



# **Task 64 Canada Water Strategic Transport Study**

Railplan Local Model Validation Report

June 2017



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Transport for London

# **Task 64 Canada Water Strategic Transport Study**

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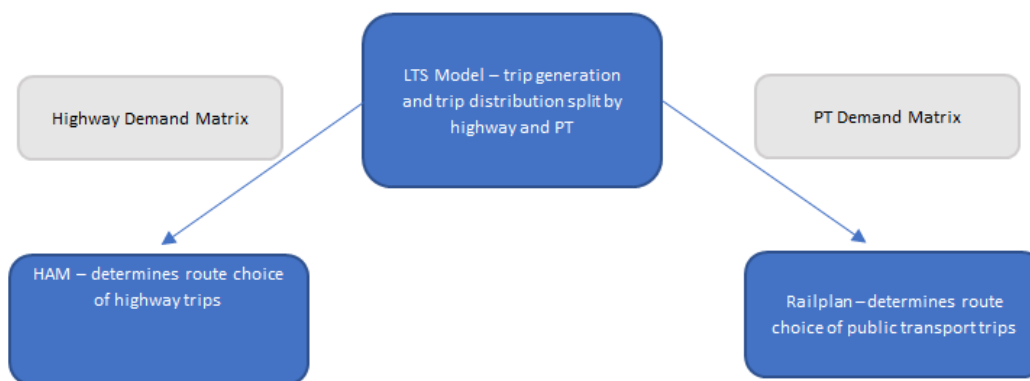
# 1 Introduction

## 1.1 Background

Transport for London (TfL) and the London Borough of Southwark (LB Southwark) are undertaking a Strategic Transport Study in support of the Canada Water Area Action Plan (AAP). The study will consider the impact of agreed development scenarios in the Canada Water area on the transport network and propose suitable transport solutions and mitigations to support development.

Utilising TfL's suite of strategic transport models, Mott MacDonald have been commissioned to inform this study. The impact of the development scenarios on the public transport network will be informed by TfL's strategic public transport assignment model Railplan. Figure 1 shows how Railplan interacts with TfL's suite of strategic transport models.

**Figure 1: TfL Strategic Transport Modelling Suite**



## 1.2 Local Model Validation

This report is concerned with the validation, and subsequent improvement in validation, of the Railplan base year model (2011 AM Peak v7 scenario *WE001A08A*) which TfL have supplied to us for the purposes of this study. The objective of the validation is to develop a version of Railplan which provides a sufficiently robust basis for forecasting the effects of the development scenarios on the transport network.

The measures by which the validation will be assessed are the Department for Transport's (DfT) Transport Analysis Guidance (also referred to as WebTAG), TAG UNIT M3.2 Public Transport Assignment, Chapter 7.<sup>1</sup> Specifically, the actual validation checks to be performed and the measures to be applied are described in paragraphs 7.1.1 to 7.1.6 as shown in Figure 2.

<sup>1</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/427126/webtag-tag-unit-m3-2-public-transport-assignment-modelling.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/427126/webtag-tag-unit-m3-2-public-transport-assignment-modelling.pdf)



## Figure 2: WebTAG Public Transport Assignment Validation Checks and Measures

- 7.1.1 The **validation** of a public transport passenger assignment model should involve three kinds of check:
- validation of the trip matrix;
  - network and service validation; and
  - assignment validation.
- 7.1.2 Validation of the **trip matrix** should involve comparisons of assigned and counted passengers across complete screenlines and cordons (as opposed to individual services). **At this level of aggregation, the Department's suggested guideline is that the differences between assigned and counted flows should, in 95% of the cases, be less than 15%.**
- 7.1.3 Validation of the **network** should involve checks on the accuracy of the coded geometry and times/speeds in the model (i.e. for in-vehicle, access and interchange times).
- 7.1.4 Validation of the **services** should involve comparing the modelled flows of public transport vehicles with counts (as well as other features such as stopping patterns for rail, etc.).
- 7.1.5 Validation of the **assignment** should involve comparing modelled and observed:
- passenger flows across screenlines and cordons, usually by public transport mode and sometimes at the level of individual bus or train services; and
  - passengers boarding and alighting in urban centres.
- 7.1.6 **The Department's recommendation is that across modelled screenlines, modelled flows should, in total, be within 15% of the observed values. On individual links in the network, modelled flows should be within 25% of the counts, except where observed hourly flows are particularly low (less than 150 passengers per hour)**

We have used the following data to measure the validation;

- **OS Mapping and Google Maps** – to review the coverage of the local modelled walk network and model zone connectivity against actual walk routes and land-use/transport accessibility
- **TfL Buses Website<sup>2</sup>** - to validate local bus routings, frequencies and journey times
- **londonbusroutes.net<sup>3</sup> Website** – to determine whether differences in bus service assumptions between Railplan and the TfL website are due to changes in service which have occurred between the Railplan base year (2011) and March 2017 (when we extracted comparison data from the TfL Buses Website)
- **ACAMOD v1e - 2011-12 P8.xlsx** – to validate DLR frequencies and vehicle capacities
- **Jubilee Working Timetables 10 and 11 (pre and from July 2011)** - to validate Jubilee Line frequencies

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<sup>2</sup> <https://tfl.gov.uk/modes/buses/?cid=buses>

<sup>3</sup> <http://londonbusroutes.net/timetables.htm>

- **cr\_rods11\_AM.prn** – 2011 AM Peak link flows for LUL, DLR and Overground based on TfL's Rolling Origin and Destination Surveys
- **Smoothed\_Boarders\_2011.xls** – 2011 AM Peak LUL boarders and alighters split by station platform based on TfL's Rolling Origin and Destination Surveys
- **Overground OD Output.xls** - 2011 AM Peak Overground boarders and alighters split by station platform based on TfL's Overground Origin Destination Data (through discussions with TfL Rail we have also derived Overground service frequencies and vehicle capacities)
- **CIOX\_LTS\_SCREENLINE\_FLOWS\_v6.xlsm** – 2011 AM Peak Southern, Thameslink and South Eastern link flows to/from London Bridge based on TfL's Central Area Peak Count (CAPC) surveys
- **TfL Bus Origin and Destination Survey data (BODS)** – 2011 AM Peak bus link flows sourced from TfL UNIX server<sup>4</sup>

### 1.3 Study Area Screenlines and Cordon

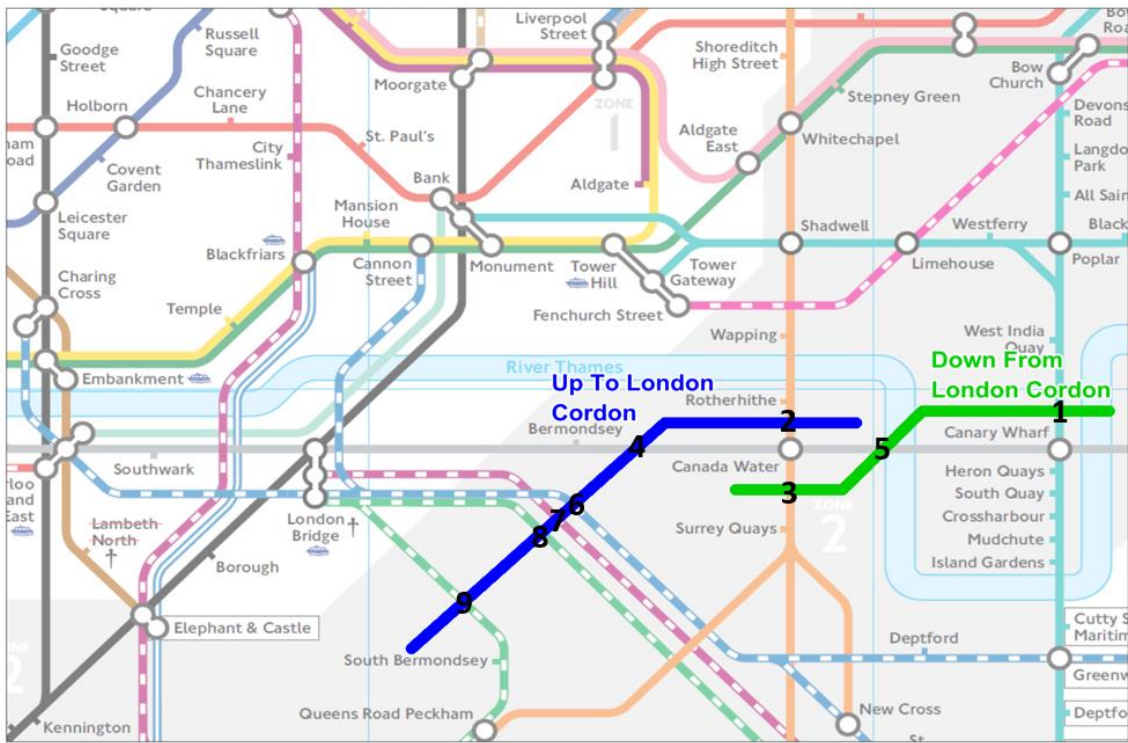
In order to provide a suitable basis for comparison of modelled flows against other data sources, two screenlines and a cordon area have been defined as a means of capturing transport demand flows to/from the study area. These are shown in Figures 2 and 3 respectively. In addition to the rail lines shown intersecting the two screenlines, all bus routes crossing the screenlines have also been validated. The links highlighted in Figure 3 define the cordon and provide comprehensive coverage of all public transport demand flows into and out of the study area.

Table 1 displays all the key links and stations where we have validated demand and the associated screenlines/cordon within which they are captured. It shows all rail links crossing each screenline/study area cordon and bus links crossing the study area cordon but excludes bus links crossing either screenline. Each link is represented by an ID which can be referenced in Figures 3 and 4.

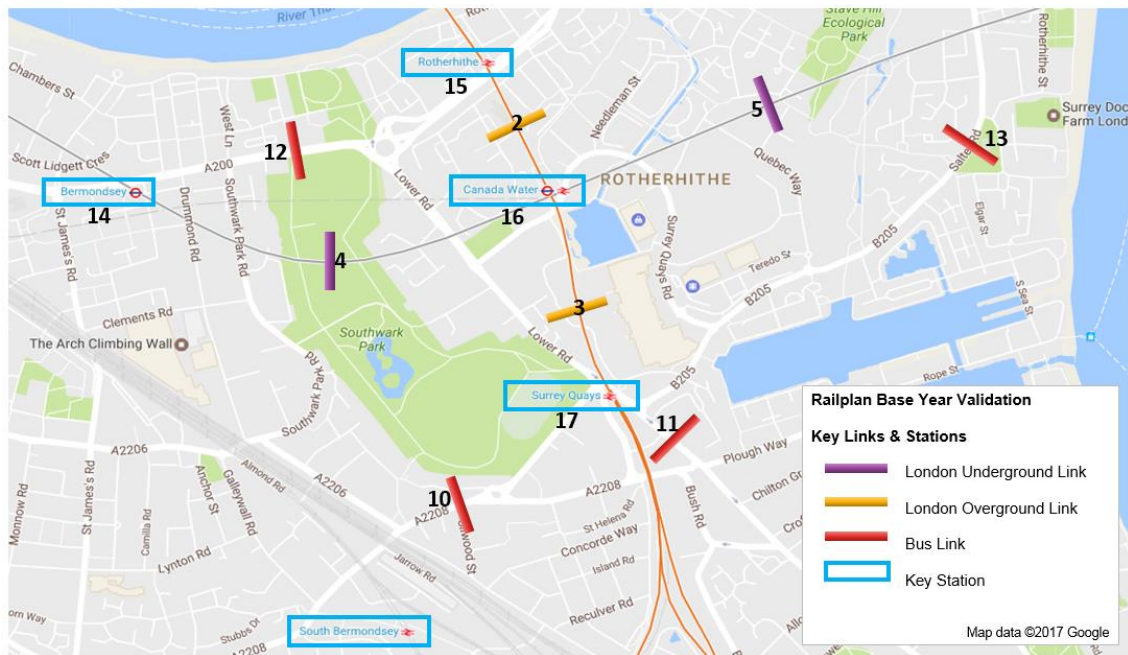
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<sup>4</sup> /smb/EmmeData/RRP/.development/BODS07/emmebank (@vmp attribute)

**Figure 3: Study Area Screenlines**



**Figure 4: Study Area Cordon**



**Table 1: Links and Stations Validated**

Link/Station	ID	Up to London	Down from London	Study Area Cordon
Canary Wharf <> West India Quay DLR	1		✓	
Rotherhithe <> Canada Water Overground	2	✓		✓
Canada Water <> Surrey Quays Overground	3		✓	✓
Bermondsey <> Canada Water Jubilee Line	4	✓		✓
Canada Water <> Canary Wharf Jubilee Line	5		✓	✓
Deptford <> London Bridge Southeastern Rail	6	✓		
New Cross <> London Bridge Southeastern Rail	6	✓		
East Croydon <> London Bridge Thameslink	7	✓		
New Cross Gate <> London Bridge Southern Rail	8	✓		
South Bermondsey <> London Bridge Southern Rail	9	✓		
Rotherhithe New Rd/Silwood St. - Rotherhithe New Rd Roundabout Bus (SW Link)	10			✓
Lower Road Surrey Quays Stn (Stop M) - Lower Rd/Cope St. Bus (S Link)	11			✓
Jamaica Road S'Wark Pk Rd - Southwark Park Stop C Bus (NW Link)	12			✓
Rotherhithe St/Salter Rd - Salter Rd/Shipwright Rd Bus (E Link)	13			✓
Bermondsey Station	14			
Rotherhithe Station	15			
Canada Water Station	16			
Surrey Quays Station	17			

## 1.4 Report Structure

The remainder of this report is structured as follows;

- Chapter 2 describes the validation of the local network and public transport services in Railplan in accordance with DfT's network and service validation requirements
- Chapter 3 describes the validation of key individual public transport links, stations and stops in Railplan in accordance with DfT's assignment validation requirements
- Chapter 4 describes the validation of total public transport flows crossing screenlines and the study area cordon in Railplan in accordance with DfT's trip matrix validation requirements
- Chapter 5 describes the updates applied/tested in Railplan based on the issues identified in chapters 2 to 4

- Chapter 6 describes the incremental effects of the updates described in chapter 5 on model validation performance
- Chapter 7 provides conclusions including recommendations for which version of the base year model (tested in chapter 6) should be adopted as the validated Base Year scenario for this study and for how model updates should be incorporated into forecasting. It also reports on differences in strategic level validation within Railplan in the revalidated base year scenario.

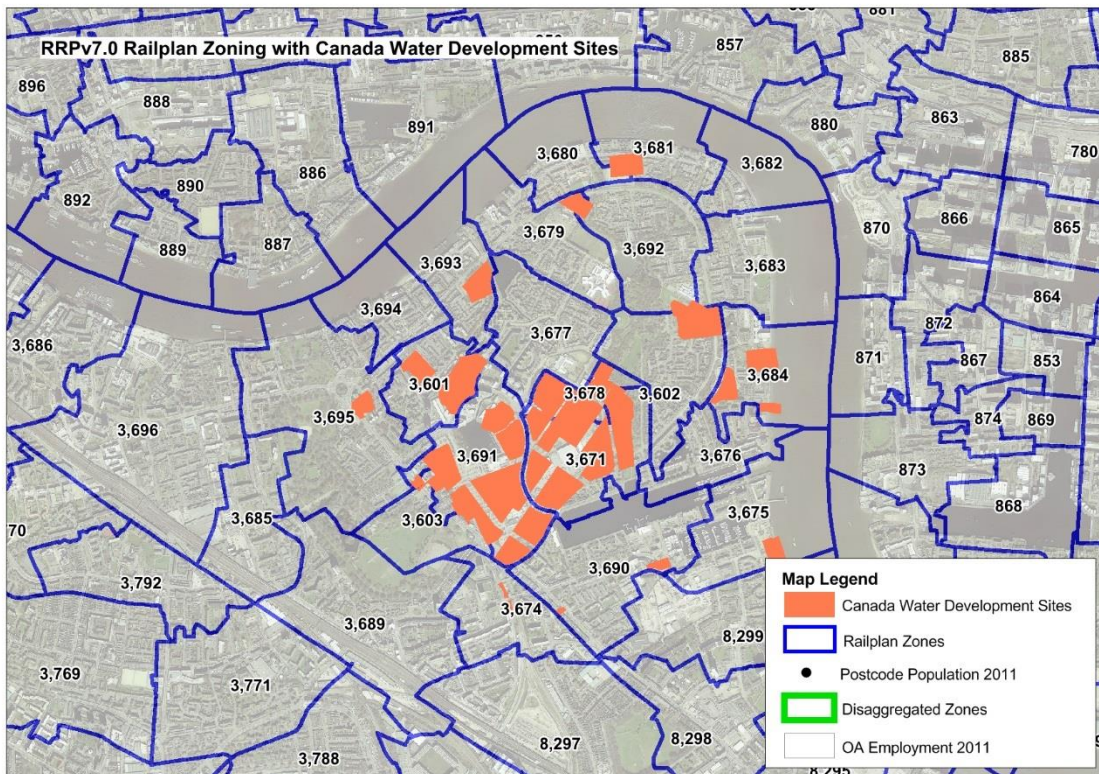
## 2 Network and Service Validation

This section provides a validation of the local transport supply within Railplan, that is the walk network and public transport services which are accessed by transport demand to travel to, from and within the study area.

### 2.1 Zone Structure

Figure 5 shows the zone structure in the vicinity of Canada Water against the proposed development sites. The structure is sufficiently detailed to allow for splitting of different components of the development into separate zones. However, the zone structure around the bulk of the development (around Canada Water Station) is not sufficiently detailed to allow for separation of the development from other land-uses and to accurately model access to and from competing PT services. In particular, zones 3678 and 3694 encompass wide areas including land covered by the development and other uses.

**Figure 5: Railplan Zone Structure, Canada Water**



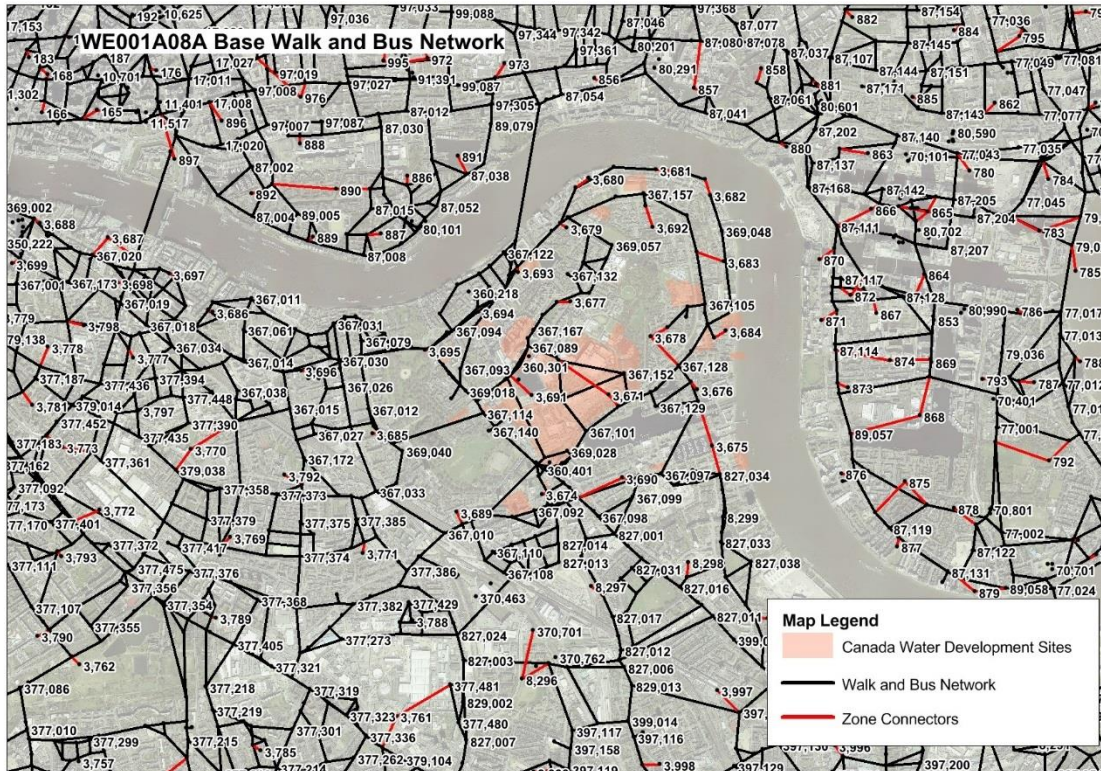
### 2.2 Walk Network

Figure 6 shows the model walk network in and around Canada Water against background OS Mapping. It shows a lack of connectivity in Railplan;

- East-west across the peninsula around Stave Hill Ecological Park

- Between the main walk/bus network routes around the edges of the peninsula i.e. Rotherhithe Street/Salter Road
- East-west through Southwark Park
- Between Plough Way and Redriff Road east of Lower Road

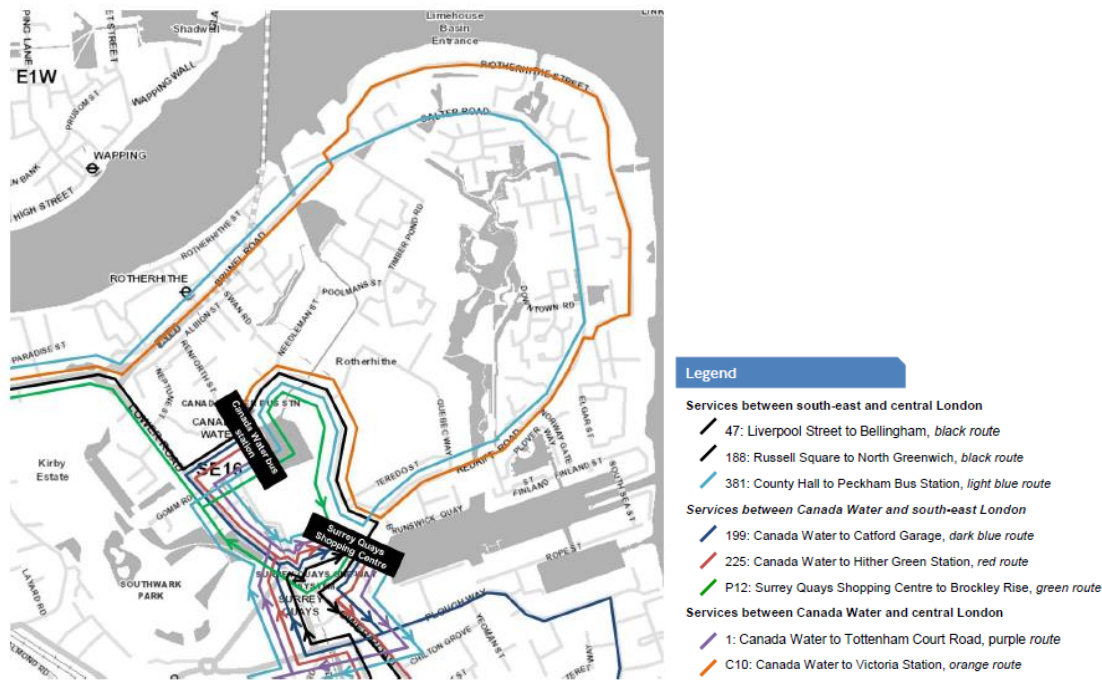
Figure 6: Railplan Walk Network



### 2.3 Bus Services

Local bus services in the vicinity of Canada Water are shown in Figure 7.

**Figure 7: Canada Water Local Bus Services**



Note Bus services are in both directions unless direction is indicated with arrows  
 Source Canada Water Outcome Plan, TfL Growth Area Planning Team, February 2017

### 2.3.1 Bus Routings

Taking the bus services identified in section 2.3, **Appendix A** shows a comparison between their actual routings with modelled routings in Railplan (for their entire length).

The issues identified via these sources concern the 381 and 47 routes where;

- Railplan incorrectly shows both directions of the 381 routed via the B215 rather than Peckham Park Road
- The TfL timetable indicates that both the 47 and 381 routes should be routed via the A2 and Tower Bridge Road in the eastbound direction which is not reflected in Railplan

Additionally, a further routing issue came to light when reviewing TfL’s bus timetables concerning the 47 route. In the AM Peak, the route serves Newquay Road (Catford) to Liverpool Street in the westbound direction and Wormwood Street to Catford Bus Garage in the eastbound direction. The routes extend between Liverpool Street/Wormwood Street and Shoreditch outside the AM Peak. Railplan incorrectly shows both directions extended to Shoreditch.

### 2.3.2 Bus Frequencies

Table 2 shows a comparison of bus frequencies between TfL’s website and Railplan. TfL’s website provides a headway range for each bus route; we have taken the lower and upper limits of the range and also added a median value. Where the headway range provided by TfL varies over the course of the AM Peak period we have assumed the range which applies to the majority of the time period. The comparison shows that Railplan frequencies fall within the range provided by TfL in all cases.



Tables 3 and 4 show a comparison of bus route frequencies crossing four bus cordon points which form the study area cordon. The study area cordon points are shown in **Figure 3**. These capture total bus frequencies into and out of the study area. They show that Railplan frequencies fall within the range provided by TfL in all cases.

### 2.3.3 Bus Journey Times

Table 2 also shows a comparison of bus journey times between TfL's website and Railplan between the ends of each route and Canada Water Bus Station. It shows that in the vast majority of cases, the TfL website indicates a journey time which is a few minutes shorter than in Railplan. This is not considered a major issue as the times on the TfL website are based on the off-peak period; it would be expected that AM Peak times are longer given highway congestion. Furthermore Railplan times are based on traffic speeds derived from TfL's iBUS vehicle tracking system which provides a high level of accuracy given its real-time nature. In the two instances where Railplan shows a significantly shorter journey time (381 from County Hall to Canada Water Bus Station and 47 from Wormwood Street to Canada Water Bus Station), this is a reflection of the incorrect routings for these services identified in section 2.3.1.

Table 5 shows a comparison of bus journey times between TfL's website and Railplan between Canada Water Bus Station and other key destinations. As with the data in Table 1, it shows that in the vast majority of cases, the TfL website indicates a journey time which is a few minutes shorter than in Railplan. Again the only two instances where Railplan shows a significantly shorter journey time are the 381 and 47 routes which is a reflection of the incorrect routings for these services identified in section 2.3.1.

