0.0	21.3	8	29		
18	2	593	1940	31	3	2	0.1	0.2	4.0	33	0.1	9	0.0	4.1				
20	2	39	1741	7	15	3	0.0	0.0	0.5	0	0.0	0	0.0	0.5				
21	3	625	1965	40	3	12	1.7	0.3	28.4	67	12.8	10	0.0	41.3	79	61		

Transport Assessment

Link	Node	Actual Flow (PCU/H)	Sat. Flow (PCU/H)	Degree Of Saturation (%)	Mean Cruise Time Per PCU (sec)	Mean Delay Time Per PCU (sec)	Uniform Delay (PCU-H/H)	Rand + OverSat Delay (PCU-H/H)	Cost Of Delay (£/H)	Mean Stops Per PCU (%)	Cost Of Stops (£/H)	Mean Max Queue (PCU)	Average Excess Queue (PCU)	P.I. (£/H)	Green1 Start	Green1 End	Green2 Start	Green2 End
22	2	78	1965	4	18	1	0.0	0.0	0.3	1	0.0	0	0.0	0.3				
23	3	560	1965	36	3	2	0.0	0.3	4.4	4	1.8	1	0.0	6.2	79	61		
24	3	78	1965	5	3	6	0.1	0.0	2.0	45	1.1	1	0.0	3.1	79	61		
25	4	625	1965	32	3	1	0.0	0.2	3.3	2	1.2	0	0.0	4.5				
26	2	49	1965	3	3	1	0.0	0.0	0.2	1	0.0	0	0.0	0.2				
27	4	550	1954	28	7	3	0.3	0.2	7.0	51	6.5	10	0.0	13.6				
28	3	49	1965	3	3	1	0.0	0.0	0.2	2	0.1	0	0.0	0.3	79	61		
29	4	10	1599	2	15	3	0.0	0.0	0.1	0	0.0	0	0.0	0.1				
30	5	625	1960	106	3	160	2.9	24.8	394.3	205	141.8	39	0.0	536.0	5	28		
31	4	78	1965	4	3	1	0.0	0.0	0.3	1	0.1	0	0.0	0.4				
32	5	305	1965	52	15	30	2.0	0.5	35.5	87	8.2	6	0.0	43.7	5	28		
33	4	49	1965	3	7	1	0.0	0.0	0.2	1	0.0	0	0.0	0.2				
34	5	468	1685	106	15	181	4.5	19.0	333.2	213	30.7	30	0.0	363.9	60	0		
35	1	49	1786	5	3	11	0.1	0.0	2.0	80	17.6	1	0.0	19.6	36	1		
36	1	68	3660	49	6	23	0.4	0.1	6.2	79	1.3	11	0.0	7.5	36	63		

Transport Assessment

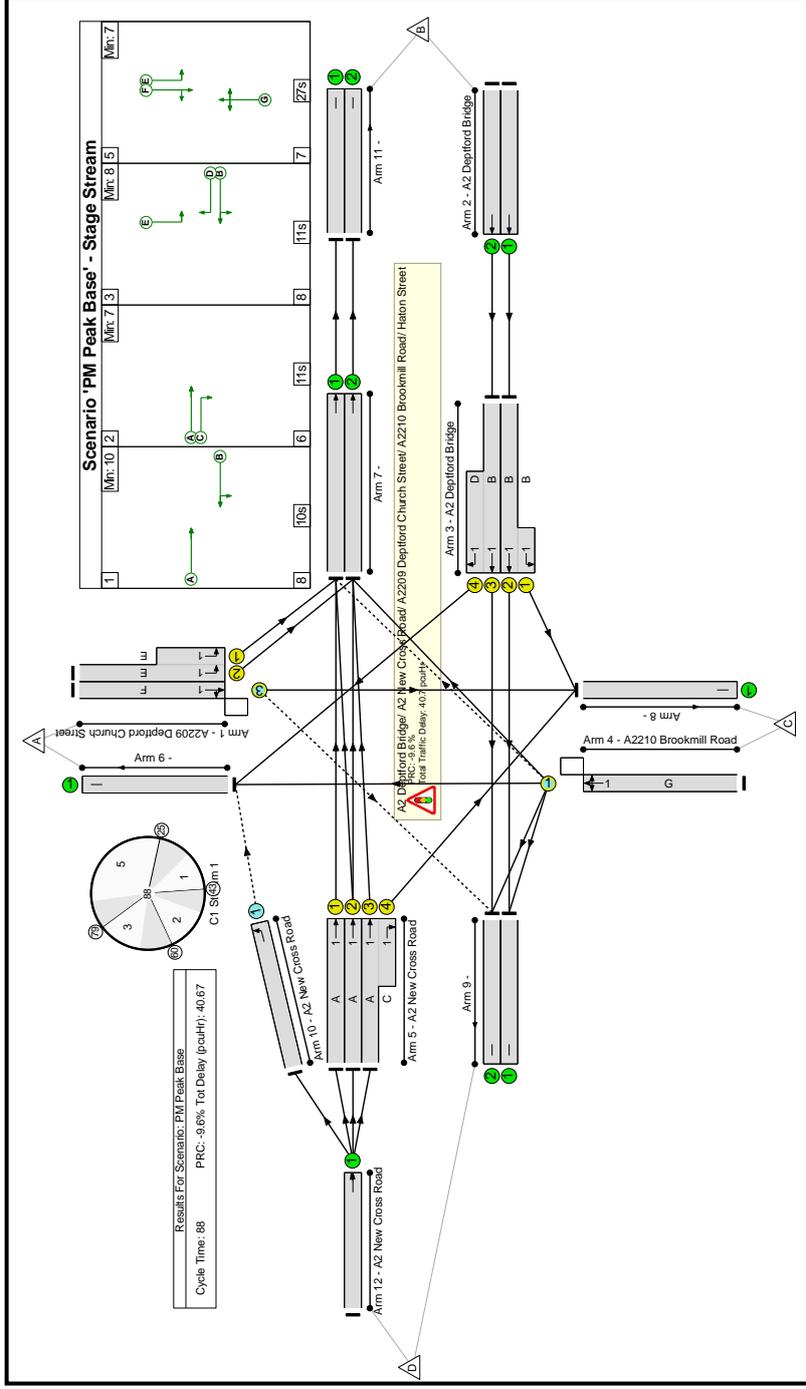
Link	Node	Actual Flow (PCU/H)	Sat. Flow (PCU/H)	Degree Of Saturation (%)	Mean Cruise Time Per PCU (sec)	Mean Delay Time Per PCU (sec)	Uniform Delay (PCU-H/H)	Rand + OverSat Delay (PCU-H/H)	Cost Of Delay (£/H)	Mean Stops Per PCU (%)	Cost Of Stops (£/H)	Mean Max Queue (PCU)	Average Excess Queue (PCU)	P.I. (£/H)	Green1 Start	Green1 End	Green2 Start	Green2 End
37	3	10	1000	10	10	53	0.1	0.1	2.1	113	0.0	0	0.0	2.1	66	73		
38	4	10	8000	0	5	0	0.0	0.0	0.0	0	0.0	0	0.0	0.0				
39	5	999	1965	55	5	3	0.2	0.6	11.1	26	78.8	15	0.0	89.9				
40	5	78	1965	13	3	12	0.2	0.1	3.8	61	5.3	1	0.0	9.0	5	28		
41	5	300	1758	57	15	32	2.0	0.7	37.3	90	8.3	6	0.0	45.6	5	28		
42	5	38	8000	0	5	0	0.0	0.0	0.0	0	0.0	0	0.0	0.1				
43	2	9	8000	0	5	0	0.0	0.0	0.0	0	0.0	0	0.0	0.0				
44	1	211	8000	13	18	0	0.0	0.0	0.2	0	0.0	0	0.0	0.2				
45	5	78	1965	55	5	3	0.0	0.0	0.8	29	6.4	15	0.0	7.2				
46	1	10	10000	0	5	22	0.1	0.0	0.9	73	0.0	0	0.0	0.9	8	29		
47	1	10	10000	0	8	18	0.0	0.0	0.7	65	0.0	0	0.0	0.7	36	63		
48	1	10	10000	1	6	29	0.1	0.0	1.1	84	0.0	0	0.0	1.1	36	49		
49	1	10	10000	0	3	23	0.1	0.0	0.9	74	0.0	0	0.0	0.9	29	49		
50	1	62	1874	26	5	39	0.5	0.1	9.5	97	0.2	2	0.0	9.6	70	1		
51	3	10	10000	1	6	35	0.1	0.0	1.4	92	0.0	0	0.0	1.4	66	73		

## Transport Assessment

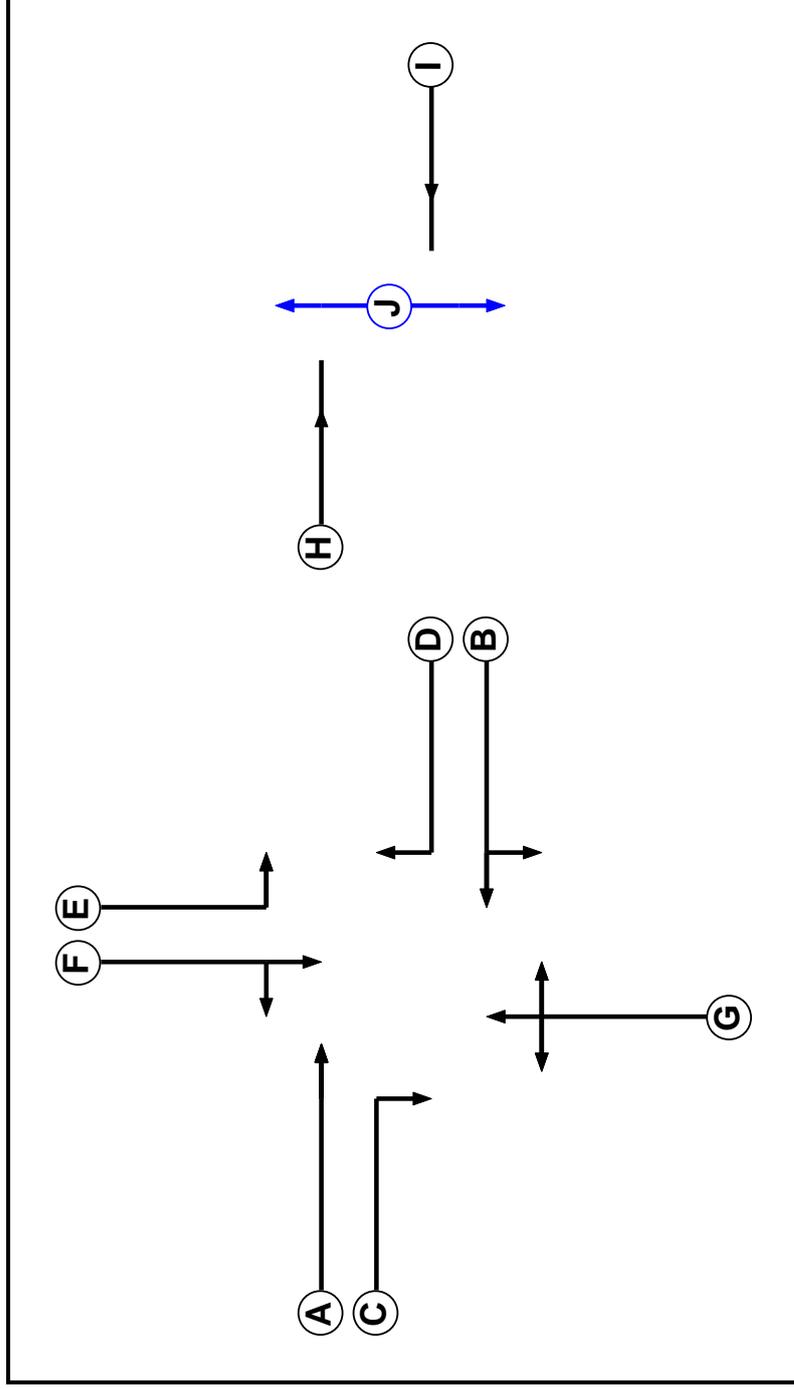
Link	Node	Actual Flow (PCU/H)	Sat. Flow (PCU/H)	Degree Of Saturation (%)	Mean Cruise Time Per PCU (sec)	Mean Delay Time Per PCU (sec)	Uniform Delay (PCU-H/H)	Rand + OverSat Delay (PCU-H/H)	Cost Of Delay (£/H)	Mean Stops Per PCU (%)	Cost Of Stops (£/H)	Mean Max Queue (PCU)	Average Excess Queue (PCU)	P.I. (£/H)	Green1 Start	Green1 End	Green2 Start	Green2 End
52	5	10	10000	1	21	34	0.1	0.0	1.3	90	0.0	0	0.0	1.3	37	45		
53	5	10	10000	1	9	34	0.1	0.0	1.3	90	0.0	0	0.0	1.3	37	45		
54	1	10	1874	26	5	39	0.1	0.0	1.5	97	0.0	2	0.0	1.6	70	1		

# Deptford Church Street (A2209) / Deptford Bridge (A2) / Deptford Broadway (A2) / Brookmill Road (A2210) junction

## Network Layout Diagram

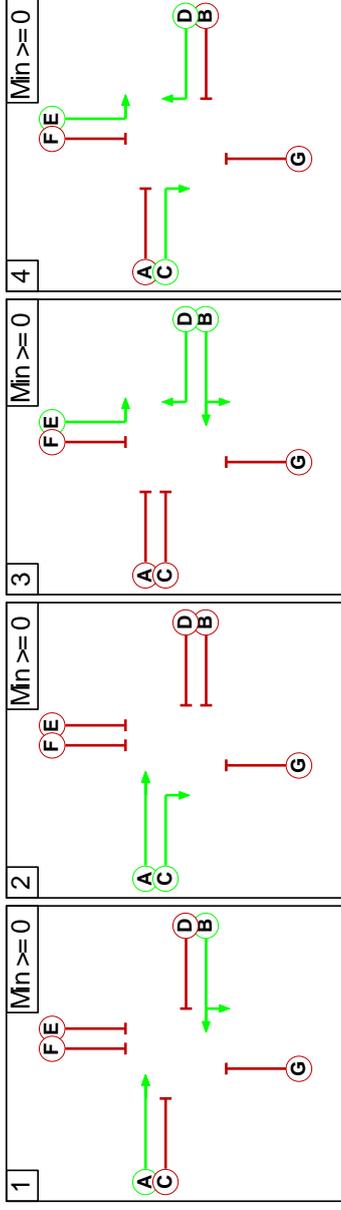


Phase Diagram

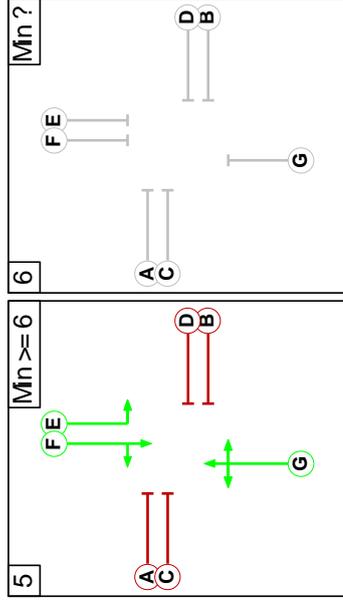


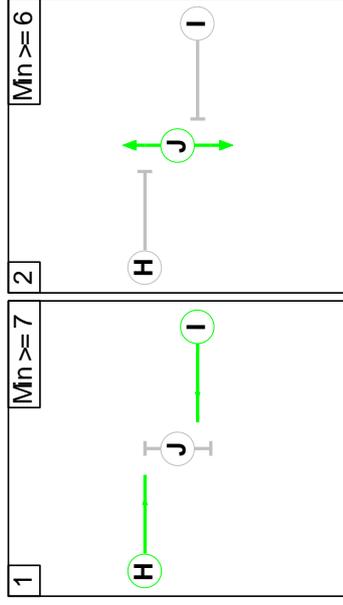
Stage Diagram

Stage Stream: 1



Stage Stream: 2





Phases in Stage

Stream	Stage No.	Phases in Stage
1	1	AB
1	2	AC
1	3	BDE
1	4	CDE
1	5	EFG
1	6	
2	1	HI
2	2	J

Phase Intergreens Matrix

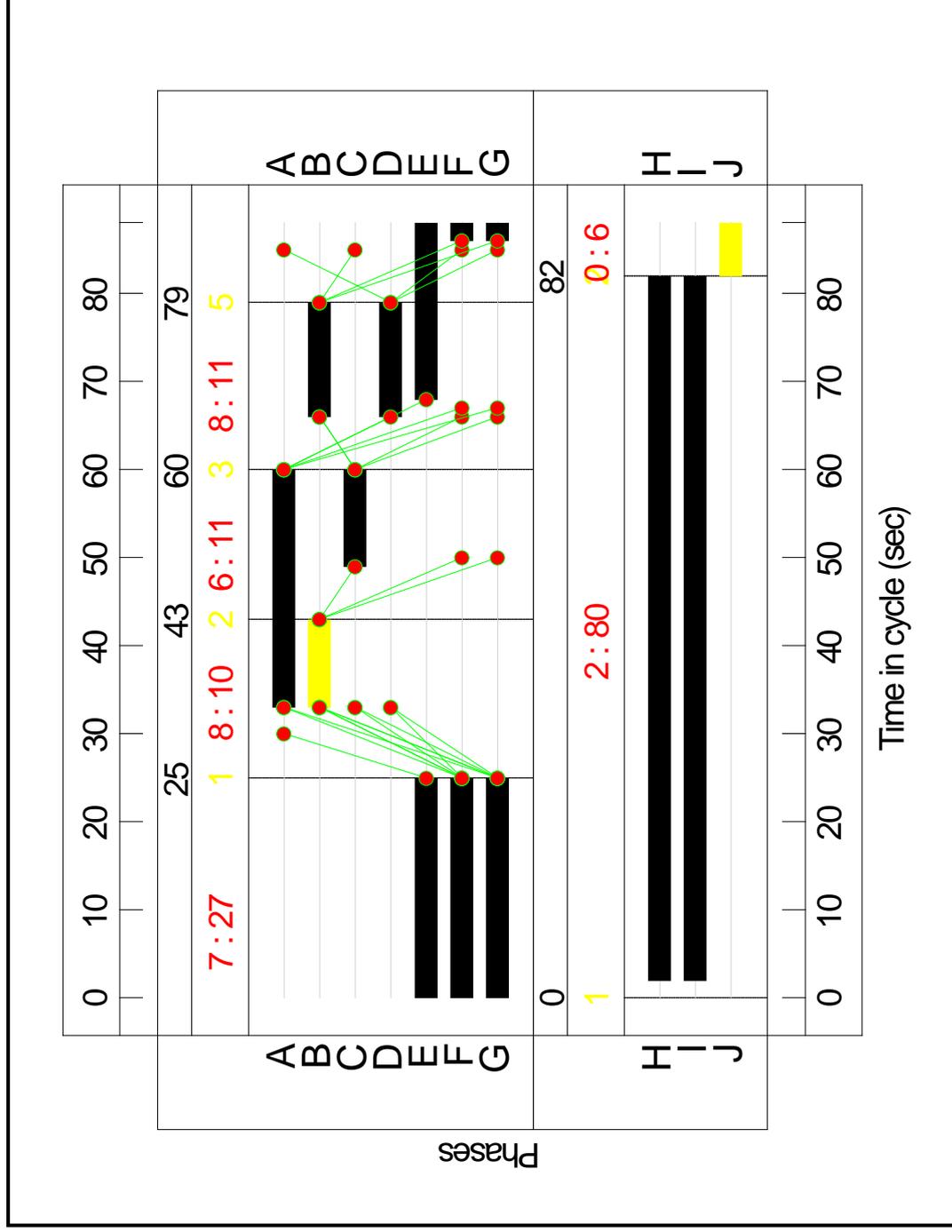
		Starting Phase										
		A	B	C	D	E	F	G	H	I	J	
Terminating Phase	A	-	-	-	6	8	7	7	-	-	-	-
	B	-	6	-	-	-	7	7	-	-	-	-
	C	-	6	-	-	-	6	6	-	-	-	-
	D	6	-	-	-	-	6	6	-	-	-	-
	E	5	-	-	-	-	-	-	-	-	-	-
	F	8	8	8	8	-	-	-	-	-	-	-
	G	8	8	8	8	-	-	-	-	-	-	-
	H	-	-	-	-	-	-	-	-	-	-	-
	I	-	-	-	-	-	-	-	-	-	-	-
	J	-	-	-	-	-	-	-	-	-	-	-

Traffic Flows, Desired

Desired Flow :

	Destination				Tot.	
	A	B	C	D		
Origin	A	0	375	339	58	772
	B	297	0	193	641	1131
	C	293	143	0	25	461
	D	130	973	142	0	1245
Tot.	720	1491	674	724	3609	

Signal Timings Diagram



Transport Assessment

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	98.7%	181	68	11	40.7	-	-
A2 Deptford Bridge/ A2 New Cross Road/ A2209 Deptford Church Street/ A2210 Brookmill Road/ Haton Street	-	-	-	-	-	-	-	-	-	-	98.7%	181	68	11	40.7	-	-
1/2+1/1	A2209 Deptford Church Street Left	U	E		1	45	-	375	1769:1769	1173	32.0%	-	-	-	1.4	13.5	2.6
1/3	A2209 Deptford Church Street Ahead Right	O	F		1	27	-	397	2001	608	65.3%	58	0	0	3.9	35.7	9.1
2/1	A2 Deptford Bridge Ahead	U	-		-	-	-	565	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
2/2	A2 Deptford Bridge Ahead	U	-		-	-	-	566	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
3/2+3/1	A2 Deptford Bridge Left Ahead	U	B		2	23	-	565	1940:1752	731	77.3%	-	-	-	4.1	25.8	7.8
3/3+3/4	A2 Deptford Bridge Right Ahead	U	B D		2:1	23:13	-	566	2080:1892	574	98.7%	-	-	-	14.2	90.6	17.3
Section 23 Appendices: Deptford Church Street																	

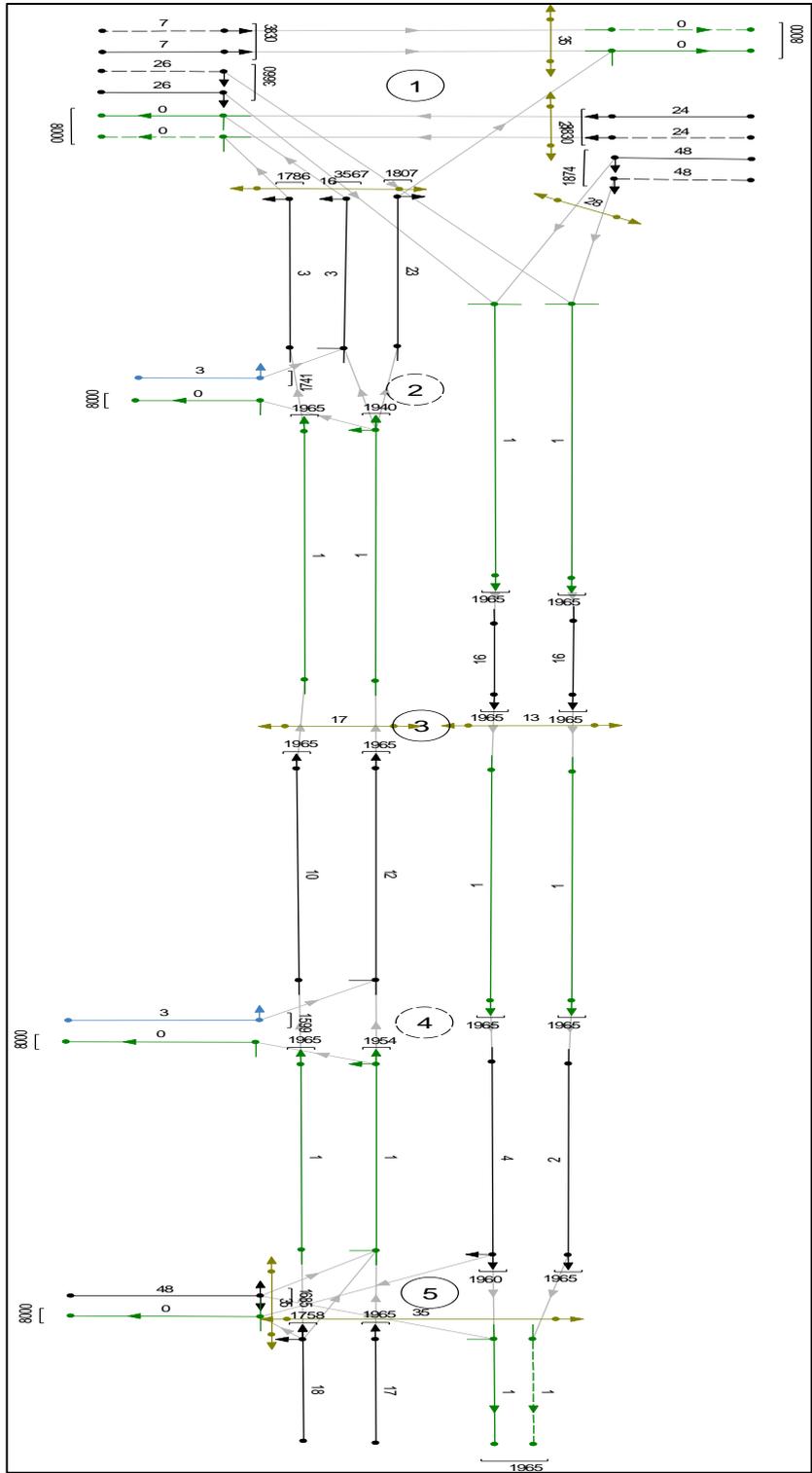
Transport Assessment

4/1	A2210 Brookmill Road Ahead Right Left	O	G		1	27	-	461	1923	593	77.7%	61	0	11	5.4	41.9	11.9
5/1	A2 New Cross Road Ahead	U	A		1	27	-	114	1890	601	19.0%	-	-	-	0.8	25.5	2.1
5/2	A2 New Cross Road Ahead	U	A		1	27	-	427	2105	670	63.8%	-	-	-	3.9	33.0	9.8
5/3+5/4	A2 New Cross Road Ahead Right	U	A C		1	27:11	-	575	1965:1874	701	82.0%	-	-	-	6.8	42.6	12.9
6/1		U	-		-	-	-	720	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
7/1	Ahead	U	-		-	-	-	374	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
7/2	Ahead	U	-		-	-	-	1118	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
8/1		U	-		-	-	-	674	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
9/1		U	-		-	-	-	384	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
9/2		U	-		-	-	-	340	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
10/1	A2 New Cross Road Left	O	-		-	-	-	130	2115	585	22.2%	62	68	0	0.1	4.0	0.1
11/1		U	-		-	-	-	374	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
11/2		U	-		-	-	-	1118	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
12/1	A2 New Cross Road Ahead Ahead2	U	-		-	-	-	1246	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
													40.53	88	88		
													0.00	88	88		
													40.67				
													-9.6				
													0.0				
													-9.6				
													C1	Stream: 1	PRC for Signalled Lanes (%)		
													C1	Stream: 2	PRC for Signalled Lanes (%)		
															PRC Over All Lanes (%)		
															Total Delay for Signalled Lanes (pcuHr):		
															Total Delay for Signalled Lanes (pcuHr):		
															Total Delay Over All Lanes(pcuHr):		

## C.4 Construction base case results, AM peak hour

### Deptford Church Street (A2209)

#### Network Layout Diagram



Transport Assessment

Network Results

TRANSYT Link Results Summary, construction base case (AM peak hour)

Link	Node	Actual Flow (PCU/H)	Sat. Flow (PCU/H)	Degree Of Saturation (%)	Mean Cruise Time Per PCU (sec)	Mean Delay Time Per PCU (sec)	Uniform Delay (PCU-H/H)	Rand + OverSat Delay (PCU-H/H)	Cost Of Delay (£/H)	Mean Stops Per PCU (%)	Cost Of Stops (£/H)	Mean Max Queue (PCU)	Average Excess Queue (PCU)	P.I. (£/H)
1	1	736	3830	65	15	24	4.1	0.7	68.5	82	18.6	18	0.0	87.1
3	1	13	1807	7	3	23	0.0	0.0	1.2	91	5.3	0	0.0	6.5
4	1	407	3567	25	4	3	0.2	0.2	4.8	8	13.8	1	0.0	18.6
5	1	391	3660	40	6	26	2.5	0.3	39.7	81	7.4	8	0.0	47.1
6	1	200	3830	21	15	7	0.3	0.1	5.4	52	3.2	3	0.0	8.6
7	1	213	8000	5	18	0	0.0	0.0	0.2	0	0.0	0	0.0	0.2
8	1	1143	8000	18	18	0	0.0	0.1	1.2	0	0.1	0	0.0	1.3
9	1	201	3830	21	15	7	0.3	0.1	5.4	52	3.2	3	0.0	8.6
10	2	440	1965	22	18	1	0.0	0.1	2.3	15	0.0	4	0.0	2.4
12	1	201	8000	5	18	0	0.0	0.0	0.2	0	0.0	0	0.0	0.2
13	1	234	3830	65	15	24	1.3	0.2	21.8	82	5.9	18	0.0	27.7
18	2	379	1940	20	3	1	0.0	0.1	1.7	1	0.0	0	0.0	1.7
20	2	40	1741	6	15	3	0.0	0.0	0.5	0	0.0	0	0.0	0.5
21	3	440	1965	51	3	16	1.4	0.5	27.9	38	5.1	4	0.0	33.0
22	2	36	1965	2	18	1	0.0	0.0	0.1	1	0.0	0	0.0	0.1
23	3	379	1965	44	3	12	0.9	0.4	18.0	29	8.3	3	0.0	26.3
24	3	36	1965	4	3	16	0.1	0.0	2.3	47	0.5	0	0.0	2.8

Transport Assessment

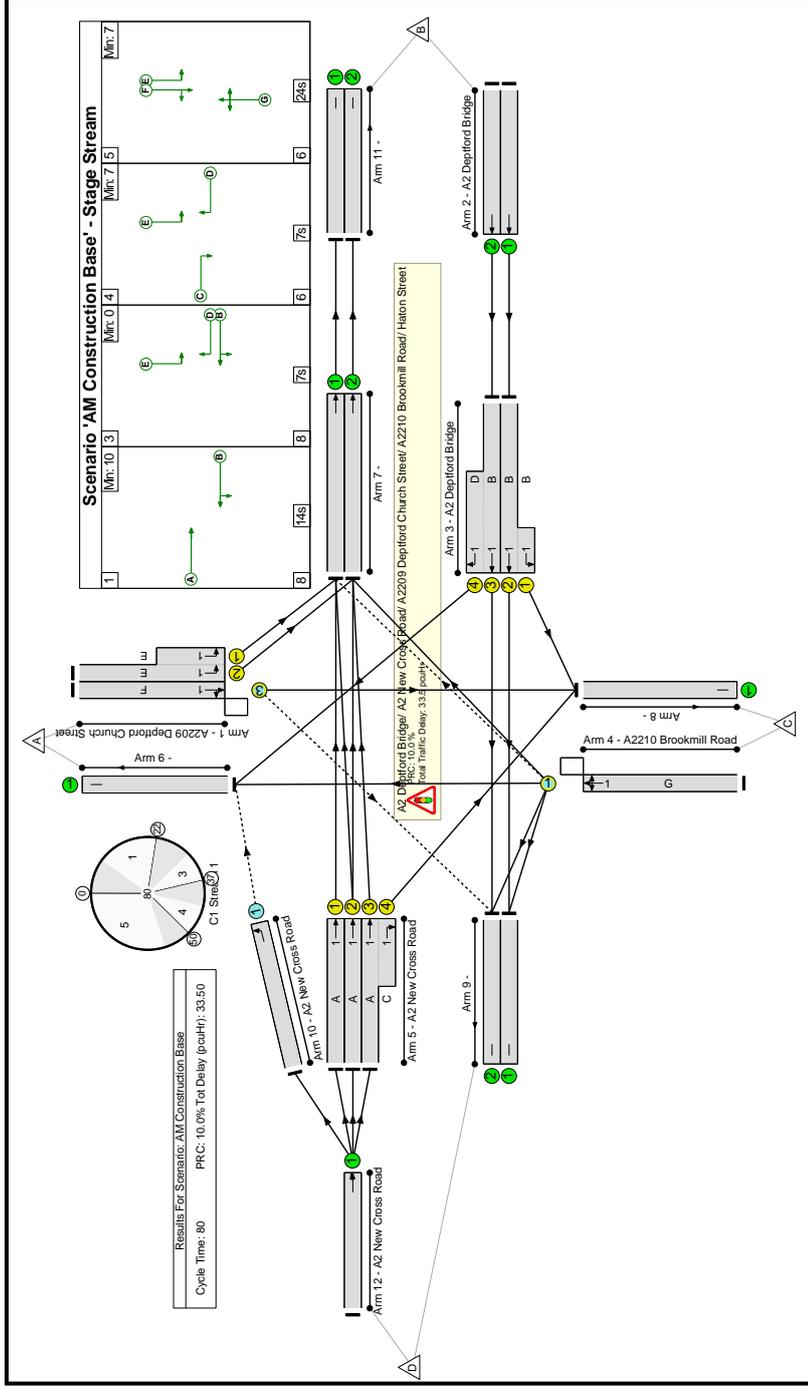
Link	Node	Actual Flow (PCU/H)	Sat. Flow (PCU/H)	Degree Of Saturation (%)	Mean Cruise Time Per PCU (sec)	Mean Delay Time Per PCU (sec)	Uniform Delay (PCU-H/H)	Rand + OverSat Delay (PCU-H/H)	Cost Of Delay (£/H)	Mean Stops Per PCU (%)	Cost Of Stops (£/H)	Mean Max Queue (PCU)	Average Excess Queue (PCU)	P.I. (£/H)
25	4	440	1965	22	3	1	0.0	0.1	2.0	1	0.7	0	0.0	2.8
26	2	73	1965	4	3	1	0.0	0.0	0.3	1	0.0	0	0.0	0.3
27	4	376	1954	19	7	1	0.0	0.1	1.7	1	0.1	0	0.0	1.8
28	3	73	1965	8	3	10	0.2	0.0	2.9	24	1.3	0	0.0	4.2
29	4	24	1599	4	15	3	0.0	0.0	0.3	0	0.0	0	0.0	0.3
30	5	440	1960	47	3	4	0.1	0.4	7.2	6	2.8	1	0.0	9.9
31	4	36	1965	2	3	1	0.0	0.0	0.1	1	0.0	0	0.0	0.2
32	5	366	1965	39	15	17	1.4	0.3	24.1	65	7.3	6	0.0	31.4
33	4	73	1965	4	7	1	0.0	0.0	0.3	1	0.0	0	0.0	0.3
34	5	47	1685	28	15	48	0.4	0.2	8.9	107	1.6	1	0.0	10.5
35	1	73	1786	9	3	3	0.0	0.0	0.8	4	1.3	0	0.0	2.1
36	1	26	3660	40	6	26	0.2	0.0	2.6	81	0.5	8	0.0	3.1
37	3	10	1000	2	6	17	0.0	0.0	0.6	60	0.0	0	0.0	0.7
38	4	21	8000	0	5	0	0.0	0.0	0.0	0	0.0	0	0.0	0.0
39	5	454	1965	25	5	1	0.0	0.2	2.2	2	2.0	0	0.0	4.2
40	5	36	1965	4	3	2	0.0	0.0	0.3	3	0.1	0	0.0	0.5
41	5	397	1758	48	15	18	1.6	0.5	28.7	69	8.4	6	0.0	37.2
42	5	337	8000	4	5	0	0.0	0.0	0.3	0	0.3	0	0.0	0.6
43	2	39	8000	0	5	0	0.0	0.0	0.0	0	0.0	0	0.0	0.1

Transport Assessment

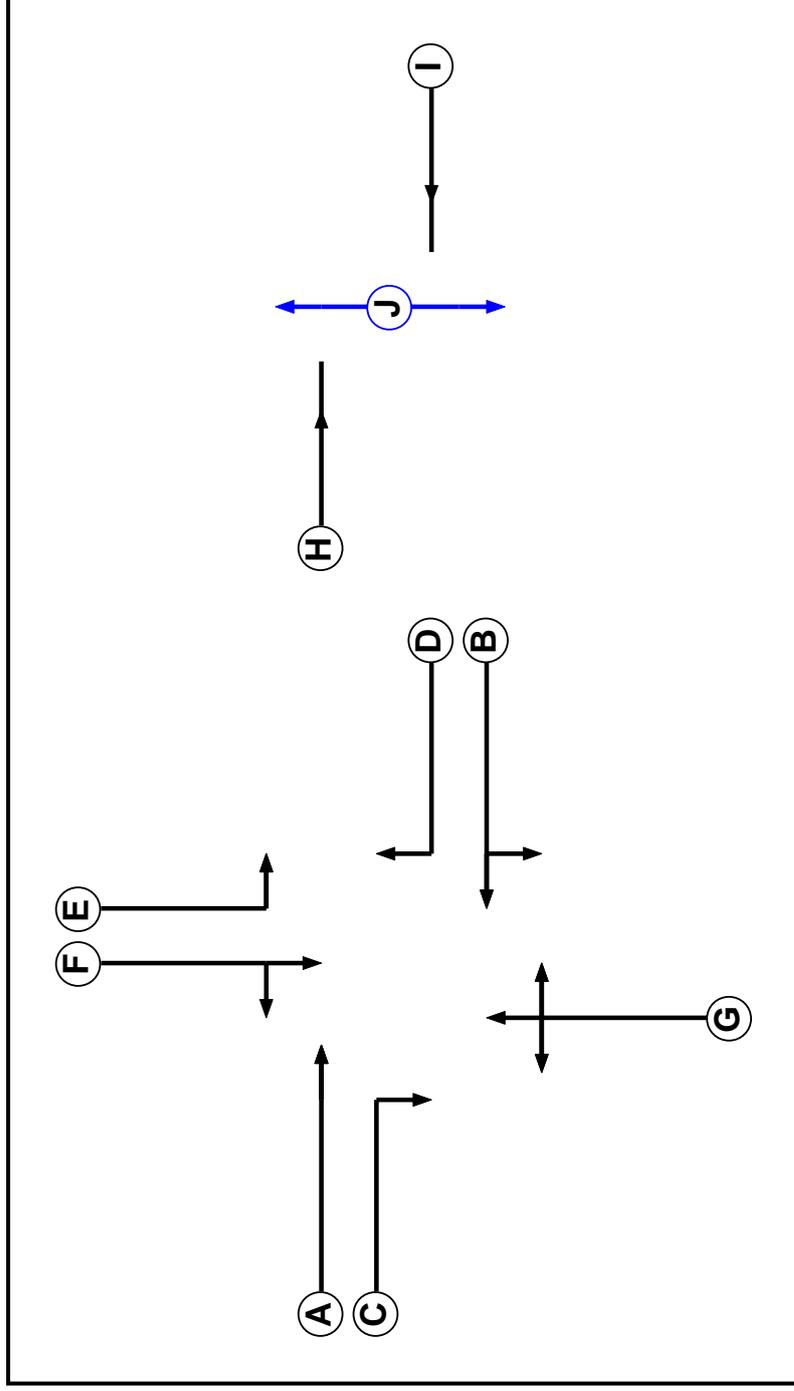
Link	Node	Actual Flow (PCU/H)	Sat. Flow (PCU/H)	Degree Of Saturation (%)	Mean Cruise Time Per PCU (sec)	Mean Delay Time Per PCU (sec)	Uniform Delay (PCU-H/H)	Rand + OverSat Delay (PCU-H/H)	Cost Of Delay (£/H)	Mean Stops Per PCU (%)	Cost Of Stops (£/H)	Mean Max Queue (PCU)	Average Excess Queue (PCU)	P.I. (£/H)
44	1	307	8000	18	18	0	0.0	0.0	0.3	0	0.0	0	0.0	0.4
45	5	36	1965	25	5	1	0.0	0.0	0.2	2	0.2	0	0.0	0.3
46	1	10	10000	0	5	16	0.0	0.0	0.6	62	0.0	0	0.0	0.6
47	1	10	10000	0	8	21	0.1	0.0	0.8	72	0.0	0	0.0	0.8
48	1	10	10000	1	6	35	0.1	0.0	1.4	92	0.0	0	0.0	1.4
49	1	10	10000	1	3	28	0.1	0.0	1.1	82	0.0	0	0.0	1.1
50	1	49	1874	31	5	48	0.5	0.2	9.2	109	0.1	1	0.0	9.3
51	3	10	10000	0	6	13	0.0	0.0	0.5	55	0.0	0	0.0	0.5
52	5	10	10000	1	21	35	0.1	0.0	1.4	92	0.0	0	0.0	1.4
53	5	10	10000	1	9	35	0.1	0.0	1.4	92	0.0	0	0.0	1.4
54	1	10	1874	31	5	48	0.1	0.0	1.9	109	0.0	1	0.0	1.9

