

## 7. Service Specification

Route: 521

Contract Reference: QC52102

This Service Specification forms section 7 of the ITT and should be read in conjunction with the ITT document, Version 1 dated 29 September 2011.

You are formally invited to tender for the provision of the bus service detailed below and in accordance with this Service Specification. Tenderers must ensure that a Compliant Tender is submitted and this will only be considered for evaluation if all parts of the Tender documents, as set out in section 11, have been received by the Corporation by the Date of Tender. The Tender must be fully completed in the required format, in accordance with the Instructions to Tenderers. A Compliant Tender must comply fully with the requirements of the Framework Agreement; adhere to the requirements of the Service Specification; and reflect the price of operating the Services with new vehicles.

|  |   |
|--|---|
| <b>Route Number</b>                        | 521   |
| <b>Terminus Points</b>                     | Waterloo Station and London Bridge Station, Bus Station Bay B   |
| <b>Contract Basis</b>                      | Incentivised  |
| <b>Commencement Date</b>                   | 16 <sup>th</sup> July 2016  |
| <b>Vehicle Type</b>                        | <p><b>Option 1</b><br/>75 capacity*, dual door, <b>electric</b> single deck, minimum 12m long</p> <p><b>Option 2</b><br/>75 capacity*, dual door, <b>diesel</b> single deck, minimum 12m long</p> <p><b>* The interior layout should be specifically designed for a greater proportion of standing passengers with approximately 20 seats and an aspiration for a total capacity of 75 passengers. This layout will be agreed with the successful Tenderer.</b></p> |
| <b>Current Maximum Approved Dimensions</b> | 12.0 metres long and 2.55 metres wide   |
| <b>New Vehicles Mandatory</b>              | Yes   |
| <b>Hybrid Price Required</b>               | No  |
| <b>Sponsored Route</b>                     | No  |
| <b>Advertising Rights</b>                  | Operator  |
| <b>Minimum Performance Standard</b>        | Average Excess Wait Time - No more than 0.90 minutes  |
| <b>Extension Threshold</b>                 | Average Excess Wait Time Threshold - 0.80 minutes   |
| <b>Minimum Operated Mileage Standard</b>   | No less than 98.00%   |

The Date of Tender for this ITT is: No later than 12 Noon on Monday 27<sup>th</sup> April 2015

*Tenderers should refer to section 3 of Part A for the Service Specification Explanatory Notes and Appendix B of section 5 for the Example Service Specification of the ITT document.*

## **SERVICE SPECIFICATION**

- 1) SERVICE SPEC - ROUTE SPECIFICATION INFORMATION
- 2) NOTES
- 3) SCHEDULE REQUIREMENTS & PINCHPOINTS
- 4) OPERATIONAL CONSIDERATIONS
- 5) ROUTE RECORD, CURRENT PERFORMANCE, QSI BY TIME OF DAY, IBUS MILEAGE & QSI POINTS

## 2) NOTES

### **Proposed Changes:**

At this time, the Corporation expects to implement a change to the existing service prior to the commencement of the new Route Agreement for Route No. 521.

- Since 5<sup>th</sup> April 2014, Route No. 521 has been temporarily diverted from Cannon Street via Friday Street to Queen Victoria Street to re-join normal line of routeing towards London Bridge Station, Bus Station Bay B due to 45 Cannon Street development works. From 3<sup>rd</sup> October 2015, Route No. 521 will operate via its normal line of routeing from Cannon Street direct to Queen Victoria Street towards London Bridge Station, Bus Station Bay B.
- Since 5<sup>th</sup> January 2015, Route No. 521 has been temporarily diverted from Queen Victoria Street via Mansion House Street to King William Street to re-join normal line of routeing towards London Bridge Station, Bus Station Bay B in association with collaborative works in Cannon Street. Emergency schedules introduced on 17<sup>th</sup> January 2015 are in place. From 14<sup>th</sup> March 2015, Route No. 521 will operate via its normal line of routeing from Queen Victoria Street via Cannon Street to King William Street towards London Bridge Station, Bus Station Bay B.
- **Please see Section 5 for a full list of streets traversed and standing arrangements.**

Tenderers should note that the following alterations (subject to consultation) are proposed as part of this Service Specification for introduction with the new Route Agreement:

**The Mayor and Transport for London (TfL) have developed a proposal for an Ultra Low Emission Zone (ULEZ) in central London.**

**The ULEZ would take effect from 7<sup>th</sup> September 2020 and apply 24 hours a day, 7 days a week, and will require all single deck buses operating within the zone to be zero emission at tail pipe.**

Two options are specified:

#### **Option 1**

- 75 capacity\*, dual door, **electric** single deck, minimum 12m long buses are specified.