### 2.3.4 Potential discrepancies between Railplan Base Year and 2017 Timetable

Using the *londonbusroutes.net*<sup>5</sup> website, we have investigated whether the differences in bus routing between Railplan and the TfL timetable identified in this section are due to changes in service which have occurred since 2011, which is the Railplan base year which we are validating. We have concluded that this is not the case.

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<sup>5</sup> <http://londonbusroutes.net/timetables.htm>

**Table 2: TfL and Railplan Bus Frequencies and Journey Times**

Route	Railplan Code	From	To	Bus Frequency (Buses Per Hour)				Bus Journey Time (minutes)	
				TfL High	TfL Median	TfL Low	Railplan	TfL	Railplan
P12	0P12ia	Brockely Rise/Chandos	Canada Water Bus Station	6.7	5.6	4.6	6.0	55	57
		Canada Water Bus Station	Surrey Quays Shopping Centre	6.7	5.6	4.6	6.0	3	4
		Surrey Quays Shopping Centre	Canada Water Bus Station	8.6	7.0	5.5	6.0	3	4
		Canada Water Bus Station	Brockely Rise/Chandos	8.6	7.0	5.5	6.0	49	55
381	0381ia/0381ja	Peckham Bus Station	Canada Water Bus Station	6.7	5.6	4.6	6.1	25	33
		Canada Water Bus Station	County Hall	6.7	5.6	4.6	6.1	39	40
	0381ia	County Hall	Canada Water Bus Station	7.5	6.3	5.0	5.8	45	39
		Canada Water Bus Station	Peckham Bus Station	7.5	6.3	5.0	5.8	26	35
225	0225ia	Canada Water Bus Station	Springbank Road /Hither Green Station	4.6	4.3	4.0	4.0	34	39
		Springbank Road /Hither Green Station	Canada Water Bus Station	4.0	4.0	4.0	4.0	38	44
199	0199ia	Newquay Road	Canada Water Bus Station	6.0	5.3	4.6	5.0	46	53
		Canada Water Bus Station	Bellingham/Catford Bus Garage	5.5	5.0	4.6	5.0	47	55
188	0188ia	Russell Square Station	Canada Water Bus Station	10.0	8.0	6.0	8.0	46	44
		Canada Water Bus Station	North Greenwich Station	10.0	8.0	6.0	8.0	28	33
		North Greenwich Station	Canada Water Bus Station	8.6	7.3	6.0	8.0	31	34
		Canada Water Bus Station	Russell Square Station	8.6	7.3	6.0	8.0	42	45
47	0047ia/0047ia	Newquay Road	Canada Water Bus Station	6.7	6.1	5.5	6.7	43	46
		Canada Water Bus Station	Liverpool Street Station	6.7	6.1	5.5	6.7	26	31
	0047oa	Wormwood Street	Canada Water Bus Station	7.5	6.3	5.0	6.0	33	25
		Canada Water Bus Station	Catford Bus Garage	7.5	6.3	5.0	6.0	39	41
1	0001ia	New Oxford Street	Canada Water Bus Station	10.0	8.0	6.0	8.0	42	50
	0001ia/0001ka	Canada Water Bus Station	Tottenham Court Road	10.0	8.0	6.0	8.7	43	51
C10	0C10ia	Victoria Station	Canada Water Bus Station	7.5	6.3	5.0	6.0	60	67
	0C10ia	Canada Water Bus Station	Victoria Stn/Grosvenor Gardens	8.6	7.3	6.0	6.0	62	67

**Table 3: TfL and Railplan Bus Frequencies crossing Study Area Cordon Points (into study area)**

Cordon Link	Routes	From	To	Bus Frequency (Buses Per Hour)							
				Split by Route				All Routes Combined			
				TfL High	TfL Median	TfL Low	Railplan	TfL High	TfL Median	TfL Low	Railplan
NW Link	188	Russell Square Station	Canada Water Bus Station	10.00	8.00	6.00	8.00	24.17	19.89	15.62	20.00
	47	Wormwood Steet	Canada Water Bus Station	7.50	6.25	5.00	6.00				
	P12	Brockely Rise/Chandos	Canada Water Bus Station	6.67	5.64	4.62	6.00				
SW Link	381	Peckham Bus Station	Canada Water Bus Station	6.67	5.64	4.62	6.08	16.67	13.64	10.62	14.08
	1	New Oxford Street	Canada Water Bus Station	10.00	8.00	6.00	8.00				
S Link	47	Newquay Road	Canada Water Bus Station	6.67	6.06	5.45	5.63	19.24	17.35	15.45	17.63
	188	North Greenwich Station	Canada Water Bus Station	8.57	7.29	6.00	8.00				
	225	Springbank Road /Hither Green Station	Canada Water Bus Station	4.00	4.00	4.00	4.00				
E Link	381	County Hall	Canada Water Bus Station	7.50	6.25	5.00	5.75	21.00	17.81	14.62	16.75
	C10	Victoria Station	Canada Water Bus Station	7.50	6.25	5.00	6.00				
	199	Newquay Road	Canada Water Bus Station	6.00	5.31	4.62	5.00				

**Table 4: TfL and Railplan Bus Frequencies crossing Study Area Cordon Points (from study area)**

Cordon Link	Routes	From	To	Bus Frequency (Buses Per Hour)							
				Split by Route				All Routes Combined			
				TfL High	TfL Median	TfL Low	Railplan	TfL High	TfL Median	TfL Low	Railplan
NW Link	188	Canada Water Bus Station	Russell Square Station	8.57	7.29	6.00	8.00	23.81	20.36	16.91	19.63
	47	Canada Water Bus Station	Liverpool Street Station	6.67	6.06	5.45	5.63				
	P12	Canada Water Bus Station	Brockely Rise/Chandos	8.57	7.01	5.45	6.00				
SW Link	381	Canada Water Bus Station	Peckham Bus Station	7.50	6.25	5.00	5.75	17.50	14.25	11.00	14.45
	1	Canada Water Bus Station	Tottenham Court Road	10.00	8.00	6.00	8.70				
S Link	47	Canada Water Bus Station	Catford Bus Garage	7.50	6.25	5.00	6.00	22.12	18.56	15.00	18.00
	188	Canada Water Bus Station	North Greenwich Station	10.00	8.00	6.00	8.00				
	225	Canada Water Bus Station	Springbank Road /Hither Green	4.62	4.31	4.00	4.00				
E Link	381	Canada Water Bus Station	County Hall	6.67	5.64	4.62	6.08	20.69	17.96	15.23	17.08
	C10	Canada Water Bus Station	Victoria Strn/Grosvenor Gardens	8.57	7.29	6.00	6.00				
	199	Canada Water Bus Station	Bellingham/Catford Bus Garage	5.45	5.03	4.62	5.00				

**Table 5: TfL and Railplan Bus Journey Times between Canada Water Bus Station and other key destinations**

From	To	Route	Railplan Code	Bus Journey Time (minutes)	
				TfL	Railplan
Waterloo	Canada Water	1	0001ia	31	34
		188	0188ia	33	29
		381	0381ia/ja	44	37
Canada Water	Waterloo	1	0001ka/0001ia	32	38
		188	0188ia	30	31
		381	0381ia/ja	38	39
London Bridge	Canada Water	47	0047oa	25	13
Canada Water	London Bridge	381	0381ia/ja	24	26
		47	0047ia/0047la	17	17
Peckham	Canada Water	381	0381ia/ja	25	33
		P12	0P12ia	32	32
Canada Water	Peckham	381	0381ia/ja	26	35
		P12	0P12ia	29	29
Greenwich	Canada Water	199	0199ia	22	24
Canada Water	Greenwich	199	0199ia	25	27
North Greenwich	Canada Water	188	0188ia	31	34
Canada Water	North Greenwich	188	0188ia	28	33
Lewisham	Canada Water	47	0047ia/0047la	27	29
		225	0225ia	27	29
		199	0199ia	31	34
Canada Water	Lewisham	47	0047oa	23	23
		225	0225ia	25	28
		199	0199ia	32	35

## 2.4 DLR Services

Table 6 shows a comparison of DLR frequencies and vehicle capacities between DLR’s own service timetable and Railplan. It shows no discrepancies between the two sources.

**Table 6: DLR Service Frequencies and Vehicle Capacities**

	AM Peak Frequency (tph)		AM Peak Vehicle Capacity (seats)		AM Peak Vehicle Capacity (total)	
	2011 Timetable*	2011 Railplan (WE001A08A)	2011 Timetable*	2011 Railplan (WE001A08A)	2011 Timetable*	2011 Railplan (WE001A08A)
Bank - Lewisham	15.0	15.0	162	162	920	920
Lewisham - Bank	15.0	15.0	162	162	920	920
Bank - Woolwich Arsenal	7.5	7.5	162	162	920	920
Woolwich Arsenal - Bank	7.5	7.5	162	162	920	920
Tower Gateway - Beckton	7.5	7.5	162	162	920	920
Beckton - Tower Gateway	7.5	7.5	162	162	920	920
Stratford - Canary Wharf	5.0	5.0	108	108	614	613
Canary Wharf - Stratford	5.0	5.0	108	108	614	613
Stratford - Lewisham	5.0	5.0	162	162	920	920
Lewisham - Stratford	5.0	5.0	162	162	920	920
Stratford International - Woolwich Arsenal	7.5	7.5	108	108	614	613
Woolwich Arsenal - Stratford International	7.5	7.5	108	108	614	613

\*Frequency source: ACAMOD v1e - 2011-12 P8.xlsx (Service table sheet)

\*Seats capacity source: ACAMOD v1e - 2011-12 P8.xlsx (Reference sheet cell F38\*no of cars)

\*Total capacity source: ACAMOD v1e - 2011-12 P8.xlsx (Reference sheet - applied formula in cell H42 assuming crush capacity of 7pax/sqm then multiplied by no. of cars)

## 2.5 LUL Services

Table 7 shows a comparison of LUL Jubilee Line frequencies between Jubilee Line working timetables (from before and from July 2011) and Railplan. Whilst there are discrepancies between Railplan and timetables at an individual service level the overall frequencies through Central London and Canary Wharf validate accurately between the From July 2011 timetable and Railplan.

**Table 7: Jubilee Line Frequencies**

	AM Peak Frequency (tph)		
	Pre-July 2011 Timetable*	From July 2011 Timetable*	2011 Railplan (WE001A08A)
Stratford - Stanmore	9.7	14.3	17.0
Stratford - Willesden Green	3.3	4.0	4.3
Stratford - Wembley Park	4.3	3.3	3.7
Stratford - Neasden	0.3	0.3	0.0
North Greenwich - Stanmore	0.7	2.0	0.0
North Greenwich - Willesden Green	0.7	0.0	0.0
North Greenwich - Wembley Park	0.7	0.3	0.0
West Ham - Stanmore	0.3	0.3	0.0
West Ham - Wembley Park	0.3	0.3	0.0
<b>Total Eastbound</b>	<b>20.3</b>	<b>25.0</b>	<b>25.0</b>
Stanmore to Stratford	8.0	14.7	17.6
Stanmore to West Ham	2.0	3.3	0.0
Canons Park - Stratford	1.7	0.0	0.0
Canons Park - West Ham	0.7	0.0	0.0
Canons Park - North Greenwich	0.7	0.0	0.0
Wembley Park - Stratford	4.0	2.3	3.7
Wembley Park - North Greenwich	0.7	0.3	0.0
Wembley Park - West Ham	0.7	0.0	0.0
Willesden Green - Stratford	3.0	4.0	4.3
Willesden Green - North Greenwich	0.7	1.0	0.0
<b>Total Westbound</b>	<b>22.0</b>	<b>25.7</b>	<b>25.6</b>

\*Pre-July 2011 Frequency source: Jubilee Working Timetable 10 - P:\Croydon\VOY\ITL4\381801 Canada Water\RA LPLAN\_LTS\03. Base Year Validation\Service Validation\Jubilee Line\170303 LU Working Timetables\Jubilee WTT10 before July 2011  
 \*From July 2011 Frequency source: Jubilee Working Timetable 11 - P:\Croydon\VOY\ITL4\381801 Canada Water\RA LPLAN\_LTS\03. Base Year Validation\Service Validation\Jubilee Line\170303 LU Working Timetables\Jubilee WTT11 from July 2011  
 Note: Timetabled services were considered part of the AM Peak if departing from origin station between 7am and 10am

## 2.6 Overground Services

Table 8 shows a comparison of Overground service frequencies and capacities between the Overground's own service timetable and Railplan. It shows minor discrepancies between Railplan and timetabled service frequencies although all Overground services through Canada Water validate precisely against the timetable. There are differences shown in total vehicle capacities on services through Canada Water. Further discussion with TfL Rail has identified that this is due to a different interpretation of capacity with the Overground's service timetable based on 6 standing passengers per sq m as opposed to the standard 7 pax/sq m assumed in Railplan. TfL Rail have advised that we assume the capacities contained in Railplan.

**Table 8: Overground Service Frequencies and Vehicle Capacities**

	AM Peak Frequency (tph)		AM Peak Vehicle Capacity (seats)		AM Peak Vehicle Capacity (total)	
	2011 Timetabl e*	2011 Railplan (WE001A08 A)	2011 Timetabl e*	2011 Railplan (WE001A08 A)	2011 Timetabl e*	2011 Railplan (WE001A08 A)
Richmond to Stratford	4	4	145	146	775	874
Stratford to Richmond	4	4	145	146	775	874
Clapham Jcn to Stratford	4	3.67	145	146	775	874
Clapham Jcn to Willesden Jcn	0	0.67	145	146	775	874
Stratford to Clapham Jcn	4	3.67	145	146	775	874
Euston to Watford Jcn	3	3	145	146	775	874
Watford Jcn to Euston	3	2.67	145	146	775	874
Gospel Oak to Barking	4	4	124	73	458	387
Barking to Gospel Oak	4	4	124	73	458	387
Highbury & Islington to Crystal Palace	4	4	145	146	775	874
Crystal Palace to Highbury & Islington	4	4	145	146	775	874
Dalston Jcn to New Cross	4	4	145	146	775	874
New Cross to Dalston Jcn	4	4	145	146	775	874
Highbury & Islington to West Croydon	4	4	145	146	775	874
West Croydon to Highbury & Islington	4	4	145	146	775	874

\*source: email David Warner to David Winkworth, 26/2/15, 13 22



## 3 Assignment Validation

This section presents the results and key observations of an initial assessment of the assignment validation performance of the 2011 base year model (WE001A08A) as received from TfL.

### 3.1 Across Screenlines

Tables 9 to 12 show how individual links crossing each screenline (in each direction) validate against observed data.

The key findings of this validation are;

- In the critical northbound direction, South Eastern and Jubilee Line services validate well within WebTAG criteria whilst Southern services validate just outside WebTAG criteria (modelled flows are 26% lower than observed). These are the most heavily used services.
- Of the other rail services in the northbound direction, DLR validates well within WebTAG criteria whilst Overground validates just outside WebTAG criteria (modelled flows are between 30-34% lower than observed). Thameslink validates well outside WebTAG criteria (modelled flows are 88% higher than observed), however the demand on this service is small relative to other services (observed flow of approximately 1,800 passengers)
- In the southbound direction, all rail links validate well within WebTAG criteria except the Rotherhithe – Canada Water Overground link which validates just outside WebTAG criteria (modelled flows are 34% lower than observed)
- Bus demand validates quite well crossing the upper screenline, with each link either validating within or just outside WebTAG criteria
- Bus demand validates less well crossing the lower screenline, with the majority of links validating well outside WebTAG criteria

**Table 9: Up to London Screenline Validation – Northbound**

Up to London Screenline - Northbound													
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?	
360318_360218	Canada Water - Rotherhithe	London Overground	0	0	0	7624	0	5027	-34%	25%	FAIL	No	
370463_350263	South Bermondsey - London Bridge	Southern	0	0	0	0	0	5255					
390163_350261	New Cross Gate - London Bridge	Southern	0	0	0	0	44026	0	-26%	25%	FAIL	No	
390163_350263	New Cross Gate - London Bridge	Southern	0	0	0	0	0	27298					
390163_350265	New Cross Gate - London Bridge	Thameslink	0	0	0	0	1811	3404	88%	25%	FAIL	No	
390261_350261	Deptford - London Bridge	South Eastern	0	0	0	0	0	3664					
390261_350283	Deptford - London Bridge	South Eastern	0	0	0	0	0	10527					
390361_350261	New Cross Gate - London Bridge	South Eastern	0	0	0	0	95569	39791	-8%	25%	PASS	No	
390361_350265	New Cross Gate - London Bridge	South Eastern	0	0	0	0	0	0					
390361_350283	New Cross Gate - London Bridge	South Eastern	0	0	0	0	0	34394					
360322_360122	Canada Water - Bermondsey	Jubilee Line	0	0	35189	0	0	32679	-7%	25%	PASS	No	
367024_369016	Lower Rd Jamaica Rd Roundabout - Rotherhithe Jamaica Rd	Local Bus	2867	0	0	0	0	3351	17%	25%	PASS	No	
367024_369020	Lower Rd Jamaica Rd Roundabout - Rotherhithe Tunnel	Local Bus	479	0	0	0	0	609	27%	25%	FAIL	No	
367066_369015	S'Wark Pk Rd Roundabout Stalham St - S'Wark Pk Rd Clements Rd	Local Bus	171	0	0	0	0	190	11%	25%	PASS	Yes	
379073_377374	St James' Rd Catlin St - St James Rd Lynton Rd	Local Bus	509	0	0	0	0	331	-35%	25%	FAIL	No	
377383_379033	Southwark Park Rd Ambrose St - S'Wark Pk R/St James's Rd	Local Bus	1015	0	0	0	0	935	-8%	25%	PASS	No	
367024_369016	Lower Rd Jamaica Rd Roundabout - Rotherhithe Jamaica Rd	Wa k Element						804					
367024_369020	Lower Rd Jamaica Rd Roundabout - Rotherhithe Tunnel	Wa k Element						152					
367066_369015	S'Wark Pk Rd Roundabout Stalham St - S'Wark Pk Rd Clements Rd	Wa k Element						536					
379073_377374	St James' Rd Catlin St - St James Rd Lynton Rd	Wa k Element						56					
377383_379033	Southwark Park Rd Ambrose St - S'Wark Pk R/St James's Rd	Wa k Element						13					
367024_367023	Lower Rd Jamaica Rd Roundabout - Jamaica Rd Cathay St	Wa k Element						0					
367033_367013	Southwark Park Rd Drummond Rd - Clements Rd Drummond Rd	Wa k Element						16					
367066_367012	S'Wark Pk Rd Roundabout Stalham St - S'Wark Pk Rd Gataker St	Wa k Element						0					
367024_367115	Lower Rd Jamaica Rd Roundabout - Swan Rd Swan Rd	Wa k Element						46					
367116_367115	Renforth St Albion St - Swan Rd Swan Rd	Wa k Element						3					
377383_367172	Southwark Park Rd Ambrose St - St. Jame's Rd Blue Anchor Ln	Wa k Element						153					
369061_369060	Poolmans St Garter Way - Needleman St Basque Crt	Wa k Element						324					
377432_377434	Lynton Rd Beatrice Rd - Simms Rd Beatrice Rd	Wa k Element						0					
377432_377374	Lynton Rd Beatrice Rd - St James Rd Lynton Rd	Wa k Element						65					
<b>Screenline Total</b>			<b>5041</b>	<b>0</b>	<b>35189</b>	<b>7624</b>	<b>141406</b>	<b>167455</b>	<b>-12%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>	

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

**Table 10: Up to London Screenline Validation – Southbound**

Up to London Screenline - Southbound												
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
350260_390162	London Bridge- New Cross Gate	Southern	0	0	0	0		0				
350262_370462	London Bridge - South Bermondsey	Southern	0	0	0	0	3647	1231	1%	25%	PASS	No
350262_390162	London Bridge- New Cross Gate	Southern	0	0	0	0		2438				
350264_390162	London Bridge- New Cross Gate	Thameslink	0	0	0	0	1439	1364	-5%	25%	PASS	No
350260_390260	London Bridge- Deptford	South Eastern	0	0	0	0		0				
350260_390360	London Bridge- New Cross	South Eastern	0	0	0	0		3966				
350264_390360	London Bridge- New Cross	South Eastern	0	0	0	0	6986	0	4%	25%	PASS	No
350282_390260	London Bridge/Cannon St. - Deptford	South Eastern	0	0	0	0		1719				
350282_390360	London Bridge- New Cross	South Eastern	0	0	0	0		1609				
360219_360319	Rotherhithe - Canada Water	London Overground	0	0	0	3709	0	2452	-34%	25%	FAIL	No
360123_360323	Bermondsey - Canada Water	Jubilee Line	0	0	42571	0	0	41897	-2%	25%	PASS	No
369016_367024	Rotherhithe Jamaica Road - Lower Rd Jamaica Rd Roundabout	Local Bus	1244	0	0	0	0	1176	-5%	25%	PASS	No
369020_367024	Rotherhithe Tunnel - Lower Rd Jamaica Rd Roundabout	Local Bus	1399	0	0	0	0	1957	40%	25%	FAIL	No
369015_367066	S'Wark Pk Rd Clements Rd - S'Wark Pk Rd Roundabout Stalham St	Local Bus	195	0	0	0	0	252	29%	25%	FAIL	Yes
377374_379073	St James Rd Lynton Rd - St James Rd Catlin St	Local Bus	518	0	0	0	0	365	-30%	25%	FAIL	No
379033_377383	S'Wark Pk R/St James'S R - Southwark Park Rd Ambrose St	Local Bus	851	0	0	0	0	625	-27%	25%	FAIL	No
369016_367024	Rotherhithe Jamaica Road - Lower Rd Jamaica Rd Roundabout	Wa k Element						302				
369020_367024	Rotherhithe Tunnel - Lower Rd Jamaica Rd Roundabout	Wa k Element						164				
369015_367066	S'Wark Pk Rd Clements Rd - S'Wark Pk Rd Roundabout Stalham St	Wa k Element						397				
377374_379073	St James Rd Lynton Rd - St James Rd Catlin St	Wa k Element						35				
379033_377383	S'Wark Pk R/St James'S R - Southwark Park Rd Ambrose St	Wa k Element						5				
367023_367024	Jamaica Rd Cathay St - Lower Rd Jamaica Rd Roundabout	Wa k Element						0				
367013_367033	Clements Rd Drummond Rd - Southwark Park Rd Drummond Rd	Wa k Element						69				
367012_367066	S'Wark Pk Rd Gataker St - S'Wark Pk Rd Roundabout Stalham St	Wa k Element						0				
367115_367024	Swan Rd Swan Rd - Lower Rd Jamaica Rd Roundabout	Wa k Element						37				
367115_367116	Swan Rd Swan Rd - Renforth St Albion St	Wa k Element						5				
367172_377383	St. Jame's Rd Blue Anchor Ln - Southwark Park Rd Ambrose St	Wa k Element						46				
369060_369061	Poolmans St Carter Way - Needleman St Basque Crt	Wa k Element						735				
377374_377432	St James Rd Lynton Rd - Lynton Rd Beatrice Rd	Wa k Element						73				
377434_377432	Simms Rd Beatrice Rd - Lynton Rd Beatrice Rd	Wa k Element						0				
<b>Screenline Total</b>			<b>4207</b>	<b>0</b>	<b>42571</b>	<b>3709</b>	<b>12072</b>	<b>61051</b>	<b>-2%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

**Table 11: Down from London Screenline Validation – North/Westbound**

Down from London Screenline - North/westbound													
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?	
360418_360318	Surrey Quays - Canada Water	London Overground	0	0	0	10519	0	7412	-30%	25%	FAIL	No	
80722_360322	Canary Wharf - Canada Water	Jubilee Line	0	0	27157	0	0	27418	1%	25%	PASS	No	
80791_70191	Canary Wharf - West India Quay	DLR	0	0	0	0	0	5969	5%	25%	PASS	No	
80793_70193	Canary Wharf - West India Quay	DLR	0	7063	0	0	0	1482					
87111_87168	Marsh Wall Roundabout - Westferry Circus Roundabout	Local Bus	0	0	0	0	0	23	#DIV/0!	25%	#DIV/0!	Yes	
87141_87170	Cabot Sq S Colonnade - W India Ave Cabot Sq	Local Bus	744	0	0	0	0	732	-2%	25%	PASS	No	
367101_369053	Redriff R Surrey Quays Rd - Surrey Quays Leisure Cen	Local Bus	2528	0	0	0	0	4000	58%	25%	FAIL	No	
367102_367127	Redriff Rd Quebec Way - Redriff Rd Omega Gate	Local Bus	338	0	0	0	0	633	88%	25%	FAIL	Yes	
367149_369030	Surrey Quays Overground - Lower Road Orange Place	Local Bus	905	0	0	0	0	1563	73%	25%	FAIL	No	
87111_87168	Marsh Wall Roundabout - Westferry Circus Roundabout	Walk Element						65					
87141_87170	Cabot Sq S Colonnade - W India Ave Cabot Sq	Walk Element						696					
367101_369053	Redriff R Surrey Quays Rd - Surrey Quays Leisure Cen	Walk Element						2					
367102_367127	Redriff Rd Quebec Way - Redriff Rd Omega Gate	Walk Element						171					
367149_369030	Surrey Quays Overground - Lower Road Orange Place	Walk Element						23					
87205_77043	Canada Sq Upper Bank St - Upper Bank St Aspen Way	Walk Element						3302					
87141_87142	Cabot Sq S Colonnade - Colonnade Sq Cabot Sq	Walk Element						0					
89082_87142	Canada Square Canary Whf - Colonnade Sq Cabot Sq	Walk Element						1					
367088_367087	Surrey Quays Shopping Centre - Surrey Quays Rd Deal Porters	Walk Element						400					
367102_367152	Redriff Rd Quebec Way - Quebec Way Teredo St	Walk Element						15					
367129_367146	Omega Gate Plover Way - Norway Gate Plover Way	Walk Element						0					
367130_367146	Finland St Norway Gate - Norway Gate Plover Way	Walk Element						215					
367129_367127	Omega Gate Plover Way - Redriff Rd Omega Gate	Walk Element						29					
<b>Screenline Total</b>			<b>4514</b>	<b>7063</b>	<b>27157</b>	<b>10519</b>	<b>0</b>	<b>49232</b>	<b>0%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>	

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

**Table 12: Down from London Screenline Validation – Southbound**

Down from London Screenline - Southbound												
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
360319_360419	Canada Water - Surrey Quays	London Overground	0	0	0	1670	0	2018	21%	25%	PASS	No
360323_80723	Canada Water - Canary Wharf	Jubilee Line	0	0	44277	0	0	43834	-1%	25%	PASS	No
70190_80790	West India Quay - Canary Wharf	DLR	0	16185	0	0	0	8591	-16%	25%	PASS	No
70192_80792	West India Quay - Canary Wharf	DLR	0		0	0	4960					
87168_87111	Westferry Circus Roundabout - Marsh Wall Roundabout	Local Bus	85	0	0	0	0	28	-67%	25%	FAIL	Yes
87142_89082	Colonnade Sq Cabot Sq - Canada Square Canary Whf	Local Bus	1221	0	0	0	0	871	-29%	25%	FAIL	No
369053_367101	Surrey Quays Leisure Cen - Redriff R Surrey Quays Rd	Local Bus	976	0	0	0	0	1464	50%	25%	FAIL	No
367127_367102	Redriff Rd Omega Gate - Redriff Rd Quebec Way	Local Bus	1116	0	0	0	0	1740	56%	25%	FAIL	No
369030_367149	Lower Road Orange Place - Surrey Quays Overground	Local Bus	0	0	0	0	0	329	#DIV/0!	25%	#DIV/0!	Yes
87168_87111	Westferry Circus Roundabout - Marsh Wall Roundabout	Walk Element						152				
87142_89082	Colonnade Sq Cabot Sq - Canada Square Canary Whf	Walk Element						0				
369053_367101	Surrey Quays Leisure Cen - Redriff R Surrey Quays Rd	Walk Element						0				
367127_367102	Redriff Rd Omega Gate - Redriff Rd Quebec Way	Walk Element						286				
369030_367149	Lower Road Orange Place - Surrey Quays Overground	Walk Element						20				
77043_87205	Upper Bank St Aspen Way - Canada Sq Upper Bank St	Walk Element						1261				
87142_87141	Colonnade Sq Cabot Sq - Cabot Sq S Colonnade	Walk Element						0				
87170_87141	W India Ave Cabot Sq - Cabot Sq S Colonnade	Walk Element						670				
367087_367088	Surrey Quays Rd Deal Porters Way - Surrey Quays Shopping Ce	Walk Element						1				
367152_367102	Quebec Way Teredo St - Redriff Rd Quebec Way	Walk Element						25				
367146_367129	Norway Gate Plover Way - Omega Gate Plover Way	Walk Element						0				
367146_367130	Norway Gate Plover Way - Finland St Norway Gate	Walk Element						49				
367127_367129	Redriff Rd Omega Gate - Omega Gate Plover Way	Walk Element						1				
<b>Screenline Total</b>			<b>3398</b>	<b>16185</b>	<b>44277</b>	<b>1670</b>	<b>0</b>	<b>63835</b>	<b>-3%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

## 3.2 Across Study Area Cordon

Tables 13 and 14 show how individual links into and out of the study area validate against observed data.