# Deptford Church Street (A2209) / Deptford Bridge (A2) / Deptford Broadway (A2) / Brookmill Road (A2210) junction

Network Layout Diagram

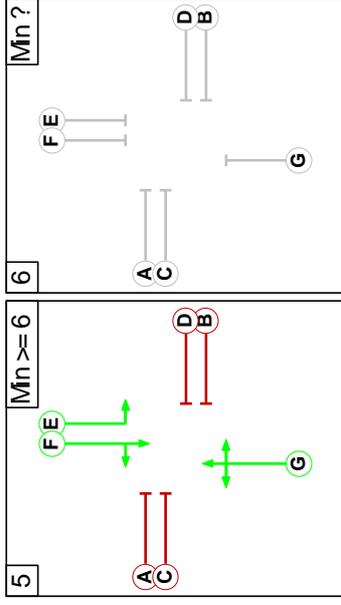
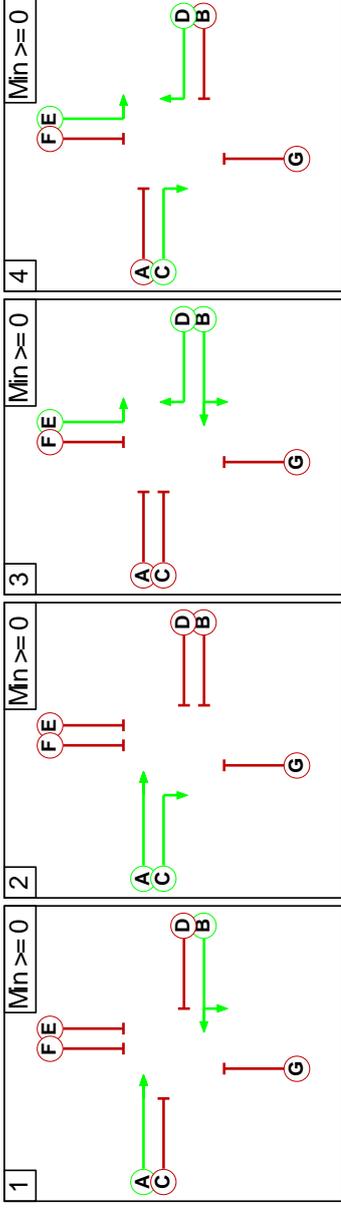


Phase Diagram

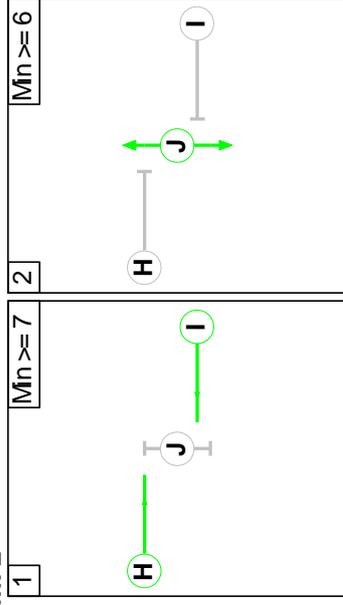


Stage Diagram

Stage Stream: 1



Stage Stream: 2



Phases in Stage

Stream	Stage No.	Phases in Stage
1	1	A B
1	2	A C
1	3	B D E
1	4	C D E
1	5	E F G
1	6	
2	1	H I
2	2	J

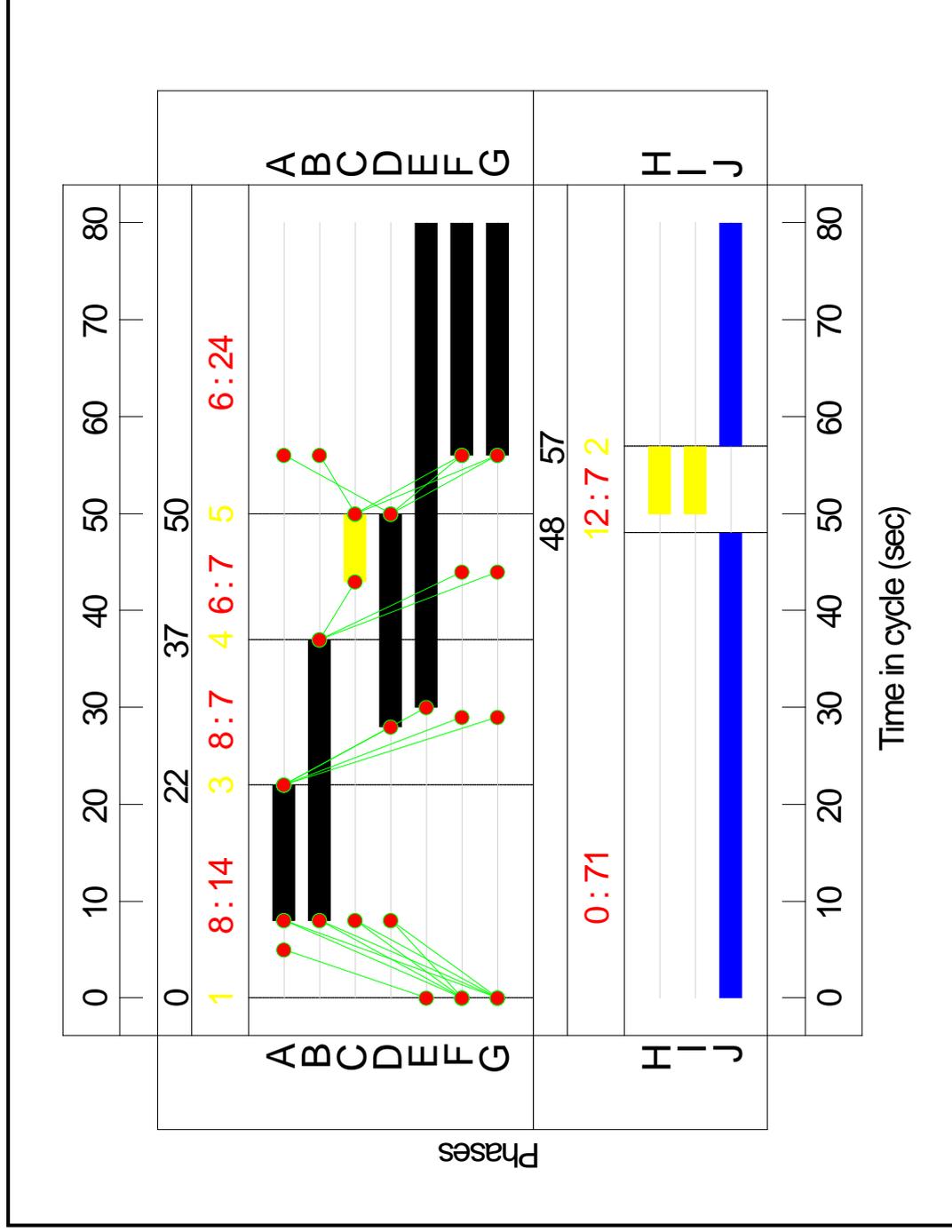
Phases Intergreens Matrix

		Starting Phase									
		A	B	C	D	E	F	G	H	I	J
Terminating Phase	A	-	-	6	8	7	7	7	-	-	-
	B	6	-	-	-	7	7	7	-	-	-
	C	-	6	-	-	6	6	6	-	-	-
	D	6	-	-	-	6	6	6	-	-	-
	E	5	-	-	-	-	-	-	-	-	-
	F	8	8	8	8	-	-	-	-	-	-
	G	8	8	8	8	-	-	-	-	-	-
	H	-	-	-	-	-	-	-	-	-	-
	I	-	-	-	-	-	-	-	-	-	-
	J	-	-	-	-	-	-	-	-	-	-

Traffic Flows, Desired  
Desired Flow :

	Destination				
	A	B	C	D	Tot.
A	0	266	265	64	595
B	386	0	200	855	1441
C	338	112	0	42	492
D	126	778	97	0	1001
Tot.	850	1156	562	961	3529

Signal Timings Diagram



Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	81.8%	140	50	0	33.5	-	-
A2 Deptford Bridge/ A2 New Cross Road/ A2209 Deptford Church Street/ A2210 Brookmill Road/ Haton Street	-	-	-	-	-	-	-	-	-	-	81.8%	140	50	0	33.5	-	-
1/2+1/1	A2209 Deptford Church Street Left	U	E		1	50	-	266	1769:1769	1402	19.0%	-	-	-	0.5	7.3	1.3
1/3	A2209 Deptford Church Street Ahead Right	O	F		1	24	-	329	1996	512	64.2%	64	0	0	3.2	35.1	6.8
2/1	A2 Deptford Bridge Ahead	U	-		-	-	-	642	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
2/2	A2 Deptford Bridge Ahead	U	-		-	-	-	799	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
3/2+3/1	A2 Deptford Bridge Left Ahead	U	B		1	29	-	642	1940:1752	801	80.1%	-	-	-	5.7	31.8	12.5
3/3+3/4	A2 Deptford Bridge Right Ahead	U	B D		1	29:22	-	799	2080:1892	987	80.9%	-	-	-	7.1	31.8	9.7

Transport Assessment

4/1	A2210 Brookmill Road Ahead Right Left	O	G		1	24	-	492	1924	601	81.8%	0	0	0	5.6	41.3	12.1				
5/1	A2 New Cross Road Ahead	U	A		1	14	-	238	1890	354	67.2%	-	-	-	3.0	45.4	5.9				
5/2	A2 New Cross Road Ahead	U	A		1	14	-	280	2105	395	70.9%	-	-	-	3.6	45.8	7.0				
5/3+5/4	A2 New Cross Road Ahead Right	U	A C		1	14:7	-	357	1965:1874	468	76.3%	-	-	-	4.7	47.3	6.9				
6/1		U	-		-	-	-	850	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0				
7/1	Ahead	U	-		-	-	-	511	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0				
7/2	Ahead	U	-		-	-	-	645	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0				
8/1		U	-		-	-	-	562	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0				
9/1		U	-		-	-	-	463	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0				
9/2		U	-		-	-	-	498	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0				
10/1	A2 New Cross Road Left	O	-		-	-	-	126	2115	556	22.7%	76	50	0	0.1	4.2	0.1				
11/1		U	-		-	-	-	511	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0				
11/2		U	-		-	-	-	645	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0				
12/1	A2 New Cross Road Ahead Ahead2	U	-		-	-	-	1001	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0				
													C1 Stream: 1 PRC for Signalled Lanes (%):		10.0	Total Delay for Signalled Lanes (pcuHr):		33.36	Cycle Time (s):		80
													C1 Stream: 2 PRC for Signalled Lanes (%):		0.0	Total Delay for Signalled Lanes (pcuHr):		0.00	Cycle Time (s):		80
													PRC Over All Lanes (%):		10.0	Total Delay Over All Lanes(pcuHr):		33.50			



Network Results

TRANSYT Link Results Summary, construction base case (PM peak hour)

Link	Node	Actual Flow (PCU/H)	Sat. Flow (PCU/H)	Degree Of Saturation (%)	Mean Cruise Time Per PCU (sec)	Mean Delay Time Per PCU (sec)	Uniform Delay (PCU-H/H)	Rand + OverSat Delay (PCU-H/H)	Cost Of Delay (£/H)	Mean Stops Per PCU (%)	Cost Of Stops (£/H)	Mean Max Queue (PCU)	Average Excess Queue (PCU)	P.I. (£/H)	Green1 Start	Green1 End	Green2 Start	Green2 End
1	1	305	3830	51	15	36	2.7	0.3	42.8	88	8.3	11	0.0	51.1	66	88		
3	1	92	1807	31	3	19	0.3	0.2	6.9	74	30.3	2	0.0	37.2	44	59		
4	1	517	3567	23	4	3	0.2	0.1	5.3	7	16.2	1	0.0	21.5	95	59		
5	1	586	3660	44	6	23	3.4	0.4	52.6	72	9.9	13	0.0	62.5	95	37		
6	1	425	3830	44	15	10	0.9	0.2	16.1	61	8.0	9	0.0	24.1	66	88	13	37
7	1	517	8000	12	18	0	0.0	0.0	0.5	0	0.0	0	0.0	0.5				
8	1	821	8000	13	18	0	0.0	0.1	0.8	0	0.0	0	0.0	0.9				
9	1	425	3830	44	15	10	0.9	0.2	16.1	61	8.0	9	0.0	24.1	66	88	13	37
10	2	651	1965	33	18	2	0.2	0.2	5.9	45	0.2	10	0.0	6.1				
12	1	425	8000	12	18	0	0.0	0.0	0.4	0	0.0	0	0.0	0.5				
13	1	162	3830	51	15	36	1.4	0.2	22.7	88	4.4	11	0.0	27.1	66	88		
18	2	584	1940	30	3	1	0.0	0.2	3.2	6	0.0	7	0.0	3.2				
20	2	41	1741	7	15	3	0.0	0.0	0.5	0	0.0	0	0.0	0.5				
21	3	651	1965	40	3	2	0.0	0.3	5.3	4	0.7	1	0.0	6.1	91	73		

Transport Assessment

Link	Node	Actual Flow (PCU/H)	Sat. Flow (PCU/H)	Degree Of Saturation (%)	Mean Cruise Time Per PCU (sec)	Mean Delay Time Per PCU (sec)	Uniform Delay (PCU-H/H)	Rand + OverSat Delay (PCU-H/H)	Cost Of Delay (£/H)	Mean Stops Per PCU (%)	Cost Of Stops (£/H)	Mean Max Queue (PCU)	Average Excess Queue (PCU)	P.I. (£/H)	Green1 Start	Green1 End	Green2 Start	Green2 End
22	2	78	1965	4	18	1	0.0	0.0	0.3	1	0.0	0	0.0	0.3				
23	3	584	1965	36	3	2	0.0	0.3	4.2	3	1.2	0	0.0	5.3	91	73		
24	3	78	1965	5	3	1	0.0	0.0	0.4	3	0.1	0	0.0	0.5	91	73		
25	4	651	1965	33	3	1	0.0	0.2	3.5	1	1.0	0	0.0	4.5				
26	2	49	1965	2	3	1	0.0	0.0	0.2	1	0.0	0	0.0	0.2				
27	4	574	1954	29	7	4	0.4	0.2	8.3	52	7.0	12	0.0	15.3				
28	3	49	1965	3	3	1	0.0	0.0	0.2	1	0.0	0	0.0	0.3	91	73		
29	4	10	1599	2	15	3	0.0	0.0	0.1	0	0.0	0	0.0	0.1				
30	5	651	1960	94	3	47	2.6	5.9	121.2	61	44.1	11	0.0	165.3	13	46		
31	4	78	1965	4	3	1	0.0	0.0	0.3	1	0.1	0	0.0	0.4				
32	5	318	1965	46	15	29	2.1	0.4	35.9	79	7.7	7	0.0	43.6	13	46		
33	4	49	1965	3	7	1	0.0	0.0	0.2	1	0.0	0	0.0	0.2				
34	5	463	1685	94	15	78	4.3	5.8	142.8	136	19.4	18	0.0	162.2	77	8		
35	1	49	1786	4	3	3	0.0	0.0	0.5	5	1.1	0	0.0	1.6	95	59		
36	1	68	3660	44	6	23	0.4	0.0	6.1	72	1.1	13	0.0	7.3	95	37		

Transport Assessment

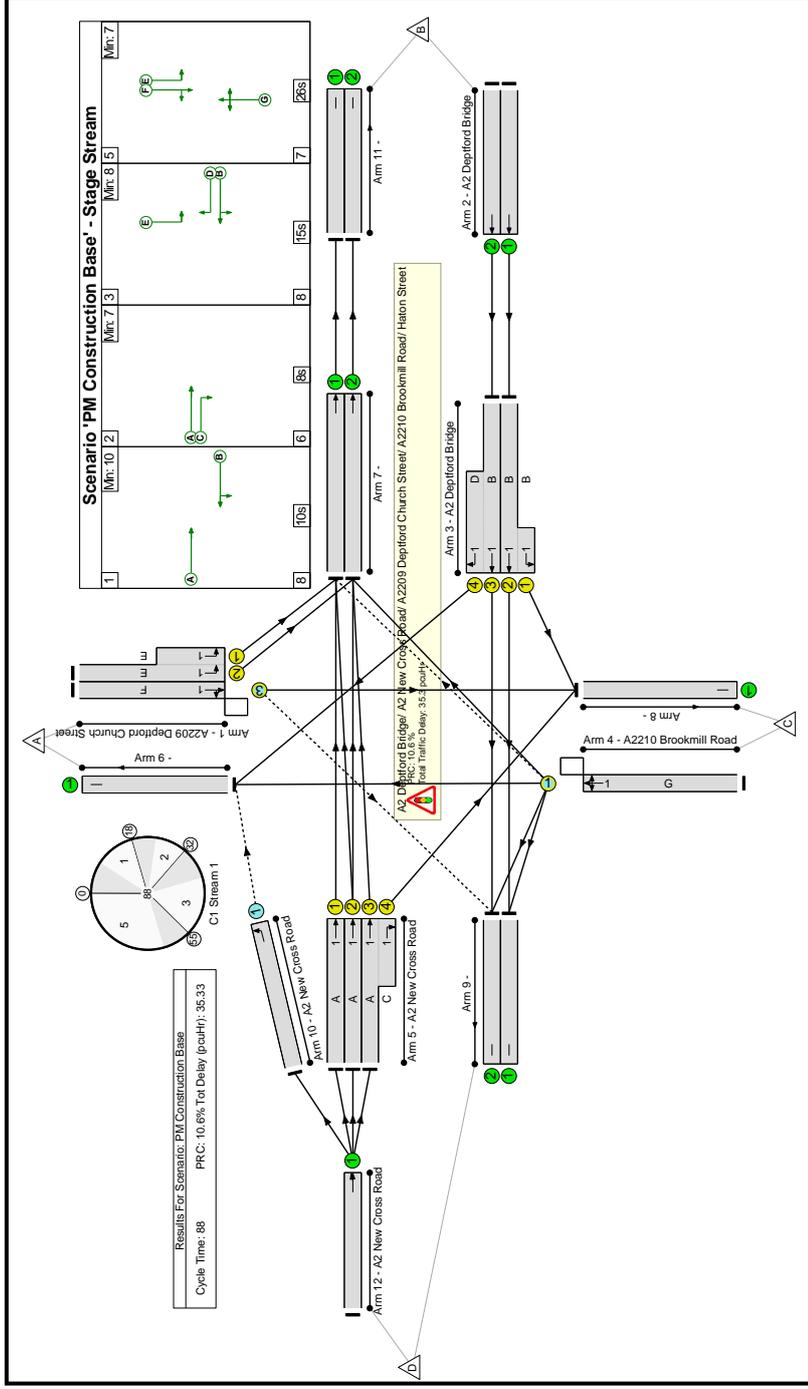
Link	Node	Actual Flow (PCU/H)	Sat. Flow (PCU/H)	Degree Of Saturation (%)	Mean Cruise Time Per PCU (sec)	Mean Delay Time Per PCU (sec)	Uniform Delay (PCU-H/H)	Rand + OverSat Delay (PCU-H/H)	Cost Of Delay (£/H)	Mean Stops Per PCU (%)	Cost Of Stops (£/H)	Mean Max Queue (PCU)	Average Excess Queue (PCU)	P.I. (£/H)	Green1 Start	Green1 End	Green2 Start	Green2 End
37	3	10	1000	12	6	65	0.1	0.1	2.6	115	0.0	0	0.0	2.6	78	85		
38	4	10	8000	0	5	0	0.0	0.0	0.0	0	0.0	0	0.0	0.0				
39	5	646	1965	37	5	1	0.0	0.3	3.7	2	2.8	0	0.0	6.5				
40	5	78	1965	11	3	17	0.3	0.1	5.2	34	2.9	1	0.0	8.1	13	46		
41	5	311	1758	50	15	30	2.1	0.5	36.9	81	7.8	7	0.0	44.7	13	46		
42	5	40	8000	1	5	0	0.0	0.0	0.0	0	0.0	0	0.0	0.1				
43	2	11	8000	0	5	0	0.0	0.0	0.0	0	0.0	0	0.0	0.0				
44	1	211	8000	13	18	0	0.0	0.0	0.2	0	0.0	0	0.0	0.2				
45	5	78	1965	37	5	1	0.0	0.0	0.4	2	0.3	0	0.0	0.8				
46	1	10	10000	0	5	29	0.1	0.0	1.1	77	0.0	0	0.0	1.1	66	88		
47	1	10	10000	0	8	18	0.0	0.0	0.7	60	0.0	0	0.0	0.7	95	37		
48	1	10	10000	1	6	43	0.1	0.0	1.7	94	0.0	0	0.0	1.7	95	6		
49	1	10	10000	1	3	36	0.1	0.0	1.4	85	0.0	0	0.0	1.4	88	6		
50	1	65	1874	24	5	42	0.6	0.1	10.9	94	0.2	2	0.0	11.0	44	59		
51	3	10	10000	1	6	43	0.1	0.0	1.7	94	0.0	0	0.0	1.7	78	85		

## Transport Assessment

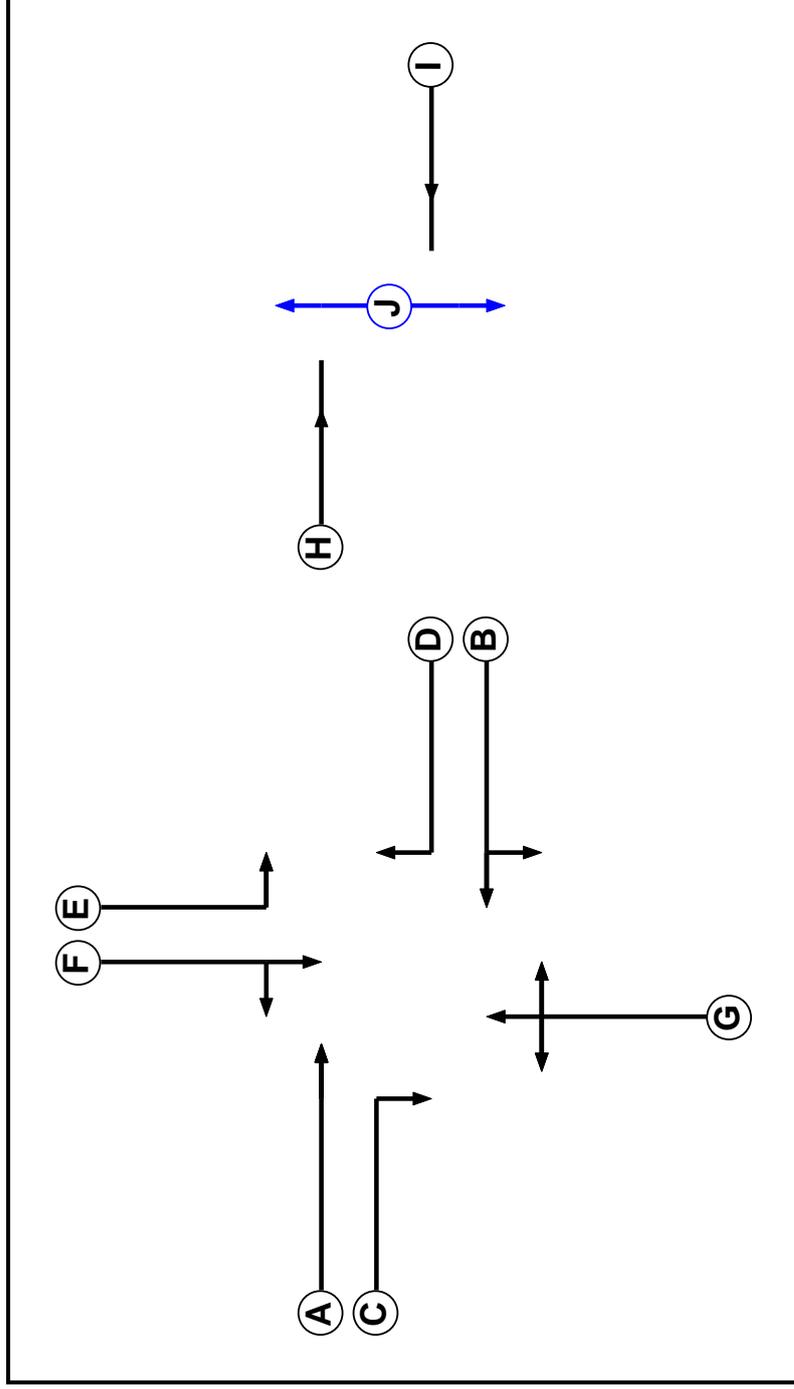
Link	Node	Actual Flow (PCU/H)	Sat. Flow (PCU/H)	Degree Of Saturation (%)	Mean Cruise Time Per PCU (sec)	Mean Delay Time Per PCU (sec)	Uniform Delay (PCU-H/H)	Rand + OverSat Delay (PCU-H/H)	Cost Of Delay (£/H)	Mean Stops Per PCU (%)	Cost Of Stops (£/H)	Mean Max Queue (PCU)	Average Excess Queue (PCU)	P.I. (£/H)	Green1 Start	Green1 End	Green2 Start	Green2 End
52	5	10	10000	1	21	43	0.1	0.0	1.7	94	0.0	0	0.0	1.7	55	62		
53	5	10	10000	1	9	43	0.1	0.0	1.7	94	0.0	0	0.0	1.7	55	62		
54	1	10	1874	24	5	42	0.1	0.0	1.7	94	0.0	2	0.0	1.7	44	59		

# Deptford Church Street (A2209) / Deptford Bridge (A2) / Deptford Broadway (A2) / Brookmill Road (A2210) junction

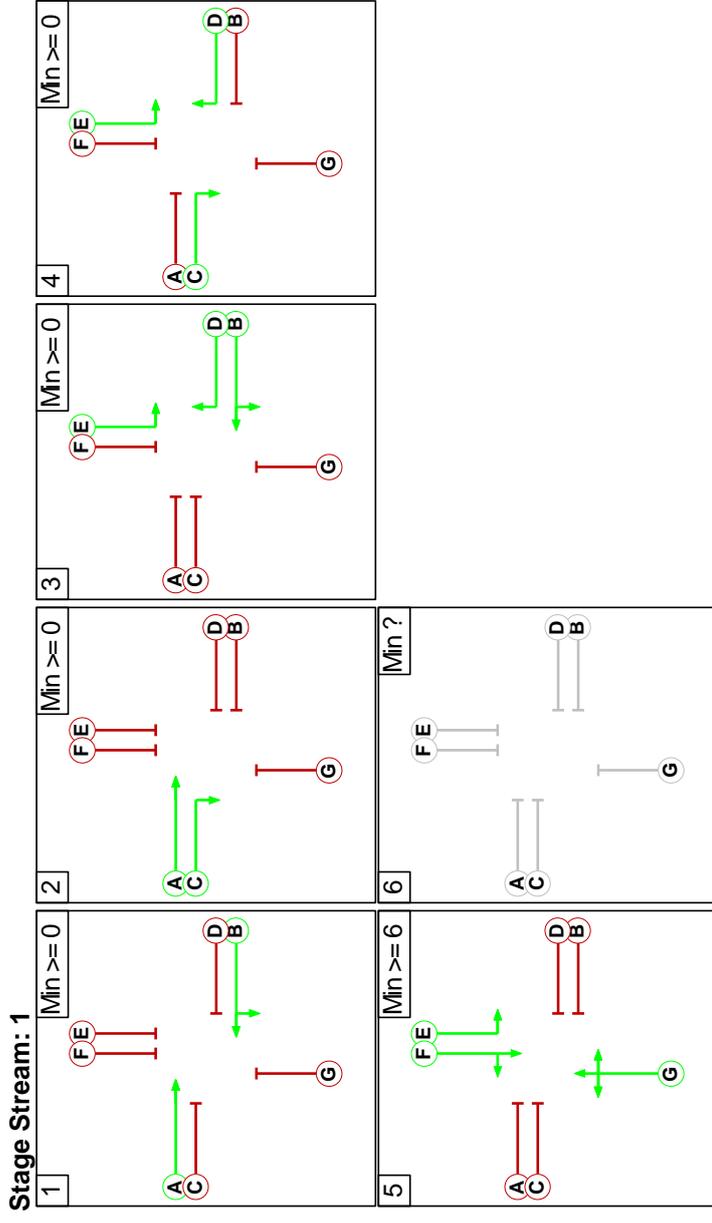
Network Layout Diagram

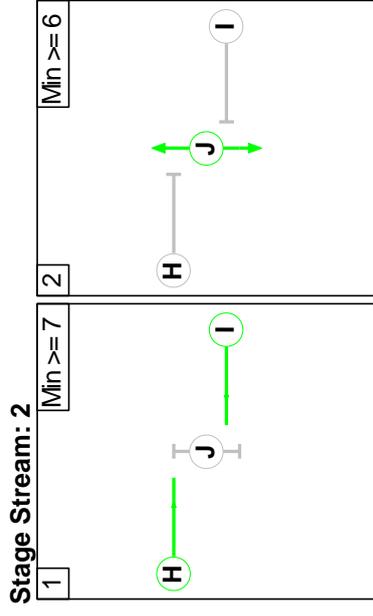


Phase Diagram



## Stage Diagram





Phases in Stage

Stream	Stage No.	Phases in Stage
1	1	AB
1	2	AC
1	3	BDE
1	4	CDE
1	5	EFG
1	6	
2	1	HI
2	2	J

Phase Intergreens Matrix

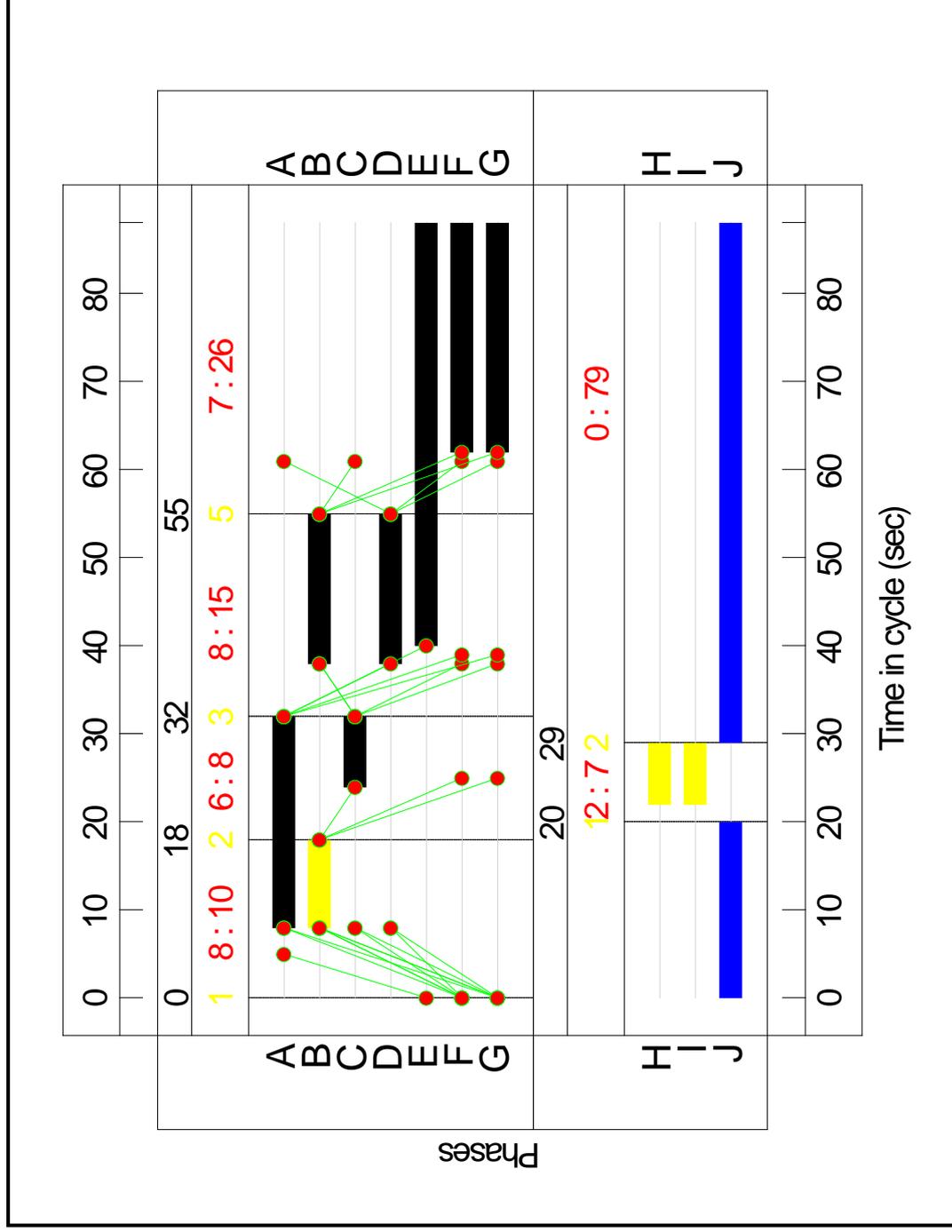
Terminating Phase	Starting Phase									
	A	B	C	D	E	F	G	H	I	J
A	-	-	-	6	8	7	7	-	-	-
B	-	-	6	-	-	7	7	-	-	-
C	-	6	-	-	-	6	6	-	-	-
D	6	-	-	-	-	6	6	-	-	-
E	5	-	-	-	-	-	-	-	-	-
F	8	8	8	8	-	-	-	-	-	-
G	8	8	8	8	-	-	-	-	-	-
H	-	-	-	-	-	-	-	-	-	-
I	-	-	-	-	-	-	-	-	-	-
J	-	-	-	-	-	-	-	-	-	-

Traffic Flows, Desired

Desired Flow :

Origin	Destination					Tot.
	A	B	C	D	Tot.	
A	0	390	353	60	803	803
B	309	0	201	667	1177	1177
C	305	149	0	26	480	480
D	135	1012	148	0	1295	1295
Tot.	749	1551	702	753	3755	3755

Signal Timings Diagram



Transport Assessment

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	81.4%	129	66	0	35.3	-	-
A2 Deptford Bridge/ A2 New Cross Road/ A2209 Deptford Church Street/ A2210 Brookmill Road/ Haton Street	-	-	-	-	-	-	-	-	-	-	81.4%	129	66	0	35.3	-	-
1/2+1/1	A2209 Deptford Church Street Left	U	E		1	48	-	390	1769:1769	1235	31.6%	-	-	-	1.3	11.8	2.6
1/3	A2209 Deptford Church Street Ahead Right	O	F		1	26	-	413	2001	574	72.0%	60	0	0	4.5	39.6	10.0
2/1	A2 Deptford Bridge Ahead	U	-		-	-	-	645	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
2/2	A2 Deptford Bridge Ahead	U	-		-	-	-	532	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
3/2+3/1	A2 Deptford Bridge Left Ahead	U	B		2	27	-	645	1940:1752	795	81.1%	-	-	-	5.0	27.9	10.0

Transport Assessment

3/3+3/4	A2 Deptford Bridge Right Ahead	U	B D	2:1	27:17	-	532	2080:1892	656	81.1%	-	-	-	5.7	38.6	9.2		
4/1	A2210 Brookmill Road Ahead Right Left	O	G	1	26	-	480	1923	590	81.4%	0	0	5.9	43.9	12.9			
5/1	A2 New Cross Road Ahead	U	A	1	24	-	344	1890	537	64.1%	-	-	3.5	36.8	8.2			
5/2	A2 New Cross Road Ahead	U	A	1	24	-	400	2105	598	66.9%	-	-	4.1	36.8	9.6			
5/3+5/4	A2 New Cross Road Ahead Right	U	A C	1	24:8	-	416	1965:1874	539	77.2%	-	-	5.2	44.8	7.0			
6/1	Ahead	U	-	-	-	-	749	Inf	Inf	0.0%	-	-	0.0	0.0	0.0			
7/1	Ahead	U	-	-	-	-	739	Inf	Inf	0.0%	-	-	0.0	0.0	0.0			
7/2	Ahead	U	-	-	-	-	812	Inf	Inf	0.0%	-	-	0.0	0.0	0.0			
8/1	Ahead	U	-	-	-	-	702	Inf	Inf	0.0%	-	-	0.0	0.0	0.0			
9/1	Ahead	U	-	-	-	-	457	Inf	Inf	0.0%	-	-	0.0	0.0	0.0			
9/2	Ahead	U	-	-	-	-	296	Inf	Inf	0.0%	-	-	0.0	0.0	0.0			
10/1	A2 New Cross Road Left	O	-	-	-	-	135	2115	580	23.3%	69	66	0.2	4.0	0.2			
11/1	Ahead	U	-	-	-	-	739	Inf	Inf	0.0%	-	-	0.0	0.0	0.0			
11/2	Ahead	U	-	-	-	-	812	Inf	Inf	0.0%	-	-	0.0	0.0	0.0			
12/1	A2 New Cross Road Ahead Ahead2	U	-	-	-	-	1295	Inf	Inf	0.0%	-	-	0.0	0.0	0.0			
										C1 Stream: 1 PRC for Signalled Lanes (%):		10.6	Total Delay for Signalled Lanes (pcuHr):		35.18	Cycle Time (s):		88
										C1 Stream: 2 PRC for Signalled Lanes (%):		0.0	Total Delay for Signalled Lanes (pcuHr):		0.00	Cycle Time (s):		88
										PRC Over All Lanes (%):		10.6	Total Delay Over All Lanes (pcuHr):		35.33			



Transport Assessment

Network Results

TRANSYT Link Results Summary, construction development case – phase 1 (AM peak hour)

Link	Node	Actual Flow (PCU/H)	Sat. Flow (PCU/H)	Degree Of Saturation (%)	Mean Cruise Time Per PCU (sec)	Mean Delay Time Per PCU (sec)	Uniform Delay (PCU-H/H)	Rand + OverSat Delay (PCU-H/H)	Cost Of Delay (£/H)	Mean Stops Per PCU (%)	Cost Of Stops (£/H)	Mean Max Queue (PCU)	Average Excess Queue (PCU)	P.I. (£/H)
1	1	738	3830	63	15	23	4.0	0.7	65.5	80	18.3	18	0.0	83.8
3	1	20	1807	11	3	23	0.1	0.1	1.8	90	8.0	0	0.0	9.9
4	1	372	3567	23	4	4	0.2	0.2	5.5	10	16.7	1	0.0	22.1
5	1	395	3660	42	6	27	2.6	0.3	41.8	83	7.7	8	0.0	49.5
6	1	200	3830	21	15	7	0.3	0.1	5.4	52	3.2	3	0.0	8.6
7	1	220	8000	5	18	0	0.0	0.0	0.2	0	0.0	0	0.0	0.2
8	1	1110	8000	18	18	0	0.0	0.1	1.2	0	0.1	0	0.0	1.3
9	1	203	3830	21	15	7	0.3	0.1	5.4	52	3.3	3	0.0	8.7
10	2	445	1965	23	18	1	0.0	0.1	2.4	18	0.1	5	0.0	2.5
12	1	203	8000	5	18	0	0.0	0.0	0.2	0	0.0	0	0.0	0.2
13	1	234	3830	63	15	23	1.3	0.2	20.8	80	5.8	18	0.0	26.6
18	2	383	1940	20	3	1	0.0	0.1	1.7	1	0.0	0	0.0	1.7
20	2	48	1741	8	15	3	0.0	0.0	0.6	0	0.0	0	0.0	0.6
21	3	445	1965	50	3	15	1.4	0.5	27.1	37	5.0	4	0.0	32.1
22	2	36	1965	2	18	1	0.0	0.0	0.1	1	0.0	0	0.0	0.1
23	3	383	1965	43	3	12	0.9	0.4	17.6	28	8.3	2	0.0	25.9
24	3	36	1965	4	3	16	0.1	0.0	2.2	47	0.5	0	0.0	2.7
25	4	445	1965	23	3	1	0.0	0.1	2.1	1	0.7	0	0.0	2.8

Transport Assessment

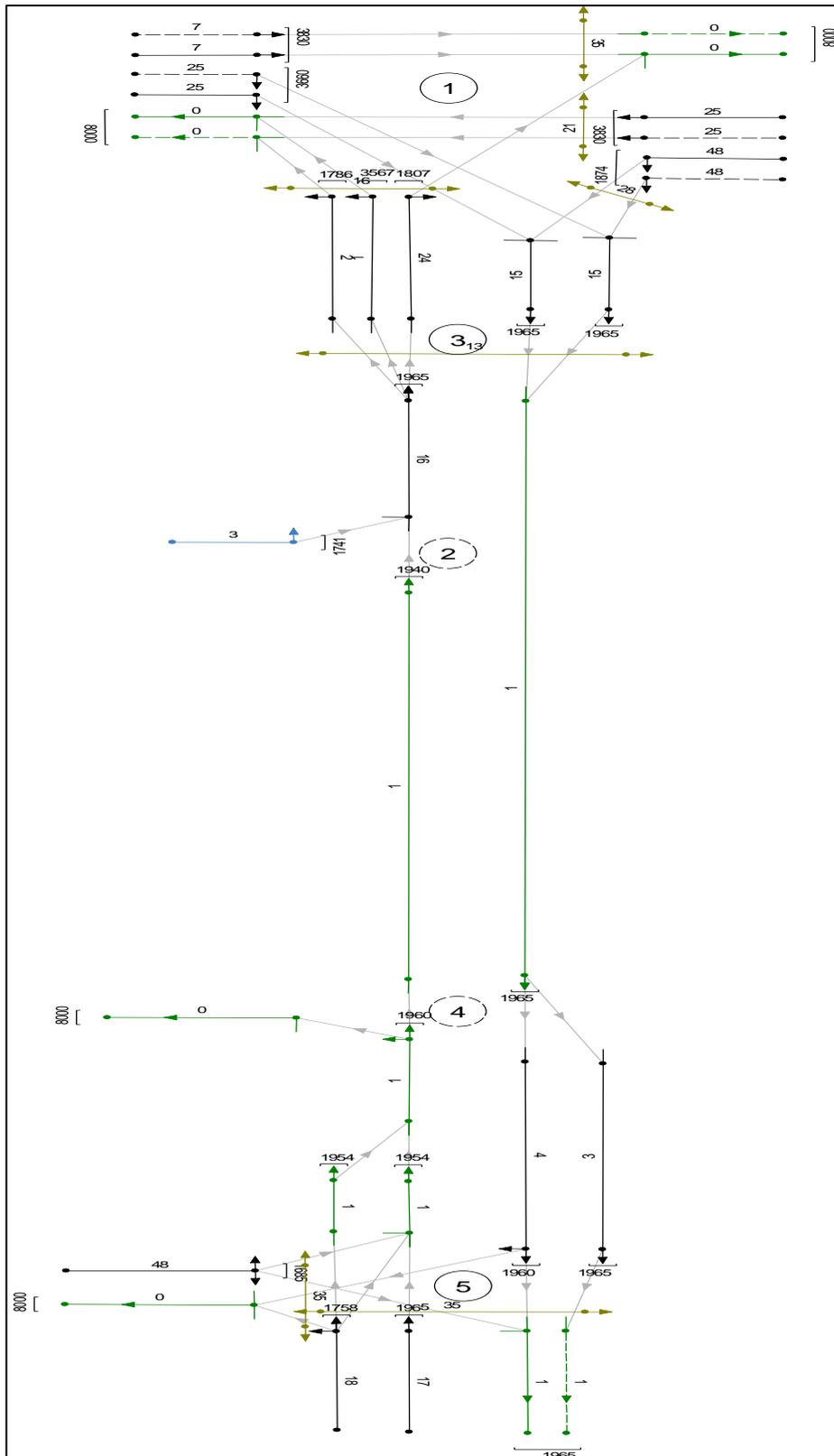
Link	Node	Actual Flow (PCU/H)	Sat. Flow (PCU/H)	Degree Of Saturation (%)	Mean Cruise Time Per PCU (sec)	Mean Delay Time Per PCU (sec)	Uniform Delay (PCU-H/H)	Rand + OverSat Delay (PCU-H/H)	Cost Of Delay (£/H)	Mean Stops Per PCU (%)	Cost Of Stops (£/H)	Mean Max Queue (PCU)	Average Excess Queue (PCU)	P.I. (£/H)
26	2	73	1965	4	3	1	0.0	0.0	0.3	1	0.0	0	0.0	0.3
27	4	396	1954	20	7	1	0.0	0.1	1.8	1	0.1	0	0.0	1.9
28	3	73	1965	8	3	10	0.2	0.0	2.8	24	1.3	0	0.0	4.2
29	4	24	1599	4	15	3	0.0	0.0	0.3	0	0.0	0	0.0	0.3
30	5	445	1960	48	3	4	0.1	0.5	7.4	6	2.8	1	0.0	10.2
31	4	36	1965	2	3	1	0.0	0.0	0.1	1	0.0	0	0.0	0.2
32	5	376	1965	40	15	17	1.4	0.3	25.0	65	7.5	6	0.0	32.5
33	4	73	1965	4	7	1	0.0	0.0	0.3	1	0.0	0	0.0	0.3
34	5	47	1685	28	15	48	0.4	0.2	8.9	107	1.6	1	0.0	10.5
35	1	73	1786	9	3	3	0.0	0.0	0.9	5	1.6	0	0.0	2.6
36	1	26	3660	42	6	27	0.2	0.0	2.8	83	0.5	8	0.0	3.3
37	3	10	1000	2	6	17	0.0	0.0	0.7	61	0.0	0	0.0	0.7
38	4	27	8000	0	5	0	0.0	0.0	0.0	0	0.0	0	0.0	0.0
39	5	459	1965	25	5	1	0.0	0.2	2.2	2	2.0	0	0.0	4.2
40	5	36	1965	4	3	2	0.0	0.0	0.3	3	0.1	0	0.0	0.5
41	5	397	1758	48	15	18	1.6	0.5	28.7	69	8.4	6	0.0	37.2
42	5	337	8000	4	5	0	0.0	0.0	0.3	0	0.3	0	0.0	0.6
43	2	39	8000	0	5	0	0.0	0.0	0.0	0	0.0	0	0.0	0.1
44	1	307	8000	18	18	0	0.0	0.0	0.3	0	0.0	0	0.0	0.4
45	5	36	1965	25	5	1	0.0	0.0	0.2	2	0.2	0	0.0	0.3