#### **Option 2**

- 75 capacity\*, dual door, **diesel** single deck, minimum 12m long buses are specified.

**\*This note is on Page 1.**

- **Tenderers may also submit proposals for other zero emission at tail-pipe technologies.**

**2) NOTES - continued**

**Tenderers should note that if they are supplying an alternative price based on using existing vehicles, these must be refurbished in line with the revised specification dated 1st March 2014. This applies to all contracts awarded from Tranche 471 onwards.**

**Tenderers should detail the implementation strategy for electric buses. This should include as a minimum:**

- 1. The charging strategy that would be adopted, including the rationale for any increase in the total number of vehicles and other resources compared to the Option 2 diesel bid.**
- 2. The charging infrastructure required, including physical and operational changes to garage(s).**

**Tenderers may also propose**

- 1. Funding of infrastructure changes though one-off payments before or at contract commencement.**
- 2. Opportunities to reduce contract costs if charging infrastructure can be provided at stands/bus stations or on street.**
- 3. Phased introduction of electric buses.**

**However Tenderers are encouraged to provide any further supporting information to demonstrate their readiness to introduce electric buses on this route.**

**The implementation strategy will form part of the evaluation for this route.**

**Cash Free Boarding was extended throughout London from 6th July 2014. Submitted tender prices should fully reflect the cost saving accrued from this change. Tenderers should also indicate the approximate additional cost if cash fares were still to be accepted.**

### 3) SCHEDULE REQUIREMENTS & PINCHPOINTS

#### 3.1) MONDAY TO FRIDAY SCHEDULE REQUIREMENTS & PINCHPOINTS

|   |  |   |  |             |            |
|---|--|---|--|-------------|------------|
| Waterloo Station, Tenison Way to London Bridge Station, Bus Station Bay B |  | London Bridge Station, Bus Station Bay B to Waterloo Station, Tenison Way |  |             |            |
| First departure no later than 0630.                                       |  | First departure no later than 0630.                                       |  |             |            |
| 0625 - 0640   | Every 10 minutes                         | 0625 - 0640   | Every 10 minutes                         |             |            |
| 0641 - 0700   | Every 5 minutes                          | 0641 - 0710   | Every 5 minutes                          |             |            |
| 0701 - 0730   | Every 3-4 minutes<br>(18 buses per hour) | 0711 - 0740   | Every 3-4 minutes<br>(18 buses per hour) |             |            |
| 0731 - 0745   | Every 2-3 minutes<br>(24 buses per hour) | 0741 - 0940   | Every 2-3 minutes<br>(24 buses per hour) |             |            |
| 0746 - 0845   | Every 2 minutes                          | 0941 - 1000   | Every 4 minutes                          |             |            |
| 0846 - 0930   | Every 2-3 minutes<br>(24 buses per hour) | 1001 - 1010   | Every 5 minutes                          |             |            |
| 0931 - 0950   | Every 4 minutes                          | 1011 - 1520   | Every 10 minutes                         |             |            |
| 0951 - 1010   | Every 5 minutes                          | 1521 - 1545   | Every 6 minutes                          |             |            |
| 1011 - 1520   | Every 10 minutes                         | 1546 - 1555   | Every 5 minutes                          |             |            |
| 1521 - 1545   | Every 6 minutes                          | 1556 - 1620   | Every 3-4 minutes<br>(18 buses per hour) |             |            |
| 1546 - 1600   | Every 5 minutes                          | 1621 - 1830   | Every 2-3 minutes<br>(24 buses per hour) |             |            |
| 1601 - 1610   | Every 3-4 minutes<br>(18 buses per hour) | 1831 - 1910   | Every 3-4 minutes<br>(18 buses per hour) |             |            |
| 1611 - 1805   | Every 2-3 minutes<br>(24 buses per hour) | 1911 - 1940   | Every 5 minutes                          |             |            |
| 1806 - 1905   | Every 3-4 minutes<br>(18 buses per hour) | 1941 - 2010   | Every 8 minutes                          |             |            |
| 1906 - 1940   | Every 5 minutes                          | 2011 - 0015   | Every 12 minutes                         |             |            |
| 1941 - 2005   | Every 8 minutes                          |   |  |             |            |
| 2006 - 0010   | Every 12 minutes                         |   |  |             |            |
| Last departure no earlier than 0005.                                      |  | Last departure no earlier than 0010.                                      |  |             |            |
| <b>Pinchpoints</b>  |  |   |  |             |            |
| Holborn<br>Circus, High<br>Holborn  | 0715 - 0745                              | 4 minutes   | Holborn<br>Circus, High<br>Holborn       | 0725 - 0755 | 4 minutes  |
|   | 0746 - 0800                              | 3 minutes   |  | 0756 - 0905 | 3 minutes  |
|   | 0801 - 0900                              | 2 minutes   |  | 1500 - 1530 | 10 minutes |
|   | 1500 - 1530                              | 10 minutes  |  | 1531 - 1555 | 6 minutes  |
|   | 1531 - 1555                              | 6 minutes   |  | 1556 - 1605 | 5 minutes  |
|   | 1556 - 1610                              | 5 minutes   |  | 1606 - 1630 | 4 minutes  |
|   | 1611 - 1620                              | 4 minutes   |  | 1631 - 1645 | 3 minutes  |
|   | 1621 - 1645                              | 3 minutes   |  |             |            |