The key findings of this validation are;

- Jubilee Line modelled flows accurately reflect observed data
- Discrepancies between London Overground modelled flows and observed fall around WebTAG criteria; the Canada Water – Surrey Quays link falls just within WebTAG criteria whereas the others fall just outside the criteria
- Bus modelled flows into the study area validate quite well. The North West Link accurately reflects observed counts whilst the South West and East links fall just outside WebTAG criteria.
- Bus modelled flows out of the study area validate less well. Modelled flows on the South West Link fall just within WebTAG criteria whilst the other links fall well outside WebTAG criteria.

**Table 13: Validation of Links into Study Area**

Assignment Validation of Cordon Links into Study Area													
Link D	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?	
360418_360318	Surrey Quays - Canada Water	London Overground	0	0	0	10519	0	7412	-30%	25%	FAIL	No	
360219_360319	Rotherhithe - Canada Water	London Overground	0	0	0	3709	0	2452	-34%	25%	FAIL	No	
360123_360323	Bermondsey - Canada Water	Jubilee Line	0	0	42571	0	0	41897	-2%	25%	PASS	No	
80722_360322	Canary Wharf - Canada Water	Jubilee Line	0	0	27157	0	0	27418	1%	25%	PASS	No	
367136_367090	Rotherhithe New Rd/Silwood St. - Rotherhithe New Rd Roundabout (SW Link)	Local Bus	828	0	0	0	0	527	-36%	25%	FAIL	No	
369034_367100	Lower Road Surrey Quays Stn (Stop M) - Lower Rd/Cope St. (S Link)	Local Bus	#N/A	0	0	0	0	-	#VALUE!	25%	#VALUE!	#N/A	
367063_369016	Jamaica Road S'Wark Pk Rd - Southwark Park Stop C (NW Link)	Local Bus	1215	0	0	0	0	1234	2%	25%	PASS	No	
367104_369022	Rotherhithe St/Salter Rd - Salter Rd/Shipwright Rd (E Link)	Local Bus	697	0	0	0	0	985	41%	25%	FAIL	No	
367136_367090	Rotherhithe New Rd/Silwood St. - Rotherhithe New Rd Roundabout	Walk Element						692					
369034_367100	Lower Road Surrey Quays Stn (Stop M) - Lower Rd/Cope St.	Walk Element						843					
367063_369016	Jamaica Road S'Wark Pk Rd - Southwark Park Stop C	Walk Element						87					
367104_369022	Rotherhithe St/Salter Rd - Salter Rd/Shipwright Rd	Walk Element						128					
<b>Into Study Area Total</b>			<b>2740</b>	<b>0</b>	<b>69728</b>	<b>14228</b>	<b>0</b>	<b>81925</b>	<b>-6%</b>	<b>15%</b>	<b>PASS</b>		

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

**Table 14: Validation of Links out of Study Area**

Assignment Validation of Cordon Links from Study Area													
Link D	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?	
360319_360419	Canada Water - Surrey Quays	London Overground	0	0	0	1670	0	2018	21%	25%	PASS	No	
360318_360218	Canada Water - Rotherhithe	London Overground	0	0	0	7624	0	5027	-34%	25%	FAIL	No	
360322_360122	Canada Water - Bermondsey	Jubilee Line	0	0	35189	0	0	32679	-7%	25%	PASS	No	
360323_80723	Canada Water - Canary Wharf	Jubilee Line	0	0	44277	0	0	43834	-1%	25%	PASS	No	
367090_367136	Rotherhithe New Rd Roundabout - Rotherhithe New Rd/Silwood St. (SW Link)	Local Bus	715	0	0	0	0	546	-24%	25%	PASS	No	
367100_369034	Lower Rd/Cope St. - Lower Road Surrey Quays Stn (Stop M) (S Link)	Local Bus	854	0	0	0	0	1458	71%	25%	FAIL	No	
369016_367063	Southwark Park Stop C - Jamaica Road S'Wark Pk Rd (NW Link)	Local Bus	2525	0	0	0	0	3624	44%	25%	FAIL	No	
369022_367104	Salter Rd/Shipwright Rd - Rotherhithe St/Salter Rd (E Link)	Local Bus	455	0	0	0	0	879	93%	25%	FAIL	No	
367090_367136	Rotherhithe New Rd Roundabout - Rotherhithe New Rd/Silwood St.	Walk Element						219					
367100_369034	Lower Rd/Cope St. - Lower Road Surrey Quays Stn (Stop M)	Walk Element						283					
369016_367063	Southwark Park Stop C - Jamaica Road S'Wark Pk Rd	Walk Element						375					
369022_367104	Salter Rd/Shipwright Rd - Rotherhithe St/Salter Rd	Walk Element						107					
<b>From Study Area Total</b>			<b>4550</b>	<b>0</b>	<b>79466</b>	<b>9294</b>	<b>0</b>	<b>90065</b>	<b>-3%</b>	<b>15%</b>	<b>PASS</b>		

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

### 3.3 Stations – Boardings and Alightings

Tables 15 and 16 show how boardings and alightings at local stations validate against observed data. We are validating demand at this level in order to understand how accurately Railplan models local demand. Sections 3.1 and 3.2 present validation at a link level therefore the majority of the trips validated in these instances are travelling through the study area and are not local. By validating demand at the local station level it is also possible to identify instances where there may be an error in network assumptions, such as incorrect station interchange assumptions.

As is normally the case at this level of refinement, Railplan shows a less accurate validation against observed data. Of particular note is that there is a significant under-forecast of both total boardings and alightings when aggregating all stations in the study area. This is reflected at an individual platform level where the majority of stations show an under-forecast of demand.



**Table 15: Validation of Boardings at Key Stations/Stops**

Assignment Validation of Boardings at Key Stations/Stops												
Node ID	Node Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
360122	Bermondsey Northbound Platform	Jubilee Line	0	0	2878	0	0	3101	8%	25%	PASS	No
360123	Bermondsey Southbound Platform	Jubilee Line	0	0	1274	0	0	643	-50%	25%	FAIL	No
360318	Canada Water Northbound Platform	London Overground	0	0	0	2208	0	714	-68%	25%	FAIL	No
360319	Canada Water Southbound Platform	London Overground	0	0	0	713	0	680	-5%	25%	PASS	No
360322	Canada Water Northbound Platform	Jubilee Line	0	0	9746	0	0	6995	-28%	25%	FAIL	No
360323	Canada Water Southbound Platform	Jubilee Line	0	0	3672	0	0	2914	-21%	25%	PASS	No
360218	Rotherhithe Northbound Platform	London Overground	0	0	0	757	0	764	1%	25%	PASS	No
360219	Rotherhithe Southbound Platform	London Overground	0	0	0	758	0	443	-42%	25%	FAIL	No
360418	Surrey Quays Northbound Platform	London Overground	0	0	0	2088	0	1017	-51%	25%	FAIL	No
360419	Surrey Quays Southbound Platform	London Overground	0	0	0	739	0	307	-58%	25%	FAIL	No
<b>Total Boardings</b>			<b>0</b>	<b>0</b>	<b>17570</b>	<b>7263</b>	<b>0</b>	<b>17578</b>	<b>-29%</b>	<b>15%</b>	<b>FAIL</b>	

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

**Table 16: Validation of Alightings at Key Stations/Stops**

Assignment Validation of Alightings at Key Stations/Stops												
Node ID	Node Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
360122	Bermondsey Northbound Platform	Jubilee Line	0	0	1526	0	0	787	-48%	25%	FAIL	No
360123	Bermondsey Southbound Platform	Jubilee Line	0	0	891	0	0	1178	32%	25%	FAIL	No
360318	Canada Water Northbound Platform	London Overground	0	0	0	5102	0	3100	-39%	25%	FAIL	No
360319	Canada Water Southbound Platform	London Overground	0	0	0	2753	0	1114	-60%	25%	FAIL	No
360322	Canada Water Northbound Platform	Jubilee Line	0	0	1655	0	0	1733	5%	25%	PASS	No
360323	Canada Water Southbound Platform	Jubilee Line	0	0	1996	0	0	978	-51%	25%	FAIL	No
360218	Rotherhithe Northbound Platform	London Overground	0	0	0	339	0	193	-43%	25%	FAIL	Yes
360219	Rotherhithe Southbound Platform	London Overground	0	0	0	126	0	229	82%	25%	FAIL	Yes
360418	Surrey Quays Northbound Platform	London Overground	0	0	0	1055	0	238	-77%	25%	FAIL	No
360419	Surrey Quays Southbound Platform	London Overground	0	0	0	494	0	383	-22%	25%	PASS	No
<b>Total Alightings</b>			<b>0</b>	<b>0</b>	<b>6068</b>	<b>9869</b>	<b>0</b>	<b>9933</b>	<b>-38%</b>	<b>15%</b>	<b>FAIL</b>	

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

## 4 Trip Matrix Validation

This section presents the results and key observations of an initial assessment of the trip matrix validation performance of the 2011 base year model (WE001A08A) as received from TfL. The trip matrix validation provides an assessment of the accuracy of modelled demand flows at a strategic level; where there are significant discrepancies (greater than the WebTAG threshold) these would indicate an issue with the level of total demand. For the purposes of this study, this strategic assessment has been undertaken across an *Up to London* and *Down from London* screenline and across a study area cordon. These are shown geographically in Figures 3 and 4 whilst the individual links comprising each screenline and the study area cordon are shown in Table 1.

Table 17 shows how total demand crossing each screenline and the study area cordon validates against observed data.

The key findings of this validation are;

- Southbound flows through the screenlines and flows into/from the study area validate accurately
- Northbound flows through the screenlines validate less well, however these flows validate well within WebTAG criteria
- All instances validate within WebTAG criteria, meaning that the WebTAG criteria of 95% of screenlines validating within 15% of observed counts has been exceeded

From this assessment we can imply that the total level of demand to, from and through the study area is broadly accurate and that the discrepancies at a link and station level (identified in section 3) are the result of inaccuracies in the assignment of demand between different links within each screenline or cordon.

**Table 17: Trip Matrix Validation**

Proportion of links within 15% of Observed: **100%**  
 WebTAG criteria = 95%

		Total Assigned Passengers*	Total Observed Passengers	Difference	WebTAG Criteria	WebTAG Pass/Fail
Up to London Screenline	Northbound	169623	189260	-10%	15%	PASS
	Southbound	62919	62559	1%	15%	PASS
Down From London Screenline	North/Westbound	54151	49253	10%	15%	PASS
	Southbound	66300	65530	1%	15%	PASS
Into Study Area		83675	86696	-3%	15%	PASS
From Study Area		91049	93310	-2%	15%	PASS

\*Assigned passengers include walk demand

## 5 Railplan CUBE Validation Comparison

This chapter presents a comparison between the 2011 AM Base Year scenario WE001A08A received from TfL for the purposes of this study (which is based in EMME software) and the equivalent CUBE software based scenario, which has been developed separately by TfL. In addition to the difference in software (which leads to differences in assignment methodology), the CUBE version is based on LTSv7.1 rather than LTS v7 used in EMME, and therefore assumes different demographic inputs.

A full list of CUBE validation tables is contained in Appendix B (the equivalent EMME validation tables are contained in chapters 3 and 4). In summary, the following differences in validation are evident;

- *Up to London Screenline - Northbound*
  - CUBE provides a better validation of rail flows as, unlike in EMME, London Overground, Southern and Thameslink modelled flows fall within WebTAG criteria (-14%, 4% and 1% respectively in CUBE compared to -34%, -26% and 88% respectively in EMME).
  - CUBE provides a worse validation of bus flows with two of the five bus links falling within WebTAG criteria compared to three out of five links in EMME. In particular, the heavily used *Lower Road Jamaica Road Roundabout – Rotherhithe Jamaica Road* link no longer meets validation criteria in CUBE.
- *Up to London Screenline – Southbound*
  - CUBE provides a better validation of Overground flows as, unlike in EMME, these flows fall within WebTAG criteria (1% in CUBE compared to -34% in EMME).
  - CUBE provides a better validation of bus flows with three of the five bus links falling within WebTAG criteria compared to one out of five links in EMME. In particular, the heavily used *Lower Road Jamaica Road Roundabout – Rotherhithe Jamaica Road* link no longer meets validation criteria in CUBE.
- *Down from London Screenline – North/westbound*
  - CUBE provides a better validation of Overground flows as, unlike in EMME, these flows fall within WebTAG criteria (11% in CUBE compared to -30% in EMME).
  - CUBE provides a worse validation of DLR flows as, unlike in EMME, these flows fall outside WebTAG criteria (32% in CUBE compared to 5% in EMME).
  - CUBE provides a worse validation of bus flows with no bus links falling within WebTAG criteria compared to one out of five links in EMME.
- *Down from London Screenline – Southbound*
  - CUBE provides a worse validation of Overground flows as, unlike in EMME, these flows fall outside WebTAG criteria (112% in CUBE compared to 21% in EMME).
  - CUBE provides a better validation of bus flows with three out of four bus links falling within WebTAG criteria compared to no links in EMME.
- *Cordon Links into Study Area*
  - CUBE provides a better validation of Overground flows as, unlike in EMME, both flows fall within WebTAG criteria (11% in the northbound direction and 1% in the southbound direction in CUBE compared to -30% in the northbound direction and -34% in the southbound direction in EMME).

- CUBE provides a better validation of bus flows with two of the three bus links falling within WebTAG criteria compared to one link in EMME.
- *Cordon Links from Study Area*
  - CUBE provides a worse validation of Overground southbound flows as this falls outside WebTAG criteria (112% in CUBE compared to 21% in EMME)
  - CUBE provides a better validation of Overground northbound flows as this falls within WebTAG criteria (-14% in CUBE compared to -34% in EMME)
  - CUBE provides a worse validation of bus flows with no bus links falling within WebTAG criteria compared to one out of four links in EMME.
- *Assignment Validation of Boardings*
  - CUBE provides a worse validation of platform boardings with a total of four stops falling within WebTAG criteria compared to three in EMME
- *Assignment Validation of Alightings*
  - CUBE provides a better validation of platform alightings with a total of three stops falling within WebTAG criteria compared to two in EMME
- *Trip Matrix*
  - All instances fall within WebTAG criteria in both CUBE and EMME, although the most heavily used screenline (*Up to London – northbound*) provides a better validation in CUBE (-5%) than in EMME (-10%)

On balance CUBE appears to provide a slightly better validation overall than EMME, as it provides a better assignment validation than EMME in more instances, in particular the more heavily used rail links.

## 6 Proposed Model Updates

### 6.1 Key Findings

The key issues identified in the validation of the version of Railplan provided for this study (WE001A08A) are;

- The zone structure around the bulk of the development (around Canada Water Station) is not sufficiently detailed to allow for separation of the development from other land-uses. In particular, zones 3678 and 3694 encompass wide areas including land covered by the development and other uses.
- Lack of walk network connectivity in and around Canada Water
- Railplan shows incorrect routings for the 47 and 381 bus routes
- The local trip matrix validates accurately therefore discrepancies at a link and station level are the result of inaccuracies in the assignment of demand between different links within each screenline or cordon. The assignment validation issues identified are;
  - The discrepancy between London Overground modelled and observed flows falls outside WebTAG criteria in both northbound and southbound directions through the study area
  - Bus demand validates poorly across the lower screenline and across the cordon leaving the study area
  - There is an under-forecast of boardings and alightings at the majority of rail platforms in the study area, as well as overall in the study area

It is proposed that these issues are addressed through adjustments to the Railplan model described in the remainder of this chapter.

### 6.2 Zone Disaggregation

We propose to disaggregate three model zones into six more refined zones to allow land covered by the proposed development to be separated from other land-uses. The disaggregation requires trip levels within the three original larger zones to be split into the six more refined zones, shown in Table 18. Disaggregation factors have been derived using Census 2011 data to aggregate population and employment levels within each refined zone. Trip origin factors are based on population levels whilst trip destination factors are based on employment levels.

The resulting zone structure is shown in Figures 8 and 9 against a background of Census population address points and Census OA zones (with associated population and employment levels) respectively. Updates to the model zone connectors are shown in Figure 10.

**Table 18: Zone Disaggregation Factors**

Original Zones	New RP Zones	2011 Base Year		Factors		Trips – Original Zones		Trips – New Zones	
		Pop	Emp	Origins	Destinations	In	Out	In	Out
3678	3678	227	78	22.5%	34.5%	356	813	123	183
	3602	784	148	77.5%	65.5%			233	630
		1,011	226	100.0%	100.0%				
3694	3694	330	215	59.6%	62.5%	342	954	214	568
	3601	224	129	40.4%	37.5%			128	386
		554	344	100.0%	100.0%				
3674	3674	667	406	76.4%	80.9%	310	882	251	674
	3603	206	96	23.6%	19.1%			59	208
		873	502	100.0%	100.0%				
		2,438	1,072			1,008	2,649	1,008	2,649

**Figure 8: Disaggregation of Zone Structure (against background of Census population address points)**

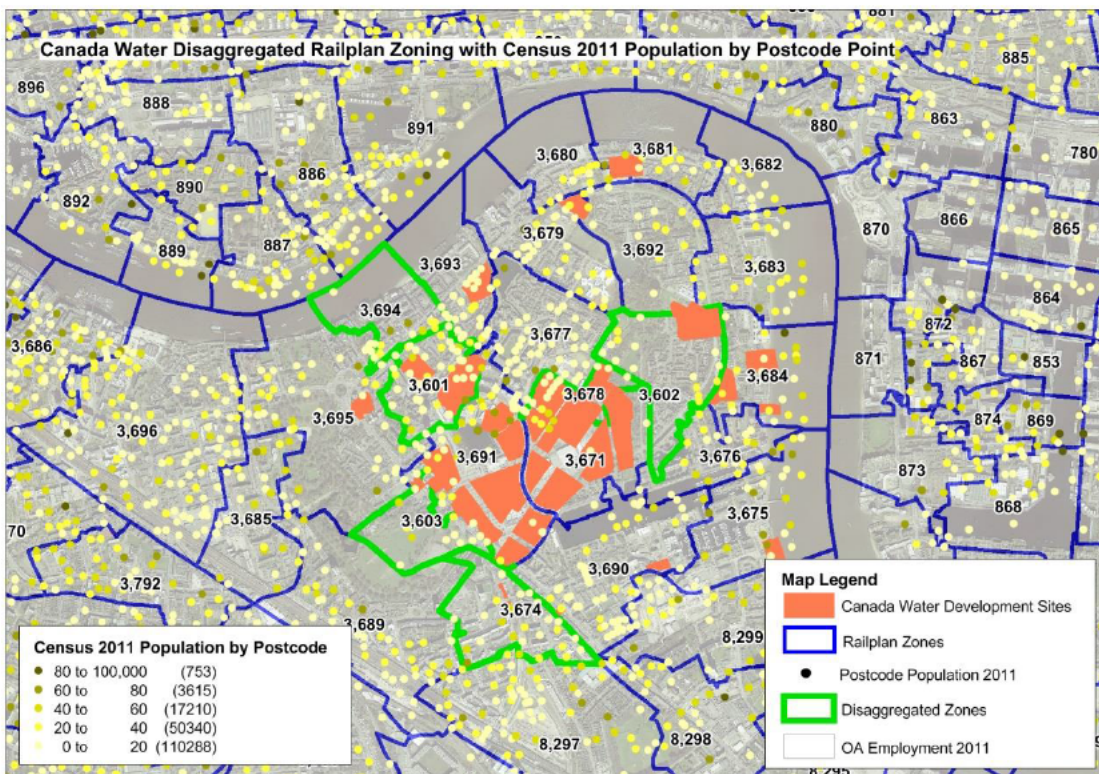
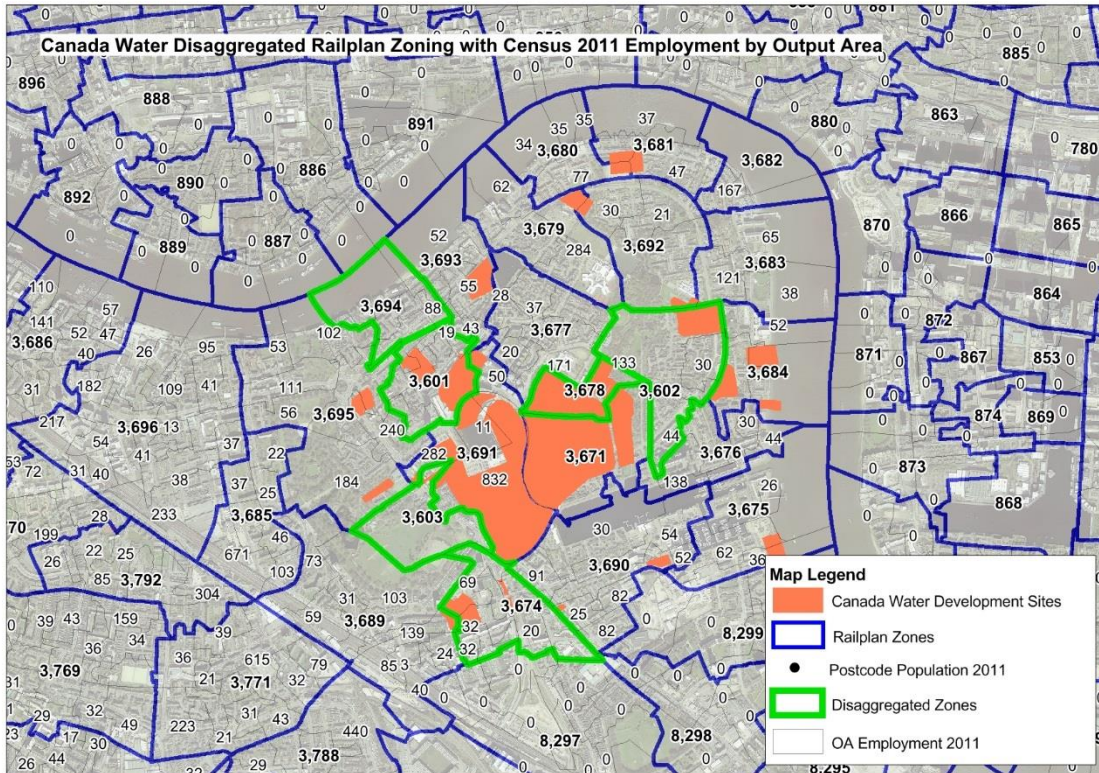
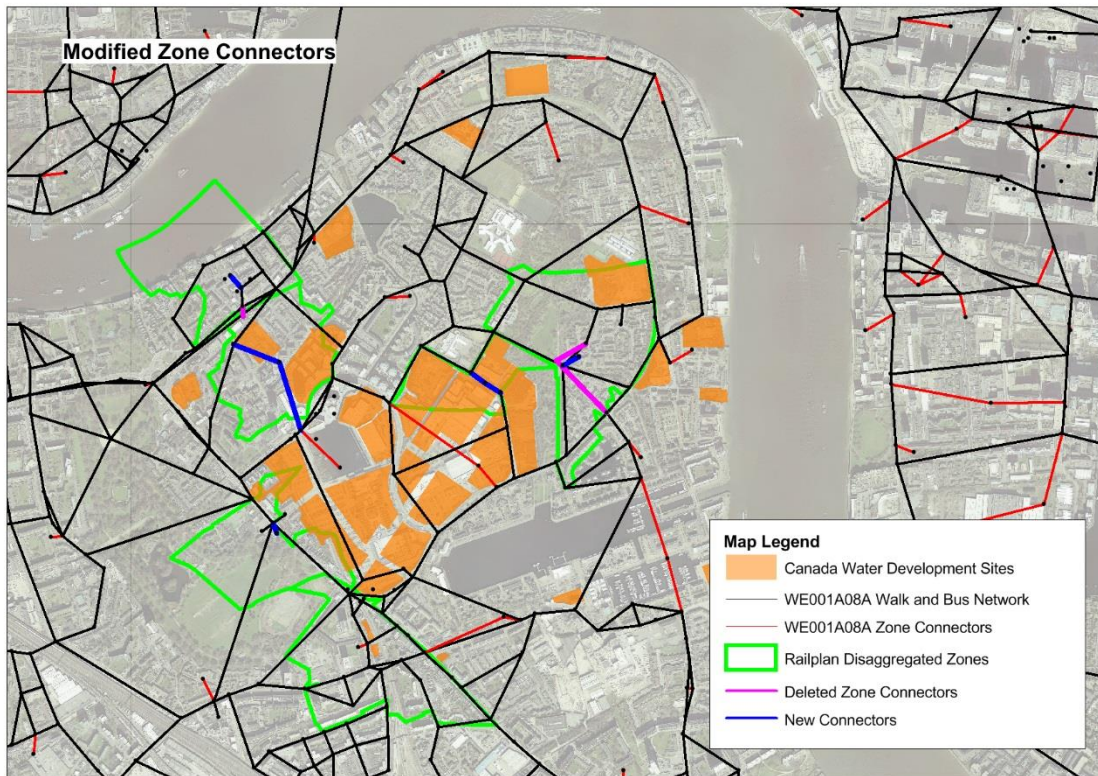