Transport Assessment

Link	Node	Actual Flow (PCU/H)	Sat. Flow (PCU/H)	Degree Of Saturation (%)	Mean Cruise Time Per PCU (sec)	Mean Delay Time Per PCU (sec)	Uniform Delay (PCU-H/H)	Rand + OverSat Delay (PCU-H/H)	Cost Of Delay (£/H)	Mean Stops Per PCU (%)	Cost Of Stops (£/H)	Mean Max Queue (PCU)	Average Excess Queue (PCU)	P.I. (£/H)
46	1	10	10000	0	5	15	0.0	0.0	0.6	60	0.0	0	0.0	0.6
47	1	10	10000	0	8	22	0.1	0.0	0.9	73	0.0	0	0.0	0.9
48	1	10	10000	1	6	35	0.1	0.0	1.4	92	0.0	0	0.0	1.4
49	1	10	10000	1	3	28	0.1	0.0	1.1	82	0.0	0	0.0	1.1
50	1	49	1874	31	5	48	0.5	0.2	9.2	109	0.1	1	0.0	9.3
51	3	10	10000	0	6	13	0.0	0.0	0.5	56	0.0	0	0.0	0.5
52	5	10	10000	1	21	35	0.1	0.0	1.4	92	0.0	0	0.0	1.4
53	5	10	10000	1	9	35	0.1	0.0	1.4	92	0.0	0	0.0	1.4
54	1	10	1874	31	5	48	0.1	0.0	1.9	109	0.0	1	0.0	1.9

## Deptford Church Street (A2209) – phase 2

### Network Layout Diagram



Transport Assessment

Network Results

TRANSYT Link Results Summary, construction development case – phase 2 (AM peak hour)

Link	Node	Actual Flow (PCU/H)	Sat. Flow (PCU/H)	Degree Of Saturation (%)	Mean Cruise Time Per PCU (sec)	Mean Delay Time Per PCU (sec)	Uniform Delay (PCU-H/H)	Rand + OverSat Delay (PCU-H/H)	Cost Of Delay (£/H)	Mean Stops Per PCU (%)	Cost Of Stops (£/H)	Mean Max Queue (PCU)	Average Excess Queue (PCU)	P.I. (£/H)
1	1	738	3830	68	15	25	4.3	0.8	72.3	84	19.2	19	0.0	91.5
3	1	20	1807	11	3	24	0.1	0.1	1.9	92	8.2	0	0.0	10.1
4	1	382	3567	23	3	1	0.0	0.1	2.1	2	3.0	0	0.0	5.2
5	1	395	3660	38	6	25	2.4	0.3	38.7	80	7.4	8	0.0	46.0
6	1	200	3830	21	15	7	0.3	0.1	5.4	52	3.2	3	0.0	8.6
7	1	220	8000	5	18	0	0.0	0.0	0.2	0	0.0	0	0.0	0.2
8	1	383	8000	6	18	0	0.0	0.0	0.4	0	0.0	0	0.0	0.4
9	1	203	3830	21	15	7	0.3	0.1	5.4	52	3.3	3	0.0	8.7
12	1	203	8000	5	18	0	0.0	0.0	0.2	0	0.0	0	0.0	0.2
13	1	236	3830	68	15	25	1.4	0.3	23.1	84	6.1	19	0.0	29.2
18	2	404	1940	21	3	1	0.0	0.1	1.9	1	0.0	0	0.0	1.9
20	2	72	1741	11	15	3	0.0	0.1	0.9	0	0.0	0	0.0	0.9
21	3	395	1965	46	17	15	1.2	0.4	22.8	33	0.1	3	0.0	22.9
23	3	476	1965	55	4	16	1.5	0.6	29.7	39	14.3	4	0.0	44.0
24	3	36	1965	4	18	15	0.1	0.0	2.1	42	0.0	0	0.0	2.1
25	4	481	1965	24	3	1	0.0	0.2	2.7	10	5.5	5	0.0	8.2
27	4	396	1954	20	7	1	0.0	0.1	1.8	1	0.0	0	0.0	1.8

Transport Assessment

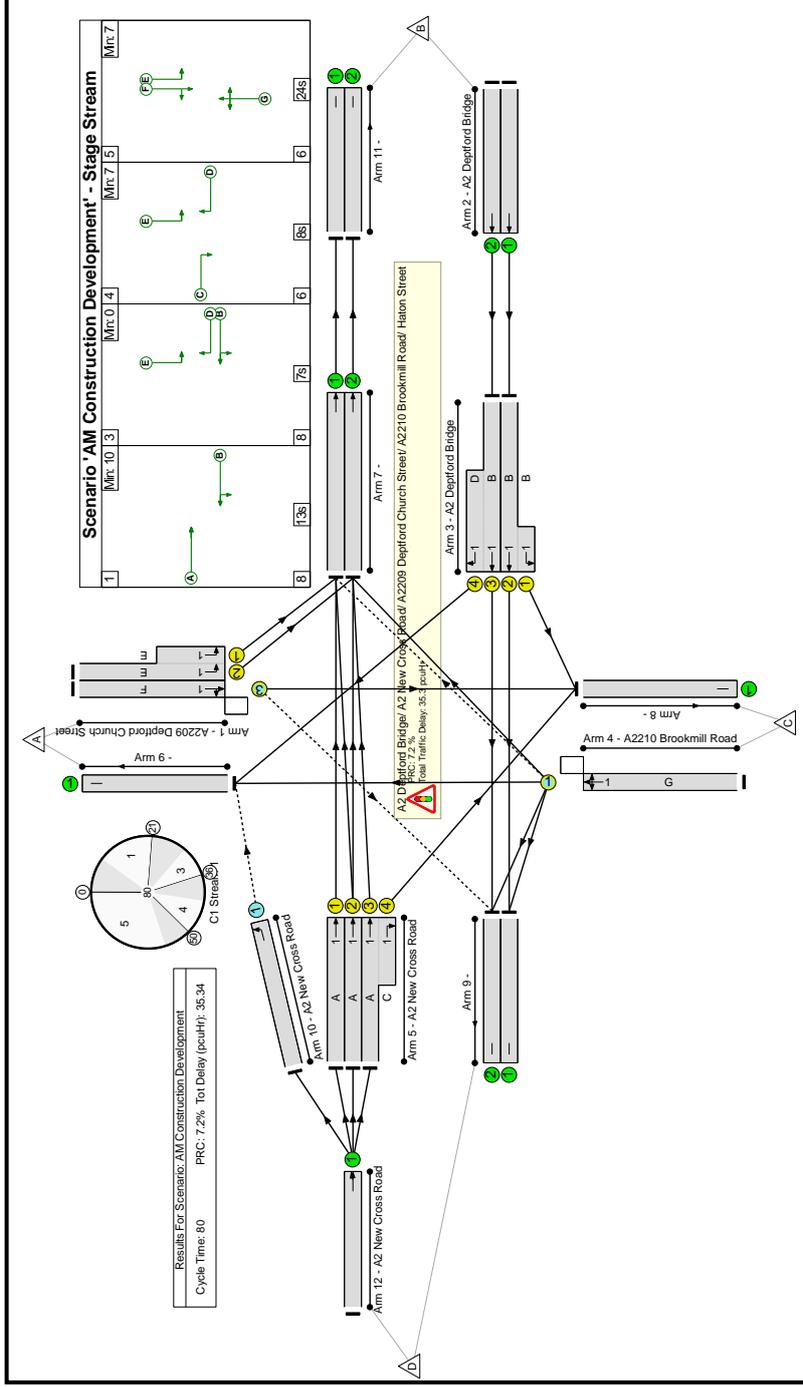
Link	Node	Actual Flow (PCU/H)	Sat. Flow (PCU/H)	Degree Of Saturation (%)	Mean Cruise Time Per PCU (sec)	Mean Delay Time Per PCU (sec)	Uniform Delay (PCU-H/H)	Rand + OverSat Delay (PCU-H/H)	Cost Of Delay (£/H)	Mean Stops Per PCU (%)	Cost Of Stops (£/H)	Mean Max Queue (PCU)	Average Excess Queue (PCU)	P. I. (£/H)
30	5	445	1960	48	3	4	0.1	0.5	7.5	6	3.0	1	0.0	10.5
32	5	376	1965	40	15	17	1.4	0.3	25.0	65	7.5	6	0.0	32.5
34	5	47	1685	28	15	48	0.4	0.2	8.9	107	1.6	1	0.0	10.5
35	1	73	1786	9	3	2	0.0	0.0	0.7	3	1.0	0	0.0	1.6
36	1	26	3660	38	6	25	0.2	0.0	2.5	80	0.5	8	0.0	3.0
37	3	10	10000	0	6	13	0.0	0.0	0.5	55	0.0	0	0.0	0.5
38	4	66	8000	1	10	0	0.0	0.0	0.1	0	0.0	0	0.0	0.1
39	5	459	1965	25	5	1	0.0	0.2	2.2	2	2.0	0	0.0	4.2
40	5	36	1965	4	3	3	0.0	0.0	0.4	4	0.2	0	0.0	0.5
41	5	397	1758	48	15	18	1.6	0.5	28.7	69	8.4	6	0.0	37.2
42	5	337	8000	4	5	0	0.0	0.0	0.3	0	0.3	0	0.0	0.6
43	4	469	1960	24	3	1	0.0	0.2	2.4	6	0.9	4	0.0	3.3
44	1	73	8000	6	18	0	0.0	0.0	0.1	0	0.0	0	0.0	0.1
45	5	36	1965	25	5	1	0.0	0.0	0.2	2	0.2	0	0.0	0.3
46	1	10	10000	0	5	16	0.0	0.0	0.6	63	0.0	0	0.0	0.6
47	1	10	10000	0	8	21	0.1	0.0	0.8	70	0.0	0	0.0	0.8
48	1	10	10000	1	6	35	0.1	0.0	1.4	92	0.0	0	0.0	1.4
49	1	10	10000	1	3	28	0.1	0.0	1.1	82	0.0	0	0.0	1.1
50	1	50	1874	32	5	48	0.5	0.2	9.4	109	0.1	1	0.0	9.5

## Transport Assessment

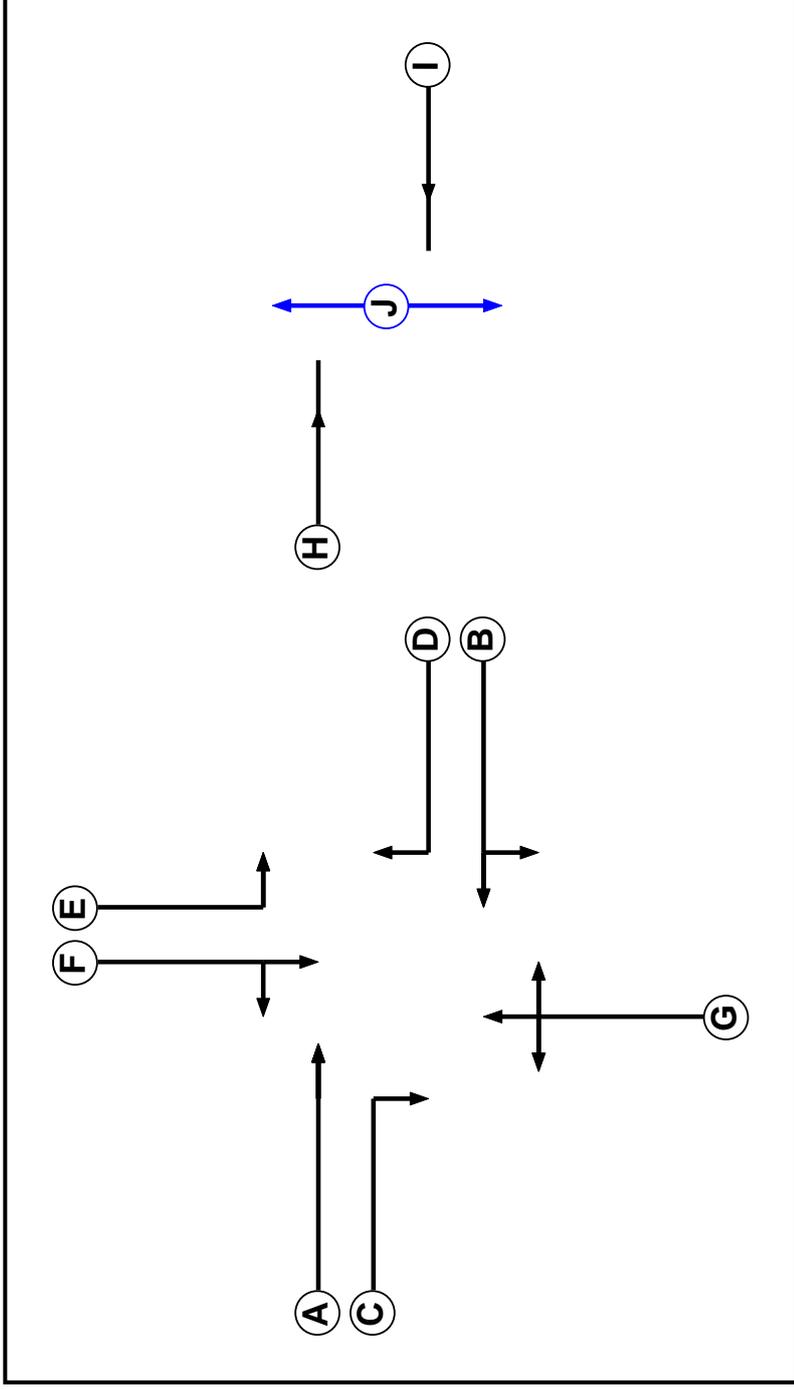
Link	Node	Actual Flow (PCU/H)	Sat. Flow (PCU/H)	Degree Of Saturation (%)	Mean Cruise Time Per PCU (sec)	Mean Delay Time Per PCU (sec)	Uniform Delay (PCU-H/H)	Rand + OverSat Delay (PCU-H/H)	Cost Of Delay (£/H)	Mean Stops Per PCU (%)	Cost Of Stops (£/H)	Mean Max Queue (PCU)	Average Excess Queue (PCU)	P.I. (£/H)
52	5	10	10000	1	21	35	0.1	0.0	1.4	92	0.0	0	0.0	1.4
53	5	10	10000	1	9	35	0.1	0.0	1.4	92	0.0	0	0.0	1.4
54	1	10	1874	32	5	48	0.1	0.0	1.9	109	0.0	1	0.0	1.9
55	5	73	1954	4	7	1	0.0	0.0	0.3	1	0.0	0	0.0	0.3

# Deptford Church Street (A2209) / Deptford Bridge (A2) / Deptford Broadway (A2) / Brookmill Road (A2210) junction – phases 1 and 2

Network Layout Diagram

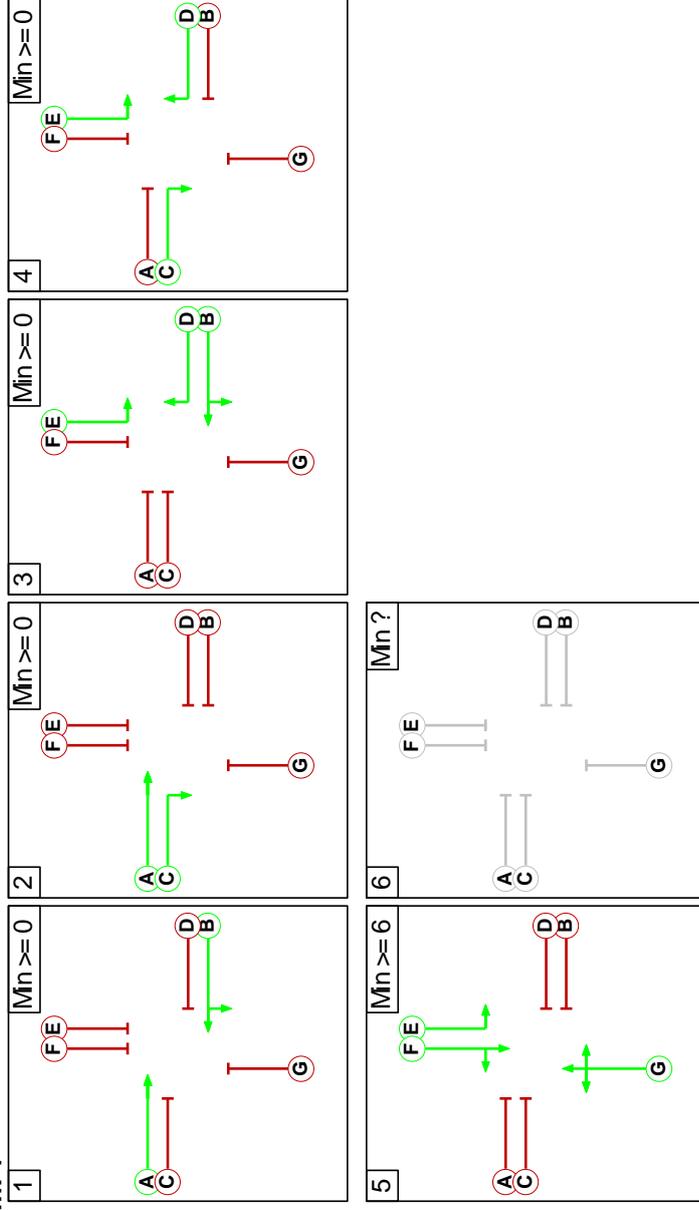


Phase Diagram

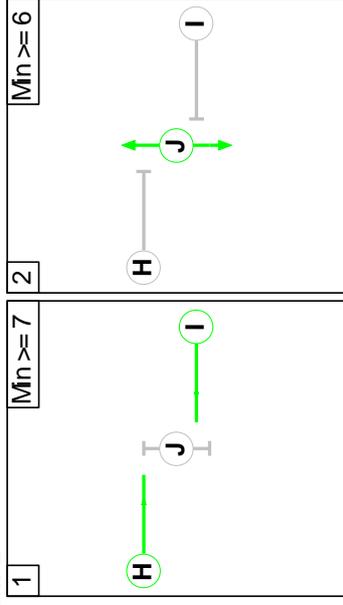


Stage Diagram

Stage Stream: 1



Stage Stream: 2



Phases in Stage

Stream	Stage No.	Phases in Stage
1	1	A B
1	2	A C
1	3	B D E
1	4	C D E
1	5	E F G
1	6	
2	1	H I
2	2	J

Phase Intergreens Matrix

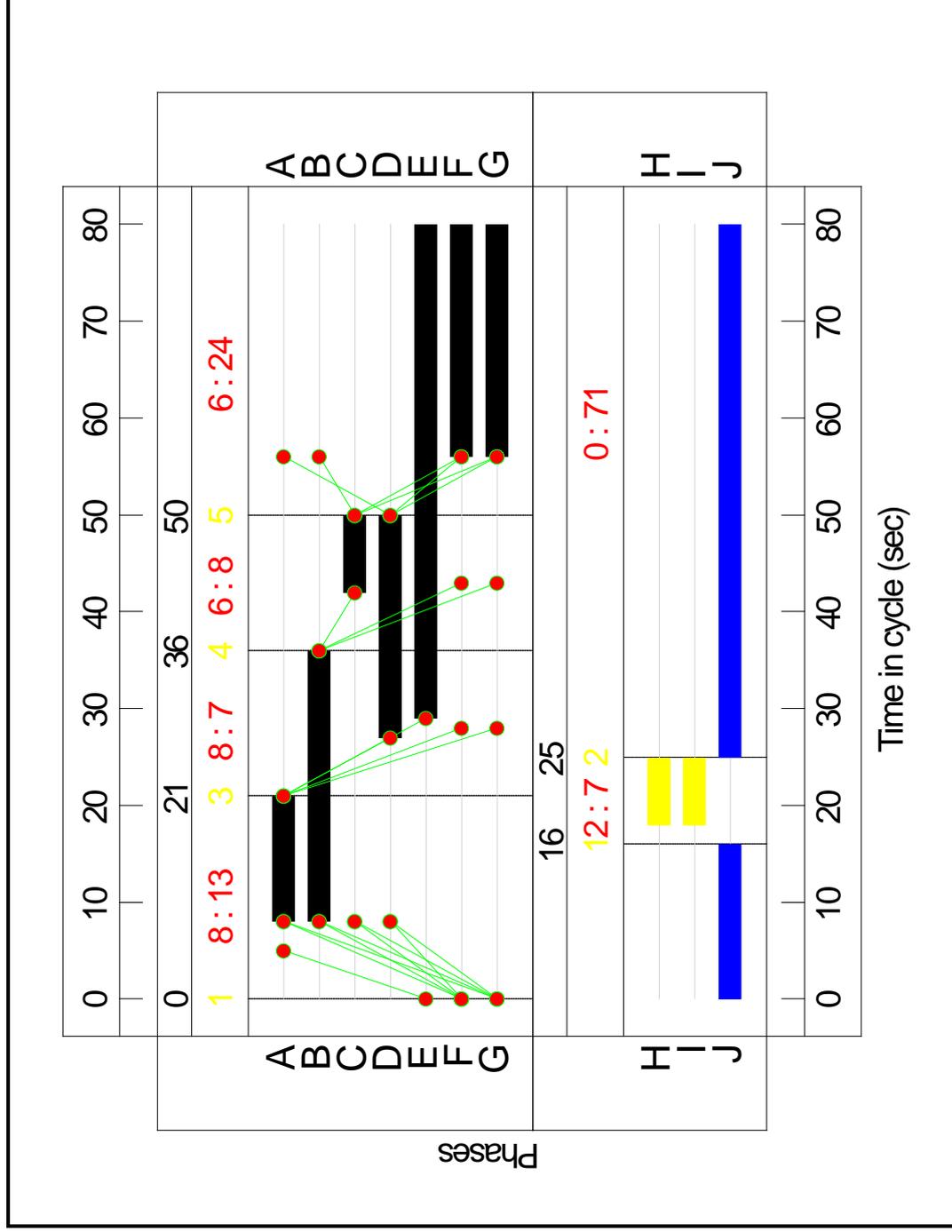
		Starting Phase									
		A	B	C	D	E	F	G	H	I	J
Terminating Phase	A	8	-	-	6	8	7	7	-	-	-
	B	-	6	-	-	-	7	7	-	-	-
	C	-	-	6	-	-	6	6	-	-	-
	D	6	-	-	6	-	6	6	-	-	-
	E	5	-	-	-	8	-	-	-	-	-
	F	8	8	8	8	-	8	-	-	-	-
	G	8	8	8	8	-	-	8	-	-	-
	H	-	-	-	-	-	-	-	8	-	-
	I	-	-	-	-	-	-	-	-	8	-
	J	-	-	-	-	-	-	-	-	-	8

Traffic Flows, Desired

Desired Flow :

	Destination				Tot.	
	A	B	C	D		
Origin	A	0	276	266	64	606
	B	410	0	200	859	1469
	C	339	112	0	42	493
	D	127	782	97	0	1006
	Tot.	876	1170	563	965	3574

Signal Timings Diagram



Transport Assessment

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	83.9%	142	49	0	35.3	-	-
A2 Deptford Bridge/ A2 New Cross Road/ A2209 Deptford Church Street/ A2210 Brookmill Road/ Haton Street	-	-	-	-	-	-	-	-	-	-	83.9%	142	49	0	35.3	-	-
1/2+1/1	A2209 Deptford Church Street Left	U	E		1	51	-	276	1769:1769	1424	19.4%	-	-	-	0.5	6.9	1.3
1/3	A2209 Deptford Church Street Ahead Right	O	F		1	24	-	330	1996	514	64.2%	64	0	0	3.2	35.1	6.8
2/1	A2 Deptford Bridge Ahead	U	-		-	-	-	610	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
2/2	A2 Deptford Bridge Ahead	U	-		-	-	-	859	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
3/2+3/1	A2 Deptford Bridge Left Ahead	U	B		1	28	-	610	1940:1752	783	77.9%	-	-	-	5.3	31.2	11.5

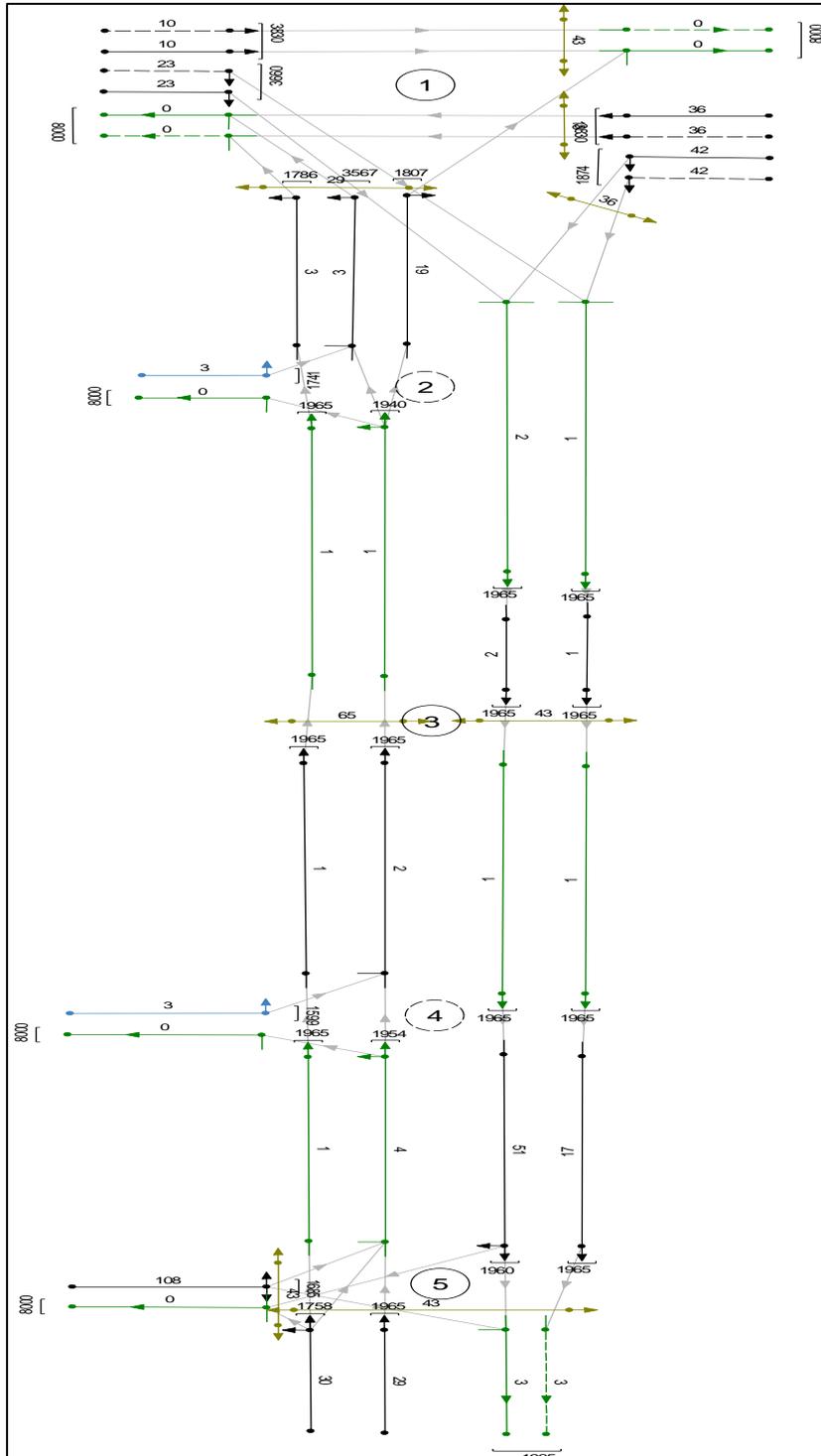
Transport Assessment

3/3+3/4	A2 Deptford Bridge Right Ahead	U	B D	1	28:23	-	859	2080:1892	1023	83.9%	-	-	-	8.0	33.4	10.6		
4/1	A2210 Brookmill Road Ahead Right Left	O	G	1	24	-	493	1924	601	82.0%	0	0	0	5.7	41.4	12.2		
5/1	A2 New Cross Road Ahead	U	A	1	13	-	243	1890	331	73.5%	-	-	-	3.5	51.2	6.4		
5/2	A2 New Cross Road Ahead	U	A	1	13	-	280	2105	368	76.0%	-	-	-	4.0	51.1	7.4		
5/3+5/4	A2 New Cross Road Ahead Right	U	A C	1	13:8	-	356	1965:1874	444	80.2%	-	-	-	5.1	51.5	7.4		
6/1	Ahead	U	-	-	-	-	876	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0		
7/1	Ahead	U	-	-	-	-	521	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0		
7/2	Ahead	U	-	-	-	-	649	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0		
8/1	Ahead	U	-	-	-	-	563	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0		
9/1	Ahead	U	-	-	-	-	431	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0		
9/2	Ahead	U	-	-	-	-	534	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0		
10/1	A2 New Cross Road Left	O	-	-	-	-	127	2115	550	23.1%	78	49	0	0.1	4.3	0.1		
11/1	Ahead	U	-	-	-	-	521	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0		
11/2	Ahead	U	-	-	-	-	649	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0		
12/1	A2 New Cross Road Ahead Ahead2	U	-	-	-	-	1006	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0		
										C1 Stream: 1 PRC for Signalised Lanes (%):		7.2	Total Delay for Signalised Lanes (pcuHr):		35.19	Cycle Time (s):		80
										C1 Stream: 2 PRC for Signalised Lanes (%):		0.0	Total Delay for Signalised Lanes (pcuHr):		0.00	Cycle Time (s):		80
										PRC Over All Lanes (%):		7.2	Total Delay Over All Lanes (pcuHr):		35.34			

## C.7 Construction development case results, PM peak hour

### Deptford Church Street (A2209) – phase 1

Network Layout Diagram



Transport Assessment

Network Results

TRANSYT Link Results Summary, construction development case – phase 1 (PM peak hour)

Link	Node	Actual Flow (PCU/H)	Sat. Flow (PCU/H)	Degree Of Saturation (%)	Mean Cruise Time Per PCU (sec)	Mean Delay Time Per PCU (sec)	Uniform Delay (PCU-H/H)	Rand + OverSat Delay (PCU-H/H)	Cost Of Delay (£/H)	Mean Stops Per PCU (%)	Cost Of Stops (£/H)	Mean Max Queue (PCU)	Average Excess Queue (PCU)	P.I. (£/H)	Green1 Start	Green1 End	Green2 Start	Green2 End
1	1	310	3830	51	15	36	2.7	0.3	43.6	88	8.4	11	0.0	52.1	65	87		
3	1	100	1807	33	3	19	0.3	0.2	7.6	77	34.5	2	0.0	42.2	43	58		
4	1	521	3567	23	4	3	0.2	0.1	5.0	7	15.9	1	0.0	20.9	94	58		
5	1	590	3660	44	6	23	3.4	0.4	53.1	72	9.9	13	0.0	63.0	94	36		
6	1	427	3830	44	15	10	0.9	0.2	16.2	61	8.0	9	0.0	24.2	65	87	12	36
7	1	527	8000	12	18	0	0.0	0.0	0.5	0	0.0	0	0.0	0.6				
8	1	520	8000	7	18	0	0.0	0.0	0.5	0	0.0	0	0.0	0.5				
9	1	425	3830	44	15	10	0.9	0.2	16.1	61	8.0	9	0.0	24.1	65	87	12	36
10	2	657	1965	33	18	2	0.2	0.3	6.1	46	0.2	10	0.0	6.3				
12	1	425	8000	12	18	0	0.0	0.0	0.4	0	0.0	0	0.0	0.5				
13	1	162	3830	51	15	36	1.4	0.2	22.8	88	4.4	11	0.0	27.2	65	87		
18	2	594	1940	31	3	1	0.0	0.2	3.3	6	0.0	7	0.0	3.3				
20	2	50	1741	9	15	3	0.0	0.0	0.7	0	0.0	0	0.0	0.7				
21	3	657	1965	41	3	2	0.0	0.3	5.3	3	0.6	1	0.0	5.9	92	74		

Transport Assessment

Link	Node	Actual Flow (PCU/H)	Sat. Flow (PCU/H)	Degree Of Saturation (%)	Mean Cruise Time Per PCU (sec)	Mean Delay Time Per PCU (sec)	Uniform Delay (PCU-H/H)	Rand + OverSat Delay (PCU-H/H)	Cost Of Delay (£/H)	Mean Stops Per PCU (%)	Cost Of Stops (£/H)	Mean Max Queue (PCU)	Average Excess Queue (PCU)	P.I. (£/H)	Green1 Start	Green1 End	Green2 Start	Green2 End
22	2	78	1965	4	18	1	0.0	0.0	0.3	1	0.0	0	0.0	0.3				
23	3	594	1965	37	3	2	0.0	0.3	4.3	3	1.4	1	0.0	5.7	92	74		
24	3	78	1965	5	3	1	0.0	0.0	0.4	3	0.1	0	0.0	0.5	92	74		
25	4	657	1965	33	3	1	0.0	0.3	3.6	1	1.0	0	0.0	4.6				
26	2	49	1965	2	3	1	0.0	0.0	0.2	1	0.0	0	0.0	0.2				
27	4	584	1954	30	7	4	0.4	0.2	8.7	53	7.3	12	0.0	16.0				
28	3	49	1965	3	3	1	0.0	0.0	0.2	1	0.0	0	0.0	0.3	92	74		
29	4	10	1599	2	15	3	0.0	0.0	0.1	0	0.0	0	0.0	0.1				
30	5	657	1960	95	3	51	2.8	6.5	133.0	65	47.5	12	0.0	180.5	11	44		
31	4	78	1965	4	3	1	0.0	0.0	0.3	1	0.1	0	0.0	0.4				
32	5	328	1965	47	15	29	2.2	0.4	37.4	80	8.0	7	0.0	45.5	11	44		
33	4	49	1965	3	7	1	0.0	0.0	0.2	1	0.0	0	0.0	0.2				
34	5	487	1685	99	15	108	4.6	10.0	206.7	160	24.0	23	0.0	230.7	75	6		
35	1	50	1786	4	3	3	0.0	0.0	0.5	4	0.9	0	0.0	1.4	94	58		
36	1	68	3660	44	6	23	0.4	0.0	6.1	72	1.1	13	0.0	7.3	94	36		

Transport Assessment

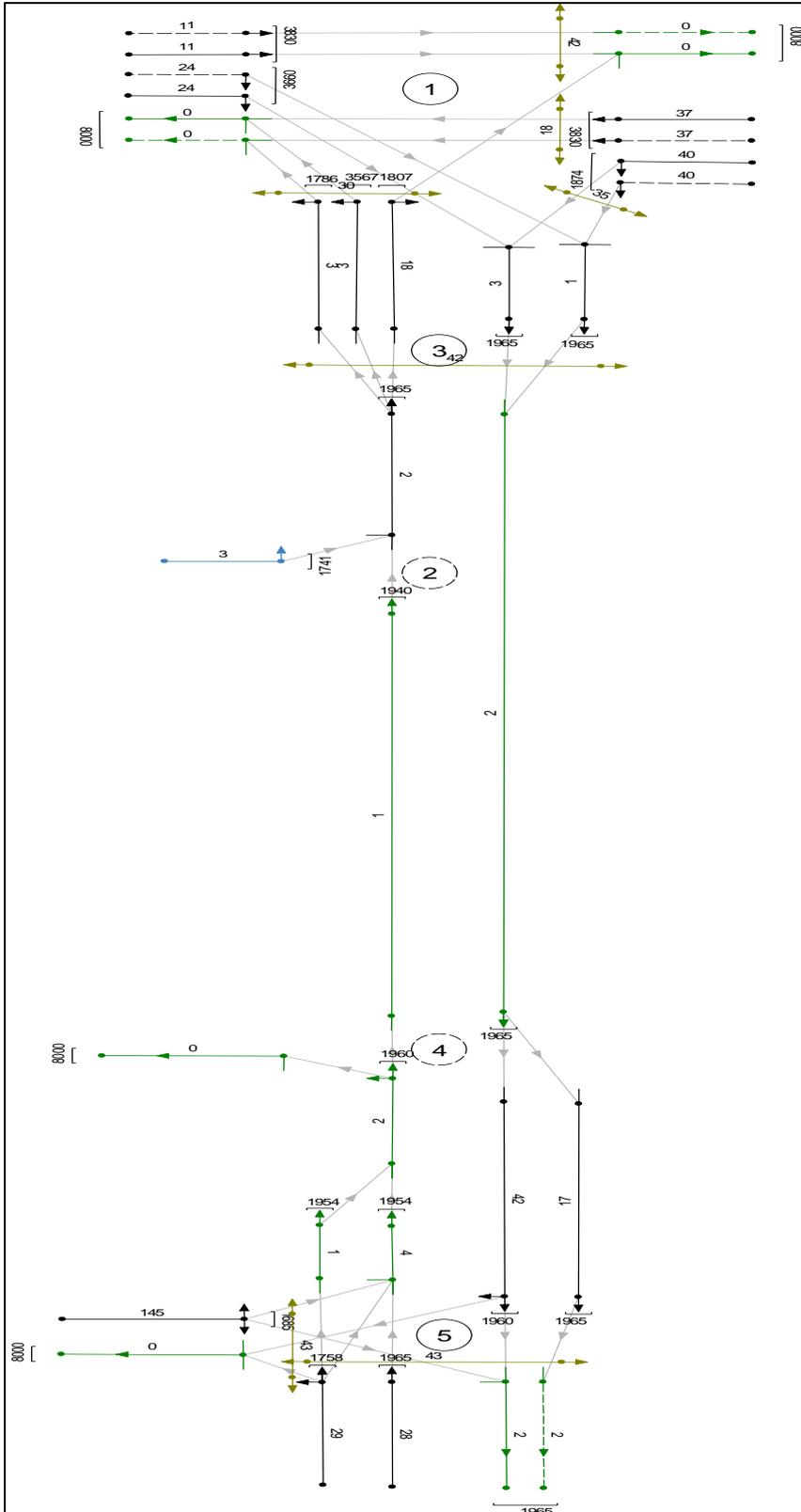
Link	Node	Actual Flow (PCU/H)	Sat. Flow (PCU/H)	Degree Of Saturation (%)	Mean Cruise Time Per PCU (sec)	Mean Delay Time Per PCU (sec)	Uniform Delay (PCU-H/H)	Rand + OverSat Delay (PCU-H/H)	Cost Of Delay (£/H)	Mean Stops Per PCU (%)	Cost Of Stops (£/H)	Mean Max Queue (PCU)	Average Excess Queue (PCU)	P.I. (£/H)	Green1 Start	Green1 End	Green2 Start	Green2 End
37	3	10	1000	12	6	65	0.1	0.1	2.6	115	0.0	0	0.0	2.6	79	86		
38	4	11	8000	0	5	0	0.0	0.0	0.0	0	0.0	0	0.0	0.0				
39	5	1114	1965	61	5	3	0.1	0.7	11.6	13	41.9	11	0.0	53.5				
40	5	78	1965	11	3	17	0.3	0.1	5.3	35	3.0	1	0.0	8.3	11	44		
41	5	311	1758	50	15	30	2.1	0.5	36.9	81	7.8	7	0.0	44.7	11	44		
42	5	40	8000	1	5	0	0.0	0.0	0.0	0	0.0	0	0.0	0.1				
43	2	10	8000	0	5	0	0.0	0.0	0.0	0	0.0	0	0.0	0.0				
44	1	50	8000	7	18	0	0.0	0.0	0.0	0	0.0	0	0.0	0.1				
45	5	78	1965	61	5	3	0.0	0.1	0.9	19	4.1	11	0.0	5.0				
46	1	10	10000	0	5	29	0.1	0.0	1.1	77	0.0	0	0.0	1.1	65	87		
47	1	10	10000	0	8	18	0.0	0.0	0.7	60	0.0	0	0.0	0.7	94	36		
48	1	10	10000	1	6	43	0.1	0.0	1.7	94	0.0	0	0.0	1.7	94	5		
49	1	10	10000	1	3	36	0.1	0.0	1.4	85	0.0	0	0.0	1.4	87	5		
50	1	67	1874	25	5	42	0.6	0.1	11.2	94	0.2	2	0.0	11.4	43	58		
51	3	10	10000	1	6	43	0.1	0.0	1.7	94	0.0	0	0.0	1.7	79	86		