#### **4) OPERATIONAL CONSIDERATIONS**

- 4.1) Route No. 521 can suffer from unpredictable traffic delays in the City of London area.
- 4.2) The Waterloo Station area will be transformed with new homes, offices and better public spaces.
- 4.3) Transport for London (TfL) has developed proposals to remove the IMAX roundabout at Waterloo in order to create a large, open peninsula - a focal point for the area. The Tenison Way Bus Station would be re-sited to Waterloo Road with the kerb line retained. Construction is not expected to start before the end of 2017 and work could be complete by 2020. The final scheme is forecast to have minimal impact on the operation of Route No. 521.
- 4.4) Two continuous largely segregated cycle routes through central London are proposed. The East-West Cycle Superhighway between Tower Hill and Acton and the North-South Cycle Superhighway between Elephant & Castle and Farringdon station. North of Farringdon station, the North-South route is planned to connect to a new Quietway back-street cycle route to King's Cross. This would provide cyclists with a route through central London on low-traffic streets. Route No. 521 may be affected by the construction of the Cycle Superhighway during 2015/2016.

#### **5) ROUTE RECORD, CURRENT PERFORMANCE, QSI BY TIME OF DAY, IBUS MILEAGE & QSI POINTS**

- 5.1) ROUTE RECORD  
As per Busnet printout.
- 5.2) CURRENT PERFORMANCE  
As per current print out.
- 5.3) QSI BY TIME OF DAY  
As per current print out.
- 5.4) IBUS MILEAGE & QSI POINTS  
As per current print out.

# LONDON BUSES - ROUTE DESCRIPTION

## ROUTE 521: Waterloo Station - London Bridge Station

**Date of Structural Change:** 27 August 2016.

**Date of Service Change:** 27 August 2016.

**Reason for Issue:** New Tender.

### **STREETS TRAVERSED**

**Towards London Bridge Station:** Tenison Way Bus Station, Tenison Way, Waterloo Road, Waterloo Bridge, Kingsway Tunnel, Kingsway, Southampton Row, Vernon Place, Theobald's Road, Drake Street, Procter Street, High Holborn, Holborn, Holborn Circus, Holborn Viaduct, Newgate Street, King Edward Street, Angel Street, St Martin's Le Grand, Cheapside, New Change, Cannon Street, King William Street, London Bridge, Railway Approach, Bay B.

**Towards Waterloo Station:** Bay B, London Bridge Bus Station, London Bridge Street, Borough High Street, London Bridge, King William Street, Cannon Street, New Change, Cheapside, Newgate Street, Holborn Viaduct, Holborn Circus, Holborn, High Holborn, Kingsway, Aldwych (East Arm), Strand, Lancaster Place, Waterloo Bridge, Waterloo Road, Tenison Way, York Road, Mepham Street.

## **AUTHORISED STANDS, CURTAILMENT POINTS, & BLIND DESCRIPTIONS**

Please note that only stands, curtailment points, & blind descriptions as detailed in this contractual document may be used.

### **WATERLOO, MEPHAM STREET**

Public stand for two buses on north side of Mepham Street commencing 15 metres west of junction with Mepham Street tunnel section and extending 22 metres west.