Figure 9: Disaggregation of Zone Structure (against background of Census OA zones)



**Figure 10: Updated Zone Connectors**

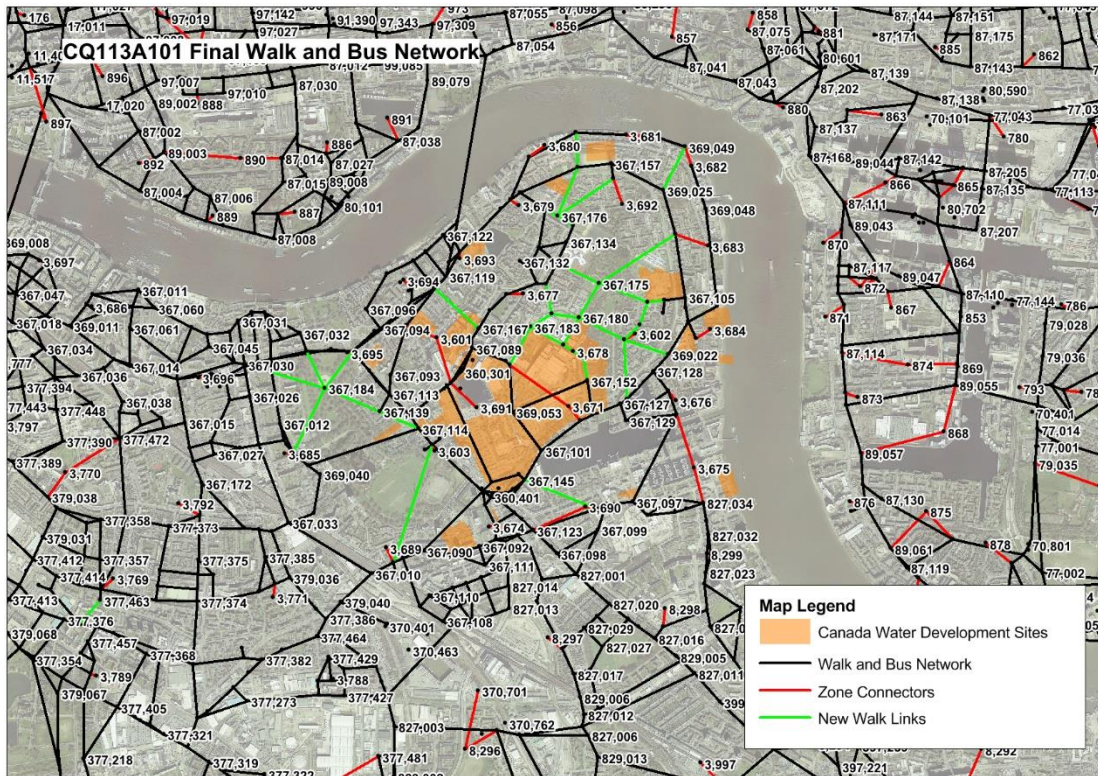


### 6.3 Walk Network

We propose to resolve the walk network connectivity issues identified in section 2.2 through the addition of new walk links which represent actual walk linkages, as shown in Figure 11. The link lengths on these walk links have been derived by measuring actual distances in GIS rather than simply assuming the straight line crow fly distance.



Figure 11: Updated Walk Network



## 6.4 Bus Services

We propose to correct the routings of the 47 and 381 bus routes in accordance with the discrepancies identified in section 2.3.1.

## 6.5 Assignment Validation

In order to address the assignment validation issues identified in section 5.1, we propose to test a number of additional model updates, involving changes to platform boarding penalties, local zone connectors and station interchange times. Unlike other model inputs such as service frequencies and run times, platform boarding penalties, local zone connectors and station interchange times are arbitrary assumptions which cannot be exactly measured. Platform boarding penalties represent the inconvenience incurred by passengers through interchanging – this value can only be estimated and represented as an average of all passengers. Local zone connectors link model zones with the transport network – they effectively assume the point(s) at which all the demand within a particular model zone enters the transport network. Station interchange times can also be only estimated as an average of times incurred by all demand interchanging. Therefore there is some flexibility in adjusting these assumptions unlike service frequencies and run times which are either correct or incorrect.

The updates tested in order to improve the assignment validation are;

- Changes to boarding penalties at rail platforms served by Overground with the aim of addressing the under-forecast of Overground demand through the study area

- Updates to centroid connectors applied around Surrey Quays, New Cross and New Cross Gate stations (see Figure 12) with aim of improving Overground validation versus bus between Surrey Quays and Canada Water
- Addition of new centroid connector between zone 8297 and the local transport network (see Figure 13). At present this zone is linked solely to Trundley's Road however this zone also incorporates land-use west of the Overground railway tracks which is severed from Trundley Road and which is more directly accessible to South Bermondsey Railway Station and Rotherhithe New Road. The aim of this update is to address the under-forecast of demand on Southern services into London Bridge.
- Adjustment of interchange times at Surrey Quays (from 1.8 minutes to 1/1.2 minutes between northbound/southbound platforms and station entrance) and South Bermondsey (from 3 minutes to 1.6 minutes between platforms and station entrance) stations. The current times seem too long given that these are basic two platform stations with a single walkway between each station entrance and platform. The aims of these updates are to address the under-forecast of Overground demand through the study area and the under-forecast of demand on Southern services into London Bridge.

**Figure 12: Centroid Connector Updates around Surrey Quays, New Cross and New Cross Gate stations**

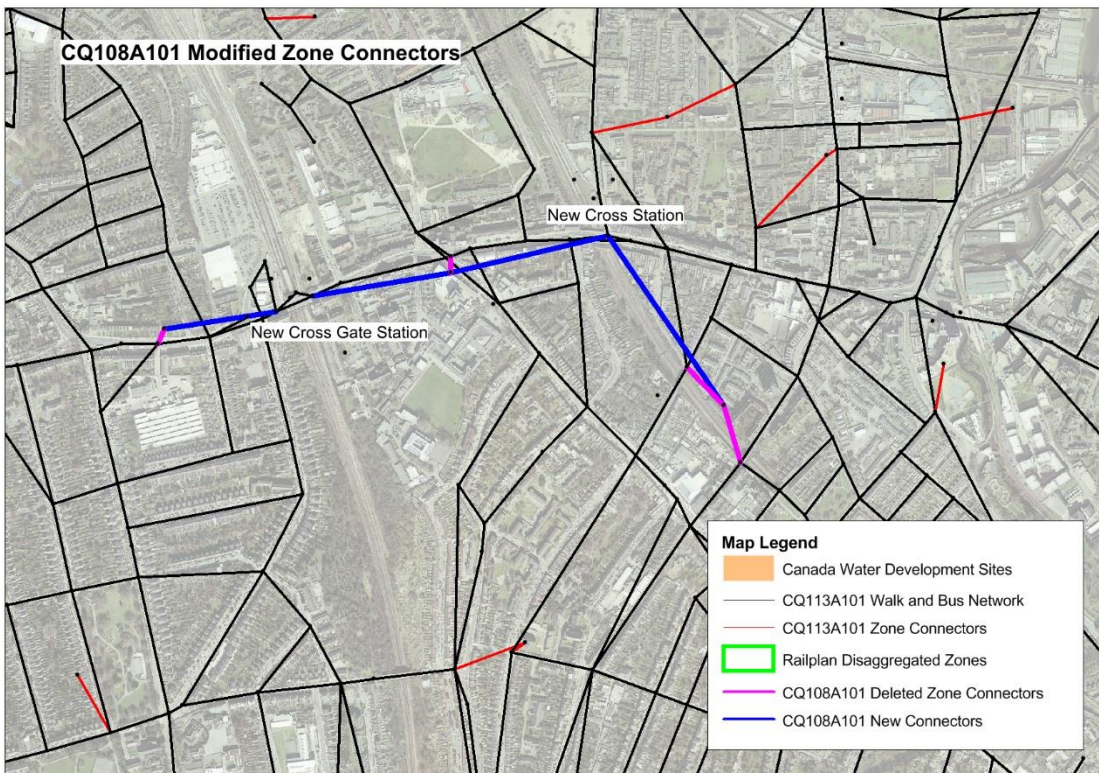
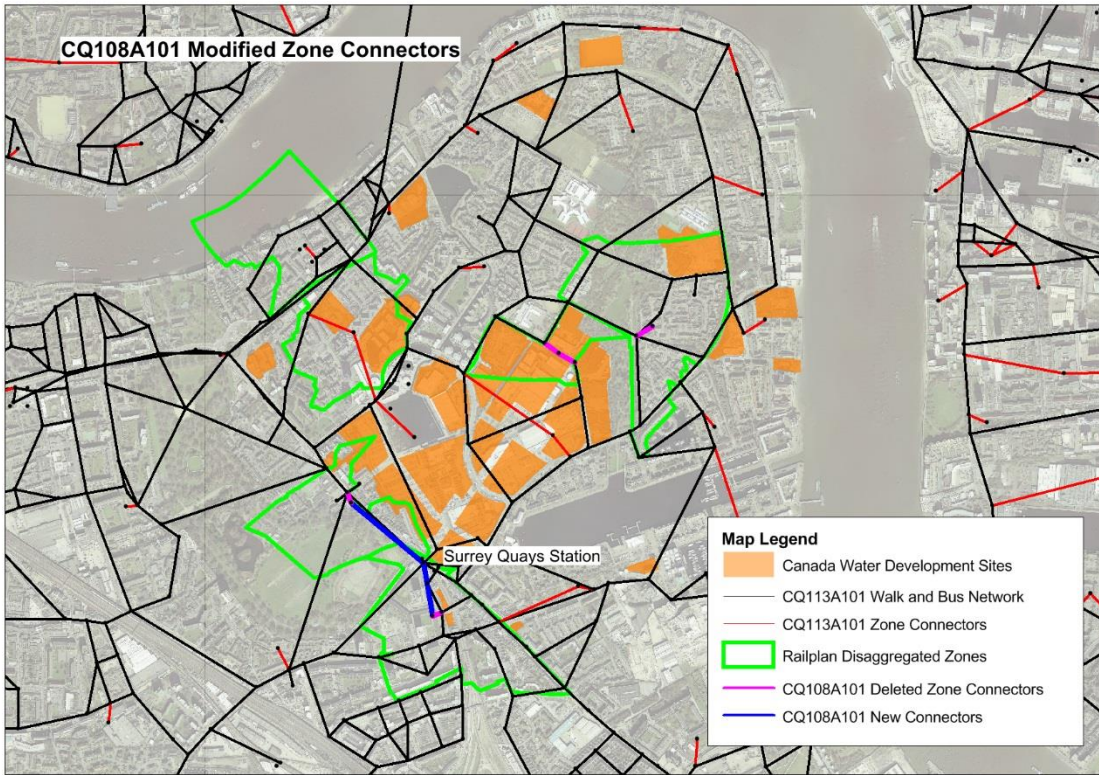
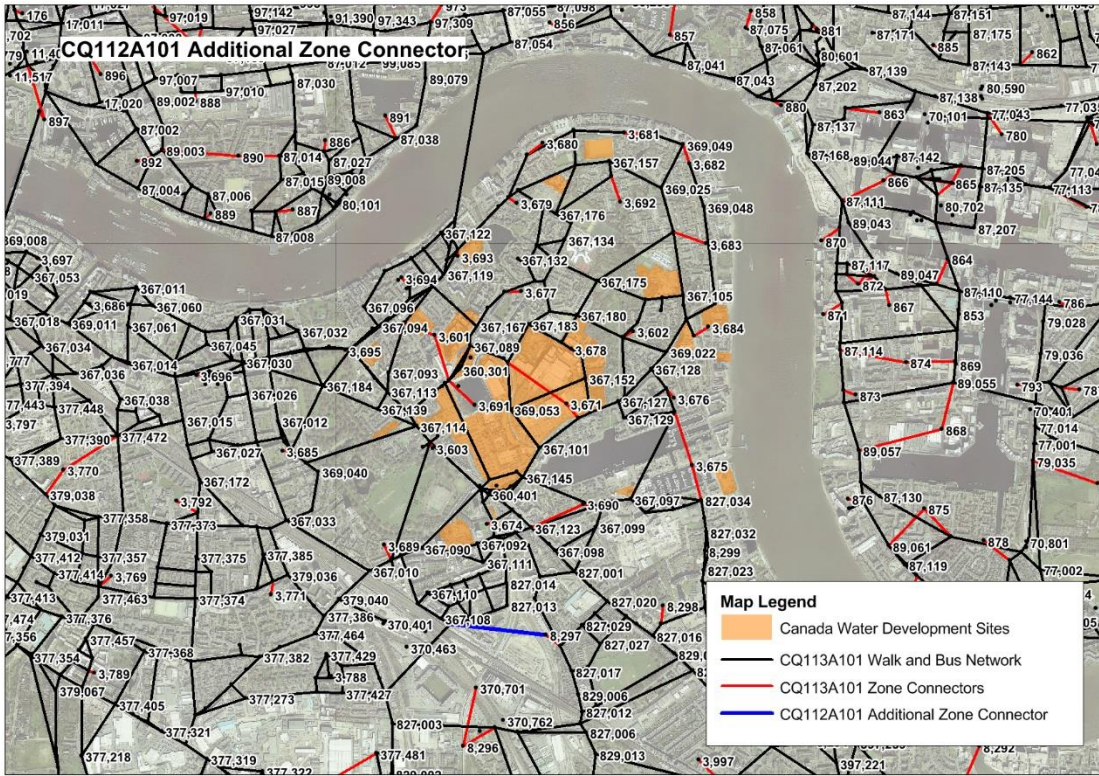


Figure 13: Zone 8297 Centroid Connector Update



## 7 Model Revalidation

This chapter describes the effects of each model update on validation statistics, with detailed validation tables provided in the appendices. Table 19 shows a list of all the scenarios modelled. Note that the zone disaggregation, walk network and bus service updates have been modelled incrementally as these are responses to inaccuracies or errors in the model and therefore should be included as model updates regardless of their impact on model validation.

We have not sought to adjust demand in order to achieve an improved validation for two main reasons. Firstly, we have identified that discrepancies in modelled flows are due primarily to issues with the assignment of demand between competing links as opposed to the total level of demand. Secondly the methodology which we intend to apply to forecasting the effects of the development does not allow for such updates. The future year scenarios are based on a later version of Railplan (v7.1) therefore making it impossible to incorporate changes in base year demand.

**Table 19: Railplan Revalidation Scenarios**

Scenario Code	Based on Scenario	Update Applied
CQ101A101	WE001A08A	Zone Disaggregation
CQ104A101	CQ101A101	Walk network adjustments
CQ105A101	CQ104A101	Corrections to 47/381 bus routing
CQ106A101	CQ105A101	Boarding penalty set to 3.5 minutes at all Overground platforms (Assignment Validation test 1)
CQ107A101	CQ105A101	Boarding penalty set to 3.5 minutes at all Overground platforms between Highbury & Islington and New Cross/New Cross Gate northbound and between Highbury & Islington and Rotherhithe southbound (Assignment Validation test 2)
CQ108A101	CQ105A101	Updates to centroid connectors applied around Surrey Quays, New Cross and New Cross Gate stations to provide more direct connections to these stations (Assignment Validation test 3)
CQ113A101	CQ105A101	Boarding penalty set to 1.75 minutes at all Overground platforms between Highbury & Islington and New Cross/New Cross Gate northbound and between Highbury & Islington and Rotherhithe southbound (Assignment Validation test 4)
CQ112A101	CQ112A101	Surrey Quays/South Bermondsey station interchange update + zone 8297 <-> South Bermondsey Station zone connector update (Assignment Validation test 5)

### 7.1 Zone Disaggregation (CQ101A101)

*Aim of Test: Assess the impact of enhanced zone structure on local model validation with the aim of not worsening local model validation*

Model validation tables for this scenario are shown in **Appendix C1**.

These updates have provided a slight improvement in validation with one additional link now meeting WebTAG assignment validation criteria (*Lower Rd Jamaica Rd Roundabout - Rotherhithe Tunnel link on the Up to London Screenline – Northbound direction*).

### 7.2 Walk Network Updates (CQ104A101)

*Aim of Test: Assess the impact of corrections to local walk network on local model validation with the aim of not worsening local model validation*

Model validation tables for this scenario are shown in **Appendix C2**.

Relative to scenario CQ101A101 (containing the zone disaggregation updates), these updates have improved assignment validation to within WebTAG criteria in three instances and have worsened assignment validation to outside WebTAG criteria in one instance. Therefore, the overall level of model validation has been improved. The three instances in which model validation has improved are;

- Bus flows on the *Redriff Rd Onega Gate - Redriff Rd Quebec Way* link crossing the *Down from London Screenline – Southbound* direction
- Bus flows on the *Rotherhithe St/Salter Rd - Salter Rd/Shipwright Rd* link crossing the cordon into the study area
- Boardings at the northbound Jubilee Line platform at Canada Water

The instance in which model validation has worsened is;

- Boardings at the northbound Overground platform at Rotherhithe

### 7.3 Bus Service Updates (CQ105A101)

*Aim of Test: Assess the impact of corrected bus service assumptions on local model validation with the aim of improving local bus validation*

Model validation tables for this scenario are shown in **Appendix C3**.

Relative to scenario CQ104A101 (containing the zone disaggregation and walk network updates), these updates have improved assignment validation to within WebTAG criteria on four bus links. Therefore, the overall level of model validation has been improved. The four instances in which model validation has improved are;

- Bus flows on the *St James' Rd Catlin St - St James Rd Lynton Rd* link crossing the *Up To London Screenline – Northbound* direction
- Bus flows on the *S'Wark Pk Rd Clements Rd - S'Wark Pk Rd Roundabout Stalham St* link crossing the *Up To London Screenline – Southbound* direction
- Bus flows on the *St James Rd Lynton Rd - St James' Rd Catlin St* link crossing the *Up To London Screenline – Southbound* direction
- Bus flows on the *S'Wark Pk Rd/St James Road - Southwark Park Rd Ambrose St* link crossing the *Up To London Screenline – Southbound* direction

### 7.4 Assignment Validation Test 1 (CQ106A101)

*Aim of Test: By setting the boarding penalty at all Overground platforms to 3.5 minutes improve Overground validation between Rotherhithe and Surrey Quays in both directions.*

Model validation tables for this scenario are shown in **Appendix C4**.

Relative to scenario CQ105A101 (containing the zone disaggregation, walk network and bus service updates), these updates have;

- Improved validation of Overground northbound demand to just outside WebTAG criteria on the Canada Water – Rotherhithe link (-25%) and to within WebTAG criteria on the Surrey Quays - Canada Water link (-12%)
- Improved validation of Overground demand from Rotherhithe to Canada Water (-23%) to within WebTAG criteria
- Worsened validation of Overground demand from Canada Water to Surrey Quays (+58%) to outside WebTAG criteria
- Improved validation of Overground northbound boarders at Rotherhithe (-19%) and Surrey Quays (-1%) to within WebTAG criteria
- Improved validation of Overground alighters at Canada Water northbound (-10%) and Surrey Quays southbound (-3%) to within WebTAG criteria
- Worsened validation of Overground boarders at Canada Water southbound (+50%) to outside WebTAG criteria
- Improved validation on the *Rotherhithe Tunnel – Lower Road Jamaica Road Roundabout* bus link to within WebTAG criteria
- Worsened validation on the *St James Rd Lynton Rd – St James Rd Catlin St* and *Rotherhithe New Rd Roundabout – Rotherhithe New Rd/Silwood St* bus links to outside WebTAG criteria

## 7.5 Assignment Validation Test 2 (CQ107A101)

*Purpose of Test: By setting the boarding penalty at Overground platforms between New Cross/New Cross Gate and Highbury & Islington northbound and between Highbury and Islington and Rotherhithe southbound to 3.5 minutes improve Overground validation between Rotherhithe and Surrey Quays in both directions.*

Model validation tables for this scenario are shown in **Appendix C5**.

Relative to scenario CQ105A101 (containing the zone disaggregation, walk network and bus service updates), these updates have;

- Improved validation of Overground northbound demand to just outside WebTAG criteria on the Canada Water – Rotherhithe link (-26%) and to within WebTAG criteria on the Surrey Quays - Canada Water link (-16%)
- Improved validation of Overground demand from Rotherhithe to Canada Water (-17%) to within WebTAG criteria
- Worsened validation of Overground demand from Canada Water to Surrey Quays (+40%) to outside WebTAG criteria
- Improved validation of Overground northbound boarders at Rotherhithe (-19%) and Surrey Quays (0%) to within WebTAG criteria
- Improved validation of Overground alighters at Canada Water northbound (-16%) and Surrey Quays southbound (-22%) to within WebTAG criteria
- Improved validation on the *Rotherhithe Tunnel – Lower Road Jamaica Road Roundabout* bus link to within WebTAG criteria
- Worsened validation on the *St James Rd Lynton Rd – St James Rd Catlin St* and *Rotherhithe New Rd Roundabout – Rotherhithe New Rd/Silwood St* bus links to outside WebTAG criteria

## 7.6 Assignment Validation Test 3 (CQ108A101)

*Purpose of Test: By improving accessibility between local zones and Surrey Quays/New Cross/New Cross Gate stations improve Overground validation between Rotherhithe and Surrey Quays in both directions.*

Model validation tables for this scenario are shown in **Appendix C6**.

Relative to scenario CQ105A101 (containing the zone disaggregation, walk network and bus service updates), these updates have had little impact on validation with no links improving to within or worsening to outside WebTAG criteria.

## 7.7 Assignment Validation Test 4 (CQ113A101)

*Purpose of Test: By setting the boarding penalty at Overground platforms between New Cross/New Cross Gate and Highbury & Islington northbound and between Highbury and Islington and Rotherhithe southbound to 1.75 minutes improve Overground validation between Rotherhithe and Surrey Quays in both directions.*

Model validation tables for this scenario are shown in **Appendix C7**.

Relative to scenario CQ105A101 (containing the zone disaggregation, walk network and bus service updates), these updates have;

- Improved validation of Overground northbound demand to within WebTAG criteria on the Canada Water – Rotherhithe link (-22%) and the Surrey Quays - Canada Water link (-9%)
- Improved validation of Overground demand from Rotherhithe to Canada Water (-5%) to within WebTAG criteria
- Worsened validation of Overground demand from Canada Water to Surrey Quays (+52%) to outside WebTAG criteria
- Improved validation of Overground northbound boarders at Rotherhithe (-12%) and Surrey Quays (+23%) to within WebTAG criteria
- Improved validation of Overground alighters at Canada Water northbound (-5%) and Surrey Quays southbound (-13%) to within WebTAG criteria
- Improved validation on four bus links to within WebTAG criteria;
  - Rotherhithe Tunnel – Lower Road Jamaica Road Roundabout
  - Redriff Road Surrey Quays Road – Surrey Quays Leisure Centre
  - Surrey Quays Overground – Lower Road Orange Place
  - Southwark Park Stop C – Jamaica Road S'Wark Pk Rd
- Worsened validation on the *Rotherhithe New Rd Roundabout – Rotherhithe New Rd/Silwood St* bus link to outside WebTAG criteria

## 7.8 Assignment Validation Test 5 (CQ112A101)

*Purpose of Test: By reducing interchange time at Surrey Quays/South Bermondsey stations and adding a new centroid connector between zone 8297 and South Bermondsey station improve Overground validation between Rotherhithe and Surrey Quays in both directions and Southern Rail validation from South Bermondsey to London Bridge*

Model validation tables for this scenario are shown in **Appendix C8**.



Relative to scenario CQ113A101 (containing the zone disaggregation, walk network, bus service updates and the Assignment Validation Test 4 adjustment), these updates have;

- Improved validation to a small extent on Overground services through the *Up to London Screenline* (-21% northbound and -4% southbound) however worsened validation on Overground services through the *Down from London screenline* (-10% northbound and +57% southbound)
- Improved validation to a small extent on Southern services into London Bridge (-26%) although not to within WebTAG criteria
- Worsened validation on two bus links to outside WebTAG criteria;
  - St James Rd Catlin St – St James Rd Lynton Rd
  - Rotherhithe Jamaica Road – Lower Road Jamaica Road Roundabout

## 8 Conclusion

### 8.1 Recommendations

We propose to adopt Assignment Validation Test 4 (CQ113A101) as the validated base year scenario for this study. Compared to the equivalent scenario received from TfL (WE001A08A) this scenario addresses each of the validation issues listed in section 5.1 to at least some extent;

- The zone structure around the bulk of the development (around Canada Water Station) has been disaggregated to allow for separation of the development from other land-uses, in accordance with section 5.2
- The walk network connectivity issues in and around Canada Water have been addressed, in accordance with section 5.3
- The routings of the 47 and 381 bus routes have been corrected in accordance with section 5.4
- The discrepancy between London Overground modelled and observed flows has been significantly improved so that northbound flows (under-forecast reduced from 30-34% to 9-22%) and the Rotherhithe – Canada Water southbound flow (under-forecast reduced from 34% to 5%) fall within WebTAG criteria.
- The over-forecast on the southbound Canada Water – Surrey Quays flow (increased from 21% to 52%) has been worsened to outside WebTAG criteria however this link is considered the least important of all the Overground links through the study area as;
  - it is served by the lowest demand flow
  - operates counter peak so that capacity issues are less important
  - operates counter to the critical inbound AM Peak flow to Canada Water again making capacity issues less prevalent
- Bus validation has been significantly improved with an additional nine links falling within WebTAG criteria, including an additional three links across the lower screenline. The validation of the heavily used *Southwark Park Stop C – Jamaica Road S'Wark Pk Rd* bus link crossing the cordon out of the study area has also been improved to within WebTAG criteria (over-forecast reduced from 44% to 23%).
- Validation of rail boarders and alighters has been improved in the study area. In particular;
  - the validation of boardings at the Canada Water northbound Jubilee Line platform has been reduced to within WebTAG criteria (from an under-forecast of 28% to 20%)
  - the validation of alightings at the Canada Water northbound Overground platform has been reduced to within WebTAG criteria (from an under-forecast of 28% to 20%)
  - the validation of boardings at the Surrey Quays northbound Overground platform has been reduced to within WebTAG criteria (from an under-forecast of 39% to 5%)
  -

### 8.2 Railplan Strategic Validation

The impact of this scenario on TfL strategic validation relative to WE001A08A is shown in **Appendix D**. It shows minor change in validation of each mode across each screenline. There

are no instances where the validation changes to within or outside WebTAG trip matrix validation criteria (15% difference between modelled and observed demand).