## Transport Assessment

Link	Node	Actual Flow (PCU/H)	Sat. Flow (PCU/H)	Degree Of Saturation (%)	Mean Cruise Time Per PCU (sec)	Mean Delay Time Per PCU (sec)	Uniform Delay (PCU-H/H)	Rand + OverSat Delay (PCU-H/H)	Cost Of Delay (£/H)	Mean Stops Per PCU (%)	Cost Of Stops (£/H)	Mean Max Queue (PCU)	Average Excess Queue (PCU)	P.I. (£/H)	Green1 Start	Green1 End	Green2 Start	Green2 End
52	5	10	10000	1	21	43	0.1	0.0	1.7	94	0.0	0	0.0	1.7	53	60		
53	5	10	10000	1	9	43	0.1	0.0	1.7	94	0.0	0	0.0	1.7	53	60		
54	1	10	1874	25	5	42	0.1	0.0	1.7	94	0.0	2	0.0	1.7	43	58		

## Deptford Church Street (A2209) – phase 2

### Network Layout Diagram



Transport Assessment

Network Results

TRANSYT Link Results Summary, construction development case – phase 2 (PM peak hour)

Link	Node	Actual Flow (PCU/H)	Sat. Flow (PCU/H)	Degree Of Saturation (%)	Mean Cruise Time Per PCU (sec)	Mean Delay Time Per PCU (sec)	Uniform Delay (PCU-H/H)	Rand + OverSat Delay (PCU-H/H)	Cost Of Delay (£/H)	Mean Stops Per PCU (%)	Cost Of Stops (£/H)	Mean Max Queue (PCU)	Average Excess Queue (PCU)	P.I. (£/H)	Green1 Start	Green1 End	Green2 Start	Green2 End
1	1	307	3830	56	15	38	2.8	0.4	46.3	91	8.6	12	0.0	54.9	46	67		
3	1	128	1807	38	3	20	0.4	0.3	10.2	73	41.8	3	0.0	52.0	22	39		
4	1	535	3567	23	3	2	0.2	0.1	4.4	5	11.5	1	0.0	15.9	74	39		
5	1	603	3660	45	6	23	3.5	0.4	54.5	72	10.2	13	0.0	64.7	74	15		
6	1	527	3830	52	15	11	1.3	0.3	23.0	67	10.8	11	0.0	33.8	46	67	89	15
7	1	655	8000	14	18	0	0.0	0.0	0.7	0	0.0	0	0.0	0.7				
8	1	842	8000	13	18	0	0.0	0.1	0.9	0	0.0	0	0.0	0.9				
9	1	427	3830	52	15	11	1.1	0.2	18.6	67	8.8	11	0.0	27.4	46	67	89	15
12	1	427	8000	14	18	0	0.0	0.0	0.4	0	0.0	0	0.0	0.5				
13	1	162	3830	56	15	38	1.5	0.2	24.4	91	4.5	12	0.0	29.0	46	67		
18	2	632	1940	33	3	1	0.0	0.2	3.4	1	0.0	0	0.0	3.4				
20	2	79	1741	14	15	4	0.0	0.1	1.1	0	0.0	0	0.0	1.1				
21	3	672	1965	43	17	3	0.2	0.4	8.1	48	0.2	11	0.0	8.3	72	53		
23	3	711	1965	45	4	2	0.1	0.4	6.6	6	3.4	8	0.0	10.0	72	53		
24	3	78	1965	5	18	1	0.0	0.0	0.4	3	0.0	0	0.0	0.4	72	53		
25	4	750	1965	38	3	2	0.2	0.3	6.7	26	21.8	13	0.0	28.5				
27	4	603	1954	31	7	4	0.4	0.2	9.2	63	2.1	13	0.0	11.3				

Transport Assessment

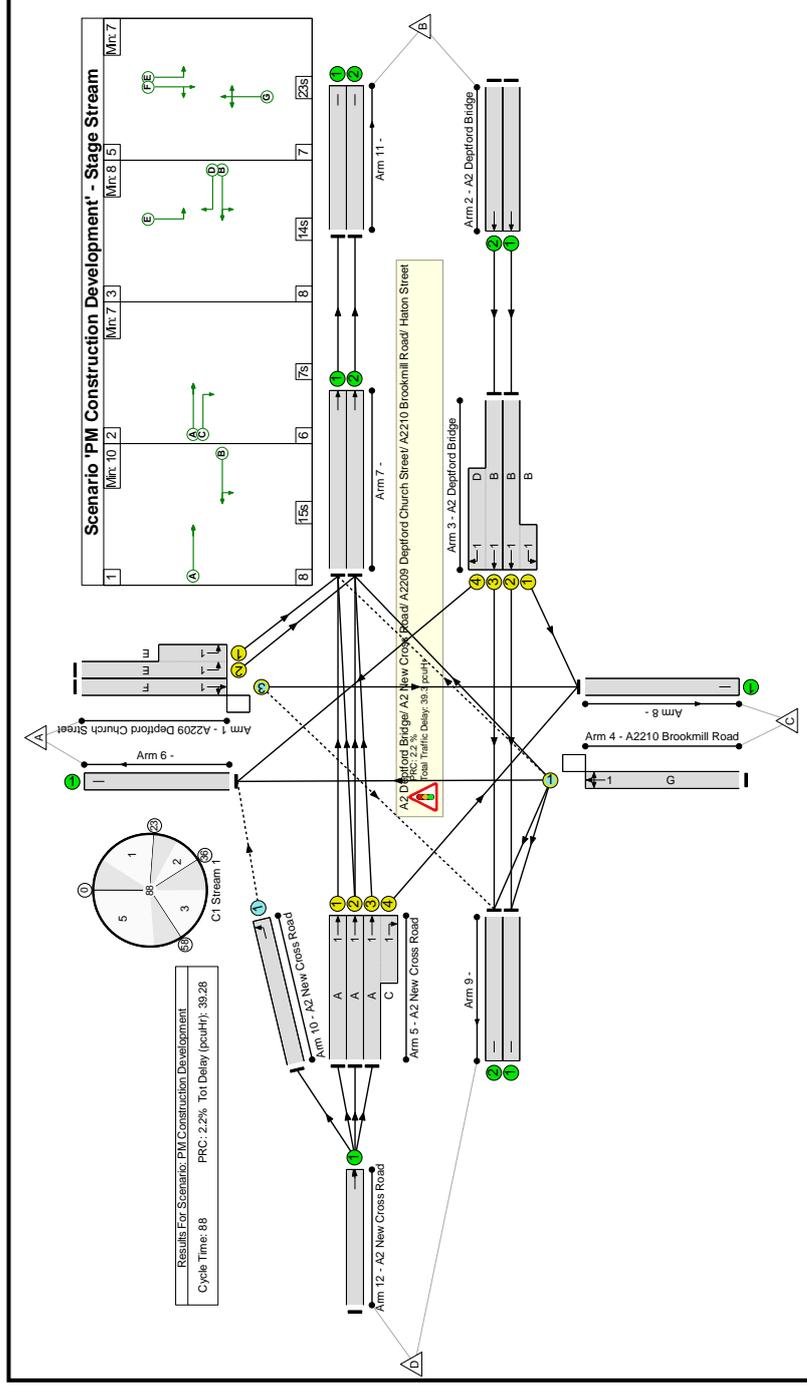
Link	Node	Actual Flow (PCU/H)	Sat. Flow (PCU/H)	Degree Of Saturation (%)	Mean Cruise Time Per PCU (sec)	Mean Delay Time Per PCU (sec)	Uniform Delay (PCU-H/H)	Rand + OverSat Delay (PCU-H/H)	Cost Of Delay (£/H)	Mean Stops Per PCU (%)	Cost Of Stops (£/H)	Mean Max Queue (PCU)	Average Excess Queue (PCU)	P.I. (£/H)	Green1 Start	Green1 End	Green2 Start	Green2 End
30	5	672	1960	94	3	50	3.2	6.1	132.4	65	48.0	14	0.0	180.3	86	24		
32	5	347	1965	48	15	28	2.3	0.5	38.9	79	8.4	8	0.0	47.3	86	24		
34	5	487	1685	103	15	145	4.8	14.8	277.6	183	27.4	28	0.0	305.0	55	81		
35	1	48	1786	4	3	3	0.0	0.0	0.5	5	1.2	0	0.0	1.7	74	39		
36	1	68	3660	45	6	23	0.4	0.0	6.1	72	1.1	13	0.0	7.3	74	15		
37	3	10	10000	1	6	41	0.1	0.0	1.6	91	0.0	0	0.0	1.6	58	66		
38	4	20	8000	0	10	0	0.0	0.0	0.0	0	0.0	0	0.0	0.0				
39	5	1122	1965	61	5	3	0.1	0.7	11.2	10	30.8	15	0.0	42.0				
40	5	78	1965	11	3	19	0.3	0.1	5.7	34	2.9	1	0.0	8.6	86	24		
41	5	311	1758	49	15	29	2.0	0.5	35.6	80	7.6	7	0.0	43.2	86	24		
42	5	39	8000	0	5	0	0.0	0.0	0.0	0	0.0	0	0.0	0.1				
43	4	652	1960	33	3	2	0.2	0.2	5.8	34	6.8	14	0.0	12.6				
44	1	210	8000	13	18	0	0.0	0.0	0.2	0	0.0	0	0.0	0.2				
45	5	78	1965	61	5	3	0.0	0.1	0.8	14	3.1	15	0.0	3.9				
46	1	10	10000	0	5	31	0.1	0.0	1.2	79	0.0	0	0.0	1.2	46	67		
47	1	10	10000	0	8	18	0.0	0.0	0.7	60	0.0	0	0.0	0.7	74	15		
48	1	10	10000	1	6	43	0.1	0.0	1.7	94	0.0	0	0.0	1.7	74	82		
49	1	10	10000	1	3	36	0.1	0.0	1.4	85	0.0	0	0.0	1.4	67	82		
50	1	69	1874	22	5	40	0.6	0.1	10.8	91	0.2	2	0.0	11.0	22	39		

## Transport Assessment

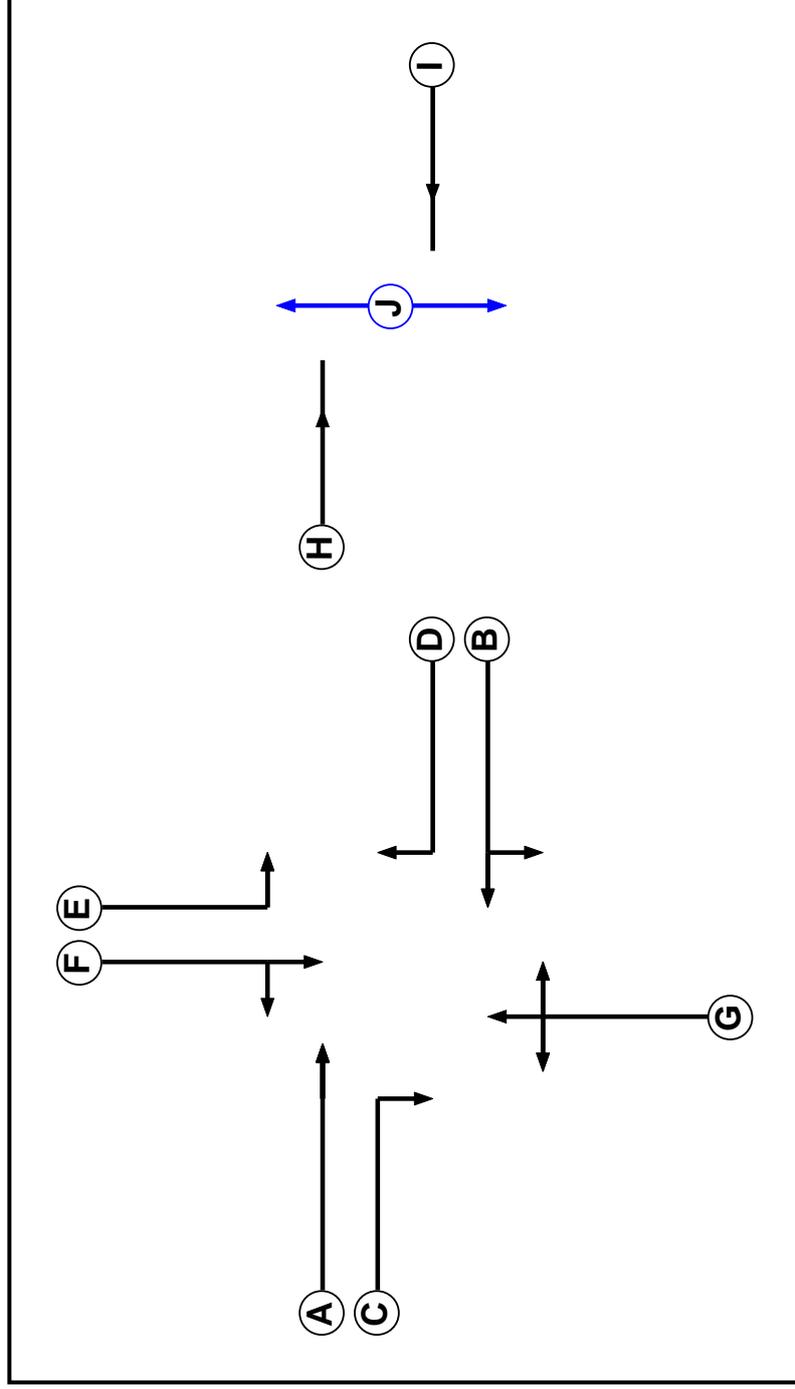
Link	Node	Actual Flow (PCU/H)	Sat. Flow (PCU/H)	Degree Of Saturation (%)	Mean Cruise Time Per PCU (sec)	Mean Delay Time Per PCU (sec)	Uniform Delay (PCU-H/H)	Rand + OverSat Delay (PCU-H/H)	Cost Of Delay (£/H)	Mean Stops Per PCU (%)	Cost Of Stops (£/H)	Mean Max Queue (PCU)	Average Excess Queue (PCU)	P.I. (£/H)	Green1 Start	Green1 End	Green2 Start	Green2 End
52	5	10	10000	1	21	43	0.1	0.0	1.7	94	0.0	0	0.0	1.7	33	40		
53	5	10	10000	1	9	43	0.1	0.0	1.7	94	0.0	0	0.0	1.7	33	40		
54	1	10	1874	22	5	40	0.1	0.0	1.6	91	0.0	2	0.0	1.6	22	39		
55	5	49	1954	3	7	1	0.0	0.0	0.2	1	0.0	0	0.0	0.2				

## Deptford Church Street (A2209) / Deptford Bridge (A2) / Deptford Broadway (A2) / Brookmill Road (A2210) junction – Phases 1 and 2

Network Layout Diagram

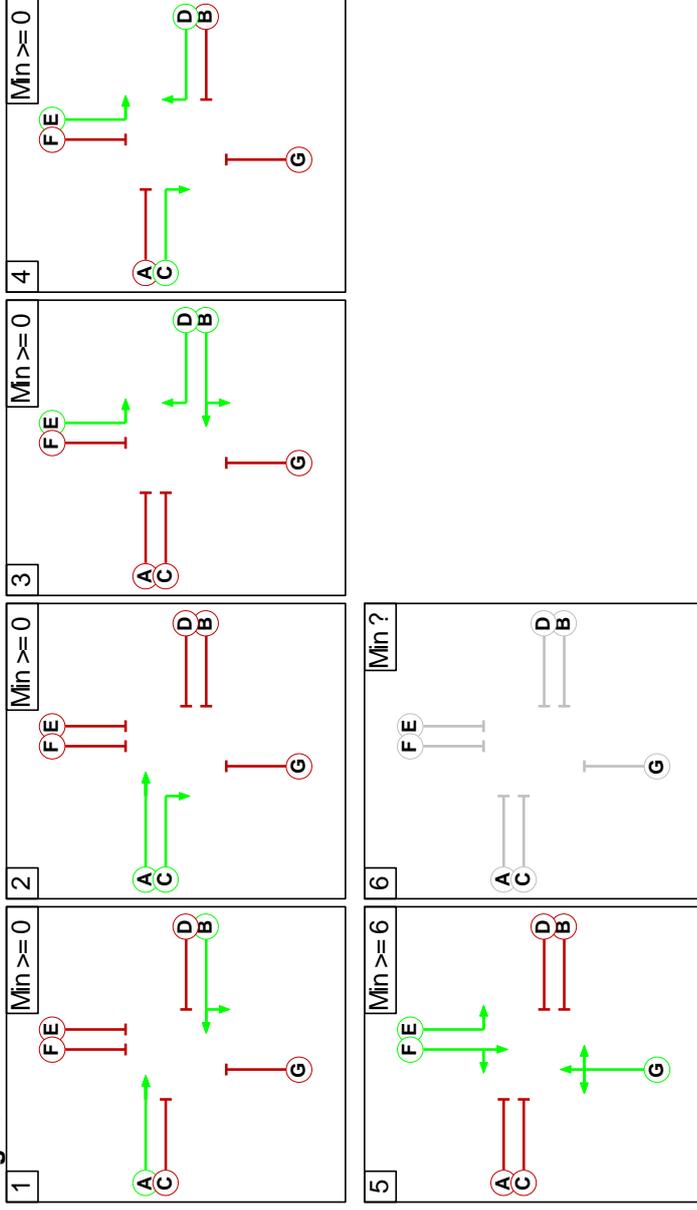


Phase Diagram

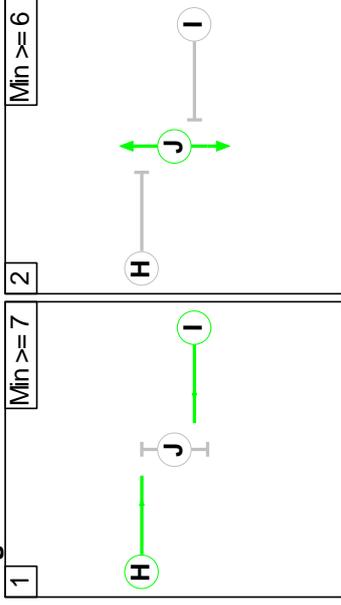


Stage Diagram

Stage Stream: 1



Stage Stream: 2



Phases in Stage

Stream	Stage No.	Phases in Stage
1	1	A B
1	2	A C
1	3	B D E
1	4	C D E
1	5	E F G
1	6	
2	1	H I
2	2	J

Phase Intergreen Matrix

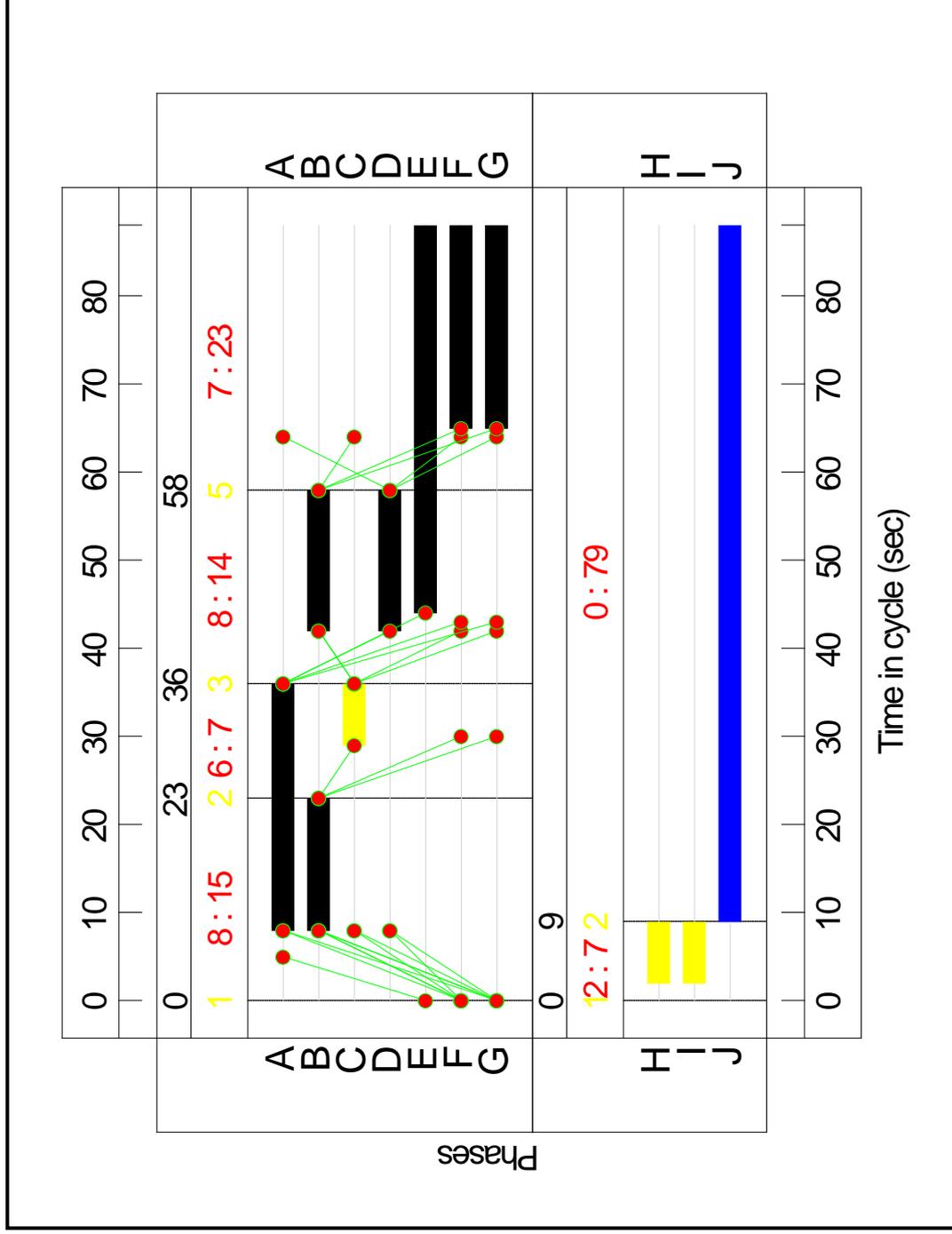
		Starting Phase									
		A	B	C	D	E	F	G	H	I	J
Terminating Phase	A	-	-	-	6	8	7	7	-	-	-
	B	-	6	-	-	-	7	7	-	-	-
	C	-	6	-	-	-	6	6	-	-	-
	D	6	-	-	-	-	6	6	-	-	-
	E	5	-	-	-	-	-	-	-	-	-
	F	8	8	8	8	-	-	-	-	-	-
	G	8	8	8	8	-	-	-	-	-	-
	H	-	-	-	-	-	-	-	-	-	-
	I	-	-	-	-	-	-	-	-	-	-
	J	-	-	-	-	-	-	-	-	-	-

Traffic Flows, Desired

Desired Flow :

	Destination					Tot.
	A	B	C	D	Tot.	
Origin	0	386	340	58	784	784
A	301	0	193	645	1139	1139
B	294	143	0	25	462	462
C	130	977	142	0	1249	1249
Tot.	725	1506	675	728	3634	3634

Signal Timings Diagram



Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	88.1%	107	69	11	39.3	-	-
A2 Deptford Bridge/ A2 New Cross Road/ A2209 Deptford Church Street/ A2210 Brookmill Road/ Haton Street	-	-	-	-	-	-	-	-	-	-	88.1%	107	69	11	39.3	-	-
1/2+1/1	A2209 Deptford Church Street Left	U	E		1	44	-	386	1769:1769	1154	33.4%	-	-	-	1.5	14.1	2.8
1/3	A2209 Deptford Church Street Ahead Right	O	F		1	23	-	398	2001	505	78.8%	47	0	11	5.2	47.3	10.5
2/1	A2 Deptford Bridge Ahead	U	-		-	-	-	739	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
2/2	A2 Deptford Bridge Ahead	U	-		-	-	-	400	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
3/2+3/1	A2 Deptford Bridge Left Ahead	U	B		2	31	-	739	1940:1752	850	86.9%	-	-	-	6.1	29.8	13.0
3/3+3/4	A2 Deptford Bridge Right Ahead	U	B D		2:1	31:16	-	400	2080:1892	486	82.4%	-	-	-	5.3	48.1	9.2

Transport Assessment

4/1	A2210 Brookmill Road Ahead Right Left	O	G		1	23	-	462	1923	524	88.1%	0	0	0	7.3	56.7	14.1	
5/1	A2 New Cross Road Ahead	U	A		1	28	-	455	1890	623	73.1%	-	-	-	4.6	36.6	11.1	
5/2	A2 New Cross Road Ahead	U	A		1	28	-	522	2105	694	75.2%	-	-	-	5.3	36.6	12.8	
5/3+5/4	A2 New Cross Road Ahead Right	U	A C		1	28.7	-	142	1965:1874	170	83.4%	-	-	-	3.7	94.4	5.6	
6/1		U	-		-	-	-	725	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0	
7/1	Ahead	U	-		-	-	-	909	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0	
7/2	Ahead	U	-		-	-	-	597	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0	
8/1		U	-		-	-	-	675	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0	
9/1		U	-		-	-	-	558	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0	
9/2		U	-		-	-	-	170	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0	
10/1	A2 New Cross Road Left	O	-		-	-	-	130	2115	584	22.3%	61	69	0	0.1	4.0	0.1	
11/1		U	-		-	-	-	909	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0	
11/2		U	-		-	-	-	597	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0	
12/1	A2 New Cross Road Ahead Ahead2	U	-		-	-	-	1249	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0	
		C1	Stream: 1 PRC for Signalled Lanes (%):		2.2			Total Delay for Signalled Lanes (pcuHr):		39.14			Cycle Time (s):		88			
		C1	Stream: 2 PRC for Signalled Lanes (%):		0.0			Total Delay for Signalled Lanes (pcuHr):		0.00			Cycle Time (s):		88			
			PRC Over All Lanes (%):		2.2			Total Delay Over All Lanes(pcuHr):		39.28								



Transport Assessment

Network Results

TRANSYT Link Results Summary, sensitivity test – phase 2 (AM peak hour)

Link	Node	Actual Flow (PCU/H)	Sat. Flow (PCU/H)	Degree Of Saturation (%)	Mean Cruise Time Per PCU (sec)	Mean Delay Time Per PCU (sec)	Uniform Delay (PCU-H/H)	Rand + OverSat Delay (PCU-H/H)	Cost Of Delay (£/H)	Mean Stops Per PCU (%)	Cost Of Stops (£/H)	Mean Max Queue (PCU)	Average Excess Queue (PCU)	P.I. (£/H)
1	1	738	3830	68	15	25	4.3	0.8	72.3	84	19.2	19	0.0	91.5
3	1	27	1807	12	3	19	0.1	0.1	2.0	69	8.3	0	0.0	10.3
4	1	396	3567	23	3	2	0.1	0.2	2.9	3	5.2	0	0.0	8.1
5	1	409	3660	43	6	27	2.7	0.4	43.6	83	7.9	8	0.0	51.5
6	1	200	3830	22	15	8	0.3	0.1	5.9	55	3.4	3	0.0	9.3
7	1	227	8000	5	18	0	0.0	0.0	0.2	0	0.0	0	0.0	0.2
8	1	1134	8000	18	18	0	0.0	0.1	1.2	0	0.1	0	0.0	1.3
9	1	205	3830	22	15	8	0.4	0.1	6.0	55	3.5	3	0.0	9.5
12	1	205	8000	5	18	0	0.0	0.0	0.2	0	0.0	0	0.0	0.2
13	1	236	3830	68	15	25	1.4	0.3	23.1	84	6.1	19	0.0	29.2
18	2	416	1940	21	3	1	0.0	0.1	1.9	1	0.0	0	0.0	1.9
20	2	80	1741	13	15	3	0.0	0.1	1.0	0	0.0	0	0.0	1.0
21	3	460	1965	52	17	9	0.6	0.5	15.8	36	0.1	6	0.0	15.9
23	3	496	1965	56	4	16	1.5	0.6	30.5	39	14.9	4	0.0	45.4
24	3	36	1965	4	18	13	0.1	0.0	1.9	37	0.0	0	0.0	1.9
25	4	496	1965	25	3	1	0.0	0.2	2.6	6	3.5	5	0.0	6.1
27	4	435	1954	22	7	1	0.0	0.1	2.0	2	0.0	0	0.0	2.1
30	5	460	1960	49	3	5	0.1	0.5	8.7	7	3.6	1	0.0	12.4

Transport Assessment

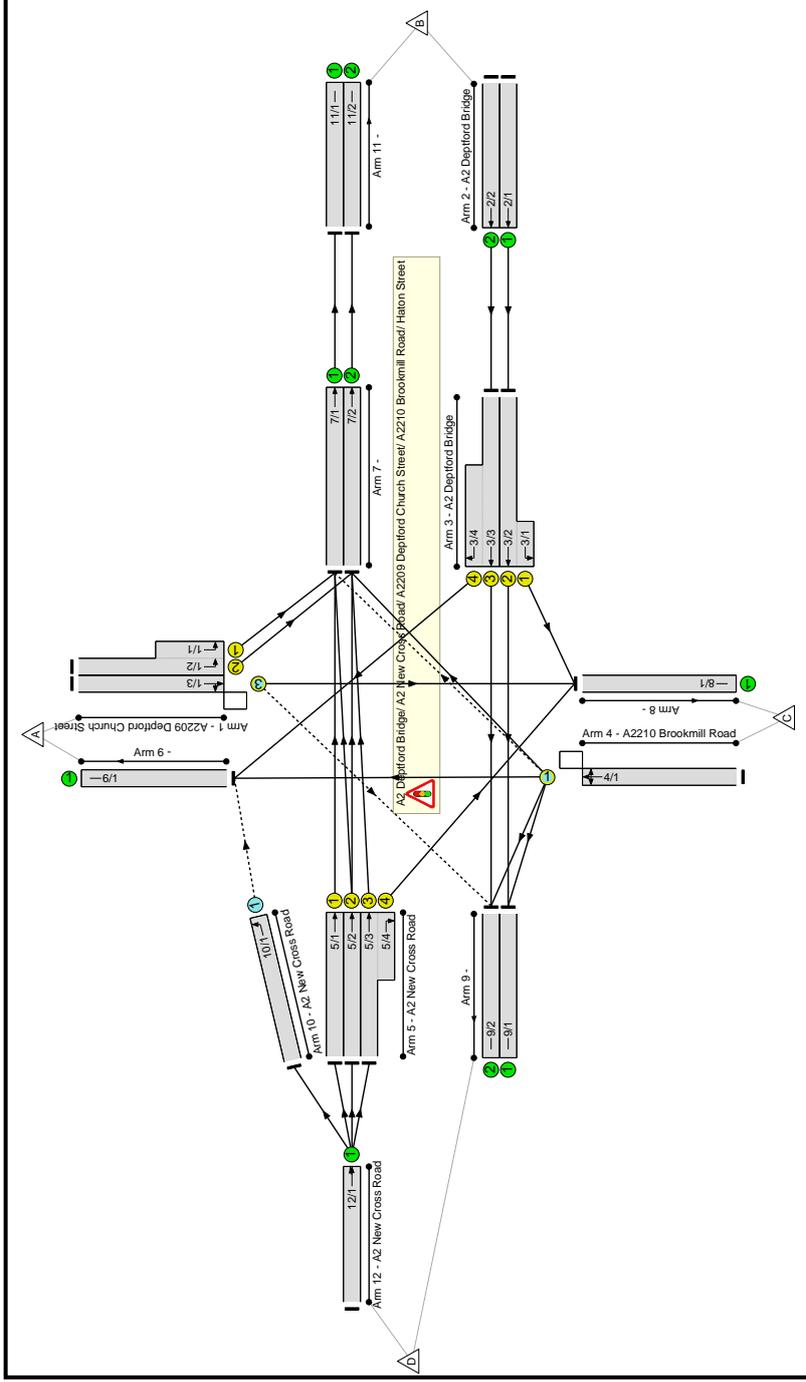
Link	Node	Actual Flow (PCU/H)	Sat. Flow (PCU/H)	Degree Of Saturation (%)	Mean Cruise Time Per PCU (sec)	Mean Delay Time Per PCU (sec)	Uniform Delay (PCU-H/H)	Rand + OverSat Delay (PCU-H/H)	Cost Of Delay (£/H)	Mean Stops Per PCU (%)	Cost Of Stops (£/H)	Mean Max Queue (PCU)	Average Excess Queue (PCU)	P.I. (£/H)
32	5	415	1965	44	15	17	1.6	0.4	28.6	67	8.6	7	0.0	37.1
34	5	47	1685	28	15	48	0.4	0.2	8.9	107	1.6	1	0.0	10.5
35	1	73	1786	9	3	3	0.0	0.0	0.8	4	1.3	0	0.0	2.2
36	1	26	3660	43	6	27	0.2	0.0	2.8	83	0.5	8	0.0	3.3
37	3	10	10000	0	6	13	0.0	0.0	0.5	56	0.0	0	0.0	0.5
38	4	93	8000	1	10	0	0.0	0.0	0.1	0	0.0	0	0.0	0.1
39	5	474	1965	26	5	1	0.0	0.2	2.3	2	2.1	0	0.0	4.4
40	5	36	1965	4	3	3	0.0	0.0	0.4	5	0.2	0	0.0	0.6
41	5	397	1758	48	15	18	1.6	0.5	28.7	69	8.4	6	0.0	37.2
42	5	337	8000	4	5	0	0.0	0.0	0.3	0	0.3	0	0.0	0.6
43	4	508	1960	26	3	1	0.0	0.2	2.8	9	1.4	5	0.0	4.2
44	1	309	8000	18	18	0	0.0	0.0	0.3	0	0.0	0	0.0	0.4
45	5	36	1965	26	5	1	0.0	0.0	0.2	2	0.2	0	0.0	0.3
46	1	10	10000	0	5	16	0.0	0.0	0.6	63	0.0	0	0.0	0.6
47	1	10	10000	0	8	22	0.1	0.0	0.9	73	0.0	0	0.0	0.9
48	1	10	10000	1	6	35	0.1	0.0	1.4	92	0.0	0	0.0	1.4
49	1	10	10000	1	3	28	0.1	0.0	1.1	82	0.0	0	0.0	1.1
50	1	51	1874	26	5	42	0.4	0.1	8.5	102	0.1	1	0.0	8.6
52	5	10	10000	1	21	35	0.1	0.0	1.4	92	0.0	0	0.0	1.4
53	5	10	10000	1	9	35	0.1	0.0	1.4	92	0.0	0	0.0	1.4

## Transport Assessment

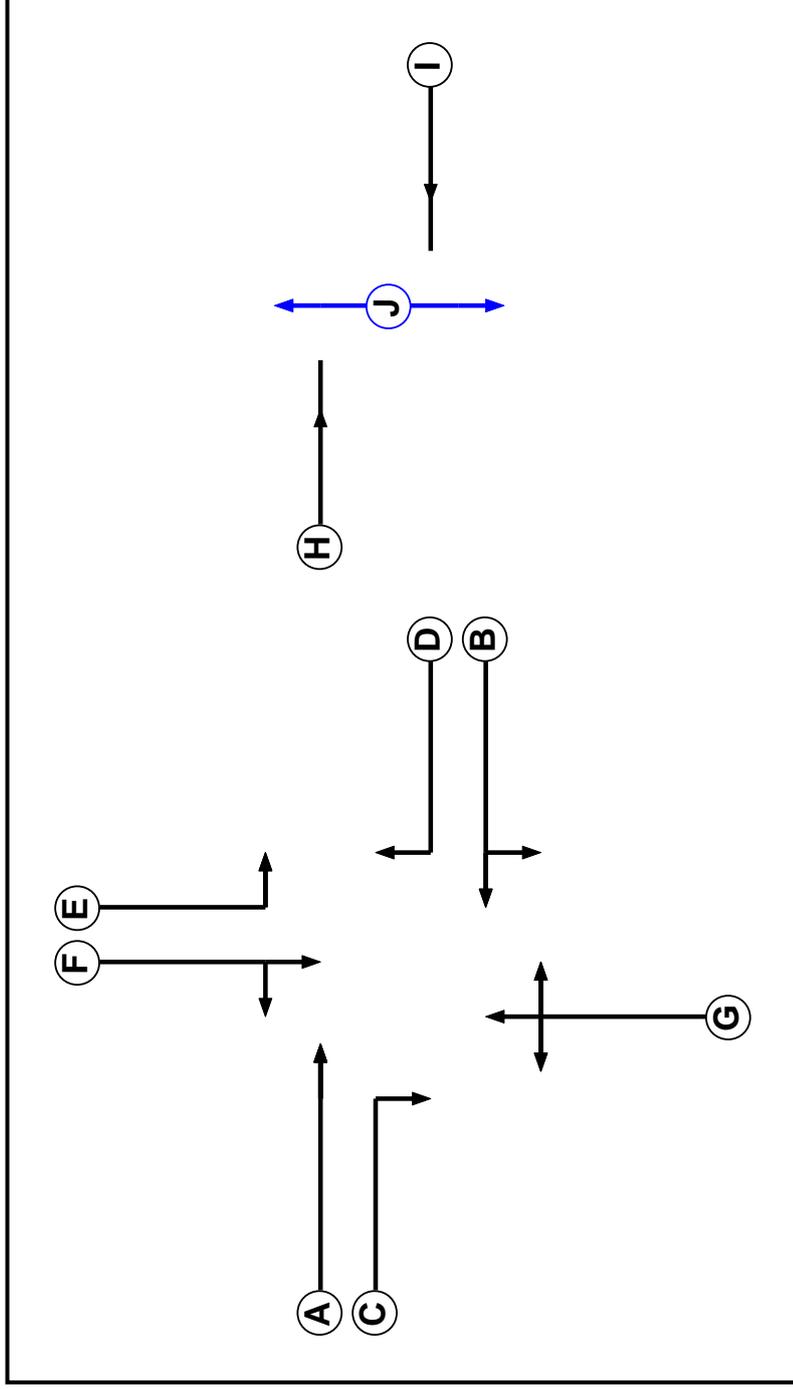
Link	Node	Actual Flow (PCU/H)	Sat. Flow (PCU/H)	Degree Of Saturation (%)	Mean Cruise Time Per PCU (sec)	Mean Delay Time Per PCU (sec)	Uniform Delay (PCU-H/H)	Rand + OverSat Delay (PCU-H/H)	Cost Of Delay (£/H)	Mean Stops Per PCU (%)	Cost Of Stops (£/H)	Mean Max Queue (PCU)	Average Excess Queue (PCU)	P.I. (£/H)
54	1	10	1874	26	5	42	0.1	0.0	1.7	102	0.0	1	0.0	1.7
55	5	73	1954	4	7	1	0.0	0.0	0.3	1	0.0	0	0.0	0.3

# Deptford Church Street (A2209) / Deptford Bridge (A2) / Deptford Broadway (A2) / Brookmill Road (A2210) junction – phases 1 and 2

Network Layout Diagram

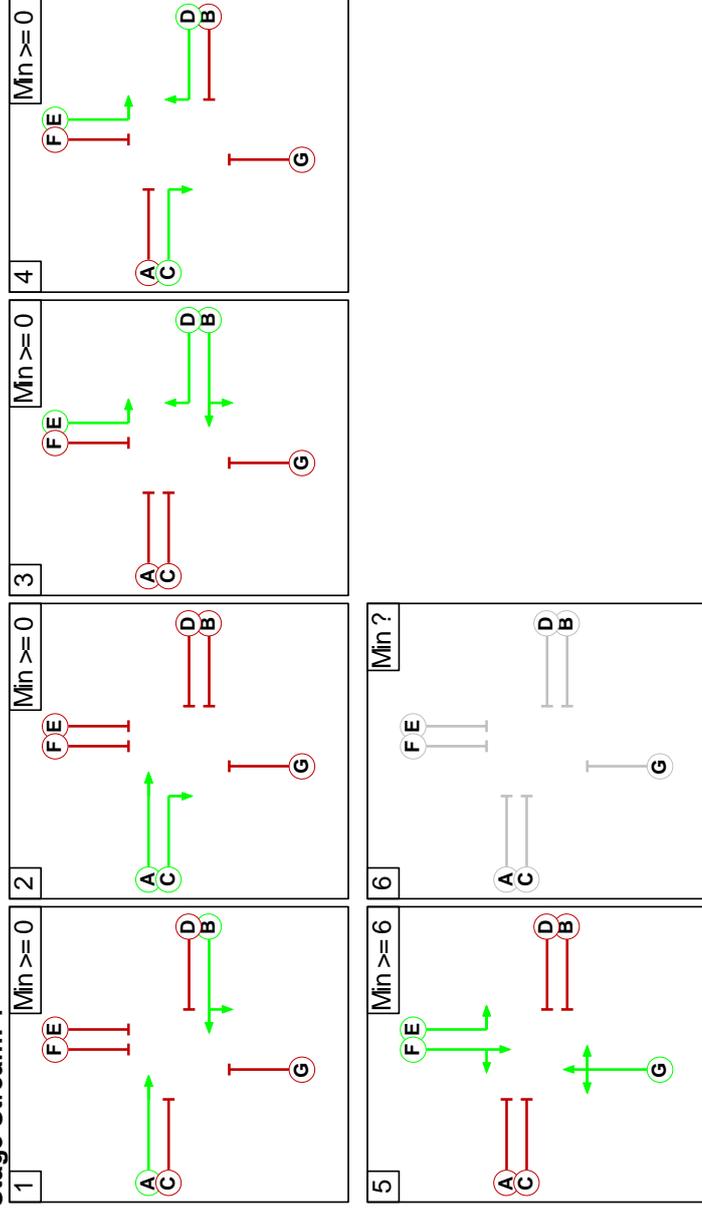


Phase Diagram

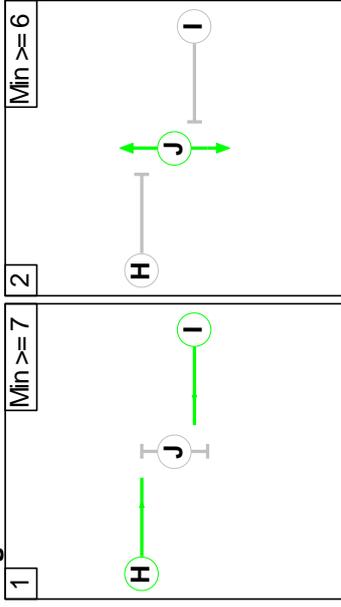


Stage Diagram

Stage Stream: 1



Stage Stream: 2



Phases in Stage

Stream	Stage No.	Phases in Stage
1	1	A B
1	2	A C
1	3	B D E
1	4	C D E
1	5	E F G
1	6	
2	1	H I
2	2	J