Buses proceed from Mepham Street direct to stand, departing via Mepham Street to Tenison Way Bus Station. Set down in Mepham Street, at Alighting Point (BP1695 - Waterloo Station / Mepham Street <> #, Last Stop on LOR: BP1695 - Waterloo Station / Mepham Street <> #) and pick up in Tenison Way Bus Station, at stop H (BP4259 - Waterloo Station / Tenison Way <> #, First Stop on LOR: BP4259 - Waterloo Station / Tenison Way <> #).

|                         |   |
|-------------------------|---|
| AVAILABILITY:           | At any time.  |
| OPERATING RESTRICTIONS: | No more than 3 buses on Route 521 should be scheduled to stand at any one time. |
| MEAL RELIEFS:           | No meal relief vehicles to stand at any time.                                   |
| FERRY VEHICLES:         | No ferry vehicles to park on stand at any time.                                 |
| BLIND DISPLAY:          | Waterloo.   |
| OTHER INFORMATION:      | London Buses toilet facilities available 24 hours a day.                        |

### **ALDWYCH (from LONDON BRIDGE STATION)**

Buses proceed from Aldwych via Strand and Aldwych departing to Kingsway. Set down in Aldwych, at Stop K (29984 - Aldwych / The Royal Courts Of Justice, Last Stop on LOR: 29984 - Aldwych / The Royal Courts Of Justice) and pick up in Kingsway, at Stop P (455 - Holborn Station <>, First Stop on LOR: 455 - Holborn Station <>).

|                         |  |
|-------------------------|--|
| AVAILABILITY:           | At any time.                                     |
| OPERATING RESTRICTIONS: | <b>Turning Point Only - Buses must not stand</b> |
| BLIND DISPLAY:          | Aldwych.   |

### **HOLBORN, KINGSWAY (from LONDON BRIDGE STATION)**

Buses proceed from High Holborn via Southampton Place, Bloomsbury Way, Vernon Place, Theobald's Road and Drake Street departing to Procter Street. Set down in High Holborn, at stop K (1057 - Holborn Station <>, Last Stop on LOR: 1057 - Holborn Station <>) and pick up in Procter Street, at stop H (33107 - Procter Street, First Stop on LOR: 33107 - Procter Street).

|                         |  |
|-------------------------|--|
| AVAILABILITY:           | At any time.                                     |
| OPERATING RESTRICTIONS: | <b>Turning Point Only - Buses must not stand</b> |
| BLIND DISPLAY:          | Holborn.   |



## **ST. PAULS STATION, KING EDWARD STREET**

Public stand for four buses on west side of King Edward Street, commencing 45 metres north of northern kerb line of Angel Street and extending 45 metres south.

### From London Bridge Station.

Buses proceed from Newgate Street via King Edward Street to stand, departing via King Edward Street, Little Britain, Montague Street, Museum Of London Roundabout, St Martin's Le Grand and Cheapside to New Change. Set down in Newgate Street, at Stop SQ (BP3442 - St Paul's Station <>, Last Stop on LOR: BP3442 - St Paul's Station <>) and pick up in New Change, at Stop SM (33385 - New Change / Cannon Street, First Stop on LOR: 33385 - New Change / Cannon Street).

### From Waterloo Station.

Buses proceed from Newgate Street via King Edward Street to stand, departing via King Edward Street, Little Britain, Montague Street, Museum Of London Roundabout and St Martin's Le Grand to Newgate Street. Set down in Newgate Street, at Stop ST (8586 - King Edward Street, Last Stop on LOR: 8586 - King Edward Street) and pick up in Newgate Street, at Stop SQ (BP3442 - St Paul's Station <>, First Stop on LOR: BP3442 - St Paul's Station <>).

|                         |   |
|-------------------------|---|
| AVAILABILITY:           | At any time.                                    |
| OPERATING RESTRICTIONS: | Unscheduled curtailments only                   |
| MEAL RELIEFS:           | No meal relief vehicles to stand at any time.   |
| FERRY VEHICLES:         | No ferry vehicles to park on stand at any time. |
| BLIND DISPLAY:          | St. Paul's.                                     |

## **LONDON BRIDGE STATION, BUS STAND B**

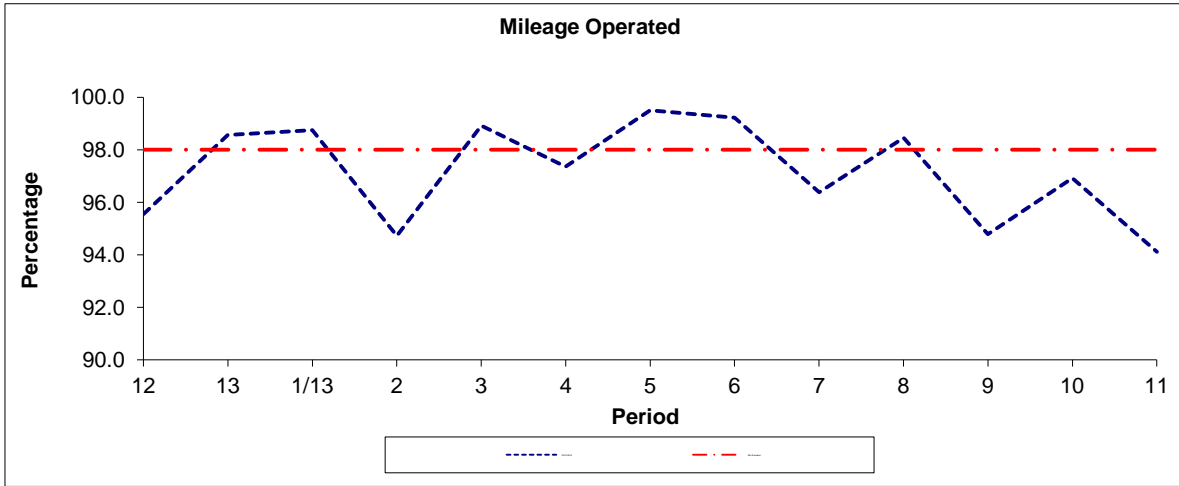
Private stand for three buses on route 521 in Bay B in Bus Station on forecourt of London Bridge Station.