### 8.3 Forecasting

The updates which have been applied to the base year model which should be incorporated into forecasting are;

- Zone disaggregation
- Walk network updates
- Bus route corrections
- Adjustment of boarding penalties to 1.75 minutes at all Overground platforms between Highbury & Islington and New Cross/New Cross Gate northbound and between Highbury & Islington and Rotherhithe southbound

Prior to applying these updates it will be necessary to undertake some checks to;

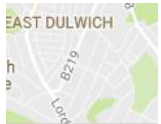
- Identify whether differences exist between the base year scenario (WE001A08A) and future year scenarios received from TfL for this study in local walk network coverage and consider if and how this impacts the incorporation of the walk network updates applied as part of base year revalidation into the future year scenarios
- Identify whether differences exist between the base year scenario (WE001A08A) and future year scenarios received from TfL for this study in bus service assumptions and consider if and how this impacts the incorporation of the bus service updates applied as part of base year revalidation into the future year scenarios
- Identify whether differences exist between the base year scenario (WE001A08A) and future year scenarios received from TfL for this study in Overground boarding penalty assumptions and consider if and how this impacts the incorporation of the Overground boarding penalty updates applied as part of base year revalidation into the future year scenarios

# A. Bus Routings Validation

TfL Timetable  
P12: Surrey Quays Shopping Centre to Brockley Rise

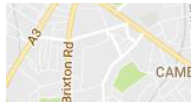
TfL Timetable  
P12: Brockley Rise to Surrey Quays Shopping Centre

Railplan  
0P12ia (both directions)



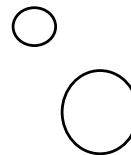
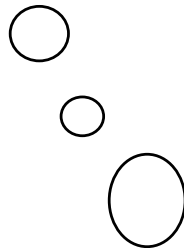
TfL Timetable  
381: Peckham Bus Station to County Hall

TfL Timetable  
381: County Hall to Peckham Bus Station



Railplan  
0381ia (both directions)

Railplan  
0381ja: Peckham Bus Station to County Hall



TfL Timetable  
225: Springbank Road/Hither Green Station to Canada Water Bus Station

TfL Timetable  
225: Canada Water Bus Station to Springbank Road/Hither Green Station

Railplan  
0225ia (both directions)



TfL Timetable  
199: Canada Water Bus Station to Catford Bus Garage

TfL Timetable  
199: Newquay Road to Canada Water Bus Station

Railplan  
0199ia (both directions)



TfL Timetable

188: North Greenwich Station to Russell Square Station

TfL Timetable

188: Russell Square Station to North Greenwich Station



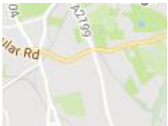
Railplan  
0188ia (both directions)





TfL Timetable  
47: Newquay Road to Shoreditch

TfL Timetable  
47: Shoreditch High Street to Catford Bus Garage



Railplan  
0047ia/la: Newquay Road to Shoreditch

Railplan  
0047oa: Shoreditch to Catford Bus Garage

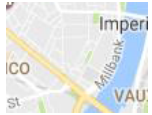


TFL Timetable

1: New Oxford Street to Canada Water Bus Station

TfL Timetable

1: Canada Water Bus Station to Tottenham Court Rd



Railplan  
0001ia (both directions)

0001ka



TfL Timetable

C10: Canada Water Bus Station To: Victoria Str / Grosvenor Gardens

TfL Timetable

C10: Victoria Station To: Canada Water Bus Station



Railplan  
0C10ia (both directions)



## B. Railplan CUBE Validation

Up to London Screenline - Northbound													
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?	
218242_218241	Canada Water - Rotherhithe	London Overground	0	0	0	7624	0	6523	-14%	25%	PASS	No	
363247_363237	South Bermondsey - London Bridge	Southern	0	0	0	0	8996						
363260_361237	New Cross Gate - London Bridge	Southern	0	0	0	0	44026	0	4%	25%	PASS	No	
363260_363237	New Cross Gate - London Bridge	Southern	0	0	0	0	36841						
363260_365237	New Cross Gate - London Bridge	Thameslink	0	0	0	0	1811	1798	-1%	25%	PASS	No	
361261_361237	Deptford - London Bridge	South Eastern	0	0	0	0	0	0					
361261_383237	Deptford - London Bridge	South Eastern	0	0	0	0	11014						
361262_361237	New Cross Gate - London Bridge	South Eastern	0	0	0	0	95569	43628	-11%	25%	PASS	No	
361262_365237	New Cross Gate - London Bridge	South Eastern	0	0	0	0	0	0					
361262_383237	New Cross Gate - London Bridge	South Eastern	0	0	0	0	30706						
222242_222240	Canada Water - Bermondsey	Jubilee Line	0	0	35189	0	0	34202	-3%	25%	PASS	No	
710417_681561	Lower Rd Jamaica Rd Roundabout - Rotherhithe Jamaica Rd	Local Bus	2867	0	0	0	0	3872	35%	25%	FAIL	No	
710417_619986	Lower Rd Jamaica Rd Roundabout - Rotherhithe Tunnel	Local Bus	479	0	0	0	0	758	58%	25%	FAIL	No	
No Correspondence	S'Wark Pk Rd Roundabout Stalham St - S'Wark Pk Rd Clements Rd	Local Bus	171	0	0	0	0	0	-100%	25%	FAIL	Yes	
619826_756453	St James' Rd Catlin St - St James Rd Lynton Rd	Local Bus	509	0	0	0	0	507	0%	25%	PASS	No	
709642_609640	Southwark Park Rd Ambrose St - S'Wark Pk R/St James's Rd	Local Bus	1015	0	0	0	0	981	-3%	25%	PASS	No	
	Lower Rd Jamaica Rd Roundabout - Rotherhithe Jamaica Rd	Walk Element											
	Lower Rd Jamaica Rd Roundabout - Rotherhithe Tunnel	Walk Element											
	S'Wark Pk Rd Roundabout Stalham St - S'Wark Pk Rd Clements Rd	Walk Element											
	St James' Rd Catlin St - St James Rd Lynton Rd	Walk Element											
	Southwark Park Rd Ambrose St - S'Wark Pk R/St James's Rd	Walk Element											
	Lower Rd Jamaica Rd Roundabout - Jamaica Rd Cathay St	Walk Element											
	Southwark Park Rd Drummond Rd - Clements Rd Drummond Rd	Walk Element											
	S'Wark Pk Rd Roundabout Stalham St - S'Wark Pk Rd Gataker St	Walk Element											
	Lower Rd Jamaica Rd Roundabout - Swan Rd Swan Rd	Walk Element											
	Renforth St Albion St - Swan Rd Swan Rd	Walk Element											
	Southwark Park Rd Ambrose St - St. Jame's Rd Blue Anchor Ln	Walk Element											
	Poolmans St Garter Way - Needleman St Basque Cr	Walk Element											
	Lynton Rd Beatrice Rd - Simms Rd Beatrice Rd	Walk Element											
	Lynton Rd Beatrice Rd - St James Rd Lynton Rd	Walk Element											
	<b>Screenline Total</b>		<b>5041</b>	<b>0</b>	<b>35189</b>	<b>7624</b>	<b>141406</b>	<b>179827</b>	<b>-5%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>	

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Up to London Screenline - Southbound												
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
360237_362260	London Bridge- New Cross Gate	Southern	0	0	0	0		0				
362237_362247	London Bridge - South Bermondsey	Southern	0	0	0	0	3647	1413	20%	25%	PASS	No
362237_362260	London Bridge- New Cross Gate	Southern	0	0	0	0		2973				
364237_362260	London Bridge- New Cross Gate	Thameslink	0	0	0	0	1439	1248	-13%	25%	PASS	No
360237_360261	London Bridge- Deptford	South Eastern	0	0	0	0		0				
360237_360262	London Bridge- New Cross	South Eastern	0	0	0	0		3569				
364237_360262	London Bridge- New Cross	South Eastern	0	0	0	0	6986	0	4%	25%	PASS	No
382237_360261	London Bridge/Cannon St. - Deptford	South Eastern	0	0	0	0		2466				
382237_360262	London Bridge- New Cross	South Eastern	0	0	0	0		1263				
219241_219242	Rotherhithe - Canada Water	London Overground	0	0	0	3709	0	3741	1%	25%	PASS	No
223240_223242	Bermondsey - Canada Water	Jubilee Line	0	0	42571	0	0	40280	-5%	25%	PASS	No
681561_710417	Rotherhithe Jamaica Road - Lower Rd Jamaica Rd Roundabout	Local Bus	1244	0	0	0	0	1540	24%	25%	PASS	No
619986_710417	Rotherhithe Tunnel - Lower Rd Jamaica Rd Roundabout	Local Bus	1399	0	0	0	0	1554	11%	25%	PASS	No
No Correspondence	S'Wark Pk Rd Clements Rd - S'Wark Pk Rd Roundabout Stalham St	Local Bus	195	0	0	0	0	0	-100%	25%	FAIL	Yes
756453_619826	St James Rd Lynton Rd - St James Rd Catlin St	Local Bus	518	0	0	0	0	335	-35%	25%	FAIL	No
609640_709642	S'Wark Pk R/St James'S R - Southwark Park Rd Ambrose St	Local Bus	851	0	0	0	0	894	5%	25%	PASS	No
	Rotherhithe Jamaica Road - Lower Rd Jamaica Rd Roundabout	Wa k Element										
	Rotherhithe Tunnel - Lower Rd Jamaica Rd Roundabout	Wa k Element										
	S'Wark Pk Rd Clements Rd - S'Wark Pk Rd Roundabout Stalham St	Wa k Element										
	St James Rd Lynton Rd - St James Rd Catlin St	Wa k Element										
	S'Wark Pk R/St James'S R - Southwark Park Rd Ambrose St	Wa k Element										
	Jamaica Rd Cathay St - Lower Rd Jamaica Rd Roundabout	Wa k Element										
	Clements Rd Drummond Rd - Southwark Park Rd Drummond Rd	Wa k Element										
	S'Wark Pk Rd Gataker St - S'Wark Pk Rd Roundabout Stalham St	Wa k Element										
	Swan Rd Swan Rd - Lower Rd Jamaica Rd Roundabout	Wa k Element										
	Swan Rd Swan Rd - Renforth St Albion St	Wa k Element										
	St. Jame's Rd Blue Anchor Ln - Southwark Park Rd Ambrose St	Wa k Element										
	Poolmans St Garter Way - Needleman St Basque Crt	Wa k Element										
	St James Rd Lynton Rd - Lynton Rd Beatrice Rd	Wa k Element										
	Simms Rd Beatrice Rd - Lynton Rd Beatrice Rd	Wa k Element										
<b>Screenline Total</b>			<b>4207</b>	<b>0</b>	<b>42571</b>	<b>3709</b>	<b>12072</b>	<b>61276</b>	<b>-2%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Down from London Screenline - North/westbound													
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?	
218243_218242	Surrey Quays - Canada Water	London Overground	0	0	0	10519	0	11625	11%	25%	PASS	No	
222061_222242	Canary Wharf - Canada Water	Jubilee Line	0	0	27157	0	0	28661	6%	25%	PASS	No	
191061_191047	Canary Wharf - West India Quay	DLR	0	7063	0	0	0	8162	32%	25%	FAIL	No	
193061_193047	Canary Wharf - West India Quay	DLR	0	0	0	0	0	1162					
710880_612374	Marsh Wall Roundabout - Westferry Circus Roundabout	Local Bus	0	0	0	0	0	85	#DIV/0!	25%	#DIV/0!	Yes	
763450_763382	Cabot Sq S Colonnade - W India Ave Cabot Sq	Local Bus	744	0	0	0	0	1069	44%	25%	FAIL	No	
720013_757893	Redriff R Surrey Quays Rd - Surrey Quays Leisure Cen	Local Bus	2528	0	0	0	0	3183	26%	25%	FAIL	No	
720027_619917	Redriff Rd Quebec Way - Redriff Rd Omega Gate	Local Bus	338	0	0	0	0	650	93%	25%	FAIL	Yes	
709955_681570	Surrey Quays Overground - Lower Road Orange Place	Local Bus	905	0	0	0	0	1189	31%	25%	FAIL	No	
	Marsh Wall Roundabout - Westferry Circus Roundabout	Walk Element											
	Cabot Sq S Colonnade - W India Ave Cabot Sq	Walk Element											
	Redriff R Surrey Quays Rd - Surrey Quays Leisure Cen	Walk Element											
	Redriff Rd Quebec Way - Redriff Rd Omega Gate	Walk Element											
	Surrey Quays Overground - Lower Road Orange Place	Walk Element											
	Canada Sq Upper Bank St - Upper Bank St Aspen Way	Walk Element											
	Cabot Sq S Colonnade - Colonnade Sq Cabot Sq	Walk Element											
	Canada Square Canary Whf - Colonnade Sq Cabot Sq	Walk Element											
	Surrey Quays Shopping Centre - Surrey Quays Rd Deal Porters	Walk Element											
	Redriff Rd Quebec Way - Quebec Way Teredo St	Walk Element											
	Omega Gate Plover Way - Norway Gate Plover Way	Walk Element											
	Finland St Norway Gate - Norway Gate Plover Way	Walk Element											
	Omega Gate Plover Way - Redriff Rd Omega Gate	Walk Element											
<b>Screenline Total</b>			<b>4514</b>	<b>7063</b>	<b>27157</b>	<b>10519</b>	<b>0</b>	<b>55787</b>	<b>13%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>	

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Down from London Screenline - Southbound													
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?	
219242_219243	Canada Water - Surrey Quays	London Overground	0	0	0	1670	0	3538	112%	25%	FAIL	No	
223242_223061	Canada Water - Canary Wharf	Jubilee Line	0	0	44277	0	0	41023	-7%	25%	PASS	No	
190047_190061	West India Quay - Canary Wharf	DLR	0	16185	0	0	0	9668	-15%	25%	PASS	No	
192047_192061	West India Quay - Canary Wharf	DLR	0	0	0	0	0	4054					
612374_710880	Westferry Circus Roundabout - Marsh Wall Roundabout	Local Bus	85	0	0	0	0	69	-19%	25%	PASS	Yes	
763452_763451	Colonnade Sq Cabot Sq - Canada Square Canary Whf	Local Bus	1221	0	0	0	0	1237	1%	25%	PASS	No	
757893_720013	Surrey Quays Leisure Cen - Redriff R Surrey Quays Rd	Local Bus	976	0	0	0	0	1772	82%	25%	FAIL	No	
619917_720027	Redriff Rd Omega Gate - Redriff Rd Quebec Way	Local Bus	1116	0	0	0	0	916	-18%	25%	PASS	No	
681570_709955	Lower Road Orange Place - Surrey Quays Overground	Local Bus	0	0	0	0	0	508	#DIV/0!	25%	#DIV/0!	Yes	
	Westferry Circus Roundabout - Marsh Wall Roundabout	Walk Element											
	Colonnade Sq Cabot Sq - Canada Square Canary Whf	Walk Element											
	Surrey Quays Leisure Cen - Redriff R Surrey Quays Rd	Walk Element											
	Redriff Rd Omega Gate - Redriff Rd Quebec Way	Walk Element											
	Lower Road Orange Place - Surrey Quays Overground	Walk Element											
	Upper Bank St Aspen Way - Canada Sq Upper Bank St	Walk Element											
	Colonnade Sq Cabot Sq - Cabot Sq S Colonnade	Walk Element											
	W India Ave Cabot Sq - Cabot Sq S Colonnade	Walk Element											
	Surrey Quays Rd Deal Porters Way - Surrey Quays Shopping Cen	Walk Element											
	Quebec Way Teredo St - Redriff Rd Quebec Way	Walk Element											
	Norway Gate Plover Way - Omega Gate Plover Way	Walk Element											
	Norway Gate Plover Way - Finland St Norway Gate	Walk Element											
	Redriff Rd Omega Gate - Omega Gate Plover Way	Walk Element											
<b>Screenline Total</b>			<b>3398</b>	<b>16185</b>	<b>44277</b>	<b>1670</b>	<b>0</b>	<b>62784</b>	<b>-4%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>	

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Assignment Validation of Cordon Links into Study Area												
Link D	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
218243_218242	Surrey Quays - Canada Water	London Overground	0	0	0	10519	0	11625	11%	25%	PASS	No
219241_219242	Rotherhithe - Canada Water	London Overground	0	0	0	3709	0	3741	1%	25%	PASS	No
223240_223242	Bermondsey - Canada Water	Jubilee Line	0	0	42571	0	0	40280	-5%	25%	PASS	No
222061_222242	Canary Wharf - Canada Water	Jubilee Line	0	0	27157	0	0	28661	6%	25%	PASS	No
710155_710367	Rotherhithe New Rd/Silwood St. - Rotherhithe New Rd Roundabout (SW Link)	Local Bus	828	0	0	0	0	758	-8%	25%	PASS	No
681573_710312	Lower Road Surrey Quays Stn (Stop M) - Lower Rd/Cope St. (S Link)	Local Bus	#N/A	0	0	0	0	0	#N/A	25%	#N/A	#N/A
No Correspondence	Jamaica Road S'Wark Pk Rd - Southwark Park Stop C (NW Link)	Local Bus	1215	0	0	0	0	0	-100%	25%	FAIL	No
720028_620029	Rotherhithe St/Salter Rd - Salter Rd/Shipwright Rd (E Link)	Local Bus	697	0	0	0	0	770	10%	25%	PASS	No
	Rotherhithe New Rd/Silwood St. - Rotherhithe New Rd Roundabout	Walk Element										
	Lower Road Surrey Quays Stn (Stop M) - Lower Rd/Cope St.	Walk Element										
	Jamaica Road S'Wark Pk Rd - Southwark Park Stop C	Walk Element										
	Rotherhithe St/Salter Rd - Salter Rd/Shipwright Rd	Walk Element										
<b>Into Study Area Total</b>			<b>2740</b>	<b>0</b>	<b>69728</b>	<b>14228</b>	<b>0</b>	<b>85835</b>	<b>-1%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Assignment Validation of Cordon Links from Study Area												
Link D	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
219242_219243	Canada Water - Surrey Quays	London Overground	0	0	0	1670	0	3538	112%	25%	FAIL	No
218242_218241	Canada Water - Rotherhithe	London Overground	0	0	0	7624	0	6523	-14%	25%	PASS	No
222242_222240	Canada Water - Bermondsey	Jubilee Line	0	0	35189	0	0	34202	-3%	25%	PASS	No
223242_223061	Canada Water - Canary Wharf	Jubilee Line	0	0	44277	0	0	41023	-7%	25%	PASS	No
710367_710155	Rotherhithe New Rd Roundabout - Rotherhithe New Rd/Silwood St. (SW Link)	Local Bus	715	0	0	0	0	457	-36%	25%	FAIL	No
710312_681573	Lower Rd/Cope St. - Lower Road Surrey Quays Stn (Stop M) (S Link)	Local Bus	854	0	0	0	0	1899	122%	25%	FAIL	No
No Correspondence	Southwark Park Stop C - Jamaica Road S'Wark Pk Rd (NW Link)	Local Bus	2525	0	0	0	0	0	-100%	25%	FAIL	No
620029_720028	Salter Rd/Shipwright Rd - Rotherhithe St/Salter Rd (E Link)	Local Bus	455	0	0	0	0	724	59%	25%	FAIL	No
	Rotherhithe New Rd Roundabout - Rotherhithe New Rd/Silwood St.	Walk Element										
	Lower Rd/Cope St. - Lower Road Surrey Quays Stn (Stop M)	Walk Element										
	Southwark Park Stop C - Jamaica Road S'Wark Pk Rd	Walk Element										
	Salter Rd/Shipwright Rd - Rotherhithe St/Salter Rd	Walk Element										
<b>From Study Area Total</b>			<b>4550</b>	<b>0</b>	<b>79466</b>	<b>9294</b>	<b>0</b>	<b>88367</b>	<b>-5%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Assignment Validation of Boardings at Key Stations/Stops													
Node ID	Node Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?	
222240	Bermondsey Northbound Platform	Jubilee Line	0	0	2878	0	0	3511	22%	25%	PASS	No	
223240	Bermondsey Southbound Platform	Jubilee Line	0	0	1274	0	0	768	-40%	25%	FAIL	No	
218242	Canada Water Northbound Platform	London Overground	0	0	0	2208	0	1129	-49%	25%	FAIL	No	
219242	Canada Water Southbound Platform	London Overground	0	0	0	713	0	1293	81%	25%	FAIL	No	
222242	Canada Water Northbound Platform	Jubilee Line	0	0	9746	0	0	7228	-26%	25%	FAIL	No	
223242	Canada Water Southbound Platform	Jubilee Line	0	0	3672	0	0	2738	-25%	25%	FAIL	No	
218241	Rotherhithe Northbound Platform	London Overground	0	0	0	757	0	590	-22%	25%	PASS	No	
219241	Rotherhithe Southbound Platform	London Overground	0	0	0	758	0	502	-34%	25%	FAIL	No	
218243	Surrey Quays Northbound Platform	London Overground	0	0	0	2088	0	1907	-9%	25%	PASS	No	
219243	Surrey Quays Southbound Platform	London Overground	0	0	0	739	0	531	-28%	25%	FAIL	No	
<b>Total Boardings</b>			<b>0</b>	<b>0</b>	<b>17570</b>	<b>7263</b>	<b>0</b>	<b>20198</b>	<b>-19%</b>	<b>15%</b>	<b>FAIL</b>	<b>No</b>	

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Assignment Validation of Alightings at Key Stations/Stops													
Node ID	Node Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?	
222240	Bermondsey Northbound Platform	Jubilee Line	0	0	1526	0	0	841	-45%	25%	FAIL	No	
223240	Bermondsey Southbound Platform	Jubilee Line	0	0	891	0	0	1196	34%	25%	FAIL	No	
218242	Canada Water Northbound Platform	London Overground	0	0	0	5102	0	6231	22%	25%	PASS	No	
219242	Canada Water Southbound Platform	London Overground	0	0	0	2753	0	1496	-46%	25%	FAIL	No	
222242	Canada Water Northbound Platform	Jubilee Line	0	0	1655	0	0	1687	2%	25%	PASS	No	
223242	Canada Water Southbound Platform	Jubilee Line	0	0	1996	0	0	1995	0%	25%	PASS	No	
218241	Rotherhithe Northbound Platform	London Overground	0	0	0	339	0	465	37%	25%	FAIL	Yes	
219241	Rotherhithe Southbound Platform	London Overground	0	0	0	126	0	359	185%	25%	FAIL	Yes	
218243	Surrey Quays Northbound Platform	London Overground	0	0	0	1055	0	511	-52%	25%	FAIL	No	
219243	Surrey Quays Southbound Platform	London Overground	0	0	0	494	0	656	33%	25%	FAIL	No	
<b>Total Alightings</b>			<b>0</b>	<b>0</b>	<b>6068</b>	<b>9869</b>	<b>0</b>	<b>15437</b>	<b>-3%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>	

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.