Phase Intergreens Matrix

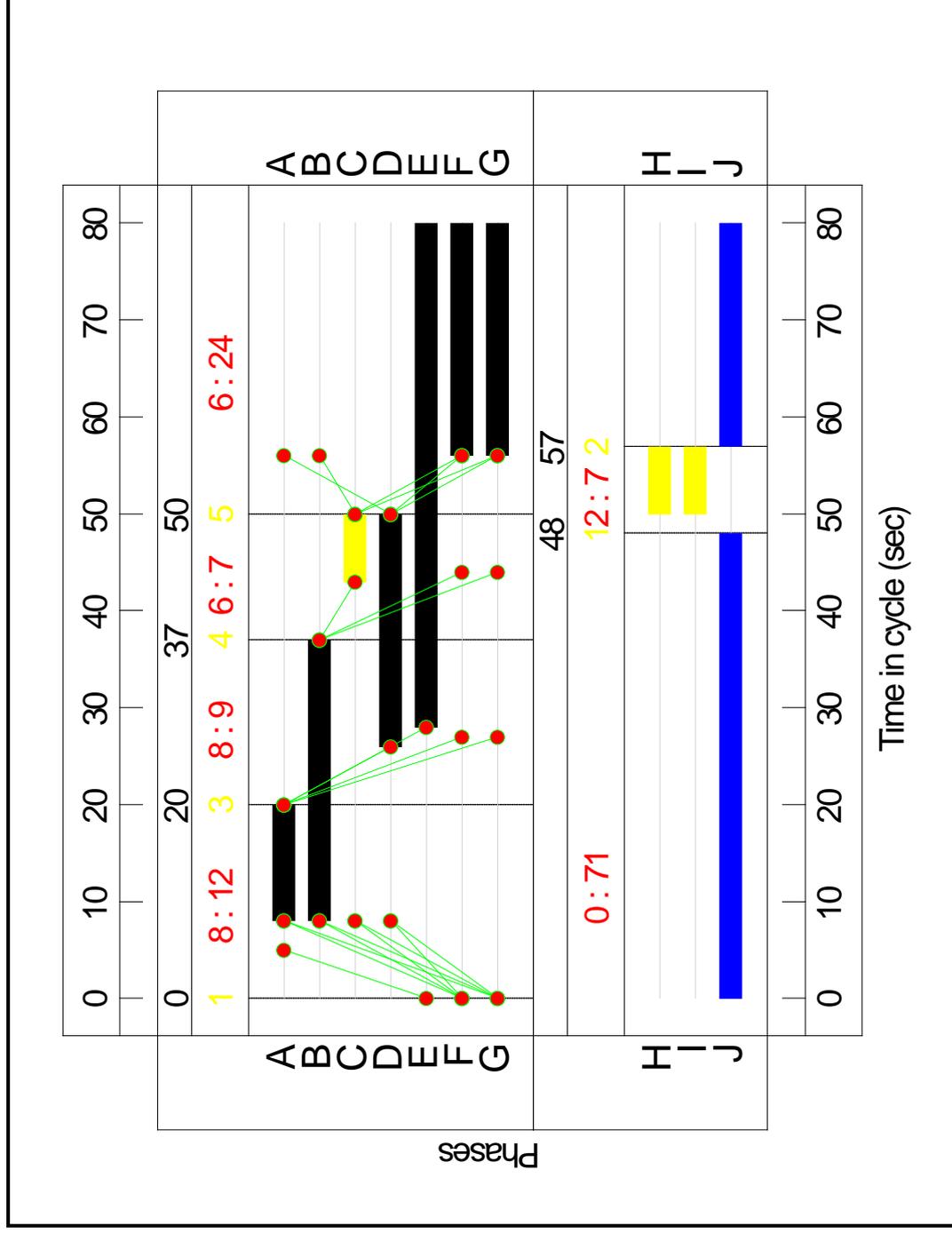
Terminating Phase	Starting Phase									
	A	B	C	D	E	F	G	H	I	J
A	6	-	-	6	8	7	7	-	-	-
B	-	6	-	-	-	7	7	-	-	-
C	-	-	6	-	-	6	6	-	-	-
D	6	-	-	6	-	6	6	-	-	-
E	5	-	-	-	-	-	-	-	-	-
F	8	8	8	8	-	-	-	-	-	-
G	8	8	8	8	-	-	-	-	-	-
H	-	-	-	-	-	-	-	-	-	-
I	-	-	-	-	-	-	-	-	-	-
J	-	-	-	-	-	-	-	-	-	-

Traffic Flows, Desired

Desired Flow :

Origin	Destination				Tot.
	A	B	C	D	
A	0	279	266	64	609
B	425	0	200	859	1484
C	339	112	0	42	493
D	127	782	97	0	1006
Tot.	891	1173	563	965	3592

Signal Timings Diagram



Transport Assessment

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	85.5%	143	48	0	37.2	-	-
A2 Deptford Bridge/ A2 New Cross Road/ A2209 Deptford Church Street/ A2210 Brookmill Road/ Haton Street	-	-	-	-	-	-	-	-	-	-	85.5%	143	48	0	37.2	-	-
1/2+1/1	A2209 Deptford Church Street Left	U	E		1	52	-	279	1769:1769	1445	19.3%	-	-	-	0.5	6.5	1.2
1/3	A2209 Deptford Church Street Ahead Right	O	F		1	24	-	330	1996	514	64.2%	64	0	0	3.2	35.1	6.8
2/1	A2 Deptford Bridge Ahead	U	-		-	-	-	628	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
2/2	A2 Deptford Bridge Ahead	U	-		-	-	-	856	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
3/2+3/1	A2 Deptford Bridge Left Ahead	U	B		1	29	-	628	1940:1752	803	78.2%	-	-	-	5.3	30.5	11.7
3/3+3/4	A2 Deptford Bridge Right Ahead	U	B D		1	29:24	-	856	2080:1892	1014	84.4%	-	-	-	7.9	33.1	10.9

Transport Assessment

4/1	A2210 Brookmill Road Ahead Right Left	O	G	1	24	-	493	1924	601	82.0%	0	0	0	5.7	41.4	12.2			
5/1	A2 New Cross Road Ahead	U	A	1	12	-	243	1890	307	79.1%	-	-	-	4.0	58.8	6.9			
5/2	A2 New Cross Road Ahead	U	A	1	12	-	278	2105	342	81.3%	-	-	-	4.5	58.7	8.0			
5/3+5/4	A2 New Cross Road Ahead Right	U	A C	1	12:7	-	358	1965:1874	419	85.5%	-	-	-	6.0	60.0	8.3			
6/1		U	-	-	-	-	891	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0			
7/1	Ahead	U	-	-	-	-	522	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0			
7/2	Ahead	U	-	-	-	-	651	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0			
8/1		U	-	-	-	-	563	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0			
9/1		U	-	-	-	-	449	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0			
9/2		U	-	-	-	-	516	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0			
10/1	A2 New Cross Road Left	O	-	-	-	-	127	2115	547	23.2%	79	48	0	0.2	4.3	0.2			
11/1		U	-	-	-	-	522	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0			
11/2		U	-	-	-	-	651	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0			
12/1	A2 New Cross Road Ahead Ahead2	U	-	-	-	-	1006	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0			
											C1 Stream: 1 PRC for Signalled Lanes (%):		5.3	Total Delay for Signalled Lanes (pcuHr):		37.05	Cycle Time (s):		80
											C1 Stream: 2 PRC for Signalled Lanes (%):		0.0	Total Delay for Signalled Lanes (pcuHr):		0.00	Cycle Time (s):		80
											PRC Over All Lanes (%):		5.3	Total Delay Over All Lanes (pcuHr):		37.20			



Transport Assessment

Network Results

TRANSYT Link Results Summary, sensitivity test – phase 2 (PM peak hour)

Link	Node	Actual Flow (PCU/H)	Sat. Flow (PCU/H)	Degree Of Saturation (%)	Mean Cruise Time Per PCU (sec)	Mean Delay Time Per PCU (sec)	Uniform Delay (PCU-H/H)	Rand + OverSat Delay (PCU-H/H)	Cost Of Delay (£/H)	Mean Stops Per PCU (%)	Cost Of Stops (£/H)	Mean Max Queue (PCU)	Average Excess Queue (PCU)	P.I. (£/H)	Green1 Start	Green1 End	Green2 Start	Green2 End
1	1	307	3830	56	15	38	2.8	0.4	46.3	91	8.6	12	0.0	54.9	48	68		
3	1	128	1807	52	3	32	0.6	0.5	16.1	101	57.9	4	0.0	74.0	29	41		
4	1	535	3567	23	3	2	0.1	0.1	3.8	4	9.7	1	0.0	13.6	75	41		
5	1	603	3660	40	6	19	2.9	0.3	45.3	65	9.2	12	0.0	54.5	75	22		
6	1	527	3830	47	15	9	1.0	0.2	18.3	59	9.6	9	0.0	27.9	48	68	89	22
7	1	655	8000	14	18	0	0.0	0.0	0.7	0	0.0	0	0.0	0.7				
8	1	842	8000	13	18	0	0.0	0.1	0.9	0	0.0	0	0.0	0.9				
9	1	427	3830	47	15	9	0.8	0.2	14.8	59	7.8	9	0.0	22.6	48	68	89	22
12	1	427	8000	14	18	0	0.0	0.0	0.4	0	0.0	0	0.0	0.5				
13	1	162	3830	56	15	38	1.5	0.2	24.4	91	4.5	12	0.0	29.0	48	68		
18	2	632	1940	33	3	1	0.0	0.2	3.4	1	0.0	0	0.0	3.4				
20	2	79	1741	14	15	4	0.0	0.1	1.1	0	0.0	0	0.0	1.1				
21	3	672	1965	42	17	3	0.1	0.4	7.1	40	0.2	9	0.0	7.2	73	55		
23	3	711	1965	44	4	2	0.1	0.4	6.3	6	3.3	8	0.0	9.6	73	55		
24	3	78	1965	5	18	1	0.0	0.0	0.4	3	0.0	0	0.0	0.4	73	55		
25	4	750	1965	38	3	2	0.1	0.3	6.2	22	17.9	12	0.0	24.1				
27	4	603	1954	31	7	4	0.4	0.2	9.2	63	2.1	13	0.0	11.3				

Transport Assessment

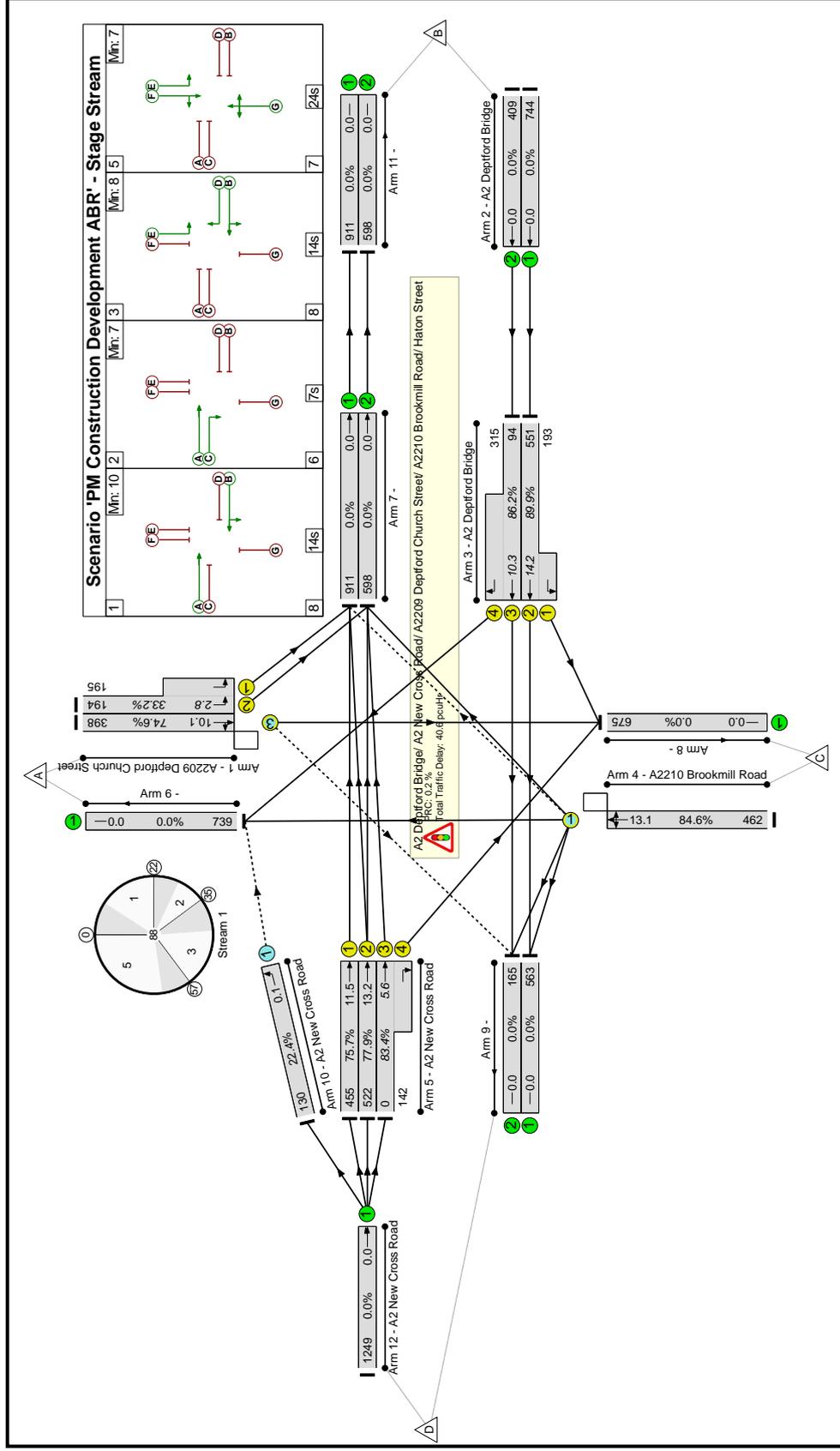
Link	Node	Actual Flow (PCU/H)	Sat. Flow (PCU/H)	Degree Of Saturation (%)	Mean Cruise Time Per PCU (sec)	Mean Delay Time Per PCU (sec)	Uniform Delay (PCU-H/H)	Rand + OverSat Delay (PCU-H/H)	Cost Of Delay (£/H)	Mean Stops Per PCU (%)	Cost Of Stops (£/H)	Mean Max Queue (PCU)	Average Excess Queue (PCU)	P.I. (£/H)	Green1 Start	Green1 End	Green2 Start	Green2 End
30	5	672	1960	94	3	52	3.6	6.1	137.4	69	51.4	14	0.0	188.8	84	22		
32	5	347	1965	48	15	28	2.3	0.5	38.9	79	8.4	8	0.0	47.3	84	22		
34	5	487	1685	103	15	145	4.8	14.8	277.6	183	27.4	28	0.0	305.0	53	79		
35	1	48	1786	4	3	2	0.0	0.0	0.5	5	1.0	0	0.0	1.5	75	41		
36	1	68	3660	40	6	19	0.3	0.0	5.1	65	1.0	12	0.0	6.1	75	22		
37	3	10	10000	1	6	43	0.1	0.0	1.7	94	0.0	0	0.0	1.7	60	67		
38	4	20	8000	0	10	0	0.0	0.0	0.0	0	0.0	0	0.0	0.0				
39	5	1122	1965	61	5	3	0.1	0.7	11.3	11	35.2	20	0.0	46.6				
40	5	78	1965	11	3	20	0.4	0.1	6.1	39	3.4	1	0.0	9.5	84	22		
41	5	311	1758	49	15	29	2.0	0.5	35.6	80	7.6	7	0.0	43.2	84	22		
42	5	39	8000	0	5	0	0.0	0.0	0.0	0	0.0	0	0.0	0.1				
43	4	652	1960	33	3	2	0.2	0.2	5.8	34	6.8	14	0.0	12.6				
44	1	210	8000	13	18	0	0.0	0.0	0.2	0	0.0	0	0.0	0.2				
45	5	78	1965	61	5	3	0.0	0.1	0.8	15	3.3	20	0.0	4.2				
46	1	10	10000	0	5	31	0.1	0.0	1.2	79	0.0	0	0.0	1.2	48	68		
47	1	10	10000	0	8	15	0.0	0.0	0.6	54	0.0	0	0.0	0.6	75	22		
48	1	10	10000	1	6	43	0.1	0.0	1.7	94	0.0	0	0.0	1.7	75	82		
49	1	10	10000	1	3	36	0.1	0.0	1.4	85	0.0	0	0.0	1.4	68	82		
50	1	69	1874	31	5	48	0.7	0.2	13.0	99	0.2	2	0.0	13.2	29	41		

## Transport Assessment

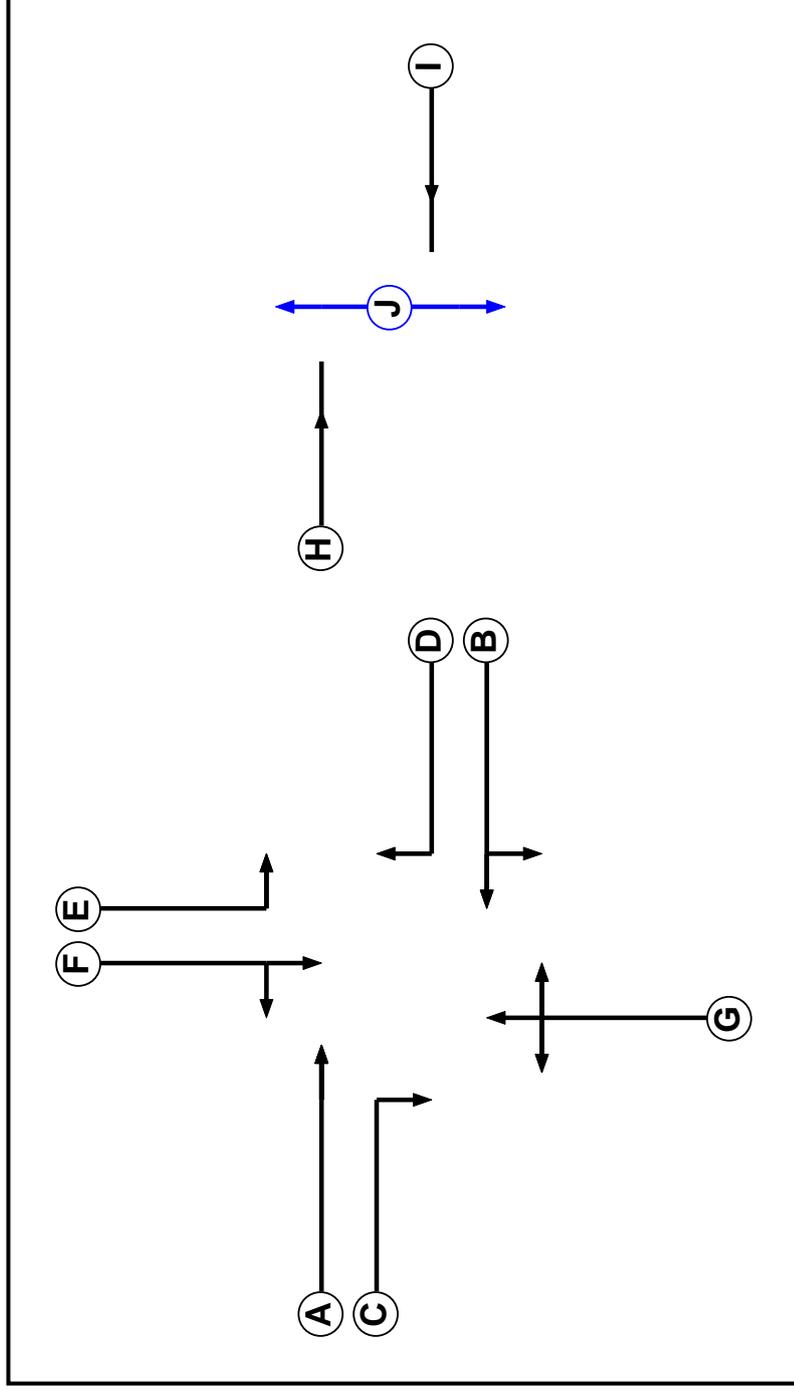
Link	Node	Actual Flow (PCU/H)	Sat. Flow (PCU/H)	Degree Of Saturation (%)	Mean Cruise Time Per PCU (sec)	Mean Delay Time Per PCU (sec)	Uniform Delay (PCU-H/H)	Rand + OverSat Delay (PCU-H/H)	Cost Of Delay (£/H)	Mean Stops Per PCU (%)	Cost Of Stops (£/H)	Mean Max Queue (PCU)	Average Excess Queue (PCU)	P.I. (£/H)	Green1 Start	Green1 End	Green2 Start	Green2 End
52	5	10	10000	1	21	43	0.1	0.0	1.7	94	0.0	0	0.0	1.7	31	38		
53	5	10	10000	1	9	43	0.1	0.0	1.7	94	0.0	0	0.0	1.7	31	38		
54	1	10	1874	31	5	48	0.1	0.0	1.9	99	0.0	2	0.0	1.9	29	41		
55	5	49	1954	3	7	1	0.0	0.0	0.2	1	0.0	0	0.0	0.2				

# Deptford Church Street (A2209) / Deptford Bridge (A2) / Deptford Broadway (A2) / Brookmill Road (A2210) junction – phases 1 and 2

Network Layout Diagram

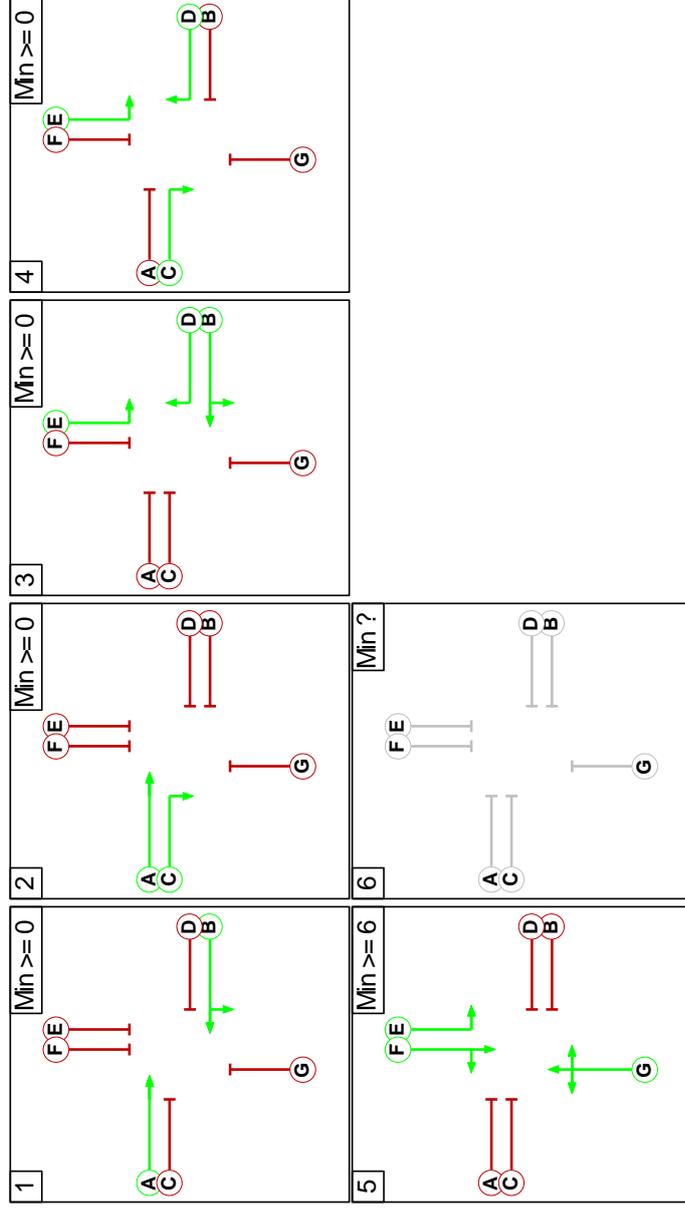


Phase Diagram



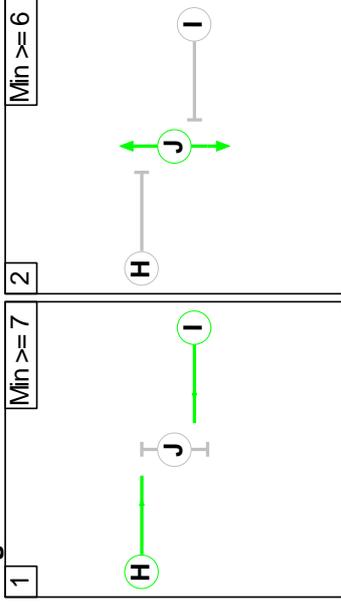
Stage Diagram

Stage Stream: 1



Transport Assessment

Stage Stream: 2



Phases in Stage

Stream	Stage No.	Phases in Stage
1	1	A B
1	2	A C
1	3	B D E
1	4	C D E
1	5	E F G
1	6	
2	1	H I
2	2	J

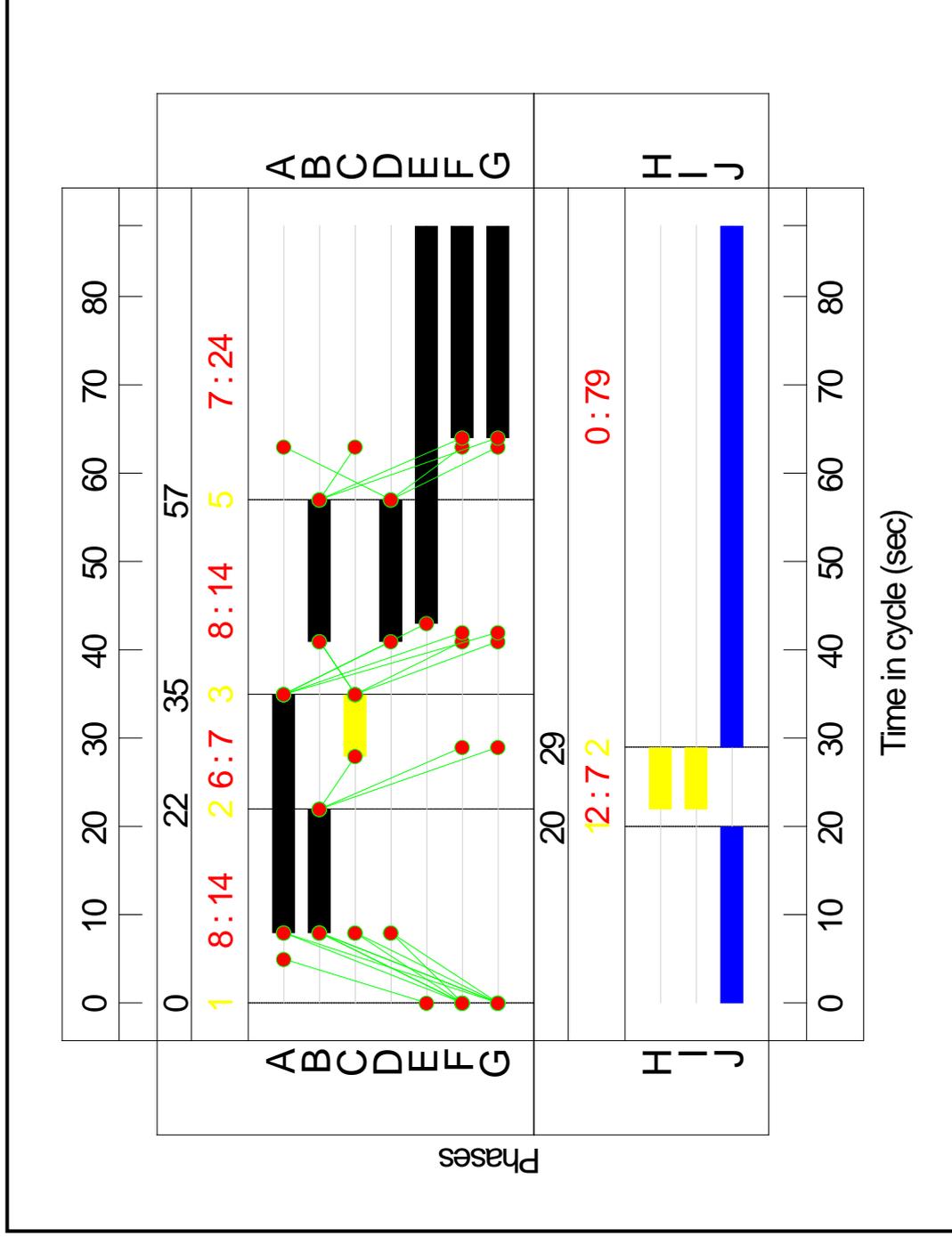
Phase Intergreens Matrix

		Starting Phase									
		A	B	C	D	E	F	G	H	I	J
Terminating Phase	A	-	-	6	8	7	7	7	-	-	-
	B	-	6	-	-	7	7	7	-	-	-
	C	-	6	-	-	6	6	6	-	-	-
	D	6	-	-	-	6	6	6	-	-	-
	E	5	-	-	-	-	-	-	-	-	-
	F	8	8	8	8	-	-	-	-	-	-
	G	8	8	8	8	-	-	-	-	-	-
	H	-	-	-	-	-	-	-	-	-	-
	I	-	-	-	-	-	-	-	-	-	-
	J	-	-	-	-	-	-	-	-	-	-

Traffic Flows, Desired  
Desired Flow :

		Destination				Tot.
		A	B	C	D	Tot.
Origin	A	0	389	340	58	787
	B	315	0	193	645	1153
	C	294	143	0	25	462
	D	130	977	142	0	1249
	Tot.	739	1509	675	728	3651

Signal Timings Diagram



Transport Assessment

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	89.9%	120	68	0	40.6	-	-
A2 Deptford Bridge/ A2 New Cross Road/ A2209 Deptford Church Street/ A2210 Brookmill Road/ Haton Street	-	-	-	-	-	-	-	-	-	-	89.9%	120	68	0	40.6	-	-
1/2+1/1	A2209 Deptford Church Street Left	U	E		1	45	-	389	1769:1769	1173	33.2%	-	-	-	1.5	13.6	2.8
1/3	A2209 Deptford Church Street Ahead Right	O	F		1	24	-	398	2001	533	74.6%	58	0	0	4.8	43.1	10.1
2/1	A2 Deptford Bridge Ahead	U	-		-	-	-	744	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
2/2	A2 Deptford Bridge Ahead	U	-		-	-	-	409	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
3/2+3/1	A2 Deptford Bridge Left Ahead	U	B		2	30	-	744	1940:1752	828	89.9%	-	-	-	7.4	35.6	14.2
3/3+3/4	A2 Deptford Bridge Right Ahead	U	B D		2:1	30:16	-	409	2080:1892	475	86.2%	-	-	-	6.2	54.1	10.3

Transport Assessment

4/1	A2210 Brookmill Road Ahead Right Left	O	G		1	24	-	462	1923	546	84.6%	0	0	0	6.4	49.8	13.1	
5/1	A2 New Cross Road Ahead	U	A		1	27	-	455	1890	601	75.7%	-	-	-	4.9	39.0	11.5	
5/2	A2 New Cross Road Ahead	U	A		1	27	-	522	2105	670	77.9%	-	-	-	5.7	39.1	13.2	
5/3+5/4	A2 New Cross Road Ahead Right	U	A C		1	27.7	-	142	1965:1874	170	83.4%	-	-	-	3.7	94.4	5.6	
6/1		U	-		-	-	-	739	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0	
7/1	Ahead	U	-		-	-	-	911	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0	
7/2	Ahead	U	-		-	-	-	598	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0	
8/1		U	-		-	-	-	675	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0	
9/1		U	-		-	-	-	563	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0	
9/2		U	-		-	-	-	165	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0	
10/1	A2 New Cross Road Left	O	-		-	-	-	130	2115	581	22.4%	62	68	0	0.1	4.0	0.1	
11/1		U	-		-	-	-	911	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0	
11/2		U	-		-	-	-	598	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0	
12/1	A2 New Cross Road Ahead Ahead2	U	-		-	-	-	1249	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0	
													C1 Stream: 1 PRC for Signalled Lanes (%):		40.44	Cycle Time (s):		88
													C1 Stream: 2 PRC for Signalled Lanes (%):		0.00	Cycle Time (s):		88
													PRC Over All Lanes (%):		40.59	Total Delay Over All Lanes(pcuHr):		
													Total Delay for Signalled Lanes (pcuHr):		40.44	Total Delay for Signalled Lanes (pcuHr):		
													Total Delay Over All Lanes(pcuHr):		40.59	Total Delay Over All Lanes(pcuHr):		

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## Appendix D: Accident analysis

### D.1 Existing highway safety analysis

- D.1.1 Details of road traffic accident within the vicinity of the site have been obtained from Transport for London (TfL) and have been reviewed to determine whether there are particular problems or trends on the local highway network.
- D.1.2 Data on accidents for the most recent five-year period from April 2006 until March 2011 has been analysed for the following junctions and surrounding roads:
- Coffey Street
  - Crossfield Street
  - Deptford Church Street (A2209) between the junction with Creek Road (A200) and the junction with Giffin Street
  - Creek Road (A200) / Deptford Church Street (A2209) junction
  - Deptford Church Street (A2209) / Coffey Street junction
  - Deptford Church Street (A2209) / Crossfield Street junction
  - Deptford Church Street (A2209) / Giffin Street junction.
- D.1.3 Based on the DfT Design Manual for Roads and Bridges, Volume 13 Economic Assessment of Road Schemes, accidents have been analysed according to the method outlined in this guidance which states that accidents that have occurred within 20m of each junction are associated with that specific junction, and the remaining accidents are grouped to the relevant links.
- D.1.4 The area of interest together with the locations of the recorded road traffic accidents and the severity of the accidents are indicated in Table D.1.

**Table D.1 Accident severity from 2006 to 2011**

Location	Slight	Serious	Fatal	Total
Coffey Street	0	0	0	0
Crossfield Street	1	0	0	1
Deptford Church Street (A2209)*	1	0	0	1
Creek Road (A200) / Deptford Church Street (A2209) junction	6	1	0	7
Deptford Church Street (A2209) / Coffey Street junction	0	0	0	0
Deptford Church Street (A2209) / Crossfield Street junction	1	0	0	1
Deptford Church Street / Giffin Street	8	1	0	9

Location	Slight	Serious	Fatal	Total
junction				
<b>Total</b>	<b>17</b>	<b>2</b>	<b>0</b>	<b>19</b>

*\*Deptford Church Street (A2209) between the junction with Creek Road (A200) and the junction with Giffin Street.*

D.1.5 A total of two serious and 17 slight accidents have occurred in the Deptford Church Street assessment area over the five years for which accident data was obtained and analysed. There were no fatal accidents.

D.1.6 Road traffic accident analysis for individual junctions and roads within the vicinity of the site is discussed below.

### **Coffey Street**

D.1.7 Coffey Street is a two-way road with a 20mph speed limit. The road leads from Deptford Church Street (A2209) in the east to Crossfield Street in the west.

D.1.8 From April 2006 until March 2011, no accidents occurred along Coffey Street.

### **Crossfield Street**

D.1.9 Crossfield Street west of the site is a one-way road, which meets Coffey Street in a turning area that accommodates a drop off / pick up area for the local school and links to Deptford High Street to the west. On both east and west sides of the turning area, raised table pedestrian crossings are provided with keep clear road markings on the west side of the area adjacent to the entrance to the primary school. The part of Crossfield Street located to the south of the site is a no through route accessed from Deptford Church Street (A2209) only.

D.1.10 In total, one accident occurred on Crossfield Street about 50m west of the junction with Coffey Street where a pedestrian was hit by a speeding light goods vehicle (LGV). The pedestrian involved in the accident was an adult. The accident was categorised as slight and the major contributory factor was driving recklessly.

D.1.11 There was also an accident at the junction of Crossfield Street and Deptford Church Street (A2209) which involved two cars. The accident was recorded as slight and it was caused by drivers driving recklessly and failing to look properly.

### **Deptford Church Street (A2209)**

D.1.12 Deptford Church Street (A2209) is a dual carriageway with one lane and a bus lane both northbound and southbound. The road leads to Creek Road (A200) to the north, and Deptford Bridge (A2), Deptford Broadway (A20) and Brookmill Road (A2210) to the south at a signalised junction.

D.1.13 Deptford Church Street (A2209) within the study area is between the junction with Creek Road (A200) and the junction with Giffin Street.

- D.1.14 In total, 18 accidents occurred along Deptford Church Street (A2209) between the junction with Creek Road (A200) and the junction with Giffin Street. The junctions included within this analysis are as follow:
- a. Creek Road (A200) / Deptford Church Street (A2209) junction
  - b. Deptford Church Street (A2209) / Coffey Street junction
  - c. Deptford Church Street (A2209) / Crossfield Street junction
  - d. Deptford Church Street / Giffin Street junction.
- D.1.15 Of the total accidents occurred along Deptford Church Street (A2209) in the local area and the associated junctions, two were classified as serious with one occurring at the junction of Creek Road (A200) and Deptford Church Street (A2209) which involved a car and a motorcycle, and one at the junction of Deptford Church Street (A2209) and Giffin Street which involved two cars and a medium goods vehicle (MGV). The major contributory factors in the serious accidents were driving recklessly and the road users not looking properly.
- D.1.16 The remaining 16 accidents were classified as slight with the majority happened at the junction of Creek Road (A200) / Deptford Church Street (A2209), and at the junction of Deptford Church Street (A2209) / Giffin Street.
- D.1.17 Of the total accidents, one accident involved a pedestrian who was hit by a car at the junction of Creek Road (A200) / Deptford Church Street (A2209). The accident caused by the wrong use of pedestrian crossing and the pedestrian failing to look properly.
- D.1.18 Five of the total accidents involved pedal cycles, all of them collided by cars. Four of these accidents occurred at the junction of Deptford Church Street (A2209) / Giffin Street, and one occurred at the junction of Creek Road (A200) / Deptford Church Street (A2209). Not looking properly, reckless driving, and making poor manoeuvres were the main causes of these accidents.
- D.1.19 Of the total slight accidents, three involved Light Goods Vehicles (LGVs) which collided with cars and a motorcycle. One of these accidents occurred at the junction of Deptford Church Street (A2209) / Giffin Street and two occurred at the junction of Creek Road (A200) / Deptford Church Street (A2209). Failing to look properly and driving recklessly were the main causes of these accidents.
- D.1.20 Of the slight accidents occurred along Deptford Church Street (A2209) and the junctions associated, none happened as a result of the road geometry.

## **D.2 Summary and conclusion**

- D.2.1 Of the five year accident data analysed, the largest number of road traffic accidents occurred at the junction of Creek Road (A200) / Deptford Church Street (A2209), and at the junction of Deptford Church Street (A2209) / Giffin Street; most of which have been classified as slight with two serious accidents.

- D.2.2 Of the two serious accidents that happened in the study area, one occurred at the junction of Deptford Church Street (A2209) / Giffin Street and one at the junction of Creek Road (A200) / Deptford Church Street (A2209). Careless driving and not looking properly were the main causes of the accidents. These accidents therefore did not happen as a result of the road geometry.
- D.2.3 Overall, the slight accidents that occurred were mainly caused by not looking properly, reckless driving and poor manoeuvres, indicating that the accidents were not due to highway geometry.
- D.2.4 Of the total slight and serious accidents, three accidents involved LGVs and one involved a MGV. The accidents that involved LGVs were slight accidents and the accident involving a MGV was a serious accident. The accidents were caused by not looking properly, reckless driving, and following too close, and not as a result of the road geometry.