Buses proceed from Bay B direct to stand, departing to Bay B. Set down in Bay B, on stand, at stop B (BP5680 - London Bridge Station # <>, Last Stop on LOR: BP5680 - London Bridge Station # <>) and pick up in Bay B, on stand, at stop B (BP5680 - London Bridge Station # <>, First Stop on LOR: BP5680 - London Bridge Station # <>).

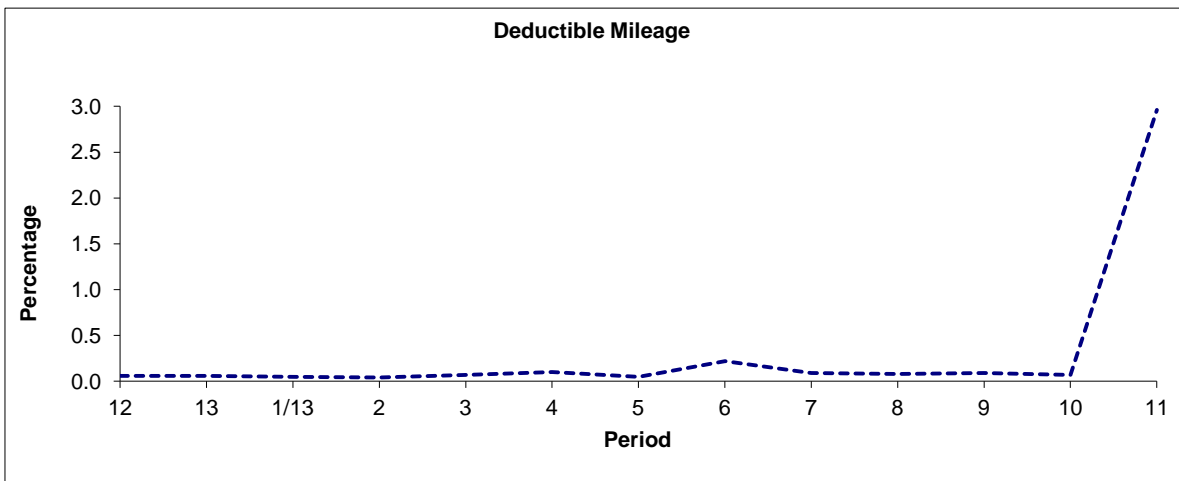
|                         |   |
|-------------------------|---|
| AVAILABILITY:           | At any time.  |
| OPERATING RESTRICTIONS: | No more than 3 buses on Route 521 should be scheduled to stand at any one time. |
| MEAL RELIEFS:           | No meal relief vehicles to stand at any time.                                   |
| FERRY VEHICLES:         | No ferry vehicles to park on stand at any time.                                 |
| BLIND DISPLAY:          | London Bridge.  |
| OTHER INFORMATION:      | Automated toilet facilities available: 0500-0100 (M-F)..                        |