<b>Trip Matrix Validation</b>						
<b>Proportion of links within 15% of Observed:</b>			<b>100%</b>			
WebTAG criteria = 95%						
		Total Assigned Passengers*	Total Observed Passengers	Difference	WebTAG Criteria	WebTAG Pass/Fail
<b>Up to London Screenline Screenline</b>	<b>Northbound</b>	179827	189260	-5%	15%	PASS
	<b>Southbound</b>	61276	62559	-2%	15%	PASS
<b>Down From London Screenline</b>	<b>North/Westbound</b>	55787	49253	13%	15%	PASS
	<b>Southbound</b>	62784	65530	-4%	15%	PASS
<b>Into Study Area</b>		85835	86696	-1%	15%	PASS
<b>From Study Area</b>		88367	93310	-5%	15%	PASS

\*Assigned passengers include walk demand

# C. Model Revalidation Tables

## C.1 CQ101A101

Up to London Screenline - Northbound													
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?	
360318_360218	Canada Water - Rotherhithe	London Overground	0	0	0	7624	0	5012	-34%	25%	FAIL	No	
370463_350263	South Bermondsey - London Bridge	Southern	0	0	0	0		5257					
390163_350261	New Cross Gate - London Bridge	Southern	0	0	0	0	44026	0	-26%	25%	FAIL	No	
390163_350263	New Cross Gate - London Bridge	Southern	0	0	0	0		27308					
390163_350265	New Cross Gate - London Bridge	Thameslink	0	0	0	0	1811	3414	89%	25%	FAIL	No	
390261_350261	Deptford - London Bridge	South Eastern	0	0	0	0		3663					
390261_350283	Deptford - London Bridge	South Eastern	0	0	0	0		10527					
390361_350261	New Cross Gate - London Bridge	South Eastern	0	0	0	0	95569	39782	-8%	25%	PASS	No	
390361_350265	New Cross Gate - London Bridge	South Eastern	0	0	0	0		0					
390361_350283	New Cross Gate - London Bridge	South Eastern	0	0	0	0		34398					
360322_360122	Canada Water - Bermondsey	Jubilee Line	0	0	35189	0	0	32835	-7%	25%	PASS	No	
367024_369016	Lower Rd Jamaica Rd Roundabout - Rotherhithe Jamaica Rd	Local Bus	2867	0	0	0	0	3321	16%	25%	PASS	No	
367024_369020	Lower Rd Jamaica Rd Roundabout - Rotherhithe Tunnel	Local Bus	479	0	0	0	0	573	20%	25%	PASS	No	
367066_369015	S'Wark Pk Rd Roundabout Stalham St - S'Wark Pk Rd Clements Rd	Local Bus	171	0	0	0	0	196	15%	25%	PASS	Yes	
379073_377374	St James' Rd Catlin St - St James Rd Lynton Rd	Local Bus	509	0	0	0	0	336	-34%	25%	FAIL	No	
377383_379033	Southwark Park Rd Ambrose St - S'Wark Pk R/St James's Rd	Local Bus	1015	0	0	0	0	945	-7%	25%	PASS	No	
367024_369016	Lower Rd Jamaica Rd Roundabout - Rotherhithe Jamaica Rd	Wa k Element						760					
367024_369020	Lower Rd Jamaica Rd Roundabout - Rotherhithe Tunnel	Wa k Element						127					
367066_369015	S'Wark Pk Rd Roundabout Stalham St - S'Wark Pk Rd Clements Rd	Wa k Element						533					
379073_377374	St James' Rd Catlin St - St James Rd Lynton Rd	Wa k Element						56					
377383_379033	Southwark Park Rd Ambrose St - S'Wark Pk R/St James's Rd	Wa k Element						13					
367024_367023	Lower Rd Jamaica Rd Roundabout - Jamaica Rd Cathay St	Wa k Element						0					
367033_367013	Southwark Park Rd Drummond Rd - Clements Rd Drummond Rd	Wa k Element						16					
367066_367012	S'Wark Pk Rd Roundabout Stalham St - S'Wark Pk Rd Gataker St	Wa k Element						0					
367024_367115	Lower Rd Jamaica Rd Roundabout - Swan Rd Swan Rd	Wa k Element						46					
367116_367115	Renforth St Albion St - Swan Rd Swan Rd	Wa k Element						21					
377383_367172	Southwark Park Rd Ambrose St - St. Jame's Rd Blue Anchor Ln	Wa k Element						152					
369061_369060	Poolmans St Garter Way - Needleman St Basque Cr	Wa k Element						329					
377432_377434	Lynton Rd Beatrice Rd - Simms Rd Beatrice Rd	Wa k Element						0					
377432_377374	Lynton Rd Beatrice Rd - St James Rd Lynton Rd	Wa k Element						65					
<b>Screenline Total</b>			<b>5041</b>	<b>0</b>	<b>35189</b>	<b>7624</b>	<b>141406</b>	<b>167567</b>	<b>-11%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>	

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Up to London Screenline - Southbound													
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?	
350260_390162	London Bridge- New Cross Gate	Southern	0	0	0	0		0					
350262_370462	London Bridge - South Bermondsey	Southern	0	0	0	0	3647	1236	1%	25%	PASS	No	
350262_390162	London Bridge- New Cross Gate	Southern	0	0	0	0		2443					
350264_390162	London Bridge- New Cross Gate	Thameslink	0	0	0	0	1439	1365	-5%	25%	PASS	No	
350260_390260	London Bridge- Deptford	South Eastern	0	0	0	0		0					
350260_390360	London Bridge- New Cross	South Eastern	0	0	0	0		3976					
350264_390360	London Bridge- New Cross	South Eastern	0	0	0	0	6986	0	5%	25%	PASS	No	
350282_390260	London Bridge/Cannon St. - Deptford	South Eastern	0	0	0	0		1724					
350282_390360	London Bridge- New Cross	South Eastern	0	0	0	0		1614					
360219_360319	Rotherhithe - Canada Water	London Overground	0	0	0	3709	0	2332	-37%	25%	FAIL	No	
360123_360323	Bermondsey - Canada Water	Jubilee Line	0	0	42571	0	0	41946	-1%	25%	PASS	No	
369016_367024	Rotherhithe Jamaica Road - Lower Rd Jamaica Rd Roundabout	Local Bus	1244	0	0	0	0	1152	-7%	25%	PASS	No	
369020_367024	Rotherhithe Tunnel - Lower Rd Jamaica Rd Roundabout	Local Bus	1399	0	0	0	0	1907	36%	25%	FAIL	No	
369015_367066	S'Wark Pk Rd Clements Rd - S'Wark Pk Rd Roundabout Stalham St	Local Bus	195	0	0	0	0	260	34%	25%	FAIL	Yes	
377374_379073	St James Rd Lynton Rd - St James Rd Catlin St	Local Bus	518	0	0	0	0	376	-27%	25%	FAIL	No	
379033_377383	S'Wark Pk R/St James'S R - Southwark Park Rd Ambrose St	Local Bus	851	0	0	0	0	632	-26%	25%	FAIL	No	
369016_367024	Rotherhithe Jamaica Road - Lower Rd Jamaica Rd Roundabout	Wa k Element						281					
369020_367024	Rotherhithe Tunnel - Lower Rd Jamaica Rd Roundabout	Wa k Element						119					
369015_367066	S'Wark Pk Rd Clements Rd - S'Wark Pk Rd Roundabout Stalham St	Wa k Element						396					
377374_379073	St James Rd Lynton Rd - St James Rd Catlin St	Wa k Element						35					
379033_377383	S'Wark Pk R/St James'S R - Southwark Park Rd Ambrose St	Wa k Element						5					
367023_367024	Jamaica Rd Cathay St - Lower Rd Jamaica Rd Roundabout	Wa k Element						0					
367013_367033	Clements Rd Drummond Rd - Southwark Park Rd Drummond Rd	Wa k Element						69					
367012_367066	S'Wark Pk Rd Gataker St - S'Wark Pk Rd Roundabout Stalham St	Wa k Element						0					
367115_367024	Swan Rd Swan Rd - Lower Rd Jamaica Rd Roundabout	Wa k Element						37					
367115_367116	Swan Rd Swan Rd - Renforth St Albion St	Wa k Element						15					
367172_377383	St. Jame's Rd Blue Anchor Ln - Southwark Park Rd Ambrose St	Wa k Element						46					
369060_369061	Poolmans St Garter Way - Needleman St Basque Crt	Wa k Element						735					
377374_377432	St James Rd Lynton Rd - Lynton Rd Beatrice Rd	Wa k Element						73					
377434_377432	Simms Rd Beatrice Rd - Lynton Rd Beatrice Rd	Wa k Element						0					
<b>Screenline Total</b>			<b>4207</b>	<b>0</b>	<b>42571</b>	<b>3709</b>	<b>12072</b>	<b>60963</b>	<b>-3%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>	

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Down from London Screenline - North/westbound												
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
360418_360318	Surrey Quays - Canada Water	London Overground	0	0	0	10519	0	7371	-30%	25%	FAIL	No
80722_360322	Canary Wharf - Canada Water	Jubilee Line	0	0	27157	0	0	27404	1%	25%	PASS	No
80791_70191	Canary Wharf - West India Quay	DLR	0	7063	0	0	0	5971	6%	25%	PASS	No
80793_70193	Canary Wharf - West India Quay	DLR	0	0	0	0	0	1482				
87111_87168	Marsh Wall Roundabout - Westferry Circus Roundabout	Local Bus	0	0	0	0	0	23	#DIV/0!	25%	#DIV/0!	Yes
87141_87170	Cabot Sq S Colonnade - W India Ave Cabot Sq	Local Bus	744	0	0	0	0	732	-2%	25%	PASS	No
367101_369053	Redriff R Surrey Quays Rd - Surrey Quays Leisure Cen	Local Bus	2528	0	0	0	0	3919	55%	25%	FAIL	No
367102_367127	Redriff Rd Quebec Way - Redriff Rd Omega Gate	Local Bus	338	0	0	0	0	638	89%	25%	FAIL	Yes
367149_369030	Surrey Quays Overground - Lower Road Orange Place	Local Bus	905	0	0	0	0	1524	68%	25%	FAIL	No
87111_87168	Marsh Wall Roundabout - Westferry Circus Roundabout	Walk Element						65				
87141_87170	Cabot Sq S Colonnade - W India Ave Cabot Sq	Walk Element						699				
367101_369053	Redriff R Surrey Quays Rd - Surrey Quays Leisure Cen	Walk Element						5				
367102_367127	Redriff Rd Quebec Way - Redriff Rd Omega Gate	Walk Element						88				
367149_369030	Surrey Quays Overground - Lower Road Orange Place	Walk Element						40				
87205_77043	Canada Sq Upper Bank St - Upper Bank St Aspen Way	Walk Element						3302				
87141_87142	Cabot Sq S Colonnade - Colonnade Sq Cabot Sq	Walk Element						0				
89082_87142	Canada Square Canary Whf - Colonnade Sq Cabot Sq	Walk Element						1				
367088_367087	Surrey Quays Shopping Centre - Surrey Quays Rd Deal Porters	Walk Element						401				
367102_367152	Redriff Rd Quebec Way - Quebec Way Teredo St	Walk Element						11				
367129_367146	Omega Gate Plover Way - Norway Gate Plover Way	Walk Element						0				
367130_367146	Finland St Norway Gate - Norway Gate Plover Way	Walk Element						215				
367129_367127	Omega Gate Plover Way - Redriff Rd Omega Gate	Walk Element						29				
<b>Screenline Total</b>			<b>4514</b>	<b>7063</b>	<b>27157</b>	<b>10519</b>	<b>0</b>	<b>49064</b>	<b>0%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Down from London Screenline - Southbound												
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
360319_360419	Canada Water - Surrey Quays	London Overground	0	0	0	1670	0	1968	18%	25%	PASS	No
360323_80723	Canada Water - Canary Wharf	Jubilee Line	0	0	44277	0	0	43875	-1%	25%	PASS	No
70190_80790	West India Quay - Canary Wharf	DLR	0	16185	0	0	0	8591	-16%	25%	PASS	No
70192_80792	West India Quay - Canary Wharf	DLR	0	0	0	0	0	4961				
87168_87111	Westferry Circus Roundabout - Marsh Wall Roundabout	Local Bus	85	0	0	0	0	28	-67%	25%	FAIL	Yes
87142_89082	Colonnade Sq Cabot Sq - Canada Square Canary Whf	Local Bus	1221	0	0	0	0	870	-29%	25%	FAIL	No
369053_367101	Surrey Quays Leisure Cen - Redriff R Surrey Quays Rd	Local Bus	976	0	0	0	0	1473	51%	25%	FAIL	No
367127_367102	Redriff Rd Omega Gate - Redriff Rd Quebec Way	Local Bus	1116	0	0	0	0	1676	50%	25%	FAIL	No
369030_367149	Lower Road Orange Place - Surrey Quays Overground	Local Bus	0	0	0	0	0	363	#DIV/0!	25%	#DIV/0!	Yes
87168_87111	Westferry Circus Roundabout - Marsh Wall Roundabout	Walk Element						151				
87142_89082	Colonnade Sq Cabot Sq - Canada Square Canary Whf	Walk Element						0				
369053_367101	Surrey Quays Leisure Cen - Redriff R Surrey Quays Rd	Walk Element						0				
367127_367102	Redriff Rd Omega Gate - Redriff Rd Quebec Way	Walk Element						200				
369030_367149	Lower Road Orange Place - Surrey Quays Overground	Walk Element						77				
77043_87205	Upper Bank St Aspen Way - Canada Sq Upper Bank St	Walk Element						1260				
87142_87141	Colonnade Sq Cabot Sq - Cabot Sq S Colonnade	Walk Element						0				
87170_87141	W India Ave Cabot Sq - Cabot Sq S Colonnade	Walk Element						670				
367087_367088	Surrey Quays Rd Deal Porters Way - Surrey Quays Shopping Ce	Walk Element						6				
367152_367102	Quebec Way Teredo St - Redriff Rd Quebec Way	Walk Element						8				
367146_367129	Norway Gate Plover Way - Omega Gate Plover Way	Walk Element						0				
367146_367130	Norway Gate Plover Way - Finland St Norway Gate	Walk Element						48				
367127_367129	Redriff Rd Omega Gate - Omega Gate Plover Way	Walk Element						1				
<b>Screenline Total</b>			<b>3398</b>	<b>16185</b>	<b>44277</b>	<b>1670</b>	<b>0</b>	<b>63805</b>	<b>-3%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Assignment Validation of Cordon Links into Study Area												
Link D	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
360418_360318	Surrey Quays - Canada Water	London Overground	0	0	0	10519	0	7371	-30%	25%	FAIL	No
360219_360319	Rotherhithe - Canada Water	London Overground	0	0	0	3709	0	2332	-37%	25%	FAIL	No
360123_360323	Bermondsey - Canada Water	Jubilee Line	0	0	42571	0	0	41946	-1%	25%	PASS	No
80722_360322	Canary Wharf - Canada Water	Jubilee Line	0	0	27157	0	0	27404	1%	25%	PASS	No
367136_367090	Rotherhithe New Rd/Silwood St. - Rotherhithe New Rd Roundabout (SW Link)	Local Bus	828	0	0	0	0	532	-36%	25%	FAIL	No
369034_367100	Lower Road Surrey Quays Stn (Stop M) - Lower Rd/Cope St. (S Link)	Local Bus	#N/A	0	0	0	0	-	#VALUE!	25%	#VALUE!	#N/A
367063_369016	Jamaica Road S'Wark Pk Rd - Southwark Park Stop C (NW Link)	Local Bus	1215	0	0	0	0	1203	-1%	25%	PASS	No
367104_369022	Rotherhithe St/Salter Rd - Salter Rd/Shipwright Rd (E Link)	Local Bus	697	0	0	0	0	950	36%	25%	FAIL	No
367136_367090	Rotherhithe New Rd/Silwood St. - Rotherhithe New Rd Roundabout	Walk Element						690				
369034_367100	Lower Road Surrey Quays Stn (Stop M) - Lower Rd/Cope St.	Walk Element						836				
367063_369016	Jamaica Road S'Wark Pk Rd - Southwark Park Stop C	Walk Element						84				
367104_369022	Rotherhithe St/Salter Rd - Salter Rd/Shipwright Rd	Walk Element						128				
<b>Into Study Area Total</b>			<b>2740</b>	<b>0</b>	<b>69728</b>	<b>14228</b>	<b>0</b>	<b>81738</b>	<b>-6%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Assignment Validation of Cordon Links from Study Area												
Link D	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
360319_360419	Canada Water - Surrey Quays	London Overground	0	0	0	1670	0	1968	18%	25%	PASS	No
360318_360218	Canada Water - Rotherhithe	London Overground	0	0	0	7624	0	5012	-34%	25%	FAIL	No
360322_360122	Canada Water - Bermondsey	Jubilee Line	0	0	35189	0	0	32835	-7%	25%	PASS	No
360323_80723	Canada Water - Canary Wharf	Jubilee Line	0	0	44277	0	0	43875	-1%	25%	PASS	No
367090_367136	Rotherhithe New Rd Roundabout - Rotherhithe New Rd/Silwood St. (SW Link)	Local Bus	715	0	0	0	0	550	-23%	25%	PASS	No
367100_369034	Lower Rd/Cope St. - Lower Road Surrey Quays Stn (Stop M) (S Link)	Local Bus	854	0	0	0	0	1490	74%	25%	FAIL	No
369016_367063	Southwark Park Stop C - Jamaica Road S'Wark Pk Rd (NW Link)	Local Bus	2525	0	0	0	0	3568	41%	25%	FAIL	No
369022_367104	Salter Rd/Shipwright Rd - Rotherhithe St/Salter Rd (E Link)	Local Bus	455	0	0	0	0	853	88%	25%	FAIL	No
367090_367136	Rotherhithe New Rd Roundabout - Rotherhithe New Rd/Silwood St.	Walk Element						221				
367100_369034	Lower Rd/Cope St. - Lower Road Surrey Quays Stn (Stop M)	Walk Element						262				
369016_367063	Southwark Park Stop C - Jamaica Road S'Wark Pk Rd	Walk Element						367				
369022_367104	Salter Rd/Shipwright Rd - Rotherhithe St/Salter Rd	Walk Element						109				
<b>From Study Area Total</b>			<b>4550</b>	<b>0</b>	<b>79466</b>	<b>9294</b>	<b>0</b>	<b>90151</b>	<b>-3%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Assignment Validation of Boardings at Key Stations/Stops												
Node ID	Node Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
360122	Bermondsey Northbound Platform	Jubilee Line	0	0	2878	0	0	3056	6%	25%	PASS	No
360123	Bermondsey Southbound Platform	Jubilee Line	0	0	1274	0	0	645	-49%	25%	FAIL	No
360318	Canada Water Northbound Platform	London Overground	0	0	0	2208	0	754	-66%	25%	FAIL	No
360319	Canada Water Southbound Platform	London Overground	0	0	0	713	0	681	-4%	25%	PASS	No
360322	Canada Water Northbound Platform	Jubilee Line	0	0	9746	0	0	7192	-26%	25%	FAIL	No
360323	Canada Water Southbound Platform	Jubilee Line	0	0	3672	0	0	2949	-20%	25%	PASS	No
360218	Rotherhithe Northbound Platform	London Overground	0	0	0	757	0	625	-17%	25%	PASS	No
360219	Rotherhithe Southbound Platform	London Overground	0	0	0	758	0	320	-58%	25%	FAIL	No
360418	Surrey Quays Northbound Platform	London Overground	0	0	0	2088	0	960	-54%	25%	FAIL	No
360419	Surrey Quays Southbound Platform	London Overground	0	0	0	739	0	296	-60%	25%	FAIL	No
<b>Total Boardings</b>			<b>0</b>	<b>0</b>	<b>17570</b>	<b>7263</b>	<b>0</b>	<b>17478</b>	<b>-30%</b>	<b>15%</b>	<b>FAIL</b>	<b>No</b>

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Assignment Validation of Alightings at Key Stations/Stops												
Node ID	Node Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
360122	Bermondsey Northbound Platform	Jubilee Line	0	0	1526	0	0	788	-48%	25%	FAIL	No
360123	Bermondsey Southbound Platform	Jubilee Line	0	0	891	0	0	1178	32%	25%	FAIL	No
360318	Canada Water Northbound Platform	London Overground	0	0	0	5102	0	3113	-39%	25%	FAIL	No
360319	Canada Water Southbound Platform	London Overground	0	0	0	2753	0	1046	-62%	25%	FAIL	No
360322	Canada Water Northbound Platform	Jubilee Line	0	0	1655	0	0	1761	6%	25%	PASS	No
360323	Canada Water Southbound Platform	Jubilee Line	0	0	1996	0	0	1019	-49%	25%	FAIL	No
360218	Rotherhithe Northbound Platform	London Overground	0	0	0	339	0	156	-54%	25%	FAIL	Yes
360219	Rotherhithe Southbound Platform	London Overground	0	0	0	126	0	200	59%	25%	FAIL	Yes
360418	Surrey Quays Northbound Platform	London Overground	0	0	0	1055	0	226	-79%	25%	FAIL	No
360419	Surrey Quays Southbound Platform	London Overground	0	0	0	494	0	338	-32%	25%	FAIL	No
<b>Total Alightings</b>			<b>0</b>	<b>0</b>	<b>6068</b>	<b>9869</b>	<b>0</b>	<b>9825</b>	<b>-38%</b>	<b>15%</b>	<b>FAIL</b>	<b>No</b>

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Trip Matrix Validation						
<b>Proportion of links within 15% of Observed:</b>			<b>100%</b>			
WebTAG criteria = 95%						
		Total Assigned Passengers*	Total Observed Passengers	Difference	WebTAG Criteria	WebTAG Pass/Fail
Up to London Screenline Screenline	Northbound	169685	189260	-10%	15%	PASS
	Southbound	62774	62559	0%	15%	PASS
Down From London Screenline	North/Westbound	53920	49253	9%	15%	PASS
	Southbound	66226	65530	1%	15%	PASS
Into Study Area		83476	86696	-4%	15%	PASS
From Study Area		91110	93310	-2%	15%	PASS

\*Assigned passengers include walk demand

**C.2 CQ104A101**

Up to London Screenline - Northbound													
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?	
360318_360218	Canada Water - Rotherhithe	London Overground	0	0	0	7624	0	4982	-35%	25%	FAIL	No	
370463_350263	South Bermondsey - London Bridge	Southern	0	0	0	0		5256					
390163_350261	New Cross Gate - London Bridge	Southern	0	0	0	0	44026	0	-26%	25%	FAIL	No	
390163_350263	New Cross Gate - London Bridge	Southern	0	0	0	0		27298					
390163_350265	New Cross Gate - London Bridge	Thameslink	0	0	0	0	1811	3403	88%	25%	FAIL	No	
390261_350261	Deptford - London Bridge	South Eastern	0	0	0	0		3663					
390261_350283	Deptford - London Bridge	South Eastern	0	0	0	0		10525					
390361_350261	New Cross Gate - London Bridge	South Eastern	0	0	0	0	95569	39795	-8%	25%	PASS	No	
390361_350265	New Cross Gate - London Bridge	South Eastern	0	0	0	0		0					
390361_350283	New Cross Gate - London Bridge	South Eastern	0	0	0	0		34382					
360322_360122	Canada Water - Bermondsey	Jubilee Line	0	0	35189	0	0	33069	-6%	25%	PASS	No	
367024_369016	Lower Rd Jamaica Rd Roundabout - Rotherhithe Jamaica Rd	Local Bus	2867	0	0	0	0	3163	10%	25%	PASS	No	
367024_369020	Lower Rd Jamaica Rd Roundabout - Rotherhithe Tunnel	Local Bus	479	0	0	0	0	554	16%	25%	PASS	No	
367066_369015	S'Wark Pk Rd Roundabout Stalham St - S'Wark Pk Rd Clements Rd	Local Bus	171	0	0	0	0	193	13%	25%	PASS	Yes	
379073_377374	St James' Rd Catlin St - St James Rd Lynton Rd	Local Bus	509	0	0	0	0	331	-35%	25%	FAIL	No	
377383_379033	Southwark Park Rd Ambrose St - S'Wark Pk R/St James's Rd	Local Bus	1015	0	0	0	0	934	-8%	25%	PASS	No	
367024_369016	Lower Rd Jamaica Rd Roundabout - Rotherhithe Jamaica Rd	Wa k Element						725					
367024_369020	Lower Rd Jamaica Rd Roundabout - Rotherhithe Tunnel	Wa k Element						124					
367066_369015	S'Wark Pk Rd Roundabout Stalham St - S'Wark Pk Rd Clements Rd	Wa k Element						519					
379073_377374	St James' Rd Catlin St - St James Rd Lynton Rd	Wa k Element						48					
377383_379033	Southwark Park Rd Ambrose St - S'Wark Pk R/St James's Rd	Wa k Element						13					
367024_367023	Lower Rd Jamaica Rd Roundabout - Jamaica Rd Cathay St	Wa k Element						0					
367033_367013	Southwark Park Rd Drummond Rd - Clements Rd Drummond Rd	Wa k Element						16					
367066_367012	S'Wark Pk Rd Roundabout Stalham St - S'Wark Pk Rd Gataker St	Wa k Element						0					
367024_367115	Lower Rd Jamaica Rd Roundabout - Swan Rd Swan Rd	Wa k Element						51					
367116_367115	Renforth St Albion St - Swan Rd Swan Rd	Wa k Element						15					
377383_367172	Southwark Park Rd Ambrose St - St. Jame's Rd Blue Anchor Ln	Wa k Element						151					
369061_369060	Poolmans St Garter Way - Needleman St Basque Crt	Wa k Element						299					
377432_377434	Lynton Rd Beatrice Rd - Simms Rd Beatrice Rd	Wa k Element						0					
377432_377374	Lynton Rd Beatrice Rd - St James Rd Lynton Rd	Wa k Element						65					
<b>Screenline Total</b>			<b>5041</b>	<b>0</b>	<b>35189</b>	<b>7624</b>	<b>141406</b>	<b>167548</b>	<b>-11%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>	

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.