## Appendix E: Road Safety Audits

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**Thames Water Utilities**

**Thames Tideway Tunnel -  
Deptford Church Street**

**Stage 1 Road Safety Audit**

**Project Ref: 27016/033**

**Doc Ref: 001**

**February 2013**

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Thames Tideway Tunnel – Deptford Church Street  
Stage 1 Road Safety Audit

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## Document Control Sheet

**Project Name:** Thames Tideway Tunnel - Deptford Church Street  
**Project Ref:** 27016/033  
**Report Title:** Stage 1 Road Safety Audit  
**Doc Ref:** 001  
**Date:** February 2013

	Name	Position	Signature	Date
<b>Prepared by:</b>	Philip Edwards	Principal Engineer	<i>PEdwards</i>	14 February 2013
<b>Reviewed by:</b>	James Horne	Senior Engineer	<i>James Horne</i>	14 February 2013
<b>Approved by:</b>	Alan Fry	Divisional Director	PP <i>PEdwards</i>	14 February 2013
<b>For and on behalf of Peter Brett Associates LLP</b>				

Revision	Date	Description	Prepared	Reviewed	Approved

Peter Brett Associates LLP disclaims any responsibility to the Client and others in respect of any matters outside the scope of this report. This report has been prepared with reasonable skill, care and diligence within the terms of the Contract with the Client and generally in accordance with the appropriate ACE Agreement and taking account of the manpower, resources, investigations and testing devoted to it by agreement with the Client. This report is confidential to the Client and Peter Brett Associates LLP accepts no responsibility of whatsoever nature to third parties to whom this report or any part thereof is made known. Any such party relies upon the report at their own risk.

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<b>2</b>	<b>Items Raised from this Stage 1 Road Safety Audit</b>	<b>3</b>
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## Appendices

Appendix A - Information Utilised in this Stage 1 Road Safety Audit

Appendix B - Site Reference Plan

## 1 Introduction

- 1.1 Peter Brett Associates LLP have been commissioned to undertake a series of Stage 1 Road Safety Audits on proposals associated with the construction of the Thames Tideway Tunnel project in London.
- 1.2 This Audit has been undertaken on the highway aspects of the proposal at Deptford Church Street, Lewisham and considers both the situation during the construction phase and post construction.
- 1.3 The surrounding highway network is urban in nature. Coffey Street is a 20mph zone and provides access to a primary school. Other roads are 30mph speed limit. Crossfield Street off Deptford Church Street is a cul-de sac for vehicular traffic and serves various industrial premises. Deptford Church Street is an urban dual carriageway, 30mph with part-time bus lanes. All of the roads are illuminated by a system of street lighting and generally with footways on both sides of the carriageways.
- 1.4 The scheme proposals that affect the existing highway consist of the following design aspects:-
- Construction Phases 1:-
    - Crossfield Street extended to junction with Coffey Street to provide access to school site;
    - Crossfield Street becomes one way westbound;
    - Coffey Street becomes one way eastbound;
    - Circulatory area outside school modified to accommodate traffic entering the space from Crossfield Street and leaving to Coffey Street;
    - Site access In via Crossfield Street and Out via Coffey Street;
    - Suspension of some existing parking bays in Coffey Street
    - Parking restrictions in Crossfield Street;
    - Estimated 64 construction vehicles per day between 08:00 and 18:00;
  - Construction Phase 2:-
    - Site access and access to premises in Crossfield Street and Coffey Street as Phase 1;
    - Northbound carriageway of Deptford Church Street closed from Crossfield Street to Coffey Street and contraflow on the southbound carriageway;
    - Existing Toucan Crossing north of Bronze Street closed;
    - Temporary pedestrian crossing provided 75m approx. north of Bronze Street;
    - Estimated 64 construction vehicles per day between 08:00 and 18:00;
  - Operational Phase:-
    - Highway layout to be returned to its current layout with permanent accesses to the site off Crossfield Street and Coffey Street;
    - 6 monthly maintenance access required by transit van off Norman Road;
    - 10 yearly maintenance required by rigid HGV / mobile crane off Norman Road;
- 1.5 The Audit Team Membership was as follows:-

## Thames Tideway Tunnel – Deptford Church Street

### Stage 1 Road Safety Audit

Audit Team Leader:-

Philip Edwards                  Peter Brett Associates, Northampton

Team member:-

James Horne                      Peter Brett Associates, Northampton

The Audit Team are independent of the Design Team.

- 1.6 The Audit took place during December 2012 / January / February 2013. The Audit Team visited the site on 6<sup>th</sup> December 2012 between 11:00 and 11:30. The weather during the site visit was cold but sunny. The Audit comprises of an examination of the documents listed in Appendix A.
- 1.7 The Audit Team have not been made aware of any Departure from Standards identified with this proposed scheme. The Audit Team have not been provided with a specific Audit Brief but have received a number of documents that describe the proposed works.
- 1.8 The Audit Team have received a document summarising the recorded collision data within the surrounding highway network for a 5 year period (April 2006 to March 2011). The Audit Team have not been provided with the raw collision data, therefore, a full review and analysis of the recorded collisions cannot be undertaken as part of this Audit. It was noted at the time of the site visit that there was a “ghost bike” at the junction of Bronze Street and Deptford Church Street and flowers attached to the guard rail. Therefore it is presumed that there may have been a collision (fatal involving a cyclist). This collision was not recorded in the collision data reviewed by the Design Team covering the period April 2006 to March 2011. Unconfirmed Information on the internet indicates that there was a fatal collision at the crossing involving a cyclist in March 2012.
- 1.9 The Terms of Reference of this Audit are as described in Transport for London (TfL) Procedure SQA-0170. The Audit Team has examined and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the designs to any other criteria. However, to clearly explain a safety problem or the recommendation to resolve a problem the Audit Team may, on occasion, have referred to a design standard without touching on technical Audit.
- 1.10 This Audit has a maximum shelf life of 2 years. Should the scheme not progress to the next stage in its development within this period it should be re-audited.
- 1.11 Problems identified in the report are indicated by location and are shown on the site reference plans in Appendix B.

## 2 Items Raised from this Stage 1 Road Safety Audit

### Construction Phase 1

#### 2.1 Problem

Location - Crossfield Street / Coffey Street

Summary - Vehicle Swept Paths Not Fully Tested

It is proposed to modify the circulatory area at the intersection of Crossfield Street and Coffey Street. No details of swept paths for circulating at this location have been provided. It is noted that construction traffic will not use this section of road, but other large vehicles associated with the industrial premises in Crossfield Street will have to drive through and circulate into Coffey Street.

#### Recommendation

The swept paths for large vehicles circulating from Crossfield Street to Coffey Street should be checked at an appropriate and realistic speed to ensure vehicles can manoeuvre without overrunning the footways.

#### 2.2 Problem

Location - Coffey Street

Summary - 20mph Speed Zone Unsigned

Coffey Street is a 20mph zone. This appears appropriate because it provides access to a primary school. There is no indication of how the 20mph zone will be integrated into the extension of Crossfield Street. All vehicular entries to the 20mph zone need to be clearly defined in order to maintain the effectiveness of the zone.

#### Recommendation

The detailed design should ensure that there is an entry to the 20mph zone for traffic approaching via Crossfield Street.

#### 2.3 Problem

Location - Crossfield Street

Summary - Pedestrians Facilities Compromised

The existing footways in Crossfield Street are narrow and uneven. There are no dropped kerbs where the footway is intersected by the existing turning head and a lamp column restricts the width of the footway at this location. At the time of the site visit, the footway and carriageway were obstructed with parked vehicles and equipment which is assumed to be associated with the adjacent industrial premises. Given that this Highway forms a route to the school and there will be increased through traffic, pedestrians may be at additional risk from passing traffic.

Recommendation

Provision for pedestrians should be improved such that pedestrians can walk to / from Deptford Church Street and the school without being obstructed and having to step into the carriageway.

2.4 Problem

Location - Crossfield Street / Coffey Street

Summary - Safety Demarcation of Pedestrian Area

It is not clear how the proposed 'pedestrian area' outside the school will be demarcated and safeguarded from vehicles. Considering that it is outside a school, it is anticipated that at times there will be some congestion with parents setting down and picking up children.

Recommendation

The detailed design should ensure that the 'pedestrian area' is safeguarded from vehicles.

2.5 Problem

Location - Coffey Street

Summary - Restricted Pedestrian / Vehicles Intervisibility

The proposed site hoarding is likely to severely restrict intervisibility between drivers emerging from the site in Coffey Street and pedestrians on the footway.

Recommendation

The detailed design should ensure that there will be adequate intervisibility at the back of footway.

2.6 Problem

Location - Deptford Church Street / Coffey Street

Summary - Potential Abuse of Prohibited Manoeuvre

Coffey Street will become a one way street and therefore there will need to be a 'no left turn' from Deptford Church Street to Coffey Street. It is not clear how vehicles will be constrained from making this turn.

Recommendation

The detailed design should include measures to deter the proposed prohibited left turn.

## **Construction Phase 2**

### 2.7 Problem

Location - Deptford Church / Crossfield Street

Summary - Confusing roadmarking

The indicative road markings for where traffic from Deptford Church Street bound for Crossfield Street will diverge from the main road flow leading into the contraflow are confusing and show hatching where vehicles are intended to turn.

#### Recommendation

The detailed design should ensure that the area available for turning vehicles is correctly delineated.

### 2.8 Problem

Location - Deptford Church Street

Summary - Vehicle Swept Paths Not Fully Tested

No swept path analysis has been provided for traffic passing through the contraflow along the eastern carriageway. Deflections for northbound traffic appear severe and although not dimensioned, the drawing it would appear that the lanes are very narrow. There may be a risk of vehicles striking barriers and opposing traffic.

#### Recommendation

The swept paths for large vehicles passing through the contraflow traffic management should be checked, at an appropriate and realistic speed. Lane widths should be sufficient to safely accommodate cyclists, or else a segregated route for cyclists should be provided.

### 2.9 Problem,

Location - Bronze Street

Summary - Cyclists Not Catered For & Detour For Pedestrians

It is proposed to close the existing Toucan crossing which is immediately north of Bronze Street and provide a replacement Pedestrian crossing approximately 75m further north. The relocated crossing does not cater for cycles and it would also appear that there is an established cycle route via the existing Toucan crossing between Bronze Street and Coffey Street which will not be catered for. Furthermore, the proposed Pedestrian crossing will entail a relatively lengthy detour for pedestrians traveling east-west, eg. from Bronze Street to Coffey Street. Pedestrians and cyclists may attempt to cross Deptford Church Street within the contraflow section.

It is not obvious why the existing Toucan crossing needs to be closed.

Recommendation

The scheme should cater for the existing cycle route passing via Bronze Street and Coffey Street and provide safe and convenient crossing facility for east-west routes crossing Deptford Church Street. The possibility of maintaining a (suitably amended) Toucan crossing of Deptford Church Street at its existing location should be investigated.

**Operational Phase (Post Construction)**

2.10 Problem

Location - Coffey Street

Summary - Vehicle Swept Paths Not Fully Tested

The on street parking bays in Coffey Street obstructs the site exit.

Recommendation

When the parking bays are reinstated, provision should be made to amend any TRO such that an area in front of the gates is safeguarded to maintain safe access / egress from the site.

2.11 Problem

Location - Junction of Coffey Street With Deptford Church Street

Summary - Proposed Permanent Access is too close to junction and not safely accessible

It is proposed to form a vehicular crossing and permanent maintenance access located at the junction of Coffey Street with Deptford Church Street.

- The location of the access conflicts with the existing tactile paving and flush kerbs which have been provided for pedestrians to cross Coffey Street at this junction. The area on the corner is also associated with the Toucan crossing of Deptford Church Street and will be used by manoeuvring cyclists. The area is currently protected with bollards – presumably to protect it from vehicle overrun.
- The swept path drawings indicate vehicles entering the site from Coffey Street having arrived via Crossfield Street – through gates into the site and back out of the site onto Coffey Street. However, this route does not appear to be a very convenient route and it would appear likely that drivers may attempt to approach the access from Deptford Church Street. This would itself be a difficult manoeuvre and a large vehicle would probably have to shuffle forward and reverse to complete the manoeuvre.
- The swept path manoeuvre for vehicles turning on site appears unfeasibly tight and it is likely that drivers will find it more convenient to reverse out across the footway at the pedestrian crossing point and onto the junction.

Recommendation

- The proposed access should be located away from the junction of Coffey Street and Deptford Church Street such that it will not conflict with the existing pedestrian crossing point and other traffic turning at the junction.
- The proposed access should be more conveniently accessible.
- There should be sufficient space on-site to enable maintenance vehicles to turn round and hence eliminate the need to reverse out of the site.

### 3 Audit Team Statement

We certify that we have examined the drawings and documents listed in Appendix A to this Road Safety Audit Report. The Road Safety Audit has been carried out within the sole purpose of identifying any feature that could be removed or modified in order to improve the safety of the scheme. The problems identified have been noted in this report together with associated suggestions for safety improvements that we recommend should be studied for implementation.

No one on the Audit Team has been involved with the design of the measures.

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Thames Tideway Tunnel – Deptford Church Street  
Stage 1 Road Safety Audit



## Appendix A

## Thames Tunnel – Deptford Church Street Stage 1 Road Safety Audit

### Appendix A

#### Information Utilised in this Stage 1 Road Safety Audit:-

- Figure 23.2.1 – Site Location Plan;
- Figure 23.2.2 – Construction Traffic Routes;
- Figure 23.4.9 – Accident Locations;
- DCO-PP-22X-DEPCS-230003– Access Plan;
- DCO-PP-22X-DEPCS-230007- Permanent Works Layout;
- DCO-PP-22X-DEPCS-230013– Construction Phases – Phase 1 Site Setup & Shaft Construction;
- DCO-PP-22X-DEPCS-230014– Construction Phases – Phase 2 Construction of Other Structures;
- DCO-PP-22X-DEPCS-230016- Existing Highway Layout;
- DCO-PP-22X-DEPCS-230017– Illustrative Highway Layout During Construction – Phase 1;
- DCO-PP-22X-DEPCS-230018– Illustrative Highway Layout During Construction – Phase 2;
- DCO-PP-22X-DEPCS-230020– Highway Layout During Construction Vehicle Swept Path Analysis;
- DCO-PP-22X-DEPCS-230019– Illustrative Permanent Highway Layout;
- DCO-PP-22X-DEPCS-230021– Permanent Highway Layout Vehicle Swept Path Analysis;
- 213601-01 – Greenwich Pumping Station, Facility and Amenity Map;
- Highway Mitigation Plans;
- Technical Note – Information for Deptford Church Street Stage 1 RSA;
- Technical Memorandum – Deptford Church Street – Accident Analysis;

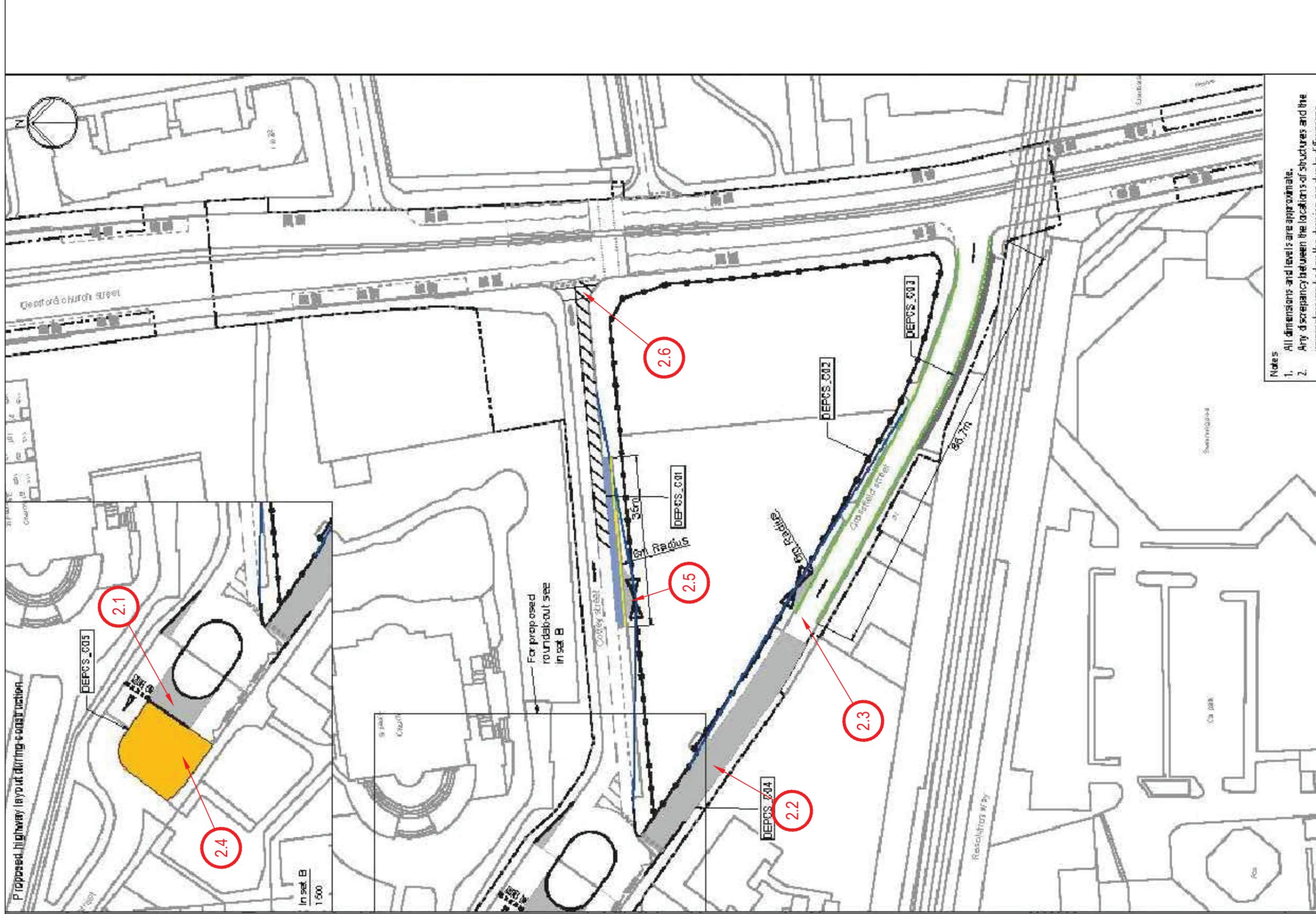
**NB** Some of the above drawings indicate a note that states ‘See Schedule of Works’. The Audit Team have not been provided with this Schedule.

**Appendix B**

Thames Tunnel – Deptford Church Street  
Stage 1 Road Safety Audit

Appendix B

Site Reference Plans – Figure 1, Figure 2 & Figure 3



Notes  
 1. All dimensions and levels are approximate.  
 2. Any discrepancy between the locations of structures and the

THAMES TIDEWAY TUNNEL  
 DEPTFORD CHURCH STREET  
 SITE REFERENCE PLAN

THAMES WATER UTILITIES

Client

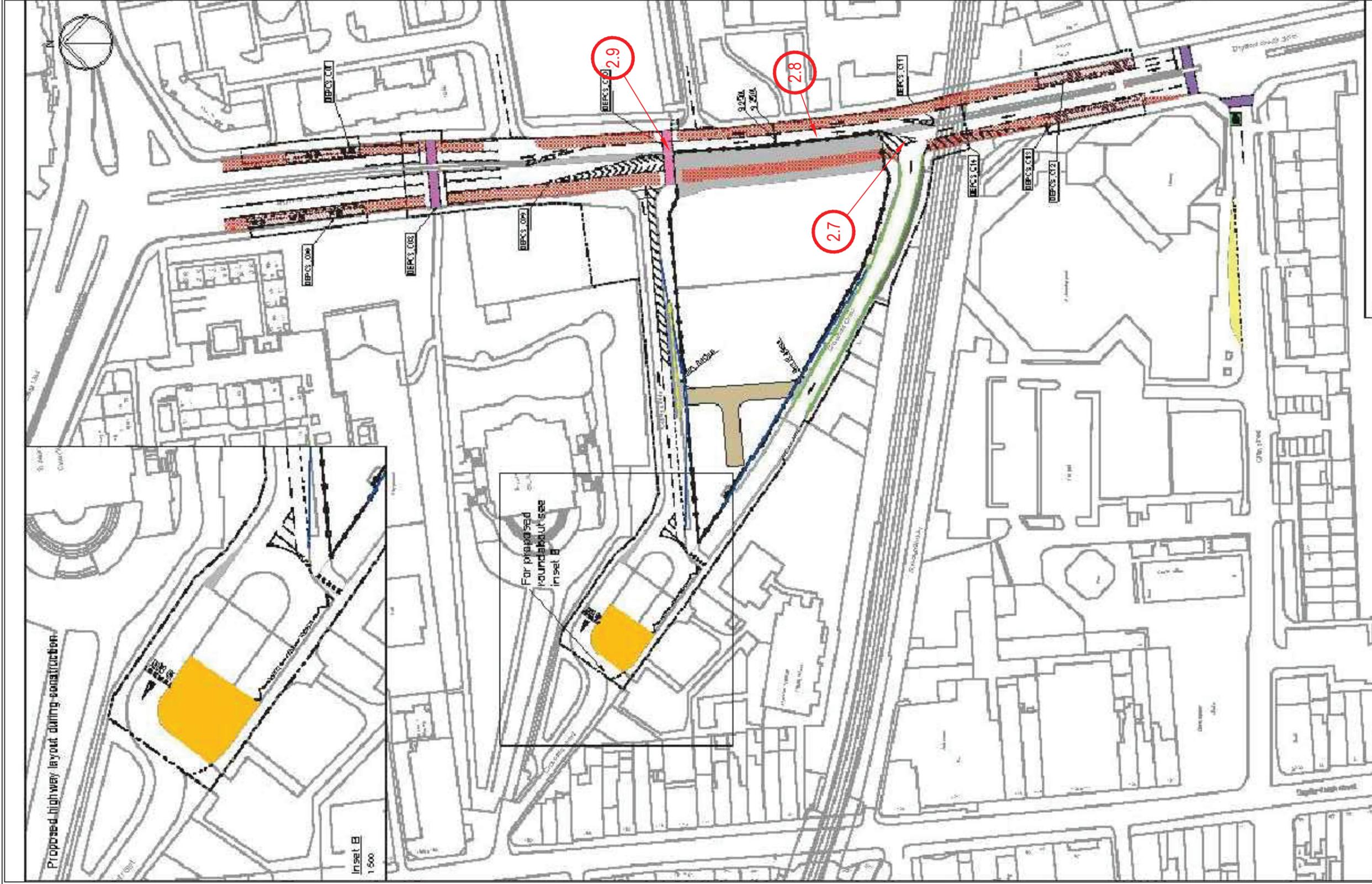
SCALING NOTE: Do not scale from this drawing. If in doubt, ask.  
 UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but may also be present but not shown. The Contractor is therefore advised to undertake his own investigation where the presence of any existing sewers, services, plant or apparatus may affect his operations.

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Mark	Revision	Drawn	Date	Chkd

Drawing Status: STAGE 1 ROAD SAFETY AUDIT

Date of 1st issue	15/02/13	Drawing Number	
A3 Scale	N.T.S	Figure	FIGURE 1
Drawn by	SB	Checked by	PE
		Revision	-



Proposed highway layout during construction.

Inset B  
1:500

For proposed foundation see inset B

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Project title    Thames Tideway Tunnel

Job number

211146-04

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cc

File reference

211146

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Prepared by    G Wicks (4/13)

Date

15 February 2013

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Subject         RSA Stage 1 - Designers response for Deptford Church Street

---

## 1         Introduction

---

This report is the Designer's Response to the Stage 1 Road Safety Audit Report for Deptford Church Street completed in February 2013.

## 2         Responses to the items arising from the Stage 1 Road Safety Audit

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### 2.1       Problem –

*Location: Crossfield Street / Coffey Street*

*Summary: Vehicle swept paths not fully tested*

It is proposed to modify the circulatory area at the intersection of Crossfield Street and Coffey Street. No details of swept paths for circulating at this location have been provided. It is noted that construction traffic will not use this section of road, but other large vehicles associated with the industrial premises in Crossfield Street will have to drive through and circulate into Coffey Street.

#### **Recommendation**

The swept paths for large vehicles circulating from Crossfield Street to Coffey Street should be checked at an appropriate and realistic speed to ensure vehicles can manoeuvre without overrunning the footways.

### Designers Response

Recommendation noted. The radius of the roundabout has not been changed and so vehicles are not anticipated to have problems negotiating the revised road layout. Additional tracking will be undertaken at detail design (stage 2) to confirm this.

# Technical Note

211146-04

15 February 2013

## 2.2 Problem –

*Location: Coffey Street*

*Summary: 20mph speed zone unsigned*

Coffey Street is a 20mph zone. This appears appropriate because it provides access to a primary school. There is no indication of how the 20mph zone will be integrated into the extension of Crossfield Street. All vehicular entries to the 20mph zone need to be clearly defined in order to maintain the effectiveness of the zone.

### Recommendation

The detailed design should ensure that there is an entry to the 20mph zone for traffic approaching via Crossfield Street.

## Designers Response

Recommendation noted. Signage will be reviewed and finalised at detail design (stage 2).

## 2.3 Problem –

*Location: Crossfield Street*

*Summary: Pedestrian facilities compromised*

The existing footways in Crossfield Street are narrow and uneven. There are no dropped kerbs where the footway is intersected by the existing turning head and a lamp column restricts the width at this location. At the time of the site visit, the footway and carriageway were obstructed with parked vehicles and equipment which is assumed to be associated with the adjacent industrial premises. Given that this highway forms a route to the school and there will be increased through traffic, pedestrians may be at additional risk from passing traffic.

### Recommendation

Provision for pedestrians should be improved such that pedestrians can walk to / from Deptford Church Street and the school without being obstructed and having to step into the carriageway.

## Designers Response

Recommendation noted. Street furniture and traffic restrictions will be reviewed and amended as part of the detail design (stage 2) to mitigate effects of obstructions to the footway.

## 2.4 Problem –

*Location: Crossfield Street / Coffey Street*

*Summary: Safety Demarcation of Pedestrian Area*

# Technical Note

211146-04

15 February 2013

It is not clear how the proposed 'pedestrian area' outside the school will be demarcated and safeguarded from vehicles. Considering that it is outside a school, it is anticipated that at times there will be some congestion with parents setting down and picking up children.

## Recommendation

The detailed design should ensure that the 'pedestrian area' is safeguarded from vehicles.

## Designers Response

Recommendation noted. Detail design (stage 2) will review how the area is marked and ensured it is free from vehicles.

## 2.5 Problem –

*Location: Coffey Street*

*Summary: Restricted pedestrian / vehicle intervisibility*

The proposed site hoarding is likely to severely restrict intervisibility between drivers emerging from the site in Coffey Street and pedestrians on the footway.

## Recommendation

The detailed design should ensure that there will be adequate intervisibility at the back of footway.

## Designers Response

Recommendation noted. The detail design (stage 2) will review and finalise site hoarding and access locations to ensure pedestrian safety.

It should be noted that all construction work and on any section of road subject to temporary diversions or restrictions imposed by roadworks associated with the Deptford Church Street site would be managed by the contractor(s) in accordance with the provisions made under the Traffic Signs Manual Chapter 8 - Traffic Safety Measures and Signs for Road Works. This includes ensuring safe passage for pedestrians throughout the construction works.

## 2.6 Problem –

*Location: Deptford Church Street / Coffey Street*

*Summary: Potential abuse of prohibited manoeuvre*

Coffey Street will become a one way street and therefore there will need to be a 'no left turn' from Deptford Church Street to Coffey Street. It is not clear how vehicles will be constrained from making this turn.

## Recommendation

The detailed design should include measures to deter the proposed prohibited left turn.

# Technical Note

211146-04

15 February 2013

## Designers Response

Recommendation noted. The highway layout and associated signage and road markings will be reviewed at detail design (stage 2) to ensure vehicles are deterred from making the prohibited manoeuvre.

### 2.7 Problem –

*Location: Deptford Church / Crossfield Street*

*Summary: Confusing roadmarking*

The indicative road markings for where traffic from Deptford Church Street bound for Crossfield Street will diverge from the main road flow leading into the contraflow are confusing and show hatching where vehicles are intended to turn.

#### Recommendation

The detailed design should ensure that the area available for turning vehicles is correctly delineated.

## Designers Response

Recommendation noted. Road markings will be reviewed as part of detail design (stage 2) to ensure delineation is clear to all highway users.

### 2.8 Problem –

*Location: Deptford Church Street*

*Summary: Vehicle swept paths not fully tested*

No swept path analysis has been provided for traffic passing through the contraflow along the eastern carriageway. Deflections for northbound traffic appear severe and although not dimensioned, the drawing it would appear that the lanes are very narrow. There may be a risk of vehicles striking barriers and opposing traffic.

#### Recommendation

The swept paths for large vehicles passing through the contraflow traffic management should be checked, at an appropriate and realistic speed. Lane widths should be sufficient to safely accommodate cyclists, or else a segregated route for cyclists should be provided.

## Designers Response

Recommendation noted. The vehicle swept path analysis will be amended in detail design (stage 2) to ensure all manoeuvres can be completed without striking barriers or overhanging opposing traffic lane.

Measures set out in the *CoCP* described in the Deptford Church Street *Transport Assessment* include increasing driver awareness of restrictions on the road network and marshalling of traffic at the site access. During all construction work and on any section of road subject to temporary

# Technical Note

211146-04

15 February 2013

diversions or restrictions imposed by roadworks associated with the Deptford Church Street site, the risk to all road-users would be managed by the contractor(s) in accordance with the provisions made under the Traffic Signs Manual Chapter 8 - Traffic Safety Measures and Signs for Road Works.

## 2.9 Problem –

*Location: Bronze Street*

*Summary: Cyclists not catered for and detour for pedestrians*

It is proposed to close the existing Toucan crossing which is immediately north of Bronze Street and provide a replacement Pedestrian crossing approximately 75m further north. The relocated crossing does not cater for cycles and it would also appear that there is an established cycle route via the existing Toucan crossing between Bronze Street and Coffey Street which will not be catered for. Furthermore, the proposed Pedestrian crossing will entail a relatively lengthy detour for pedestrians traveling east-west, e.g. from Bronze Street to Coffey Street. Pedestrians and cyclists may attempt to cross Deptford Church Street within the contraflow section.

It is not obvious why the existing Toucan crossing needs to be closed

### Recommendation

The scheme should cater for the existing cycle route passing via Bronze Street and Coffey Street and provide safe and convenient crossing facility for east-west routes crossing Deptford Church Street. The possibility of maintaining a (suitably amended) Toucan crossing of Deptford Church Street at its existing location should be investigated.

## Designers Response

Recommendation noted. The detail design (stage 2) will review the proposed design and look to retaining the existing toucan crossing facility if possible or ensure the cyclists/ pedestrian route is suitable to the proposed temporary crossing location.

## 2.10 Problem –

*Location: Coffey Street*

*Summary: Vehicle swept paths not fully tested*

The on street parking bays in Coffey Street obstructs the site exit.

### Recommendation

When the parking bays are reinstated, provision should be made to amend any TRO such that an area in front of the gates is safeguarded to maintain safe access / egress from the site.

# Technical Note

211146-04

15 February 2013

## Designers Response

Recommendation noted. The maintenance of the site is to be once every six months. The parking bays would be restricted by temporary traffic restriction as and when required. The access provision will be reviewed as part of the detail design (stage 2) to ensure this is still appropriate.

### 2.11 Problem –

*Location: Junction of Coffey Street With Deptford Church Street*

*Summary: Proposed Permanent Access is too close to junction and not safely accessible*

It is proposed to form a vehicular crossing and permanent maintenance access located at the junction of Coffey Street with Deptford Church Street.

- The location of the access conflicts with the existing tactile paving and flush kerbs which have been provided for pedestrians to Coffey Street at this junction. The area on the corner is also associated with the Toucan crossing of Deptford Church Street and will be used by manoeuvring cyclists. The area is currently protected with bollards – presumably to protect with from vehicle overrun.
- The swept path drawings indicate vehicles entering the site from Coffey Street having arrived via Crossfield Street – through gates into the site and back out of the site onto Coffey Street. However, this route does not appear to be a very convenient route and it would appear likely that drivers may attempt to approach the access from Deptford Church Street. This would itself be a difficult manoeuvre and a large vehicle would probably have to shuffle forward and reverse to complete the manoeuvre.
- The swept path manoeuvre for vehicles turning on site appears unfeasibly tight and it is likely that drivers will find it more convenient to reverse out across the footway at the pedestrian crossing point and onto the junction.

### Recommendation

- The proposed access should be located away from the junction of Coffey Street and Deptford Church Street such that it will not conflict with the existing pedestrian crossing point and other traffic turning at the junction.
- The proposed access should be more conveniently accessible.
- There should be sufficient space on-site to enable maintenance vehicles to turn round and hence eliminate the need to reverse out of the site.

## Designers Response

Recommendation noted. The detail design (stage 2) will review the proposed vehicle crossing and the permanent maintenance access at the junction of Coffey Street and Deptford Church Street (A2209).

# Technical Note

211146-04

15 February 2013

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## DOCUMENT CHECKING (not mandatory for File Note)

	Prepared by	Checked by	Approved by
Name	G Wicks (4/13)	G Wicks	S Jenkins
Signature			

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**Thames Tideway Tunnel**  
Thames Water Utilities Limited



# Application for Development Consent

Application Reference Number: WWO10001

## Transport Assessment

Doc Ref: **7.10.20**

### **Deptford Church Street**

### **Figures**

APFP Regulations 2009: Regulation **5(2)(q)**

Hard copy available in

Box **53** Folder **A**  
January 2013

**Thames  
Tideway Tunnel**



Creating a cleaner, healthier River Thames

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# Thames Tideway Tunnel

## Transport Assessment

### Section 23: Deptford Church Street figures

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## Plans

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# Deptford Church Street

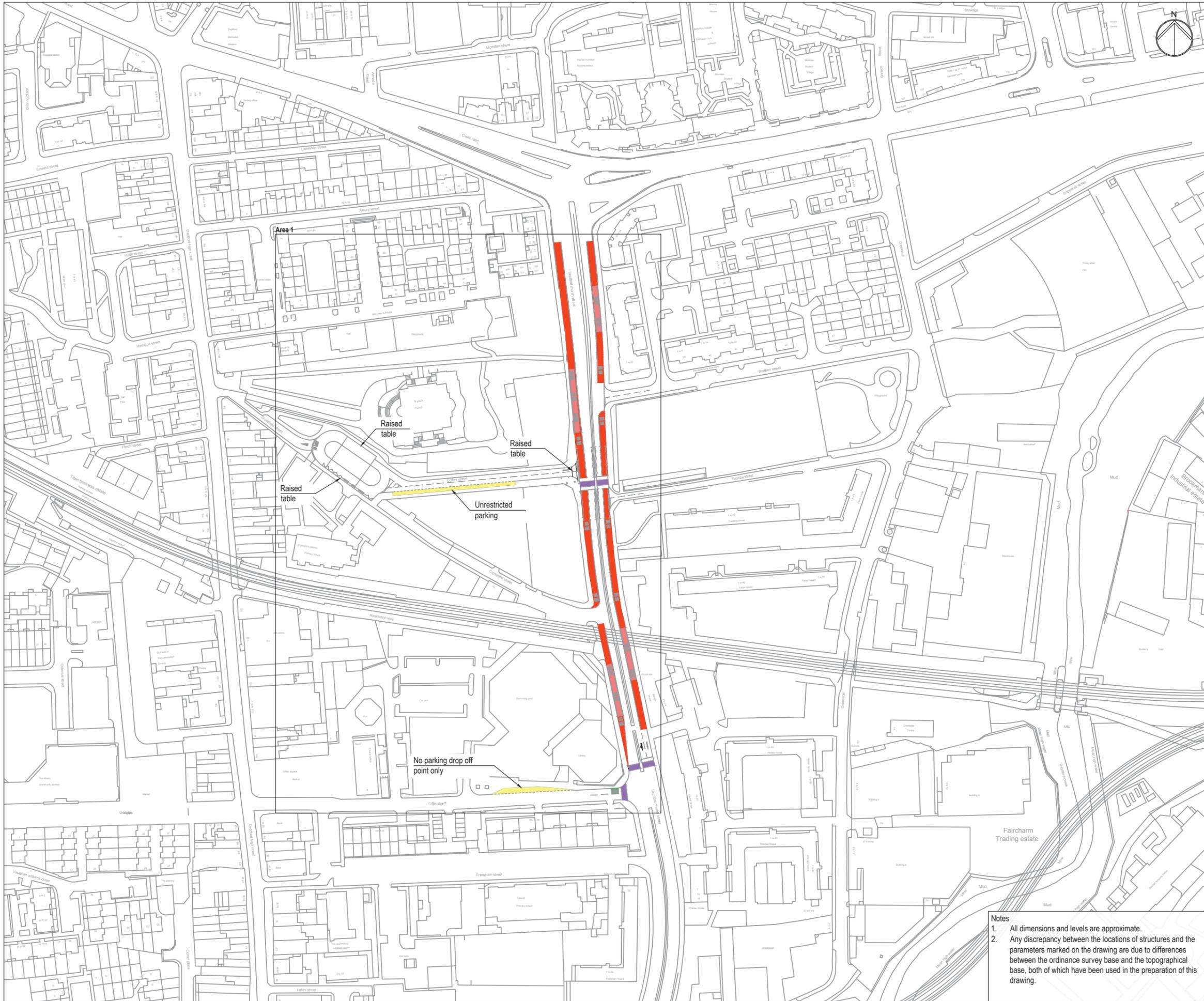
THAMES TIDEWAY TUNNEL - SCHEDULE OF ASSOCIATED HIGHWAY WORKS

Drawing Number	Works Reference	Location	Item of Work	Date of Implementation
DCO-PP-22X-DEPCS-230017	DEPCS_C01	Coffey Street	Temporary removal of existing road markings and provision of new road markings to create one-way (eastbound) traffic route. Includes suspension of existing parking bays (approximately 4 No.) <i>Note: works would be carried out when Crossfield St is opened up and in use.</i>	TBC
	DEPCS_C02	Crossfield Street	Introduce traffic restrictions up to the works site entrance, including one way road markings	TBC
	DEPCS_C03	Crossfield Street	Temporary footway route to be provided	TBC
	DEPCS_C04	Crossfield Street	Remove grassed area to allow construction of new road to link Coffey and Crossfield for phase 2.	TBC
	DEPCS_C05	Crossfield Street	Modification of existing roundabout (including modification to northern footway) and creation of segregated pedestrian area (school muster point).	TBC
DCO-PP-22X-DEPCS-230018	DEPCS_C06	Deptford Church Street, northbound	Bus stop markings modified to suit new altered road layout	TBC
	DEPCS_C07	Deptford Church Street, southbound	Bus stop markings modified to suit new altered road layout	TBC
	DEPCS_C08	Deptford Church Street	Provision of new signal controlled pedestrian crossing. Includes dropped kerb, tactile paving, road markings and electrical/BT connections.	TBC
	DEPCS_C09	Deptford Church Street	Removal of central reservation and existing road markings and provision of new carriageway and road markings to divert traffic onto the opposite carriageway.	TBC
	DEPCS_C10	Deptford Church Street	Removal of existing signal controlled pedestrian crossing.	TBC
	DEPCS_C11	Deptford Church Street	Temporary removal of central reservation and addition of new road markings to divert traffic onto the opposite carriageway.	TBC
	DEPCS_C12	Deptford Church Street, southbound	Bus stop markings modified to suit modified road layout	TBC
	DEPCS_C13	Deptford Church Street, northbound	Bus stop markings modified to suit modified road layout	TBC
	DEPCS_C14	Deptford Church Street, northbound	Temporary road markings to create merge point on northbound carriageway	TBC
DCO-PP-22X-DEPCS-230019	DEPCS_P01	Deptford Church Street, northbound	Reinstate bus stop (ref C06)	TBC
	DEPCS_P02	Deptford Church Street, northbound	Temporary bus stop removed, including marking and stop sign (ref C06)	TBC
	DEPCS_P03	Deptford Church Street, southbound	Temporary bus stop road markings removed and reinstatement of existing bus stop road markings (ref C07)	TBC
	DEPCS_P04	Deptford Church Street	Temporary pedestrian crossing point is removed, including all dropped kerb, tactile paving, road markings and electrical/BT connections	TBC
	DEPCS_P05	Deptford Church Street	Temporary carriageway removed and central reservation replaced. Includes revised road markings and lining.	TBC
	DEPCS_P06	Deptford Church Street	Pedestrian crossing re-provided.	TBC
	DEPCS_P07	Deptford Church Street	Temporary carriageway removed and central reservation replaced. Includes revised road markings and lining.	TBC
	DEPCS_P08	Deptford Church Street, southbound	Temporary bus stop removed, including marking and stop sign. Reinstate bus stop (ref C11)	TBC

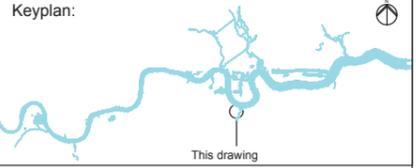
# Deptford Church Street

THAMES TIDEWAY TUNNEL - SCHEDULE OF ASSOCIATED HIGHWAY WORKS

Drawing Number	Works Reference	Location	Item of Work	Date of Implementation
	DEPCS_P09	Deptford Church Street, northbound	Temporary bus stop removed, including marking and stop sign. Reinststate bus stop (ref C12)	TBC
	DEPCS_P10	Crossfield Street	Temporary footway route to be removed	TBC
	DEPCS_P11	Crossfield Street	Temporary traffic restrictions removed. One-way markings removed.	TBC
	DEPCS_P12	Crossfield Street	Reinststate grassed area	TBC
	DEPCS_P13	Coffey Street	Temporary traffic restrictions removed. One-way markings removed. Parking bays (4 No.) reinstated	TBC
	DEPCS_P14	Crossfield Street	Segregated pedestrian area removed and roundabout reinstated, including footway and road markings	TBC



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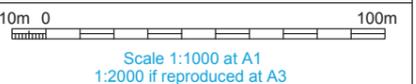
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- Key**
- On street parking
  - Bus stop / stand
  - Bus lane
  - Pedestrian crossing
  - Cycle lane / advance stop line

**On street parking**  
 Bus lane  
 bus / cycle / taxi lane  
 7:00am - 7:00pm  
 On street parking  
 unrestricted parking  
 at all times