**PART B - PERFORMANCE STATISTICS**

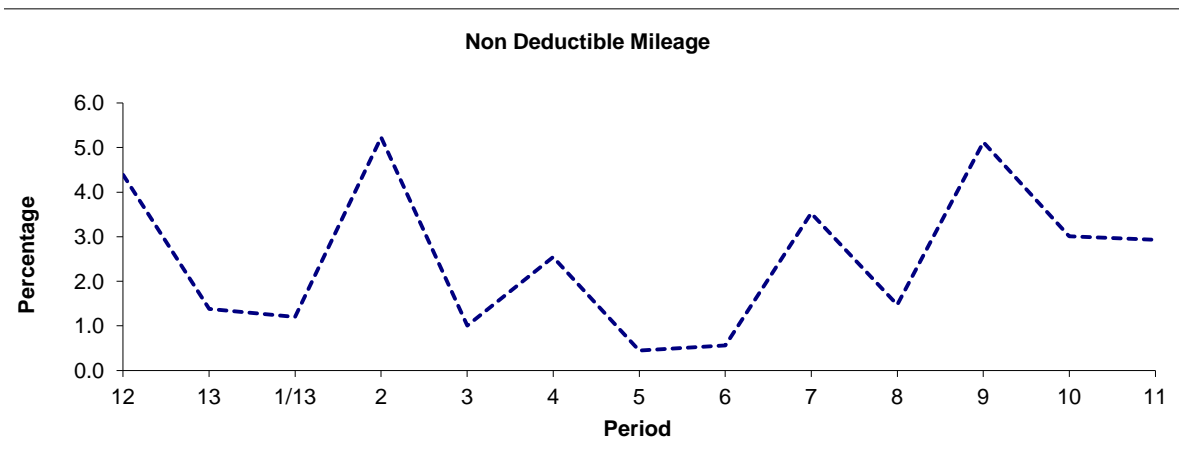
**Route 521**



| Period       | 12    | 13    | 1/13  | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 11    |
|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 2013/2014    | 95.55 | 98.56 | 98.75 | 94.73 | 98.92 | 97.36 | 99.50 | 99.22 | 96.38 | 98.45 | 94.79 | 96.92 | 94.11 |
| Min Standard | 98.00 | 98.00 | 98.00 | 98.00 | 98.00 | 98.00 | 98.00 | 98.00 | 98.00 | 98.00 | 98.00 | 98.00 | 98.00 |



| Period    | 12   | 13   | 1/13 | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   |
|-----------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 2013/2014 | 0.06 | 0.06 | 0.05 | 0.04 | 0.07 | 0.10 | 0.05 | 0.22 | 0.09 | 0.08 | 0.09 | 0.07 | 2.96 |

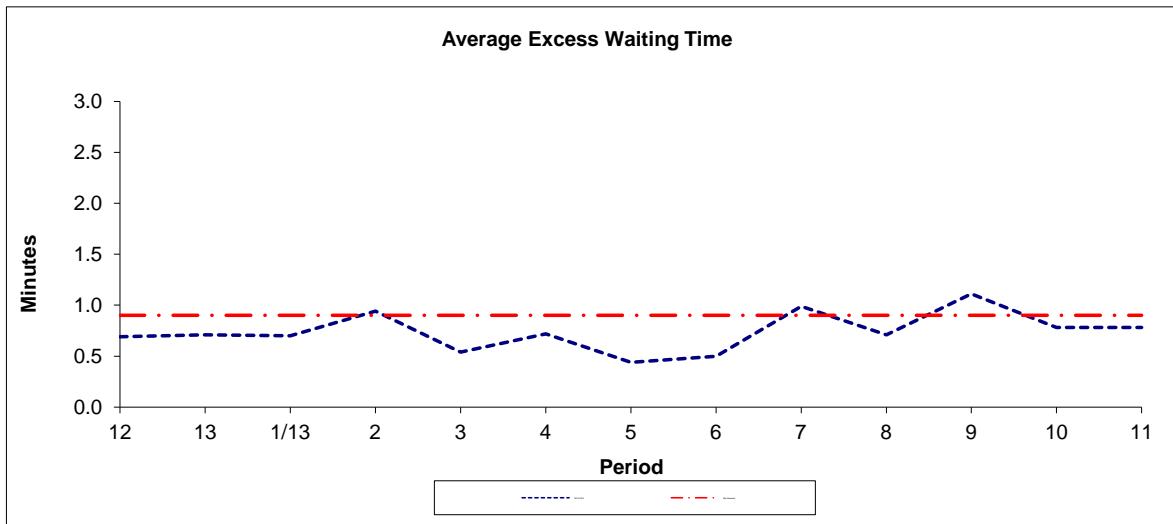


| Period    | 12   | 13   | 1/13 | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   |
|-----------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 2013/2014 | 4.39 | 1.38 | 1.20 | 5.23 | 1.01 | 2.54 | 0.45 | 0.56 | 3.53 | 1.47 | 5.12 | 3.01 | 2.93 |