Up to London Screenline - Southbound												
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
350260_390162	London Bridge- New Cross Gate	Southern	0	0	0	0		0				
350262_370462	London Bridge - South Bermondsey	Southern	0	0	0	0	3647	1236	1%	25%	PASS	No
350262_390162	London Bridge- New Cross Gate	Southern	0	0	0	0		2442				
350264_390162	London Bridge- New Cross Gate	Thameslink	0	0	0	0	1439	1365	-5%	25%	PASS	No
350260_390260	London Bridge- Deptford	South Eastern	0	0	0	0		0				
350260_390360	London Bridge- New Cross	South Eastern	0	0	0	0		3976				
350264_390360	London Bridge- New Cross	South Eastern	0	0	0	0	6986	0	5%	25%	PASS	No
350282_390260	London Bridge/Cannon St. - Deptford	South Eastern	0	0	0	0		1724				
350282_390360	London Bridge- New Cross	South Eastern	0	0	0	0		1613				
360219_360319	Rotherhithe - Canada Water	London Overground	0	0	0	3709	0	2097	-43%	25%	FAIL	No
360123_360323	Bermondsey - Canada Water	Jubilee Line	0	0	42571	0	0	41931	-2%	25%	PASS	No
369016_367024	Rotherhithe Jamaica Road - Lower Rd Jamaica Rd Roundabout	Local Bus	1244	0	0	0	0	1118	-10%	25%	PASS	No
369020_367024	Rotherhithe Tunnel - Lower Rd Jamaica Rd Roundabout	Local Bus	1399	0	0	0	0	1761	26%	25%	FAIL	No
369015_367066	S'Wark Pk Rd Clements Rd - S'Wark Pk Rd Roundabout Stalham St	Local Bus	195	0	0	0	0	254	30%	25%	FAIL	Yes
377374_379073	St James Rd Lynton Rd - St James Rd Catlin St	Local Bus	518	0	0	0	0	368	-29%	25%	FAIL	No
379033_377383	S'Wark Pk R/St James'S R - Southwark Park Rd Ambrose St	Local Bus	851	0	0	0	0	631	-26%	25%	FAIL	No
369016_367024	Rotherhithe Jamaica Road - Lower Rd Jamaica Rd Roundabout	Wa k Element						261				
369020_367024	Rotherhithe Tunnel - Lower Rd Jamaica Rd Roundabout	Wa k Element						108				
369015_367066	S'Wark Pk Rd Clements Rd - S'Wark Pk Rd Roundabout Stalham St	Wa k Element						392				
377374_379073	St James Rd Lynton Rd - St James Rd Catlin St	Wa k Element						25				
379033_377383	S'Wark Pk R/St James'S R - Southwark Park Rd Ambrose St	Wa k Element						5				
367023_367024	Jamaica Rd Cathay St - Lower Rd Jamaica Rd Roundabout	Wa k Element						0				
367013_367033	Clements Rd Drummond Rd - Southwark Park Rd Drummond Rd	Wa k Element						65				
367012_367066	S'Wark Pk Rd Gataker St - S'Wark Pk Rd Roundabout Stalham St	Wa k Element						0				
367115_367024	Swan Rd Swan Rd - Lower Rd Jamaica Rd Roundabout	Wa k Element						21				
367115_367116	Swan Rd Swan Rd - Renforth St Albion St	Wa k Element						11				
367172_377383	St. Jame's Rd Blue Anchor Ln - Southwark Park Rd Ambrose St	Wa k Element						46				
369060_369061	Poolmans St Garter Way - Needleman St Basque Crt	Wa k Element						661				
377374_377432	St James Rd Lynton Rd - Lynton Rd Beatrice Rd	Wa k Element						73				
377434_377432	Simms Rd Beatrice Rd - Lynton Rd Beatrice Rd	Wa k Element						0				
<b>Screenline Total</b>			<b>4207</b>	<b>0</b>	<b>42571</b>	<b>3709</b>	<b>12072</b>	<b>60516</b>	<b>-3%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Down from London Screenline - North/westbound												
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
360418_360318	Surrey Quays - Canada Water	London Overground	0	0	0	10519	0	7345	-30%	25%	FAIL	No
80722_360322	Canary Wharf - Canada Water	Jubilee Line	0	0	27157	0	0	27382	1%	25%	PASS	No
80791_70191	Canary Wharf - West India Quay	DLR	0	7063	0	0	0	5974	6%	25%	PASS	No
80793_70193	Canary Wharf - West India Quay	DLR	0	0	0	0	0	1481				
87111_87168	Marsh Wall Roundabout - Westferry Circus Roundabout	Local Bus	0	0	0	0	0	23	#DIV/0!	25%	#DIV/0!	Yes
87141_87170	Cabot Sq S Colonnade - W India Ave Cabot Sq	Local Bus	744	0	0	0	0	730	-2%	25%	PASS	No
367101_369053	Redriff R Surrey Quays Rd - Surrey Quays Leisure Cen	Local Bus	2528	0	0	0	0	3575	41%	25%	FAIL	No
367102_367127	Redriff Rd Quebec Way - Redriff Rd Omega Gate	Local Bus	338	0	0	0	0	462	37%	25%	FAIL	Yes
367149_369030	Surrey Quays Overground - Lower Road Orange Place	Local Bus	905	0	0	0	0	1523	68%	25%	FAIL	No
87111_87168	Marsh Wall Roundabout - Westferry Circus Roundabout	Walk Element						66				
87141_87170	Cabot Sq S Colonnade - W India Ave Cabot Sq	Walk Element						702				
367101_369053	Redriff R Surrey Quays Rd - Surrey Quays Leisure Cen	Walk Element						3				
367102_367127	Redriff Rd Quebec Way - Redriff Rd Omega Gate	Walk Element						112				
367149_369030	Surrey Quays Overground - Lower Road Orange Place	Walk Element						34				
87205_77043	Canada Sq Upper Bank St - Upper Bank St Aspen Way	Walk Element						3302				
87141_87142	Cabot Sq S Colonnade - Colonnade Sq Cabot Sq	Walk Element						0				
89082_87142	Canada Square Canary Whf - Colonnade Sq Cabot Sq	Walk Element						1				
367088_367087	Surrey Quays Shopping Centre - Surrey Quays Rd Deal Porters	Walk Element						401				
367102_367152	Redriff Rd Quebec Way - Quebec Way Teredo St	Walk Element						17				
367129_367146	Omega Gate Plover Way - Norway Gate Plover Way	Walk Element						0				
367130_367146	Finland St Norway Gate - Norway Gate Plover Way	Walk Element						248				
367129_367127	Omega Gate Plover Way - Redriff Rd Omega Gate	Walk Element						12				
<b>Screenline Total</b>			<b>4514</b>	<b>7063</b>	<b>27157</b>	<b>10519</b>	<b>0</b>	<b>48495</b>	<b>-2%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Down from London Screenline - Southbound												
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
360319_360419	Canada Water - Surrey Quays	London Overground	0	0	0	1670	0	1956	17%	25%	PASS	No
360323_80723	Canada Water - Canary Wharf	Jubilee Line	0	0	44277	0	0	43912	-1%	25%	PASS	No
70190_80790	West India Quay - Canary Wharf	DLR	0	16185	0	0	0	8590	-16%	25%	PASS	No
70192_80792	West India Quay - Canary Wharf	DLR	0	0	0	0	0	4960				
87168_87111	Westferry Circus Roundabout - Marsh Wall Roundabout	Local Bus	85	0	0	0	0	28	-67%	25%	FAIL	Yes
87142_89082	Colonnade Sq Cabot Sq - Canada Square Canary Whf	Local Bus	1221	0	0	0	0	869	-29%	25%	FAIL	No
369053_367101	Surrey Quays Leisure Cen - Redriff R Surrey Quays Rd	Local Bus	976	0	0	0	0	1299	33%	25%	FAIL	No
367127_367102	Redriff Rd Omega Gate - Redriff Rd Quebec Way	Local Bus	1116	0	0	0	0	1342	20%	25%	PASS	No
369030_367149	Lower Road Orange Place - Surrey Quays Overground	Local Bus	0	0	0	0	0	374	#DIV/0!	25%	#DIV/0!	Yes
87168_87111	Westferry Circus Roundabout - Marsh Wall Roundabout	Walk Element						151				
87142_89082	Colonnade Sq Cabot Sq - Canada Square Canary Whf	Walk Element						0				
369053_367101	Surrey Quays Leisure Cen - Redriff R Surrey Quays Rd	Walk Element						0				
367127_367102	Redriff Rd Omega Gate - Redriff Rd Quebec Way	Walk Element						159				
369030_367149	Lower Road Orange Place - Surrey Quays Overground	Walk Element						63				
77043_87205	Upper Bank St Aspen Way - Canada Sq Upper Bank St	Walk Element						1260				
87142_87141	Colonnade Sq Cabot Sq - Cabot Sq S Colonnade	Walk Element						0				
87170_87141	W India Ave Cabot Sq - Cabot Sq S Colonnade	Walk Element						670				
367087_367088	Surrey Quays Rd Deal Porters Way - Surrey Quays Shopping Ce	Walk Element						6				
367152_367102	Quebec Way Teredo St - Redriff Rd Quebec Way	Walk Element						10				
367146_367129	Norway Gate Plover Way - Omega Gate Plover Way	Walk Element						0				
367146_367130	Norway Gate Plover Way - Finland St Norway Gate	Walk Element						47				
367127_367129	Redriff Rd Omega Gate - Omega Gate Plover Way	Walk Element						1				
<b>Screenline Total</b>			<b>3398</b>	<b>16185</b>	<b>44277</b>	<b>1670</b>	<b>0</b>	<b>63330</b>	<b>-3%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Assignment Validation of Cordon Links into Study Area												
Link D	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
360418_360318	Surrey Quays - Canada Water	London Overground	0	0	0	10519	0	7345	-30%	25%	FAIL	No
360219_360319	Rotherhithe - Canada Water	London Overground	0	0	0	3709	0	2097	-43%	25%	FAIL	No
360123_360323	Bermondsey - Canada Water	Jubilee Line	0	0	42571	0	0	41931	-2%	25%	PASS	No
80722_360322	Canary Wharf - Canada Water	Jubilee Line	0	0	27157	0	0	27382	1%	25%	PASS	No
367136_367090	Rotherhithe New Rd/Silwood St. - Rotherhithe New Rd Roundabout (SW Link)	Local Bus	828	0	0	0	0	537	-35%	25%	FAIL	No
369034_367100	Lower Road Surrey Quays Stn (Stop M) - Lower Rd/Cope St. (S Link)	Local Bus	#N/A	0	0	0	0	-	#VALUE!	25%	#VALUE!	#N/A
367063_369016	Jamaica Road S'Wark Pk Rd - Southwark Park Stop C (NW Link)	Local Bus	1215	0	0	0	0	1177	-3%	25%	PASS	No
367104_369022	Rotherhithe St/Salter Rd - Salter Rd/Shipwright Rd (E Link)	Local Bus	697	0	0	0	0	802	15%	25%	PASS	No
367136_367090	Rotherhithe New Rd/Silwood St. - Rotherhithe New Rd Roundabout	Walk Element						688				
369034_367100	Lower Road Surrey Quays Stn (Stop M) - Lower Rd/Cope St.	Walk Element						765				
367063_369016	Jamaica Road S'Wark Pk Rd - Southwark Park Stop C	Walk Element						71				
367104_369022	Rotherhithe St/Salter Rd - Salter Rd/Shipwright Rd	Walk Element						256				
<b>Into Study Area Total</b>			<b>2740</b>	<b>0</b>	<b>69728</b>	<b>14228</b>	<b>0</b>	<b>81271</b>	<b>-6%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Assignment Validation of Cordon Links from Study Area												
Link D	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
360319_360419	Canada Water - Surrey Quays	London Overground	0	0	0	1670	0	1956	17%	25%	PASS	No
360318_360218	Canada Water - Rotherhithe	London Overground	0	0	0	7624	0	4982	-35%	25%	FAIL	No
360322_360122	Canada Water - Bermondsey	Jubilee Line	0	0	35189	0	0	33069	-6%	25%	PASS	No
360323_80723	Canada Water - Canary Wharf	Jubilee Line	0	0	44277	0	0	43912	-1%	25%	PASS	No
367090_367136	Rotherhithe New Rd Roundabout - Rotherhithe New Rd/Silwood St. (SW Link)	Local Bus	715	0	0	0	0	546	-24%	25%	PASS	No
367100_369034	Lower Rd/Cope St. - Lower Road Surrey Quays Stn (Stop M) (S Link)	Local Bus	854	0	0	0	0	1488	74%	25%	FAIL	No
369016_367063	Southwark Park Stop C - Jamaica Road S'Wark Pk Rd (NW Link)	Local Bus	2525	0	0	0	0	3404	35%	25%	FAIL	No
369022_367104	Salter Rd/Shipwright Rd - Rotherhithe St/Salter Rd (E Link)	Local Bus	455	0	0	0	0	702	54%	25%	FAIL	No
367090_367136	Rotherhithe New Rd Roundabout - Rotherhithe New Rd/Silwood St.	Walk Element						204				
367100_369034	Lower Rd/Cope St. - Lower Road Surrey Quays Stn (Stop M)	Walk Element						255				
369016_367063	Southwark Park Stop C - Jamaica Road S'Wark Pk Rd	Walk Element						353				
369022_367104	Salter Rd/Shipwright Rd - Rotherhithe St/Salter Rd	Walk Element						98				
<b>From Study Area Total</b>			<b>4550</b>	<b>0</b>	<b>79466</b>	<b>9294</b>	<b>0</b>	<b>90059</b>	<b>-3%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Assignment Validation of Boardings at Key Stations/Stops												
Node ID	Node Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
360122	Bermondsey Northbound Platform	Jubilee Line	0	0	2878	0	0	2909	1%	25%	PASS	No
360123	Bermondsey Southbound Platform	Jubilee Line	0	0	1274	0	0	625	-51%	25%	FAIL	No
360318	Canada Water Northbound Platform	London Overground	0	0	0	2208	0	742	-66%	25%	FAIL	No
360319	Canada Water Southbound Platform	London Overground	0	0	0	713	0	683	-4%	25%	PASS	No
360322	Canada Water Northbound Platform	Jubilee Line	0	0	9746	0	0	7487	-23%	25%	PASS	No
360323	Canada Water Southbound Platform	Jubilee Line	0	0	3672	0	0	3012	-18%	25%	PASS	No
360218	Rotherhithe Northbound Platform	London Overground	0	0	0	757	0	442	-42%	25%	FAIL	No
360219	Rotherhithe Southbound Platform	London Overground	0	0	0	758	0	95	-87%	25%	FAIL	No
360418	Surrey Quays Northbound Platform	London Overground	0	0	0	2088	0	929	-56%	25%	FAIL	No
360419	Surrey Quays Southbound Platform	London Overground	0	0	0	739	0	297	-60%	25%	FAIL	No
<b>Total Boardings</b>			<b>0</b>	<b>0</b>	<b>17570</b>	<b>7263</b>	<b>0</b>	<b>17221</b>	<b>-31%</b>	<b>15%</b>	<b>FAIL</b>	<b>No</b>

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Assignment Validation of Alightings at Key Stations/Stops												
Node ID	Node Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
360122	Bermondsey Northbound Platform	Jubilee Line	0	0	1526	0	0	785	-49%	25%	FAIL	No
360123	Bermondsey Southbound Platform	Jubilee Line	0	0	891	0	0	1195	34%	25%	FAIL	No
360318	Canada Water Northbound Platform	London Overground	0	0	0	5102	0	3105	-39%	25%	FAIL	No
360319	Canada Water Southbound Platform	London Overground	0	0	0	2753	0	824	-70%	25%	FAIL	No
360322	Canada Water Northbound Platform	Jubilee Line	0	0	1655	0	0	1800	9%	25%	PASS	No
360323	Canada Water Southbound Platform	Jubilee Line	0	0	1996	0	0	1032	-48%	25%	FAIL	No
360218	Rotherhithe Northbound Platform	London Overground	0	0	0	339	0	102	-70%	25%	FAIL	Yes
360219	Rotherhithe Southbound Platform	London Overground	0	0	0	126	0	178	41%	25%	FAIL	Yes
360418	Surrey Quays Northbound Platform	London Overground	0	0	0	1055	0	229	-78%	25%	FAIL	No
360419	Surrey Quays Southbound Platform	London Overground	0	0	0	494	0	334	-32%	25%	FAIL	No
<b>Total Alightings</b>			<b>0</b>	<b>0</b>	<b>6068</b>	<b>9869</b>	<b>0</b>	<b>9584</b>	<b>-40%</b>	<b>15%</b>	<b>FAIL</b>	<b>No</b>

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

<b>Trip Matrix Validation</b>						
<b>Proportion of links within 15% of Observed:</b>			<b>100%</b>			
WebTAG criteria = 95%						
		Total Assigned Passengers*	Total Observed Passengers	Difference	WebTAG Criteria	WebTAG Pass/Fail
<b>Up to London Screenline Screenline</b>	<b>Northbound</b>	169574	189260	-10%	15%	<b>PASS</b>
	<b>Southbound</b>	62184	62559	-1%	15%	<b>PASS</b>
<b>Down From London Screenline</b>	<b>North/Westbound</b>	53393	49253	8%	15%	<b>PASS</b>
	<b>Southbound</b>	65697	65530	0%	15%	<b>PASS</b>
<b>Into Study Area</b>		83051	86696	-4%	15%	<b>PASS</b>
<b>From Study Area</b>		90969	93310	-3%	15%	<b>PASS</b>

\*Assigned passengers include walk demand

C.3 CQ105A101

Up to London Screenline - Northbound													
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?	
360318_360218	Canada Water - Rotherhithe	London Overground	0	0	0	7624	0	5007	-34%	25%	FAIL	No	
370463_350263	South Bermondsey - London Bridge	Southern	0	0	0	0		5236					
390163_350261	New Cross Gate - London Bridge	Southern	0	0	0	0	44026	0	-26%	25%	FAIL	No	
390163_350263	New Cross Gate - London Bridge	Southern	0	0	0	0		27282					
390163_350265	New Cross Gate - London Bridge	Thameslink	0	0	0	0	1811	3414	89%	25%	FAIL	No	
390261_350261	Deptford - London Bridge	South Eastern	0	0	0	0		3659					
390261_350283	Deptford - London Bridge	South Eastern	0	0	0	0		10521					
390361_350261	New Cross Gate - London Bridge	South Eastern	0	0	0	0	95569	39771	-8%	25%	PASS	No	
390361_350265	New Cross Gate - London Bridge	South Eastern	0	0	0	0		0					
390361_350283	New Cross Gate - London Bridge	South Eastern	0	0	0	0		34374					
360322_360122	Canada Water - Bermondsey	Jubilee Line	0	0	35189	0	0	33086	-6%	25%	PASS	No	
367024_369016	Lower Rd Jamaica Rd Roundabout - Rotherhithe Jamaica Rd	Local Bus	2867	0	0	0	0	3152	10%	25%	PASS	No	
367024_369020	Lower Rd Jamaica Rd Roundabout - Rotherhithe Tunnel	Local Bus	479	0	0	0	0	445	-7%	25%	PASS	No	
367066_369015	S'Wark Pk Rd Roundabout Stalham St - S'Wark Pk Rd Clements Rd	Local Bus	171	0	0	0	0	171	0%	25%	PASS	Yes	
379073_377374	St James' Rd Catlin St - St James Rd Lynton Rd	Local Bus	509	0	0	0	0	412	-19%	25%	PASS	No	
377383_379033	Southwark Park Rd Ambrose St - S'Wark Pk R/St James's Rd	Local Bus	1015	0	0	0	0	941	-7%	25%	PASS	No	
367024_369016	Lower Rd Jamaica Rd Roundabout - Rotherhithe Jamaica Rd	Wa k Element						727					
367024_369020	Lower Rd Jamaica Rd Roundabout - Rotherhithe Tunnel	Wa k Element						120					
367066_369015	S'Wark Pk Rd Roundabout Stalham St - S'Wark Pk Rd Clements Rd	Wa k Element						517					
379073_377374	St James' Rd Catlin St - St James Rd Lynton Rd	Wa k Element						33					
377383_379033	Southwark Park Rd Ambrose St - S'Wark Pk R/St James's Rd	Wa k Element						13					
367024_367023	Lower Rd Jamaica Rd Roundabout - Jamaica Rd Cathay St	Wa k Element						0					
367033_367013	Southwark Park Rd Drummond Rd - Clements Rd Drummond Rd	Wa k Element						16					
367066_367012	S'Wark Pk Rd Roundabout Stalham St - S'Wark Pk Rd Gataker St	Wa k Element						0					
367024_367115	Lower Rd Jamaica Rd Roundabout - Swan Rd Swan Rd	Wa k Element						49					
367116_367115	Renforth St Albion St - Swan Rd Swan Rd	Wa k Element						15					
377383_367172	Southwark Park Rd Ambrose St - St. Jame's Rd Blue Anchor Ln	Wa k Element						150					
369061_369060	Poolmans St Garter Way - Needleman St Basque Crt	Wa k Element						301					
377432_377434	Lynton Rd Beatrice Rd - Simms Rd Beatrice Rd	Wa k Element						0					
377432_377374	Lynton Rd Beatrice Rd - St James Rd Lynton Rd	Wa k Element						74					
<b>Screenline Total</b>			<b>5041</b>	<b>0</b>	<b>35189</b>	<b>7624</b>	<b>141406</b>	<b>167471</b>	<b>-12%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>	

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Up to London Screenline - Southbound													
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?	
350260_390162	London Bridge- New Cross Gate	Southern	0	0	0	0		0					
350262_370462	London Bridge - South Bermondsey	Southern	0	0	0	0	3647	1242	1%	25%	PASS	No	
350262_390162	London Bridge- New Cross Gate	Southern	0	0	0	0		2444					
350264_390162	London Bridge- New Cross Gate	Thameslink	0	0	0	0	1439	1366	-5%	25%	PASS	No	
350260_390260	London Bridge- Deptford	South Eastern	0	0	0	0		0					
350260_390360	London Bridge- New Cross	South Eastern	0	0	0	0		3975					
350264_390360	London Bridge- New Cross	South Eastern	0	0	0	0	6986	0	5%	25%	PASS	No	
350282_390260	London Bridge/Cannon St. - Deptford	South Eastern	0	0	0	0		1724					
350282_390360	London Bridge- New Cross	South Eastern	0	0	0	0		1615					
360219_360319	Rotherhithe - Canada Water	London Overground	0	0	0	3709	0	2111	-43%	25%	FAIL	No	
360123_360323	Bermondsey - Canada Water	Jubilee Line	0	0	42571	0	0	41981	-1%	25%	PASS	No	
369016_367024	Rotherhithe Jamaica Road - Lower Rd Jamaica Rd Roundabout	Local Bus	1244	0	0	0	0	974	-22%	25%	PASS	No	
369020_367024	Rotherhithe Tunnel - Lower Rd Jamaica Rd Roundabout	Local Bus	1399	0	0	0	0	1759	26%	25%	FAIL	No	
369015_367066	S'Wark Pk Rd Clements Rd - S'Wark Pk Rd Roundabout Stalham St	Local Bus	195	0	0	0	0	234	20%	25%	PASS	Yes	
377374_379073	St James Rd Lynton Rd - St James Rd Catlin St	Local Bus	518	0	0	0	0	395	-24%	25%	PASS	No	
379033_377383	S'Wark Pk R/St James'S R - Southwark Park Rd Ambrose St	Local Bus	851	0	0	0	0	685	-19%	25%	PASS	No	
369016_367024	Rotherhithe Jamaica Road - Lower Rd Jamaica Rd Roundabout	Wa k Element						238					
369020_367024	Rotherhithe Tunnel - Lower Rd Jamaica Rd Roundabout	Wa k Element						116					
369015_367066	S'Wark Pk Rd Clements Rd - S'Wark Pk Rd Roundabout Stalham St	Wa k Element						391					
377374_379073	St James Rd Lynton Rd - St James Rd Catlin St	Wa k Element						18					
379033_377383	S'Wark Pk R/St James'S R - Southwark Park Rd Ambrose St	Wa k Element						5					
367023_367024	Jamaica Rd Cathay St - Lower Rd Jamaica Rd Roundabout	Wa k Element						0					
367013_367033	Clements Rd Drummond Rd - Southwark Park Rd Drummond Rd	Wa k Element						63					
367012_367066	S'Wark Pk Rd Gataker St - S'Wark Pk Rd Roundabout Stalham St	Wa k Element						0					
367115_367024	Swan Rd Swan Rd - Lower Rd Jamaica Rd Roundabout	Wa k Element						22					
367115_367116	Swan Rd Swan Rd - Renforth St Albion St	Wa k Element						11					
367172_377383	St. Jame's Rd Blue Anchor Ln - Southwark Park Rd Ambrose St	Wa k Element						46					
369060_369061	Poolmans St Garter Way - Needleman St Basque Crt	Wa k Element						661					
377374_377432	St James Rd Lynton Rd - Lynton Rd Beatrice Rd	Wa k Element						75					
377434_377432	Simms Rd Beatrice Rd - Lynton Rd Beatrice Rd	Wa k Element						0					
<b>Screenline Total</b>			<b>4207</b>	<b>0</b>	<b>42571</b>	<b>3709</b>	<b>12072</b>	<b>60505</b>	<b>-3%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>	

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Down from London Screenline - North/westbound												
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
360418_360318	Surrey Quays - Canada Water	London Overground	0	0	0	10519	0	7363	-30%	25%	FAIL	No
80722_360322	Canary Wharf - Canada Water	Jubilee Line	0	0	27157	0	27395	1%	25%	PASS	No	
80791_70191	Canary Wharf - West India Quay	DLR	0	7063	0	0	5974	6%	25%	PASS	No	
80793_70193	Canary Wharf - West India Quay	DLR	0	0	0	0	1480					
87111_87168	Marsh Wall Roundabout - Westferry Circus Roundabout	Local Bus	0	0	0	0	23	#DIV/0!	25%	#DIV/0!	Yes	
87141_87170	Cabot Sq S Colonnade - W India Ave Cabot Sq	Local Bus	744	0	0	0	730	-2%	25%	PASS	No	
367101_369053	Redriff R Surrey Quays Rd - Surrey Quays Leisure Cen	Local Bus	2528	0	0	0	3597	42%	25%	FAIL	No	
367102_367127	Redriff Rd Quebec Way - Redriff Rd Omega Gate	Local Bus	338	0	0	0	539	60%	25%	FAIL	Yes	
367149_369030	Surrey Quays Overground - Lower Road Orange Place	Local Bus	905	0	0	0	1592	76%	25%	FAIL	No	
87111_87168	Marsh Wall Roundabout - Westferry Circus Roundabout	Walk Element					66					
87141_87170	Cabot Sq S Colonnade - W India Ave Cabot Sq	Walk Element					701					
367101_369053	Redriff R Surrey Quays Rd - Surrey Quays Leisure Cen	Walk Element					3					
367102_367127	Redriff Rd Quebec Way - Redriff Rd Omega Gate	Walk Element					104					
367149_369030	Surrey Quays Overground - Lower Road Orange Place	Walk Element					34					
87205_77043	Canada Sq Upper Bank St - Upper Bank St Aspen Way	Walk Element					3300					
87141_87142	Cabot Sq S Colonnade - Colonnade Sq Cabot Sq	Walk Element					0					
89082_87142	Canada Square Canary Whf - Colonnade Sq Cabot Sq	Walk Element					1					
367088_367087	Surrey Quays Shopping Centre - Surrey Quays Rd Deal Porters	Walk Element					401					
367102_367152	Redriff Rd Quebec Way - Quebec Way Teredo St	Walk Element					16					
367129_367146	Omega Gate Plover Way - Norway Gate Plover Way	Walk Element					0					
367130_367146	Finland St Norway Gate - Norway Gate Plover Way	Walk Element					250					
367129_367127	Omega Gate Plover Way - Redriff Rd Omega Gate	Walk Element					11					
<b>Screenline Total</b>			<b>4514</b>	<b>7063</b>	<b>27157</b>	<b>10519</b>	<b>0</b>	<b>48693</b>	<b>-1%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Down from London Screenline - Southbound												
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
360319_360419	Canada Water - Surrey Quays	London Overground	0	0	0	1670	0	1948	17%	25%	PASS	No
360323_80723	Canada Water - Canary Wharf	Jubilee Line	0	0	44277	0	43913	-1%	25%	PASS	No	
70190_80790	West India Quay - Canary Wharf	DLR	0	16185	0	0	8602	-16%	25%	PASS	No	
70192_80792	West India Quay - Canary Wharf	DLR	0	0	0	0	4960					
87168_87111	Westferry Circus Roundabout - Marsh Wall Roundabout	Local Bus	85	0	0	0	28	-67%	25%	FAIL	Yes	
87142_89082	Colonnade Sq Cabot Sq - Canada Square Canary Whf	Local Bus	1221	0	0	0	871	-29%	25%	FAIL	No	
369053_367101	Surrey Quays Leisure Cen - Redriff R Surrey Quays Rd	Local Bus	976	0	0	0	1373	41%	25%	FAIL	No	
367127_367102	Redriff Rd Omega Gate - Redriff Rd Quebec Way	Local Bus	1116	0	0	0	1349	21%	25%	PASS	No	
369030_367149	Lower Road Orange Place - Surrey Quays Overground	Local Bus	0	0	0	0	391	#DIV/0!	25%	#DIV/0!	Yes	
87168_87111	Westferry Circus Roundabout - Marsh Wall Roundabout	Walk Element					151					
87142_89082	Colonnade Sq Cabot Sq - Canada Square Canary Whf	Walk Element					0					
369053_367101	Surrey Quays Leisure Cen - Redriff R Surrey Quays Rd	Walk Element					0					
367127_367102	Redriff Rd Omega Gate - Redriff Rd Quebec Way	Walk Element					156					
369030_367149	Lower Road Orange Place - Surrey Quays Overground	Walk Element					61					
77043_87205	Upper Bank St Aspen Way - Canada Sq Upper Bank St	Walk Element					1261					
87142_87141	Colonnade Sq Cabot Sq - Cabot Sq S Colonnade	Walk Element					0					
87170_87141	W India Ave Cabot Sq - Cabot Sq S Colonnade	Walk Element					670					
367087_367088	Surrey Quays Rd Deal Porters Way - Surrey Quays Shopping Ce	Walk Element					6					
367152_367102	Quebec Way Teredo St - Redriff Rd Quebec Way	Walk Element					7					
367146_367129	Norway Gate Plover Way - Omega Gate Plover Way	Walk Element					0					
367146_367130	Norway Gate Plover Way - Finland St Norway Gate	Walk Element					48					
367127_367129	Redriff Rd Omega Gate - Omega Gate Plover Way	Walk Element					1					
<b>Screenline Total</b>			<b>3398</b>	<b>16185</b>	<b>44277</b>	<b>1670</b>	<b>0</b>	<b>63435</b>	<b>-3%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.