- Standards**
- Design manual for roads and bridges, DfT, 1992
  - Traffic signs regulations & general directions, TSO, 2002
  - Traffic signs manual, DfT, 2006
  - Manual for streets, DfT, 2007
  - Manual for streets 2, CIHT, 2010
  - Designing for deliveries, Fta, 1998
  - Cycle infrastructure design Ltn 2/08, DfT, 2008
  - Design of pedestrian crossings Ltn 2/95, DfT, 1995
  - Guidance for the use of tactile paving, DfT, 1998
  - Accessible bus stop design guidance, TfL, 2006

**Stage**  
 Existing



## FOR INFORMATION

**Location**  
 Deptford Church Street  
 London Borough of Lewisham

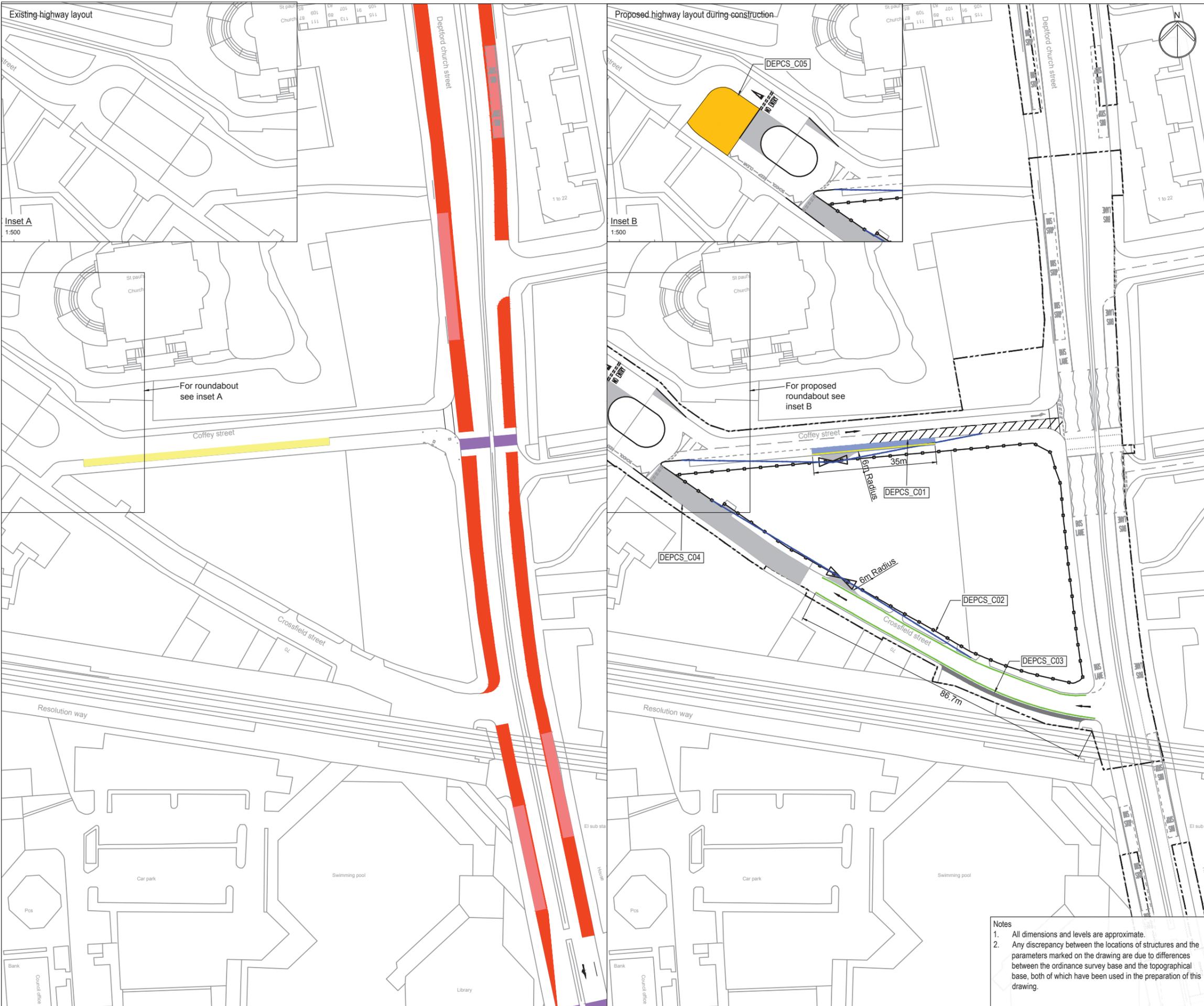
**Document Information**  
 Application for Development Consent  
 Existing highway layout

DCO-PP-22X-DEPCS-230016  
 January 2013



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**Keyplan:**

This drawing

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**Key**

**Existing**

- On street parking
- Bus stop / stand
- Bus lane
- Pedestrian crossing
- Cycle lane / advance stop line

**Revised**

- L.L.A.U.
- Removal of footway / central reserve / pedestrian refuge / verge
- Suspended on street parking
- Temporary pedestrian area
- See schedule of works
- HOARDING LINE
- Site access
- Temporary parking restrictions
- Visibility splay - 2.4m x 43m (ssd adjust for bonnet length)
- Temporary footway

**On street parking**

Bus lane  
bus / cycle / taxi lane  
7:00am - 7:00pm

On street parking  
unrestricted parking  
at all times

**Standards**

- Design manual for roads and bridges, Dft, 1992
- Traffic signs regulations & general directions, TSO, 2002
- Traffic signs manual, Dft, 2006
- Manual for streets, Dft, 2007
- Manual for streets 2, CIHT, 2010
- Designing for deliveries, Fta, 1998
- Cycle infrastructure design Ltn 2/08, Dft, 2008
- Design of pedestrian crossings Ltn 2/95, Dft, 1995
- Guidance for the use of tactile paving, Dft, 1998
- Accessible bus stop design guidance, TfL, 2006

**Stage**

Construction phase

10m 0 40m

Scale 1:500 at A1  
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**ILLUSTRATIVE**

**Location**

Deptford Church Street  
London Borough of Lewisham

**Document Information**

Application for Development Consent  
Highway layout during construction  
Phase 1

DCO-PP-22X-DEPCS-230017  
January 2013

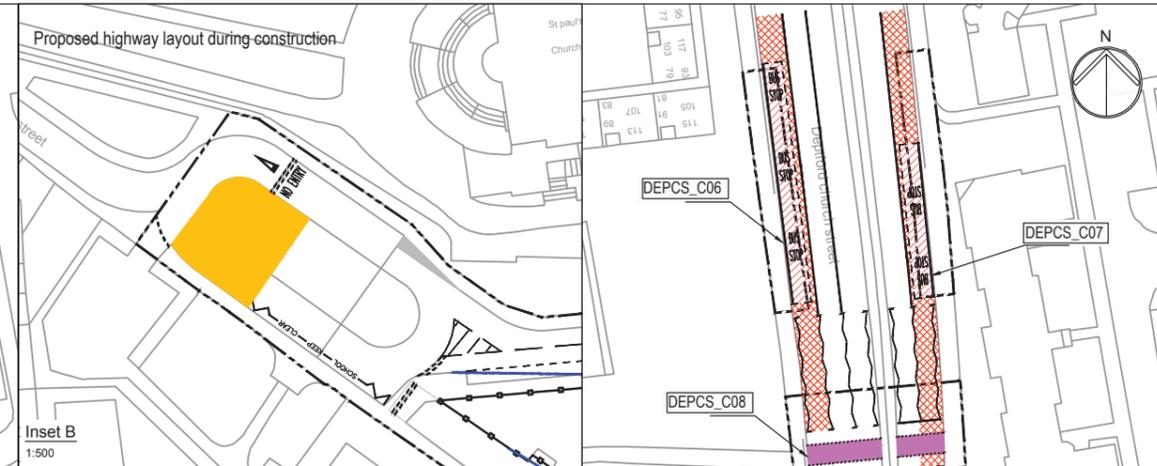
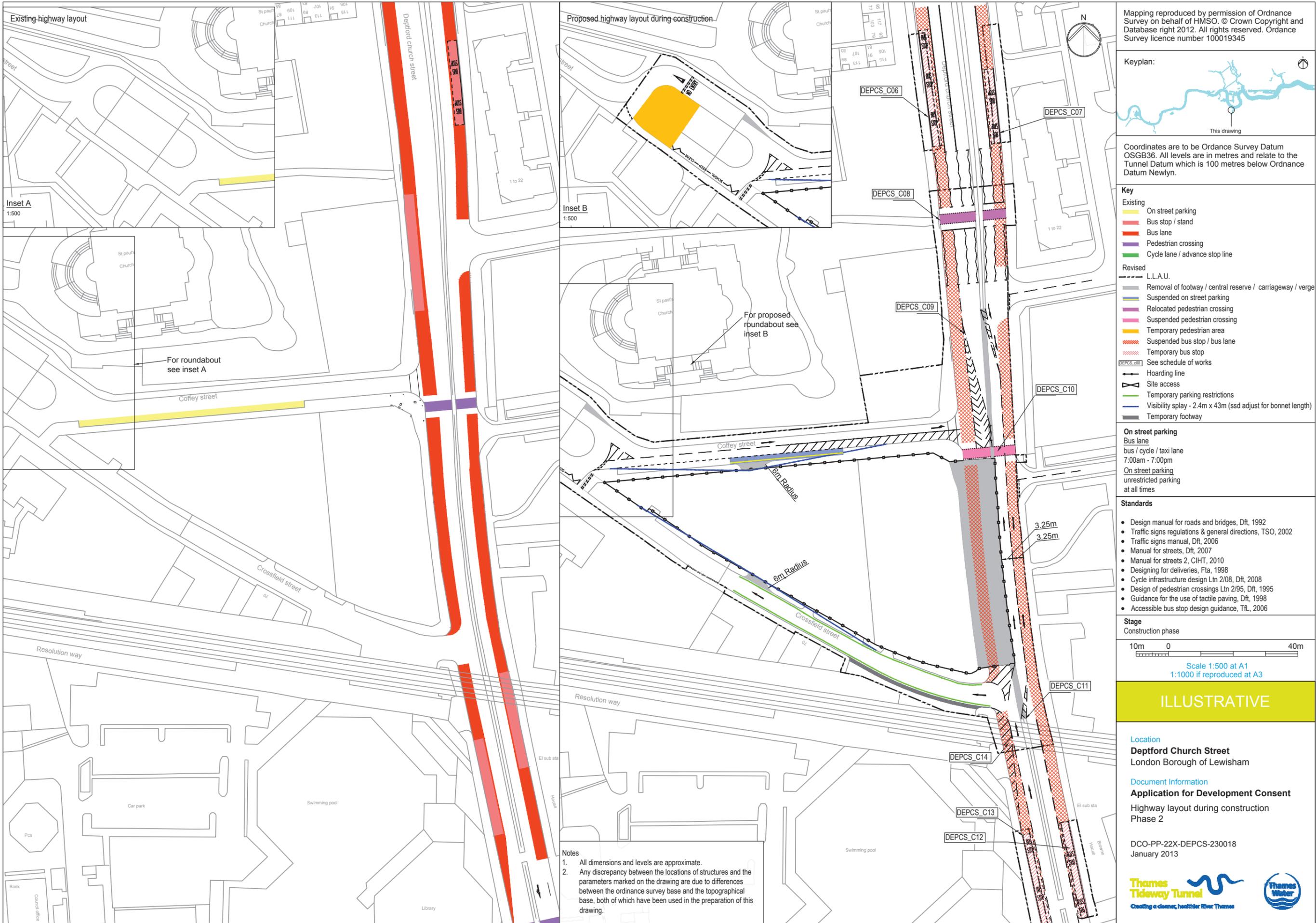
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Thames Tideway Tunnel  
Creating a cleaner, healthier River Thames

Thames Water

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**Key**

**Existing**

- On street parking
- Bus stop / stand
- Bus lane
- Pedestrian crossing
- Cycle lane / advance stop line

**Revised**

- L.L.A.U.
- Removal of footway / central reserve / carriageway / verge
- Suspended on street parking
- Relocated pedestrian crossing
- Suspended pedestrian crossing
- Temporary pedestrian area
- Suspended bus stop / bus lane
- Temporary bus stop
- See schedule of works
- Hoarding line
- Site access
- Temporary parking restrictions
- Visibility splay - 2.4m x 43m (ssd adjust for bonnet length)
- Temporary footway

**On street parking**

- Bus lane
- bus / cycle / taxi lane
- 7:00am - 7:00pm
- On street parking unrestricted parking at all times

**Standards**

- Design manual for roads and bridges, Dft, 1992
- Traffic signs regulations & general directions, TSO, 2002
- Traffic signs manual, Dft, 2006
- Manual for streets, Dft, 2007
- Manual for streets 2, CIHT, 2010
- Designing for deliveries, Fta, 1998
- Cycle infrastructure design Ltn 2/08, Dft, 2008
- Design of pedestrian crossings Ltn 2/95, Dft, 1995
- Guidance for the use of tactile paving, Dft, 1998
- Accessible bus stop design guidance, TfL, 2006

**Stage**

Construction phase

10m 0 40m

Scale 1:500 at A1  
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**ILLUSTRATIVE**

**Location**

Deptford Church Street  
London Borough of Lewisham

**Document Information**

Application for Development Consent  
Highway layout during construction  
Phase 2

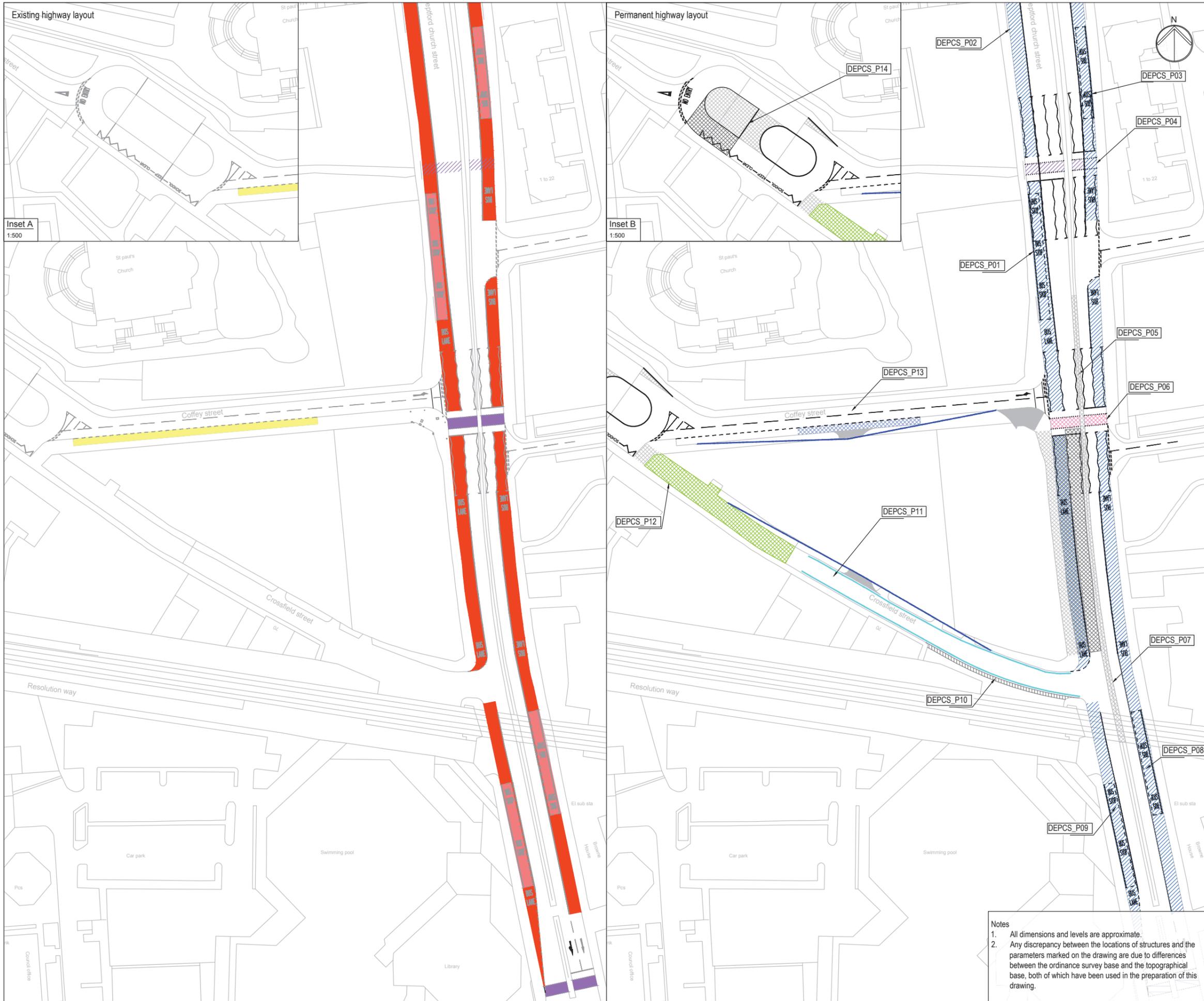
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January 2013

Thames Tideway Tunnel  
Creating a cleaner, healthier River Thames

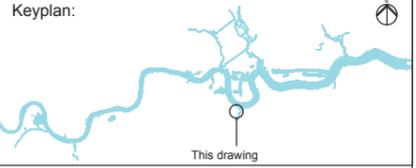
Thames Water

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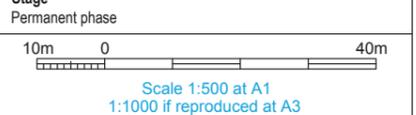


Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key**
- Existing
    - On street parking
    - Bus stop / stand
    - Bus lane
    - Pedestrian crossing
    - Cycle lane / advance stop line
  - Revised
    - Reinstated footway / central reserve / pedestrian refuge / verge
    - Reinstated verge
    - Reinstated carriageway
    - Reinstated on street parking
    - Reinstated pedestrian crossing
    - Reinstated bus stop / bus lane
    - Pedestrian crossing removed
    - Temporary footway route removed
  - DEPCS P00 See schedule of works
    - Remove temporary parking restrictions
    - Vehicle crossover
    - Visibility splay - 2.4m x 43m (ssd adjust for bonnet length)

**On street parking**  
 Bus lane  
 bus / cycle / taxi lane  
 7:00am - 7:00pm  
 On street parking  
 unrestricted parking  
 at all times

- Standards**
- Design manual for roads and bridges, DfT, 1992
  - Traffic signs regulations & general directions, TSO, 2002
  - Traffic signs manual, DfT, 2006
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  - Design of pedestrian crossings Ltn 2/95, DfT, 1995
  - Guidance for the use of tactile paving, DfT, 1998
  - Accessible bus stop design guidance, TfL, 2006



ILLUSTRATIVE

**Location**  
 Deptford Church Street  
 London Borough of Lewisham

**Document Information**  
 Application for Development Consent  
 Permanent highway layout

DCO-PP-22X-DEPCS-230019  
 January 2013

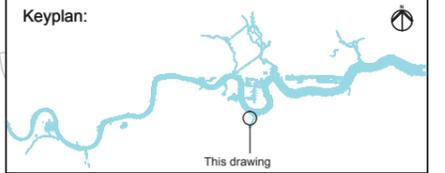


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  2. Any discrepancy between the locations of structures and the parameters marked on the drawing are due to differences between the Ordnance Survey base and the topographical base, both of which have been used in the preparation of this drawing.

16.5m Articulated vehicle  
Design speed 5km/h

12.0m Rigid vehicle  
Design speed 5km/h

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- Key**
- Revised
  - Illustrative on-site manoeuvring zone
- Vehicle swept path analysis**
- Vehicle body outlines
  - Vehicle chassis outline
  - Vehicle swept path
  - L.L.A.U.
  - Hoarding line

	16.5m Articulated vehicle	12.0m Rigid vehicle
Max Legal Articulated Vehicle (16.5m)		
Overall Length	16.500m	12.000m
Overall Width	2.500m	2.500m
Overall Height	3.600m	3.600m
Overhead Clearance	3.000m	3.000m
Min Body Clearance	1.000m	1.000m
Min Tada Width	2.500m	2.471m
Lock to Lock Time	4.00 sec	3.00 sec
Keels to Keels Turning Radius	8.870m	11.900m
Design Speed		

- Standards**
- Design manual for roads and bridges, DfT, 1992
  - Traffic signs regulations & general directions, TSO, 2002
  - Traffic signs manual, DfT, 2006
  - Manual for streets, DfT, 2007
  - Manual for streets 2, CIHT, 2010
  - Designing for deliveries, Fta, 1998
  - Cycle infrastructure design Ltn 2/08, DfT, 2008
  - Design of pedestrian crossings Ltn 2/95, DfT, 1995
  - Guidance for the use of tactile paving, DfT, 1998
  - Accessible bus stop design guidance, TfL, 2006

**Stage**  
Construction phase

10m 0 40m

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1:1000 if reproduced at A3

**ILLUSTRATIVE**

**Location**  
Deptford Church Street  
London Borough of Lewisham

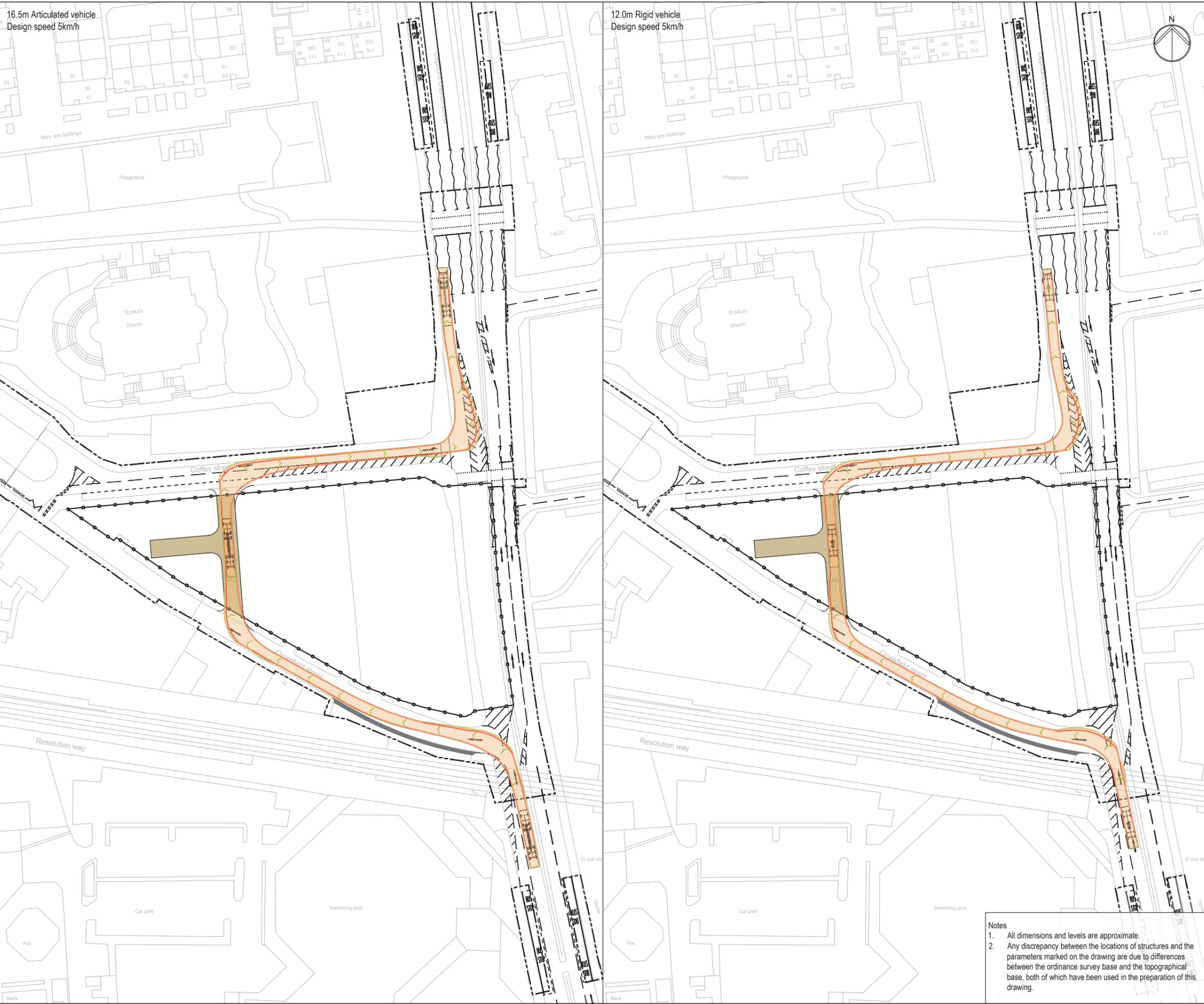
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Application for Development Consent  
Highway layout during construction  
Swept path analysis

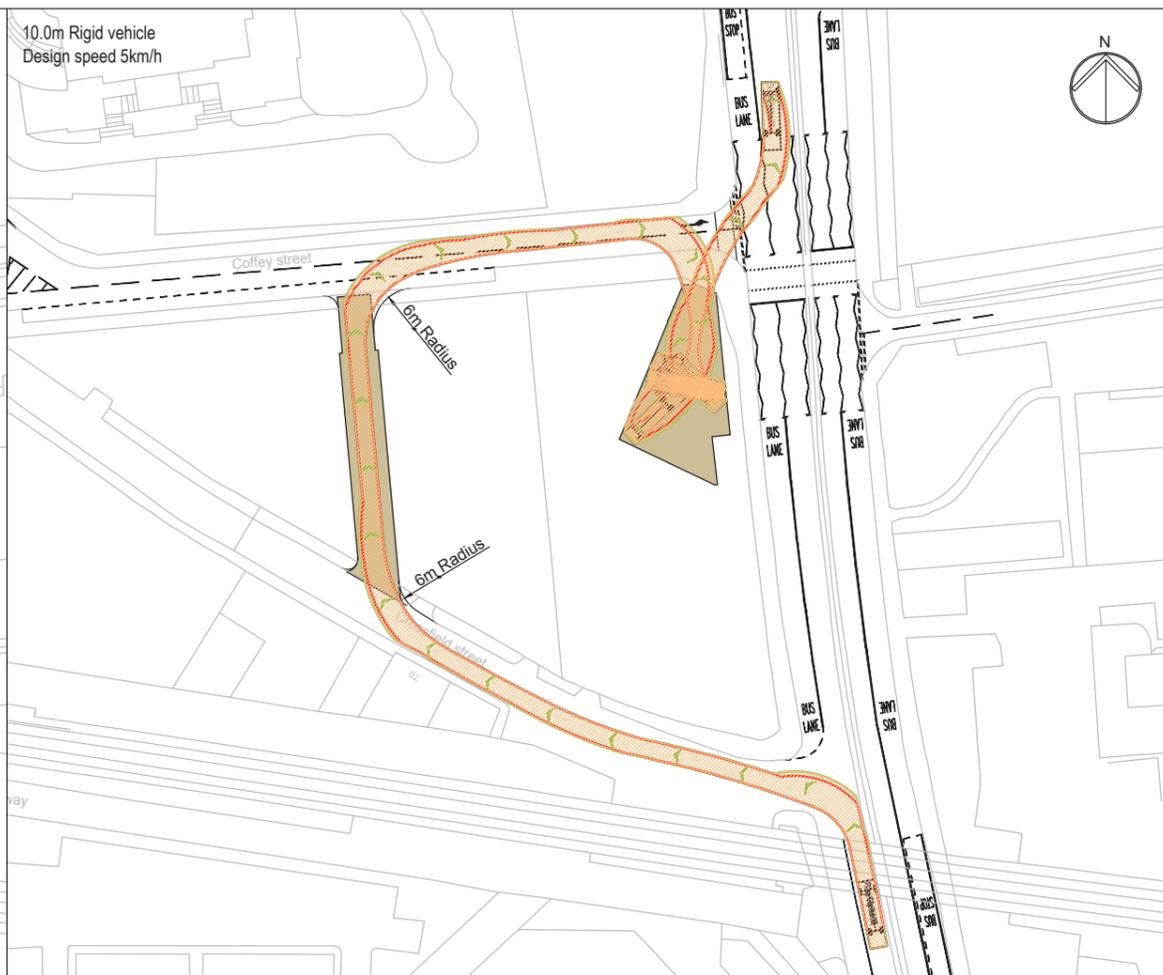
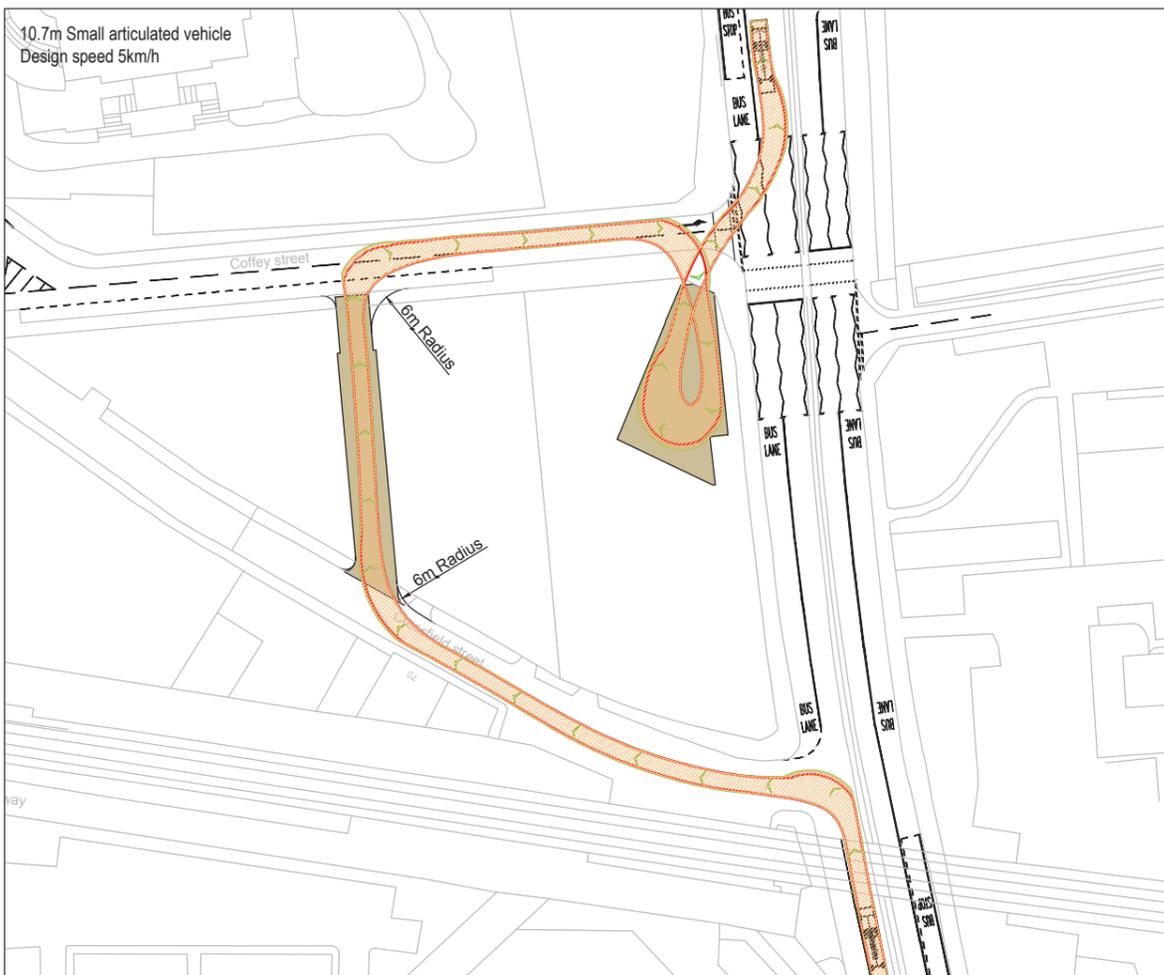
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Keyplan:  
This drawing

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**Key**  
 Illustrative on-site manoeuvring zone  
 Vehicle swept path analysis  
 Vehicle body outlines  
 Vehicle chassis outline  
 Vehicle swept path

10.7m Small articulated vehicle	10.0m Rigid vehicle
Small articulated vehicle Overall Length 10.700m Overall Width 2.300m Overall Body Height 3.604m Min Body Ground Clearance 0.200m Track Width 2.000m Lock to Lock Time 1.00 sec Min to Min Turning Radius 5.100m	FTA Design HD Rigid Vehicle (1998) Overall Length 10.000m Overall Width 2.300m Overall Body Height 3.604m Min Body Ground Clearance 0.200m Track Width 2.000m Lock to Lock Time 1.00 sec Min to Min Turning Radius 5.100m

11.36m Liebherr ltm 1055-3.1 mobile crane
Liebherr LTM 1055-3.1 Mobile Crane Overall Length 11.360m Overall Width 2.820m Overall Body Height 3.720m Min Body Ground Clearance 0.200m Track Width 2.820m Lock to Lock Time 4.00 sec Min to Min Turning Radius 8.170m

**Standards**

- Design manual for roads and bridges, Dft, 1992
- Traffic signs regulations & general directions, TSO, 2002
- Traffic signs manual, Dft, 2006
- Manual for streets, Dft, 2007
- Manual for streets 2, CIHT, 2010
- Designing for deliveries, Fta, 1998
- Cycle infrastructure design Ltn 2/08, Dft, 2008
- Design of pedestrian crossings Ltn 2/95, Dft, 1995
- Guidance for the use of tactile paving, Dft, 1998
- Accessible bus stop design guidance, TfL, 2006

**Stage**  
Permanent phase

10m 0 40m  
Scale 1:500 at A1  
1:1000 if reproduced at A3

**ILLUSTRATIVE**

**Location**  
Deptford Church Street  
London Borough of Lewisham

**Document Information**  
Application for Development Consent  
Permanent highway layout  
Swept path analysis

DCO-PP-22X-DEPCS-230021  
January 2013

**Notes**  
 1. All dimensions and levels are approximate.  
 2. Any discrepancy between the locations of structures and the parameters marked on the drawing are due to differences between the ordnance survey base and the topographical base, both of which have been used in the preparation of this drawing.

Thames Tideway Tunnel  
Creating a cleaner, healthier River Thames

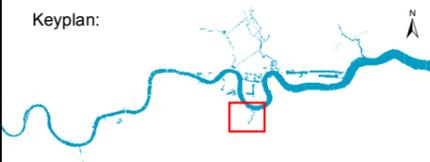
Thames Water

© Thames Water Utilities Ltd 2008

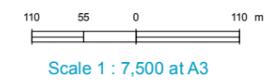
## Transport assessment figures

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- Key**
- Pumping station
  - TFL road network
  - Strategic road network
  - Limits of Land to be Acquired or Used
  - Local authority boundary

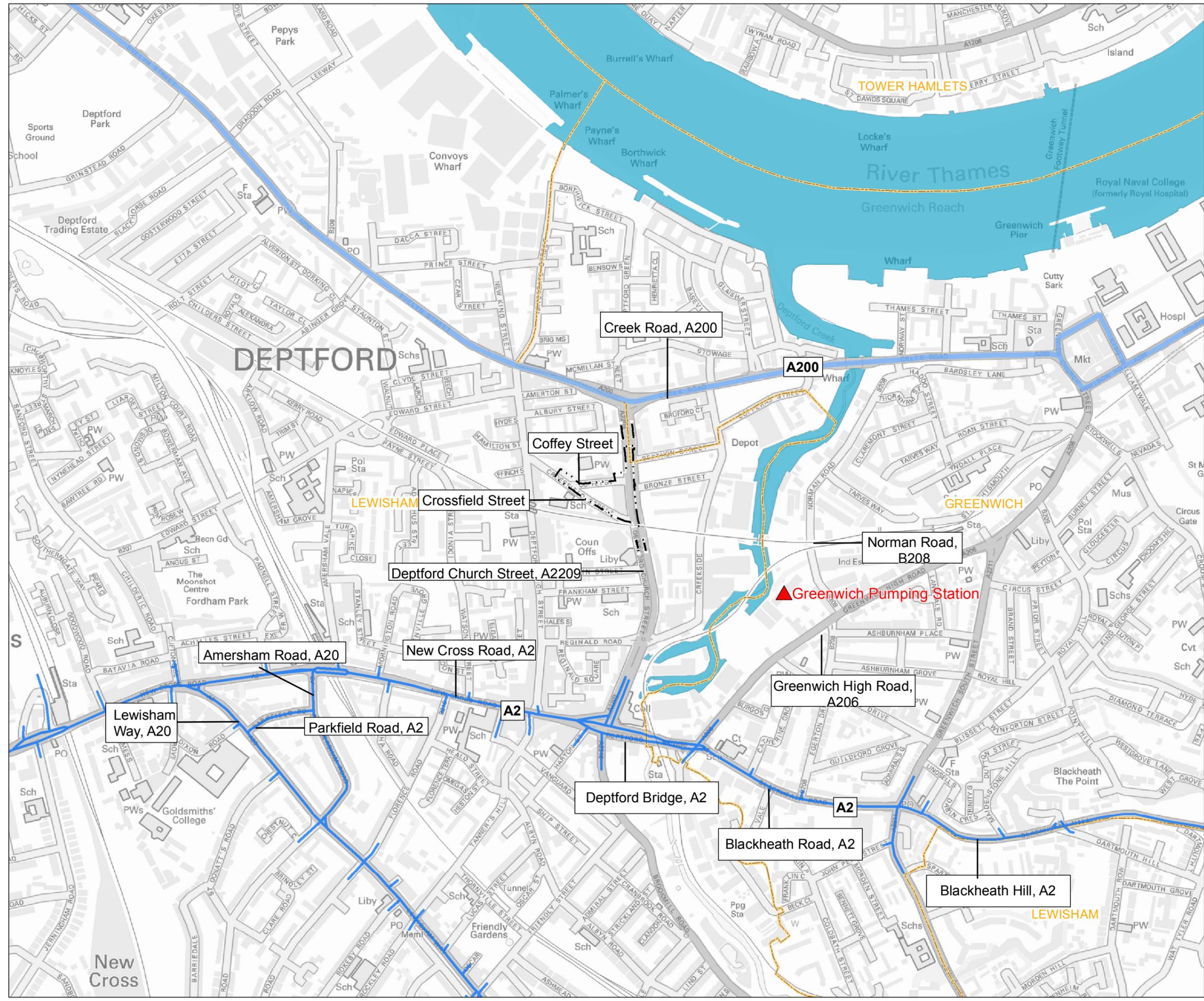


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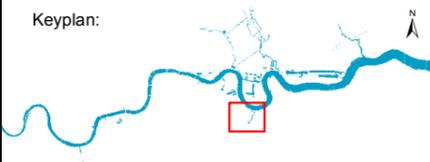
**Location**  
**Deptford Church Street**  
 London Borough Of Lewisham

**Document Information**  
**Transport Assessment**  
 Transport - site location plan

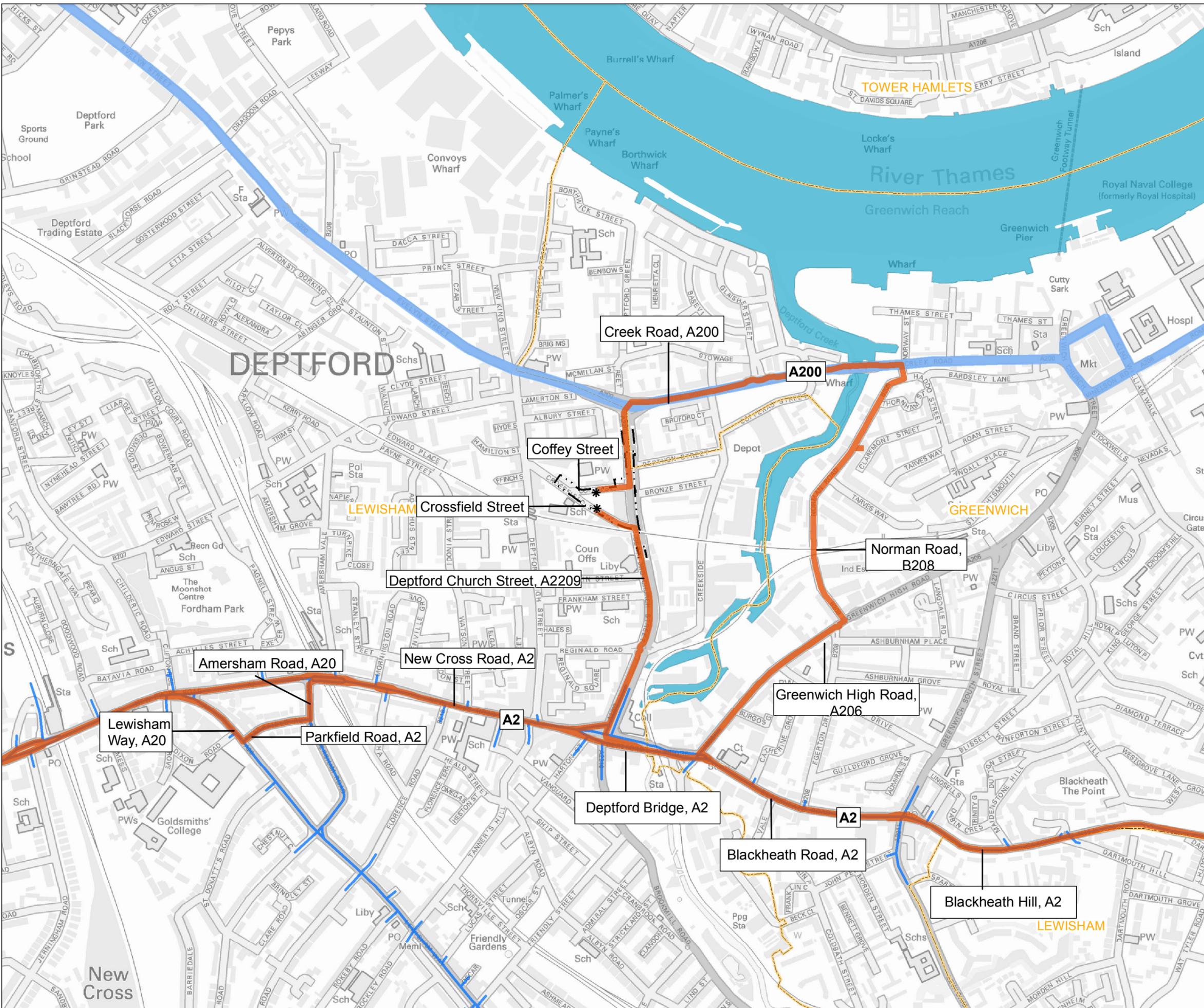
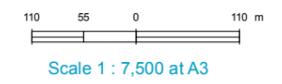
Figure 23.2.1  
 1PL03-TT-50659  
 January 2013