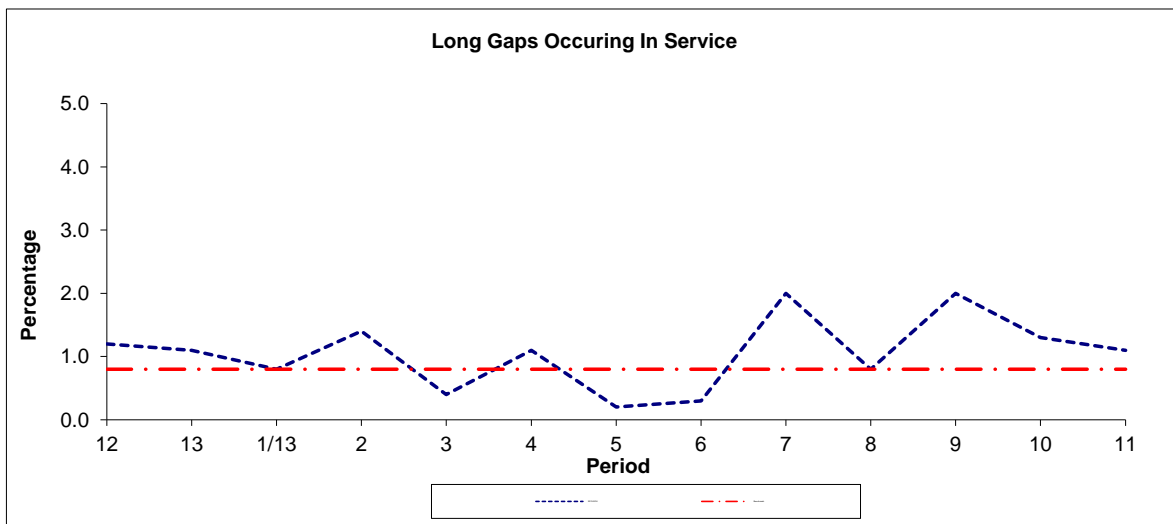
**Note :** Mileage is based on 4 weeks data  
 Period 11 2014/15 was adversely affected by industrial action.

**PART B - PERFORMANCE STATISTICS**

**Route 521**



| Period       | 12   | 13   | 1/13 | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 2013-2014    | 0.69 | 0.71 | 0.70 | 0.94 | 0.54 | 0.72 | 0.44 | 0.50 | 0.99 | 0.71 | 1.11 | 0.78 | 0.78 |
| Min Standard | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |



| Period    | 12  | 13  | 1/13 | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  |
|-----------|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2013-2014 | 1.2 | 1.1 | 0.8  | 1.4 | 0.4 | 1.1 | 0.2 | 0.3 | 2.0 | 0.8 | 2.0 | 1.3 | 1.1 |
| Benchmark | 0.8 | 0.8 | 0.8  | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |

**Note :** Reliability is actual performance under full iBus (4 weeks data).  
 Minimum Standards and Benchmarks are those applicable under the new contract.

**ROUTE 521 - FULL iBUS RESULTS BY TIME OF DAY**  
**QUARTERS 4/13 to 3/14 (04/01/14 - 02/01/15)**

**MONDAY - FRIDAY**

| Time Period    | Expected Buses  | On AVL (%)  | Scheduled Waiting Time (SWT) (mins) | Excess Waiting Time (EWT) (mins) | Actual Waiting Time (AWT) (mins) | Probability of Waiting < 10 mins (%) | Probability of Waiting 10-20 mins (%) | Probability of Waiting 20-30 mins (%) | Probability of Waiting > 30 mins (%) | Long Gaps (%) | Maximum Gap (mins) |
|----------------|-----------------|-------------|-------------------------------------|----------------------------------|----------------------------------|--------------------------------------|---------------------------------------|---------------------------------------|--------------------------------------|---------------|--------------------|
| 0500 - 0700    | 6,493.          | 103.4       | 3.90                                | <b>0.26</b>                      | 4.16                             | 97.7                                 | 2.2                                   | 0.0                                   | 0.0                                  | 0.2           | 78                 |
| 0700 - 1000    | 130,285.        | 96.8        | 1.44                                | <b>0.59</b>                      | 2.03                             | 99.5                                 | 0.5                                   | 0.0                                   | 0.0                                  | 0.5           | 35                 |
| 1000 - 1300    | 39,192.         | 102.4       | 4.67                                | <b>0.68</b>                      | 5.35                             | 87.5                                 | 11.6                                  | 0.7                                   | 0.2                                  | 1.4           | 59                 |
| 1300 - 1600    | 39,038.         | 97.7        | 4.59                                | <b>0.95</b>                      | 5.54                             | 88.3                                 | 10.5                                  | 0.8                                   | 0.3                                  | 1.4           | 69                 |
| 1600 - 1900    | 126,675.        | 96.3        | 1.49                                | <b>0.73</b>                      | 2.22                             | 99.4                                 | 0.6                                   | 0.0                                   | 0.0                                  | 0.6           | 32                 |
| 1900 - 2200    | 45,172.         | 101.1       | 4.18                                | <b>0.67</b>                      | 4.85                             | 87.6                                 | 11.9                                  | 0.4                                   | 0.1                                  | 1.8           | 76                 |
| 2200 - 2400    | 19,130.         | 101.1       | 6.00                                | <b>0.39</b>                      | 6.39                             | 80.6                                 | 18.7                                  | 0.5                                   | 0.2                                  | 0.4           | 48                 |
| <b>Summary</b> | <b>405,985.</b> | <b>98.1</b> | <b>3.19</b>                         | <b>0.71</b>                      | <b>3.90</b>                      | <b>93.0</b>                          | <b>6.5</b>                            | <b>0.4</b>                            | <b>0.1</b>                           | <b>1.0</b>    | <b>78</b>          |

No Weekend service.

## Transport for London - QSI Points and Live Mileage List

Route 521  
 Service change 32841  
 Date 06/03/2013

|                  |
|------------------|
| Reason for Issue |
|------------------|

QSI Points are highlighted.

| OUT DIRECTION                       |             |                                |        |       |
|-------------------------------------|-------------|--------------------------------|--------|-------|
| Timing Point Code                   | Stop Number | Stop Name                      | Metres | Miles |
| WLOOTW                              | BP4259      | Waterloo Station / Tenison Way |        |       |
|                                     | 25893       | Waterloo Bridge / South Bank   | 302    | 0.19  |
| HOLBSN                              | 455         | Holborn Station                | 1347   | 0.84  |
|                                     | 33107       | Procter Street                 | 448    | 0.28  |
|                                     | 8419        | Brownlow Street                | 341    | 0.21  |
|                                     | 1472        | Chancery Lane Station          | 209    | 0.13  |
| HOLBCS                              | 20628       | Holborn Circus / Fetter Lane   | 182    | 0.11  |
|                                     | 2018        | Holborn Circus                 | 250    | 0.16  |
|                                     | 1157        | City Thameslink Station        | 182    | 0.11  |
| SPLSSN                              | 8586        | King Edward Street             | 301    | 0.19  |
|                                     | 33385       | New Change / Cannon Street     | 518    | 0.32  |
|                                     | 8551        | Mansion House Station          | 181    | 0.11  |
| CANSSN                              | 8553        | Cannon Street Station          | 275    | 0.17  |
|                                     | BP140       | Monument Station               | 498    | 0.31  |
| LONBSNB                             | BP5680      | London Bridge Station          | 544    | 0.34  |
| Total Route Mileage - Out Direction |             |                                | 5578   | 3.47  |
|                                     |             |                                | Metres | Miles |

|                    |
|--------------------|
| <b>TRANCHE 521</b> |
|--------------------|

|   |
|---|
| End diversion - London Bridge collapsed sewer |
|---|

| BACK DIRECTION                       |             |                                       |        |       |
|--------------------------------------|-------------|---------------------------------------|--------|-------|
| Timing Point Code                    | Stop Number | Stop Name                             | Metres | Miles |
| LONBSNB                              | BP5680      | London Bridge Station                 |        |       |
|                                      | 2123        | Monument Station                      | 694    | 0.43  |
| CANSSN                               | 8552        | Cannon Street Station                 | 328    | 0.20  |
|                                      | 33780       | New Change / Cannon Street            | 646    | 0.40  |
| SPLSSN                               | BP3442      | St Paul's Station                     | 229    | 0.14  |
|                                      | 1156        | City Thameslink Station               | 337    | 0.21  |
|                                      | 8571        | Holborn Circus                        | 280    | 0.17  |
| HOLBCS                               | 2019        | Holborn Circus / Fetter Lane          | 165    | 0.10  |
|                                      | 8420        | Chancery Lane Station                 | 252    | 0.16  |
|                                      | 1473        | Brownlow Street                       | 188    | 0.12  |
|                                      | 1057        | Holborn Station                       | 261    | 0.16  |
| HOLBSN                               | 26425       | Kingsway / Holborn Station            | 351    | 0.22  |
|                                      | 29984       | Aldwych / The Royal Courts Of Justice | 375    | 0.23  |
|                                      | 29985       | Aldwych / Somerset House              | 309    | 0.19  |
|                                      | 1835        | Waterloo Bridge / South Bank          | 678    | 0.42  |
| WLOOMS                               | BP1695      | Waterloo Station / Mephram Street     | 536    | 0.33  |
| Total Route Mileage - Back Direction |             |                                       | 5629   | 3.50  |
|                                      |             |                                       | Metres | Miles |