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- Key**
- \* Site access
  - TFL road network
  - Strategic road network
  - Primary construction route
  - Limits of Land to be Acquired or Used
  - Local authority boundary



## FOR INFORMATION

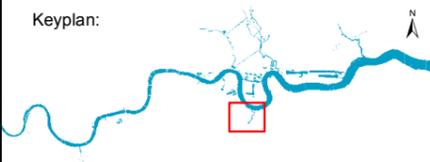
**Location**  
 Deptford Church Street  
 London Borough Of Lewisham

**Document Information**  
**Transport Assessment**  
 Transport - construction traffic routes

Figure 23.2.2  
 1PL03-TT-50651  
 January 2013



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- Key**
- National rail stations with cycle parking
  - London overground stations
  - DLR stations with cycle parking
  - Barclays cycle hire docking stations
  - London cycle routes
  - Cycle superhighway (open 2013)
  - Cycle superhighway (open 2015)
  - London strategic walk network
  - Thames path
  - Pedestrian routes
- National cycle network**
- Route Type**
- Open Traffic Free
  - Open on-road
  - Limits of Land to be Acquired or Used
  - Local authority boundary

110 55 0 110 m  
Scale 1 : 7,500 at A3



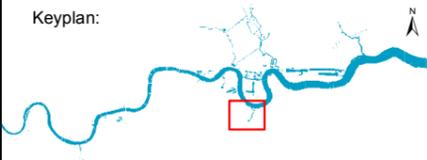
## FOR INFORMATION

**Location**  
Deptford Church Street  
London Borough Of Lewisham

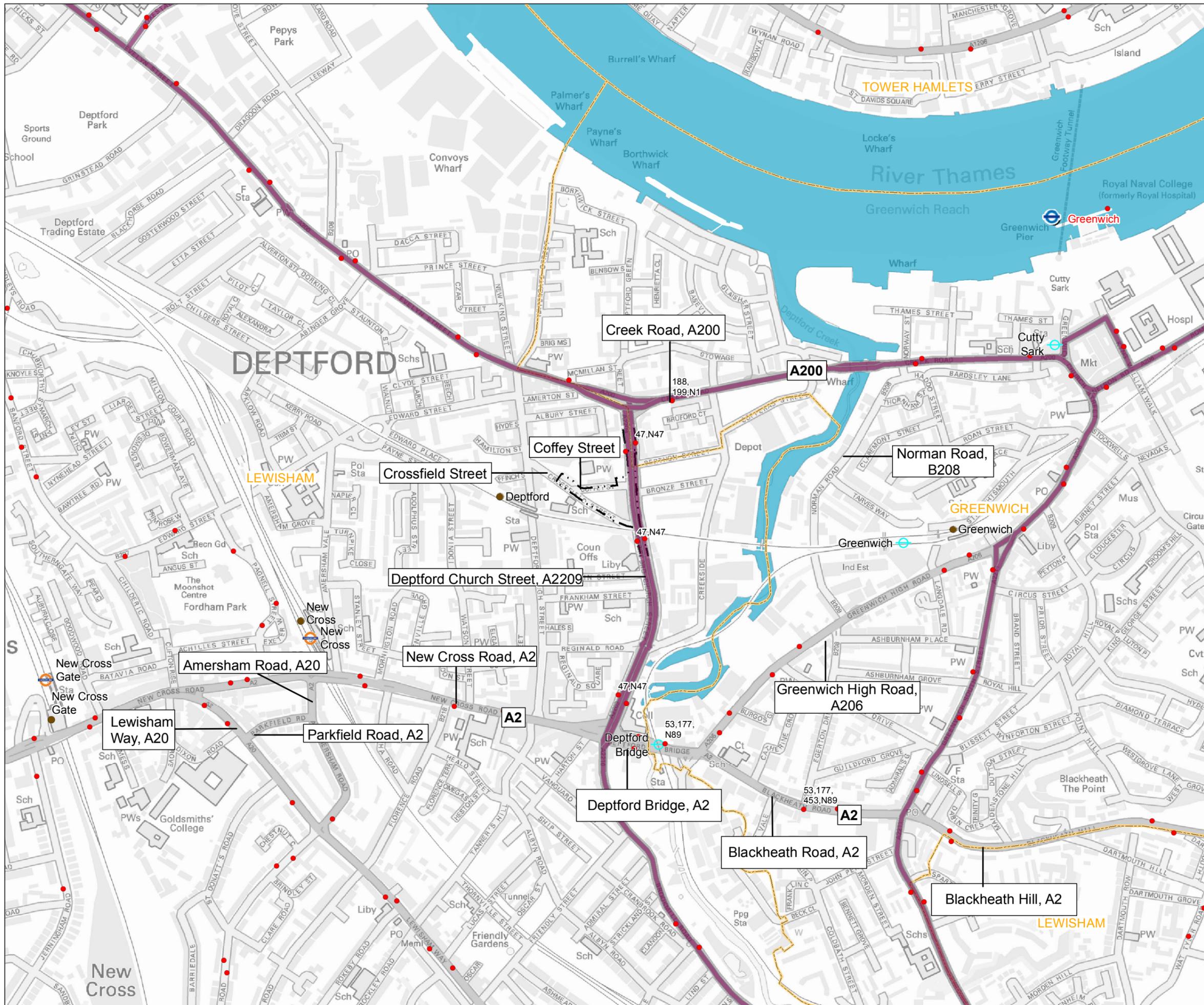
**Document Information**  
**Transport Assessment**  
Transport - pedestrian and cycle network

Figure 23.4.1  
1PL03-TT-50667  
January 2013





- Key**
- TFL bus stops
  - Pier locations
  - National rail stations
  - Docklands light railway stations
  - London overground stations
  - TfL bus routes
  - Limits of Land to be Acquired or Used
  - Local authority boundary



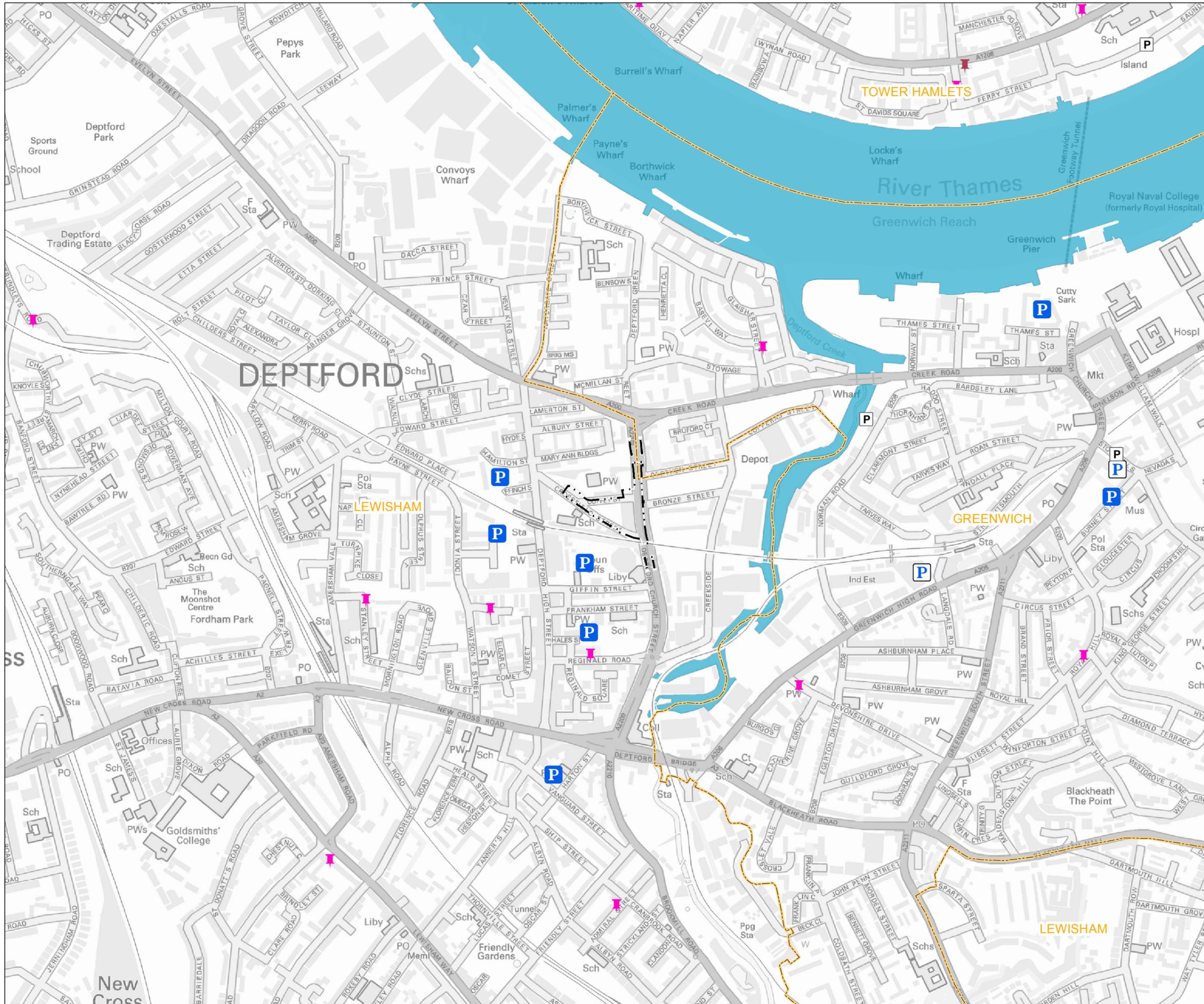
## FOR INFORMATION

**Location**  
 Deptford Church Street  
 London Borough Of Lewisham

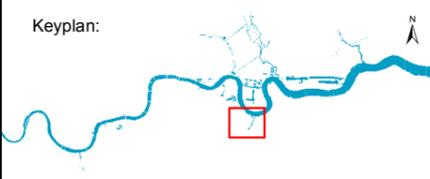
**Document Information**  
**Transport Assessment**  
 Transport - public transport

Figure 23.4.2  
 1PL03-TT-50675  
 January 2013

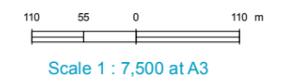




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- Key**
- Council parking
  - Private car parking
  - Coach Parking
  - Zip Car
  - Hertz on Demand
  - Limits of Land to be Acquired or Used
  - Local authority boundary



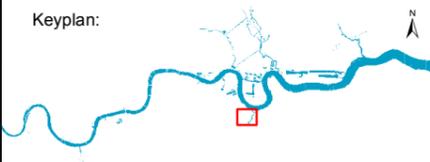
## FOR INFORMATION

**Location**  
 Deptford Church Street  
 London Borough of Lewisham

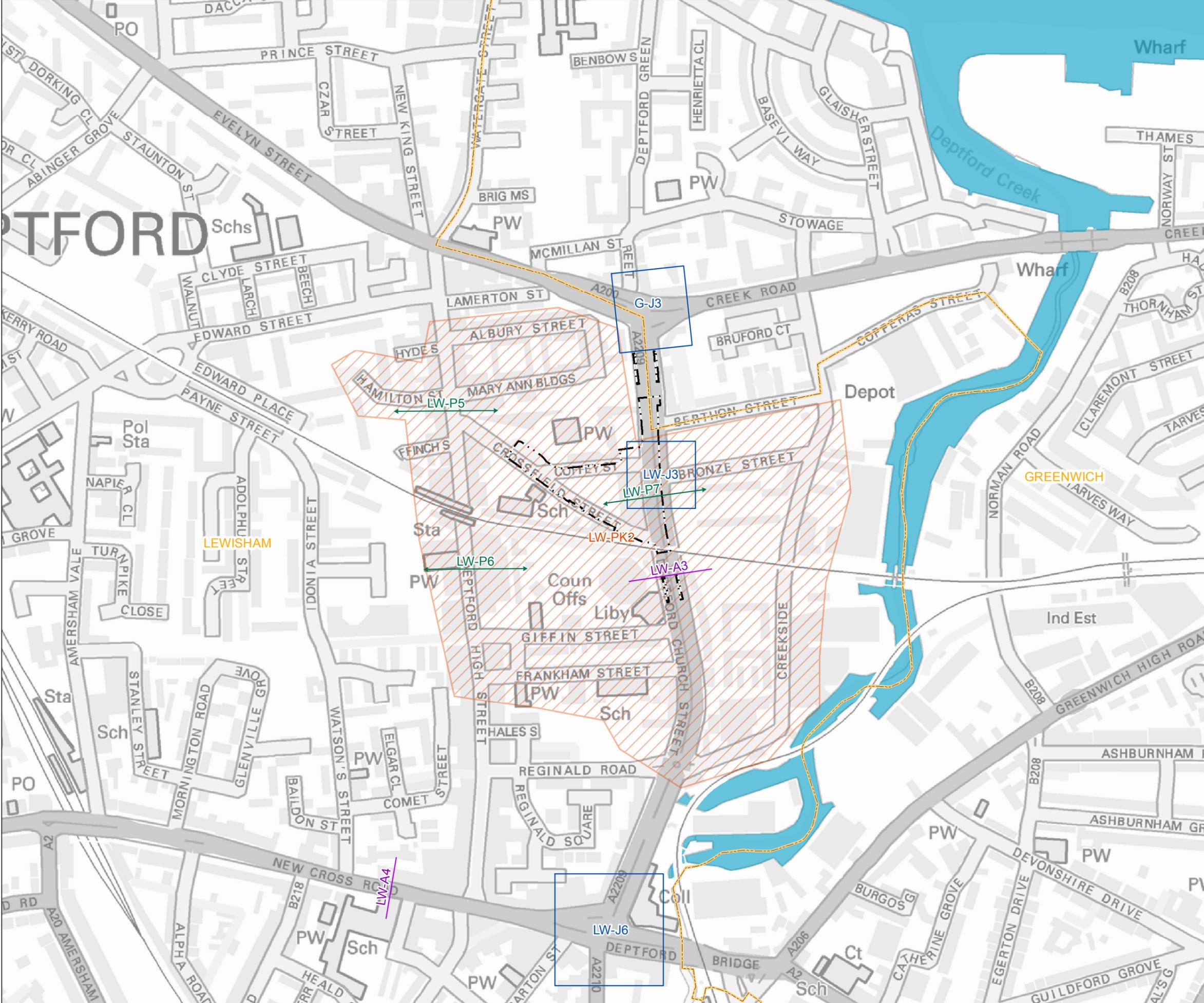
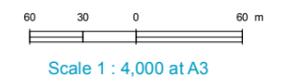
**Document Information**  
 Transport Assessment  
 Transport - parking

Figure 23.4.3  
 1PL03-TT-50683  
 January 2013





- Key**
- Automatic traffic count surveys
  - Pedestrian and cycle surveys
  - Junction surveys
  - Parking surveys
  - Limits of Land to be Acquired or Used
  - Local authority boundary



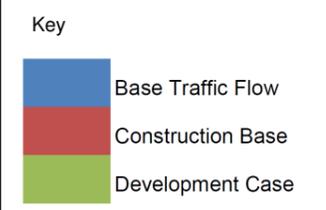
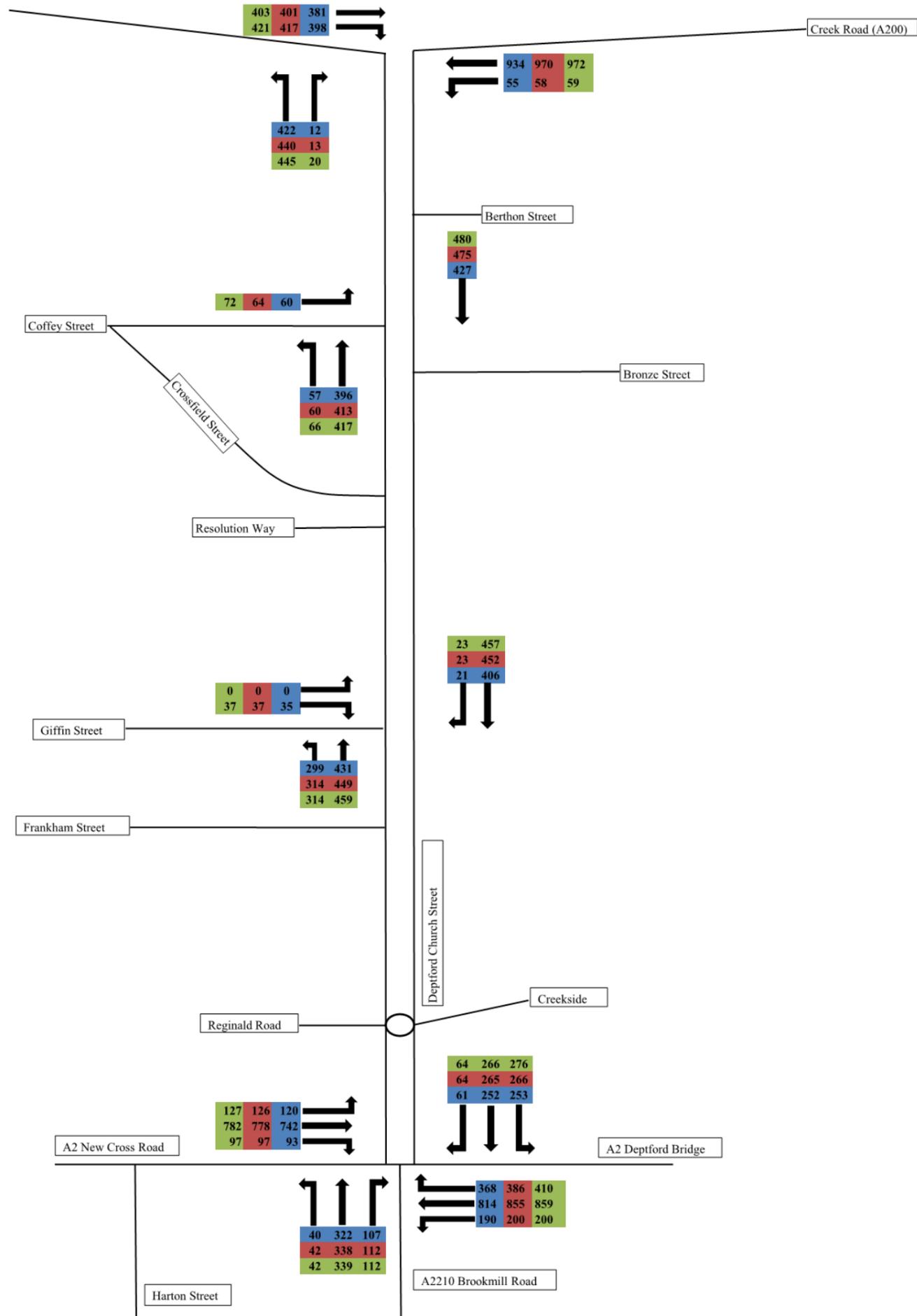
## FOR INFORMATION

**Location**  
**Deptford Church Street**  
 London Borough Of Lewisham

**Document Information**  
**Transport Assessment**  
 Transport - survey locations

Figure 23.4.4  
 1PL03-TT-50691  
 January 2013



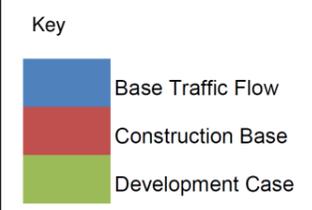
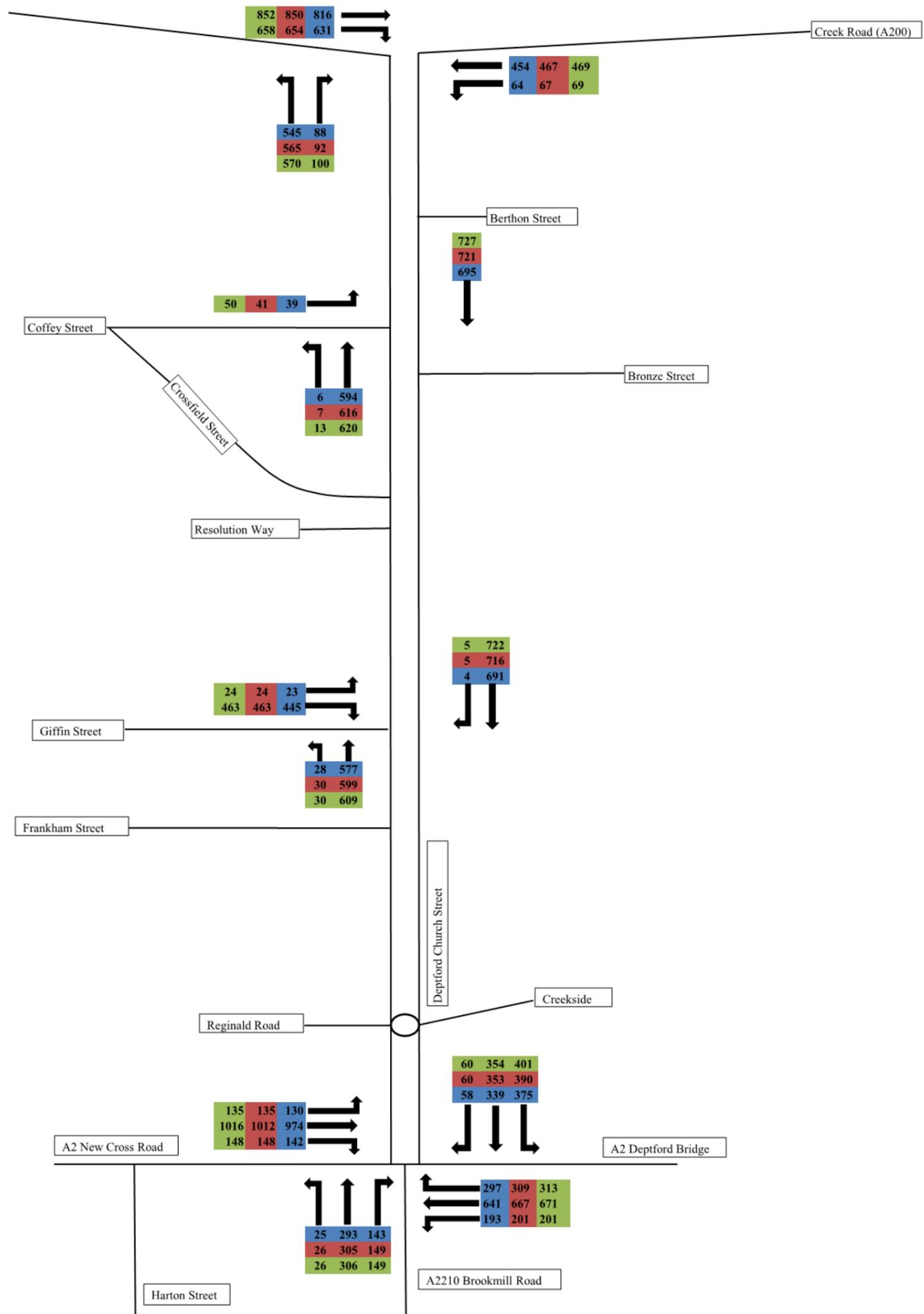


## FOR INFORMATION

**Location**  
**Deptford Church Street**  
 London Borough of Lewisham

**Document Information**  
**Transport Assessment**  
 Transport - Baseline, Construction and Development case traffic flow (AM peak hour)  
 Figure 23.4.5  
 1PL03-TT-50910  
 January 2013





## FOR INFORMATION

**Location**  
**Deptford Church Street**  
 London Borough of Lewisham

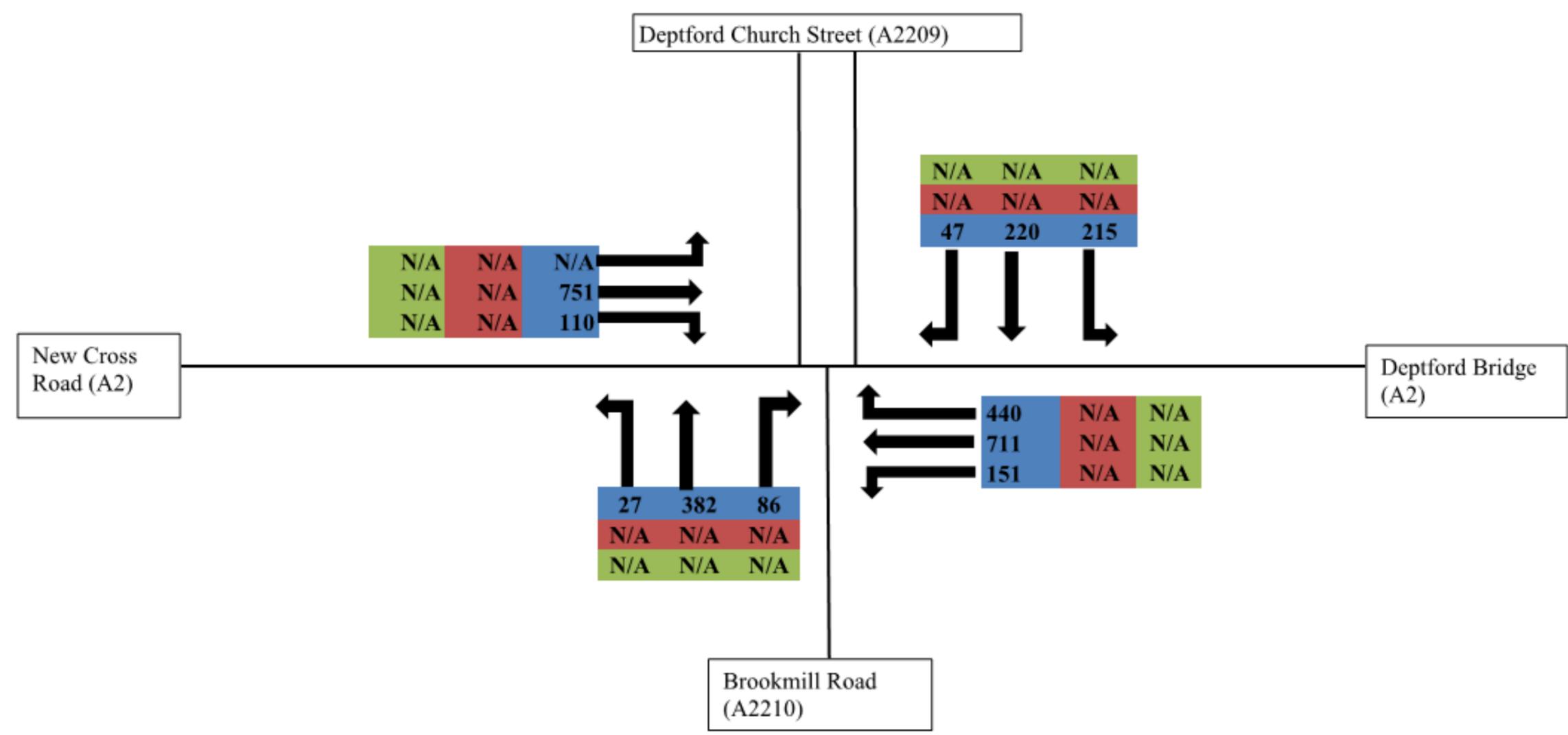
**Document Information**  
**Transport Assessment**  
 Transport - Baseline, Construction and Development case traffic flow (PM peak hour)  
 Figure 23.4.6  
 1PL03-TT-50934  
 January 2013





Key

- Base Traffic Flow
- Construction Base
- Development Case



**FOR INFORMATION**

**Location**  
**Deptford Church Street**  
 London Borough of Lewisham

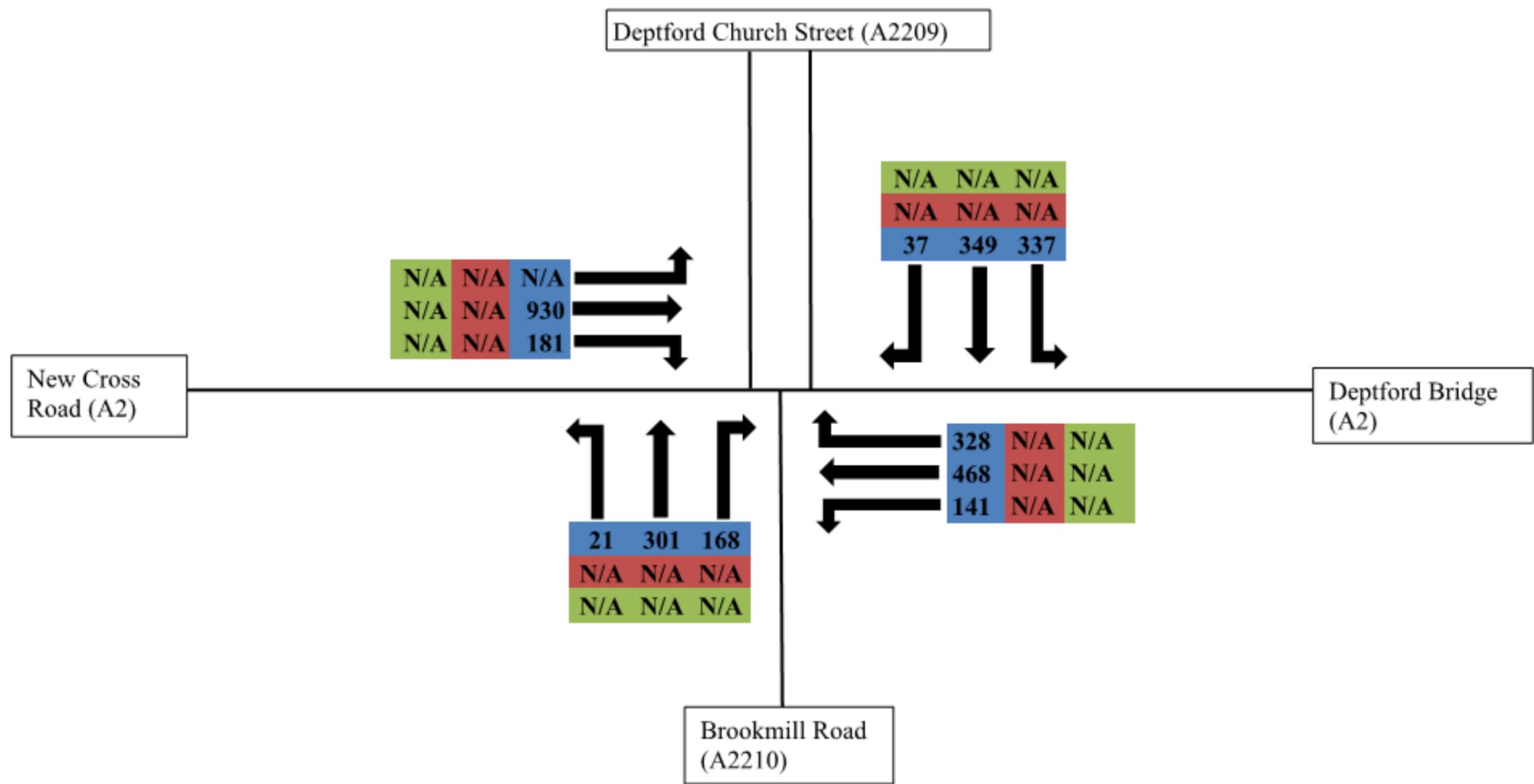
**Document Information**  
**Transport Assessment**  
 Transport – TfL Baseline Traffic Flow (AM peak hour)  
 Figure 23.4.7  
 1PL03-TT-50950  
 January 2013





Key

- Base Traffic Flow
- Construction Base
- Development Case

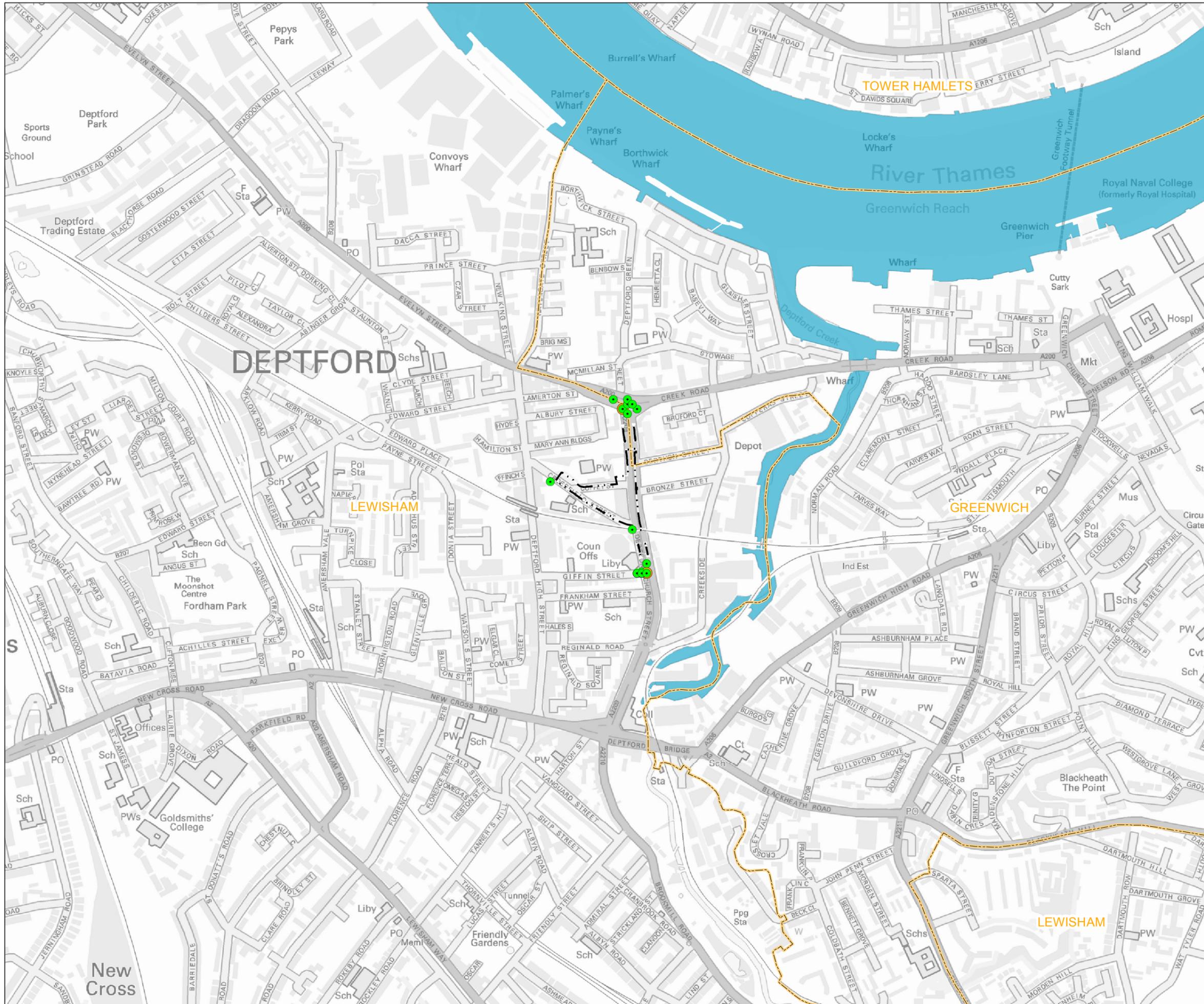


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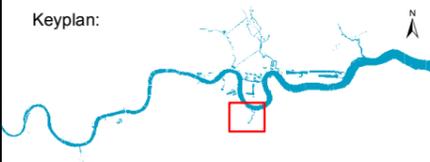
**Location**  
 Deptford Church Street  
 London Borough of Lewisham

**Document Information**  
 Transport Assessment  
 Transport – TfL Baseline Traffic Flow (PM peak hour)  
 Figure 23.4.8  
 1PL03-TT-50956  
 January 2013

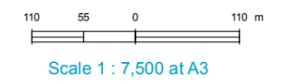




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- Key**
- Slight
  - Serious
  - Limits of Land to be Acquired or Used
  - Local authority boundary



## FOR INFORMATION

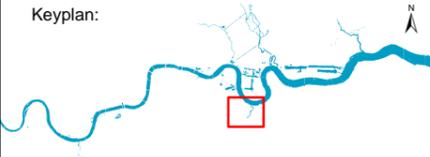
**Location**  
**Deptford Church Street**  
 London Borough Of Lewisham

**Document Information**  
**Transport Assessment**  
 Transport - accident locations

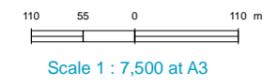
Figure 23.4.9  
 1PL03-TT-50755  
 January 2013



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- Key**
- Accidents**  
(Severity, Mode of travel)
- Slight, Pedestrian
  - Slight, Pedal Cycle
  - Limits of Land to be Acquired or Used
  - Local authority boundary

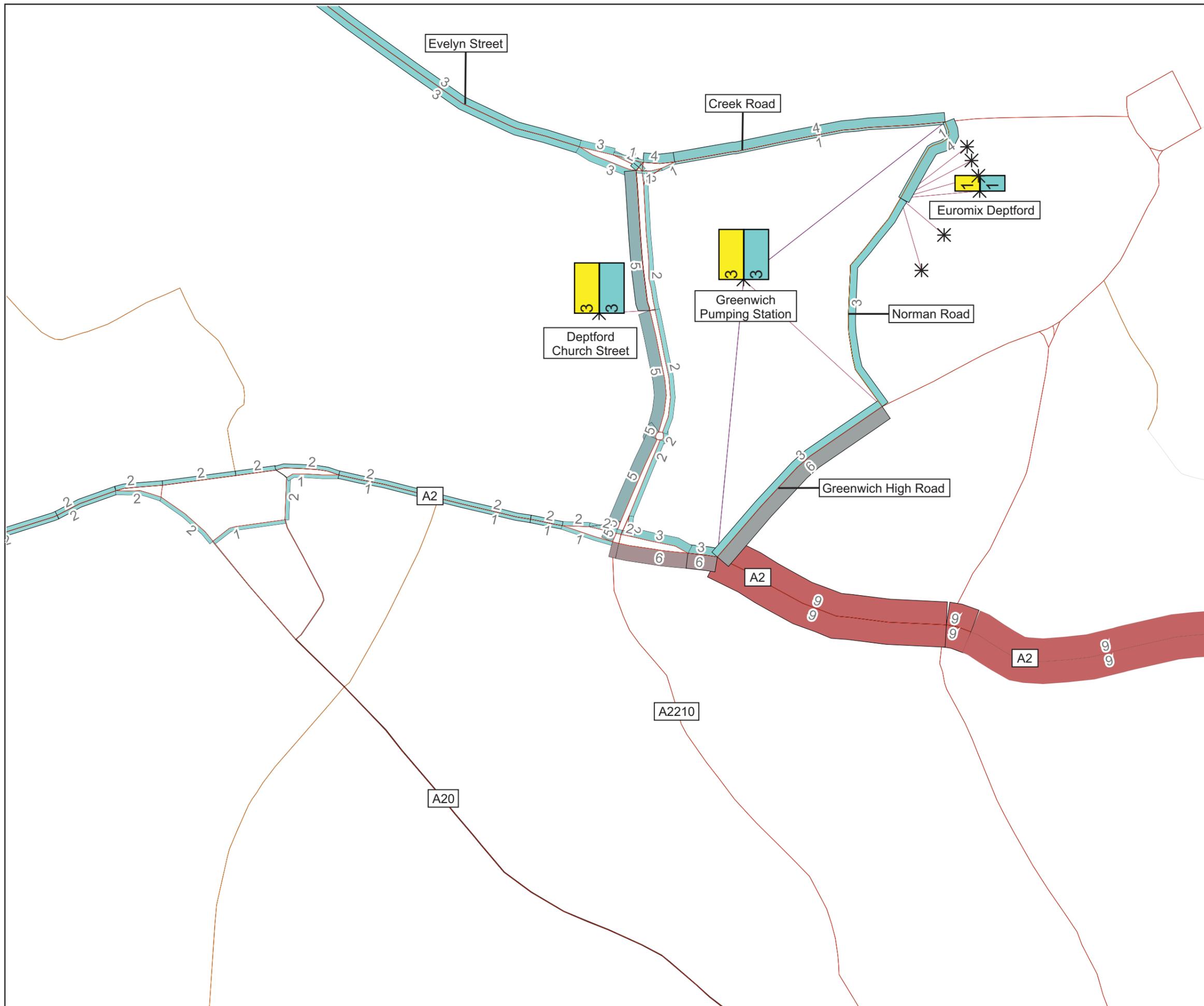


## FOR INFORMATION

**Location**  
Deptford Church Street  
London Borough Of Lewisham

**Document Information**  
**Transport Assessment**  
Transport - pedestrian and cyclist accidents by severity  
Figure 23.4.10  
1PL03-TT-50839  
January 2013





**Hourly construction lorries arrivals and departures**

- Arrivals
- Departures

**Hourly construction lorries movements**

- 0 - 1
- 1 - 2
- 2 - 3
- 3 - 4
- 4 - 5
- 5 - 6
- 6 - 7
- 7 - 8
- 8 - 9
- 9 - 10
- 10 - 11
- 11 - 12
- 12 - 13
- 13 - 14
- 14 - 15
- > 15

Note: Construction vehicle flows include all Thames Tideway Tunnel sites on this network during this period.

**FOR INFORMATION**

**Location**  
Deptford Church Street  
London Borough of Lewisham

**Document Information**  
Transport Assessment  
Hourly Construction Lorry Movements -  
Site Year 1 of Construction

Figure 23.5.1  
1PL03-TT-50888



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