Assignment Validation of Cordon Links into Study Area												
Link D	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
360418_360318	Surrey Quays - Canada Water	London Overground	0	0	0	10519	0	7363	-30%	25%	FAIL	No
360219_360319	Rotherhithe - Canada Water	London Overground	0	0	0	3709	0	2111	-43%	25%	FAIL	No
360123_360323	Bermondsey - Canada Water	Jubilee Line	0	0	42571	0	0	41981	-1%	25%	PASS	No
80722_360322	Canary Wharf - Canada Water	Jubilee Line	0	0	27157	0	0	27395	1%	25%	PASS	No
367136_367090	Rotherhithe New Rd/Silwood St. - Rotherhithe New Rd Roundabout (SW Link)	Local Bus	828	0	0	0	0	613	-26%	25%	FAIL	No
369034_367100	Lower Road Surrey Quays Stn (Stop M) - Lower Rd/Cope St. (S Link)	Local Bus	#N/A	0	0	0	0	-	#VALUE!	25%	#VALUE!	#N/A
367063_369016	Jamaica Road S'Wark Pk Rd - Southwark Park Stop C (NW Link)	Local Bus	1215	0	0	0	0	986	-19%	25%	PASS	No
367104_369022	Rotherhithe St/Salter Rd - Salter Rd/Shipwright Rd (E Link)	Local Bus	697	0	0	0	0	789	13%	25%	PASS	No
367136_367090	Rotherhithe New Rd/Silwood St. - Rotherhithe New Rd Roundabout	Walk Element						681				
369034_367100	Lower Road Surrey Quays Stn (Stop M) - Lower Rd/Cope St.	Walk Element						761				
367063_369016	Jamaica Road S'Wark Pk Rd - Southwark Park Stop C	Walk Element						83				
367104_369022	Rotherhithe St/Salter Rd - Salter Rd/Shipwright Rd	Walk Element						257				
<b>Into Study Area Total</b>			<b>2740</b>	<b>0</b>	<b>69728</b>	<b>14228</b>	<b>0</b>	<b>81238</b>	<b>-6%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Assignment Validation of Cordon Links from Study Area												
Link D	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
360319_360419	Canada Water - Surrey Quays	London Overground	0	0	0	1670	0	1948	17%	25%	PASS	No
360318_360218	Canada Water - Rotherhithe	London Overground	0	0	0	7624	0	5007	-34%	25%	FAIL	No
360322_360122	Canada Water - Bermondsey	Jubilee Line	0	0	35189	0	0	33086	-6%	25%	PASS	No
360323_80723	Canada Water - Canary Wharf	Jubilee Line	0	0	44277	0	0	43913	-1%	25%	PASS	No
367090_367136	Rotherhithe New Rd Roundabout - Rotherhithe New Rd/Silwood St. (SW Link)	Local Bus	715	0	0	0	0	575	-20%	25%	PASS	No
367100_369034	Lower Rd/Cope St. - Lower Road Surrey Quays Stn (Stop M) (S Link)	Local Bus	854	0	0	0	0	1514	77%	25%	FAIL	No
369016_367063	Southwark Park Stop C - Jamaica Road S'Wark Pk Rd (NW Link)	Local Bus	2525	0	0	0	0	3382	34%	25%	FAIL	No
369022_367104	Salter Rd/Shipwright Rd - Rotherhithe St/Salter Rd (E Link)	Local Bus	455	0	0	0	0	751	65%	25%	FAIL	No
367090_367136	Rotherhithe New Rd Roundabout - Rotherhithe New Rd/Silwood St.	Walk Element						201				
367100_369034	Lower Rd/Cope St. - Lower Road Surrey Quays Stn (Stop M)	Walk Element						255				
369016_367063	Southwark Park Stop C - Jamaica Road S'Wark Pk Rd	Walk Element						353				
369022_367104	Salter Rd/Shipwright Rd - Rotherhithe St/Salter Rd	Walk Element						110				
<b>From Study Area Total</b>			<b>4550</b>	<b>0</b>	<b>79466</b>	<b>9294</b>	<b>0</b>	<b>90176</b>	<b>-3%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Assignment Validation of Boardings at Key Stations/Stops													
Node ID	Node Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?	
360122	Bermondsey Northbound Platform	Jubilee Line	0	0	2878	0	0	2904	1%	25%	PASS	No	
360123	Bermondsey Southbound Platform	Jubilee Line	0	0	1274	0	0	626	-51%	25%	FAIL	No	
360318	Canada Water Northbound Platform	London Overground	0	0	0	2208	0	744	-66%	25%	FAIL	No	
360319	Canada Water Southbound Platform	London Overground	0	0	0	713	0	666	-7%	25%	PASS	No	
360322	Canada Water Northbound Platform	Jubilee Line	0	0	9746	0	0	7491	-23%	25%	PASS	No	
360323	Canada Water Southbound Platform	Jubilee Line	0	0	3672	0	0	3024	-18%	25%	PASS	No	
360218	Rotherhithe Northbound Platform	London Overground	0	0	0	757	0	442	-42%	25%	FAIL	No	
360219	Rotherhithe Southbound Platform	London Overground	0	0	0	758	0	93	-88%	25%	FAIL	No	
360418	Surrey Quays Northbound Platform	London Overground	0	0	0	2088	0	939	-55%	25%	FAIL	No	
360419	Surrey Quays Southbound Platform	London Overground	0	0	0	739	0	286	-61%	25%	FAIL	No	
<b>Total Boardings</b>			<b>0</b>	<b>0</b>	<b>17570</b>	<b>7263</b>	<b>0</b>	<b>17215</b>	<b>-31%</b>	<b>15%</b>	<b>FAIL</b>		

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Assignment Validation of Alightings at Key Stations/Stops													
Node ID	Node Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?	
360122	Bermondsey Northbound Platform	Jubilee Line	0	0	1526	0	0	826	-46%	25%	FAIL	No	
360123	Bermondsey Southbound Platform	Jubilee Line	0	0	891	0	0	1299	46%	25%	FAIL	No	
360318	Canada Water Northbound Platform	London Overground	0	0	0	5102	0	3099	-39%	25%	FAIL	No	
360319	Canada Water Southbound Platform	London Overground	0	0	0	2753	0	829	-70%	25%	FAIL	No	
360322	Canada Water Northbound Platform	Jubilee Line	0	0	1655	0	0	1800	9%	25%	PASS	No	
360323	Canada Water Southbound Platform	Jubilee Line	0	0	1996	0	0	1092	-45%	25%	FAIL	No	
360218	Rotherhithe Northbound Platform	London Overground	0	0	0	339	0	115	-66%	25%	FAIL	Yes	
360219	Rotherhithe Southbound Platform	London Overground	0	0	0	126	0	198	57%	25%	FAIL	Yes	
360418	Surrey Quays Northbound Platform	London Overground	0	0	0	1055	0	228	-78%	25%	FAIL	No	
360419	Surrey Quays Southbound Platform	London Overground	0	0	0	494	0	342	-31%	25%	FAIL	No	
<b>Total Alightings</b>			<b>0</b>	<b>0</b>	<b>6068</b>	<b>9869</b>	<b>0</b>	<b>9828</b>	<b>-38%</b>	<b>15%</b>	<b>FAIL</b>		

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

<b>Trip Matrix Validation</b>						
<b>Proportion of links within 15% of Observed:</b>			<b>100%</b>			
WebTAG criteria = 95%						
		Total Assigned Passengers*	Total Observed Passengers	Difference	WebTAG Criteria	WebTAG Pass/Fail
<b>Up to London Screenline Screenline</b>	<b>Northbound</b>	169486	189260	-10%	15%	<b>PASS</b>
	<b>Southbound</b>	62151	62559	-1%	15%	<b>PASS</b>
<b>Down From London Screenline</b>	<b>North/Westbound</b>	53580	49253	9%	15%	<b>PASS</b>
	<b>Southbound</b>	65796	65530	0%	15%	<b>PASS</b>
<b>Into Study Area</b>		83020	86696	-4%	15%	<b>PASS</b>
<b>From Study Area</b>		91095	93310	-2%	15%	<b>PASS</b>

\*Assigned passengers include walk demand

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Up to London Screenline - Northbound													
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?	
360318_360218	Canada Water - Rotherhithe	London Overground	0	0	0	7624	0	5689	-25%	25%	FAIL	No	
370463_350263	South Bermondsey - London Bridge	Southern	0	0	0	0	5089						
390163_350261	New Cross Gate - London Bridge	Southern	0	0	0	0	44026	0	-25%	25%	FAIL	No	
390163_350263	New Cross Gate - London Bridge	Southern	0	0	0	0	27853						
390163_350265	New Cross Gate - London Bridge	Thameslink	0	0	0	0	1811	3411	88%	25%	FAIL	No	
390261_350261	Deptford - London Bridge	South Eastern	0	0	0	0		3650					
390261_350283	Deptford - London Bridge	South Eastern	0	0	0	0		10498					
390361_350261	New Cross Gate - London Bridge	South Eastern	0	0	0	0	95569	39666	-8%	25%	PASS	No	
390361_350265	New Cross Gate - London Bridge	South Eastern	0	0	0	0		0					
390361_350283	New Cross Gate - London Bridge	South Eastern	0	0	0	0		34185					
360322_360122	Canada Water - Bermondsey	Jubilee Line	0	0	35189	0	0	33181	-6%	25%	PASS	No	
367024_369016	Lower Rd Jamaica Rd Roundabout - Rotherhithe Jamaica Rd	Local Bus	2867	0	0	0	0	3001	5%	25%	PASS	No	
367024_369020	Lower Rd Jamaica Rd Roundabout - Rotherhithe Tunnel	Local Bus	479	0	0	0	0	430	-10%	25%	PASS	No	
367066_369015	S'Wark Pk Rd Roundabout Stalham St - S'Wark Pk Rd Clements Rd	Local Bus	171	0	0	0	0	163	-5%	25%	PASS	Yes	
379073_377374	St James' Rd Catlin St - St James Rd Lynton Rd	Local Bus	509	0	0	0	0	394	-23%	25%	PASS	No	
377383_379033	Southwark Park Rd Ambrose St - S'Wark Pk R/St James's Rd	Local Bus	1015	0	0	0	0	858	-15%	25%	PASS	No	
367024_369016	Lower Rd Jamaica Rd Roundabout - Rotherhithe Jamaica Rd	Wa k Element						692					
367024_369020	Lower Rd Jamaica Rd Roundabout - Rotherhithe Tunnel	Wa k Element						133					
367066_369015	S'Wark Pk Rd Roundabout Stalham St - S'Wark Pk Rd Clements Rd	Wa k Element						512					
379073_377374	St James' Rd Catlin St - St James Rd Lynton Rd	Wa k Element						31					
377383_379033	Southwark Park Rd Ambrose St - S'Wark Pk R/St James's Rd	Wa k Element						13					
367024_367023	Lower Rd Jamaica Rd Roundabout - Jamaica Rd Cathay St	Wa k Element						0					
367033_367013	Southwark Park Rd Drummond Rd - Clements Rd Drummond Rd	Wa k Element						15					
367066_367012	S'Wark Pk Rd Roundabout Stalham St - S'Wark Pk Rd Gataker St	Wa k Element						0					
367024_367115	Lower Rd Jamaica Rd Roundabout - Swan Rd Swan Rd	Wa k Element						45					
367116_367115	Renforth St Albion St - Swan Rd Swan Rd	Wa k Element						14					
377383_367172	Southwark Park Rd Ambrose St - St. Jame's Rd Blue Anchor Ln	Wa k Element						150					
369061_369060	Poolmans St Garter Way - Needleman St Basque Crt	Wa k Element						300					
377432_377434	Lynton Rd Beatrice Rd - Simms Rd Beatrice Rd	Wa k Element						0					
377432_377374	Lynton Rd Beatrice Rd - St James Rd Lynton Rd	Wa k Element						73					
<b>Screenline Total</b>			<b>5041</b>	<b>0</b>	<b>35189</b>	<b>7624</b>	<b>141406</b>	<b>168068</b>	<b>-11%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>	

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Up to London Screenline - Southbound												
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
350260_390162	London Bridge- New Cross Gate	Southern	0	0	0	0		0				
350262_370462	London Bridge - South Bermondsey	Southern	0	0	0	0	3647	1167	-4%	25%	PASS	No
350262_390162	London Bridge- New Cross Gate	Southern	0	0	0	0		2349				
350264_390162	London Bridge- New Cross Gate	Thameslink	0	0	0	0	1439	1359	-6%	25%	PASS	No
350260_390260	London Bridge- Deptford	South Eastern	0	0	0	0		0				
350260_390360	London Bridge- New Cross	South Eastern	0	0	0	0		3968				
350264_390360	London Bridge- New Cross	South Eastern	0	0	0	0	6986	0	3%	25%	PASS	No
350282_390260	London Bridge/Cannon St. - Deptford	South Eastern	0	0	0	0		1692				
350282_390360	London Bridge- New Cross	South Eastern	0	0	0	0		1549				
360219_360319	Rotherhithe - Canada Water	London Overground	0	0	0	3709	0	2857	-23%	25%	PASS	No
360123_360323	Bermondsey - Canada Water	Jubilee Line	0	0	42571	0	0	41907	-2%	25%	PASS	No
369016_367024	Rotherhithe Jamaica Road - Lower Rd Jamaica Rd Roundabout	Local Bus	1244	0	0	0	0	948	-24%	25%	PASS	No
369020_367024	Rotherhithe Tunnel - Lower Rd Jamaica Rd Roundabout	Local Bus	1399	0	0	0	0	1719	23%	25%	PASS	No
369015_367066	S'Wark Pk Rd Clements Rd - S'Wark Pk Rd Roundabout Stalham St	Local Bus	195	0	0	0	0	213	9%	25%	PASS	Yes
377374_379073	St James Rd Lynton Rd - St James Rd Catlin St	Local Bus	518	0	0	0	0	357	-31%	25%	FAIL	No
379033_377383	S'Wark Pk R/St James'S R - Southwark Park Rd Ambrose St	Local Bus	851	0	0	0	0	668	-21%	25%	PASS	No
369016_367024	Rotherhithe Jamaica Road - Lower Rd Jamaica Rd Roundabout	Wak Element						229				
369020_367024	Rotherhithe Tunnel - Lower Rd Jamaica Rd Roundabout	Wak Element						106				
369015_367066	S'Wark Pk Rd Clements Rd - S'Wark Pk Rd Roundabout Stalham St	Wak Element						384				
377374_379073	St James Rd Lynton Rd - St James Rd Catlin St	Wak Element						16				
379033_377383	S'Wark Pk R/St James'S R - Southwark Park Rd Ambrose St	Wak Element						5				
367023_367024	Jamaica Rd Cathay St - Lower Rd Jamaica Rd Roundabout	Wak Element						0				
367013_367033	Clements Rd Drummond Rd - Southwark Park Rd Drummond Rd	Wak Element						20				
367012_367066	S'Wark Pk Rd Gataker St - S'Wark Pk Rd Roundabout Stalham St	Wak Element						0				
367115_367024	Swan Rd Swan Rd - Lower Rd Jamaica Rd Roundabout	Wak Element						17				
367115_367116	Swan Rd Swan Rd - Renforth St Albion St	Wak Element						9				
367172_377383	St. Jame's Rd Blue Anchor Ln - Southwark Park Rd Ambrose St	Wak Element						46				
369060_369061	Poolmans St Garter Way - Needleman St Basque Crt	Wak Element						655				
377374_377432	St James Rd Lynton Rd - Lynton Rd Beatrice Rd	Wak Element						74				
377434_377432	Simms Rd Beatrice Rd - Lynton Rd Beatrice Rd	Wak Element						0				
<b>Screenline Total</b>			<b>4207</b>	<b>0</b>	<b>42571</b>	<b>3709</b>	<b>12072</b>	<b>60753</b>	<b>-3%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Down from London Screenline - North/westbound													
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?	
360418_360318	Surrey Quays - Canada Water	London Overground	0	0	0	10519	0	9223	-12%	25%	PASS	No	
80722_360322	Canary Wharf - Canada Water	Jubilee Line	0	0	27157	0	27392	1%	25%	PASS	No		
80791_70191	Canary Wharf - West India Quay	DLR	0	7063	0	0	5954	4%	25%	PASS	No		
80793_70193	Canary Wharf - West India Quay	DLR	0	0	0	0	1426						
87111_87168	Marsh Wall Roundabout - Westferry Circus Roundabout	Local Bus	0	0	0	0	23	#DIV/0!	25%	#DIV/0!	Yes		
87141_87170	Cabot Sq S Colonnade - W India Ave Cabot Sq	Local Bus	744	0	0	0	711	-4%	25%	PASS	No		
367101_369053	Redriff R Surrey Quays Rd - Surrey Quays Leisure Cen	Local Bus	2528	0	0	0	3361	33%	25%	FAIL	No		
367102_367127	Redriff Rd Quebec Way - Redriff Rd Omega Gate	Local Bus	338	0	0	0	525	56%	25%	FAIL	Yes		
367149_369030	Surrey Quays Overground - Lower Road Orange Place	Local Bus	905	0	0	0	1156	28%	25%	FAIL	No		
87111_87168	Marsh Wall Roundabout - Westferry Circus Roundabout	Walk Element					64						
87141_87170	Cabot Sq S Colonnade - W India Ave Cabot Sq	Walk Element					690						
367101_369053	Redriff R Surrey Quays Rd - Surrey Quays Leisure Cen	Walk Element					2						
367102_367127	Redriff Rd Quebec Way - Redriff Rd Omega Gate	Walk Element					106						
367149_369030	Surrey Quays Overground - Lower Road Orange Place	Walk Element					38						
87205_77043	Canada Sq Upper Bank St - Upper Bank St Aspen Way	Walk Element					3292						
87141_87142	Cabot Sq S Colonnade - Colonnade Sq Cabot Sq	Walk Element					0						
89082_87142	Canada Square Canary Whf - Colonnade Sq Cabot Sq	Walk Element					1						
367088_367087	Surrey Quays Shopping Centre - Surrey Quays Rd Deal Porters	Walk Element					3						
367102_367152	Redriff Rd Quebec Way - Quebec Way Teredo St	Walk Element					15						
367129_367146	Omega Gate Plover Way - Norway Gate Plover Way	Walk Element					0						
367130_367146	Finland St Norway Gate - Norway Gate Plover Way	Walk Element					243						
367129_367127	Omega Gate Plover Way - Redriff Rd Omega Gate	Walk Element					11						
<b>Screenline Total</b>			<b>4514</b>	<b>7063</b>	<b>27157</b>	<b>10519</b>	<b>0</b>	<b>49771</b>	<b>1%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>	

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Down from London Screenline - Southbound													
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?	
360319_360419	Canada Water - Surrey Quays	London Overground	0	0	0	1670	0	2641	58%	25%	FAIL	No	
360323_80723	Canada Water - Canary Wharf	Jubilee Line	0	0	44277	0	43952	-1%	25%	PASS	No		
70190_80790	West India Quay - Canary Wharf	DLR	0	16185	0	0	8557	-17%	25%	PASS	No		
70192_80792	West India Quay - Canary Wharf	DLR	0	0	0	0	4902						
87168_87111	Westferry Circus Roundabout - Marsh Wall Roundabout	Local Bus	85	0	0	0	28	-67%	25%	FAIL	Yes		
87142_89082	Colonnade Sq Cabot Sq - Canada Square Canary Whf	Local Bus	1221	0	0	0	835	-32%	25%	FAIL	No		
369053_367101	Surrey Quays Leisure Cen - Redriff R Surrey Quays Rd	Local Bus	976	0	0	0	1309	34%	25%	FAIL	No		
367127_367102	Redriff Rd Omega Gate - Redriff Rd Quebec Way	Local Bus	1116	0	0	0	1331	19%	25%	PASS	No		
369030_367149	Lower Road Orange Place - Surrey Quays Overground	Local Bus	0	0	0	0	352	#DIV/0!	25%	#DIV/0!	Yes		
87168_87111	Westferry Circus Roundabout - Marsh Wall Roundabout	Walk Element					145						
87142_89082	Colonnade Sq Cabot Sq - Canada Square Canary Whf	Walk Element					0						
369053_367101	Surrey Quays Leisure Cen - Redriff R Surrey Quays Rd	Walk Element					0						
367127_367102	Redriff Rd Omega Gate - Redriff Rd Quebec Way	Walk Element					159						
369030_367149	Lower Road Orange Place - Surrey Quays Overground	Walk Element					67						
77043_87205	Upper Bank St Aspen Way - Canada Sq Upper Bank St	Walk Element					1252						
87142_87141	Colonnade Sq Cabot Sq - Cabot Sq S Colonnade	Walk Element					0						
87170_87141	W India Ave Cabot Sq - Cabot Sq S Colonnade	Walk Element					619						
367087_367088	Surrey Quays Rd Deal Porters Way - Surrey Quays Shopping Ce	Walk Element					6						
367152_367102	Quebec Way Teredo St - Redriff Rd Quebec Way	Walk Element					7						
367146_367129	Norway Gate Plover Way - Omega Gate Plover Way	Walk Element					0						
367146_367130	Norway Gate Plover Way - Finland St Norway Gate	Walk Element					47						
367127_367129	Redriff Rd Omega Gate - Omega Gate Plover Way	Walk Element					1						
<b>Screenline Total</b>			<b>3398</b>	<b>16185</b>	<b>44277</b>	<b>1670</b>	<b>0</b>	<b>63907</b>	<b>-2%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>	

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Assignment Validation of Cordon Links into Study Area												
Link D	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
360418_360318	Surrey Quays - Canada Water	London Overground	0	0	0	10519	0	9223	-12%	25%	PASS	No
360219_360319	Rotherhithe - Canada Water	London Overground	0	0	0	3709	0	2857	-23%	25%	PASS	No
360123_360323	Bermondsey - Canada Water	Jubilee Line	0	0	42571	0	0	41907	-2%	25%	PASS	No
80722_360322	Canary Wharf - Canada Water	Jubilee Line	0	0	27157	0	0	27392	1%	25%	PASS	No
367136_367090	Rotherhithe New Rd/Silwood St. - Rotherhithe New Rd Roundabout (SW Link)	Local Bus	828	0	0	0	0	615	-26%	25%	FAIL	No
369034_367100	Lower Road Surrey Quays Stn (Stop M) - Lower Rd/Cope St. (S Link)	Local Bus	#N/A	0	0	0	0	-	#VALUE!	25%	#VALUE!	#N/A
367063_369016	Jamaica Road S'Wark Pk Rd - Southwark Park Stop C (NW Link)	Local Bus	1215	0	0	0	0	956	-21%	25%	PASS	No
367104_369022	Rotherhithe St/Salter Rd - Salter Rd/Shipwright Rd (E Link)	Local Bus	697	0	0	0	0	788	13%	25%	PASS	No
367136_367090	Rotherhithe New Rd/Silwood St. - Rotherhithe New Rd Roundabout	Walk Element						698				
369034_367100	Lower Road Surrey Quays Stn (Stop M) - Lower Rd/Cope St.	Walk Element						821				
367063_369016	Jamaica Road S'Wark Pk Rd - Southwark Park Stop C	Walk Element						80				
367104_369022	Rotherhithe St/Salter Rd - Salter Rd/Shipwright Rd	Walk Element						252				
<b>Into Study Area Total</b>			<b>2740</b>	<b>0</b>	<b>69728</b>	<b>14228</b>	<b>0</b>	<b>83738</b>	<b>-3%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Assignment Validation of Cordon Links from Study Area												
Link D	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
360319_360419	Canada Water - Surrey Quays	London Overground	0	0	0	1670	0	2641	58%	25%	FAIL	No
360318_360218	Canada Water - Rotherhithe	London Overground	0	0	0	7624	0	5689	-25%	25%	FAIL	No
360322_360122	Canada Water - Bermondsey	Jubilee Line	0	0	35189	0	0	33181	-6%	25%	PASS	No
360323_80723	Canada Water - Canary Wharf	Jubilee Line	0	0	44277	0	0	43952	-1%	25%	PASS	No
367090_367136	Rotherhithe New Rd Roundabout - Rotherhithe New Rd/Silwood St. (SW Link)	Local Bus	715	0	0	0	0	520	-27%	25%	FAIL	No
367100_369034	Lower Rd/Cope St. - Lower Road Surrey Quays Stn (Stop M) (S Link)	Local Bus	854	0	0	0	0	1436	68%	25%	FAIL	No
369016_367063	Southwark Park Stop C - Jamaica Road S'Wark Pk Rd (NW Link)	Local Bus	2525	0	0	0	0	3201	27%	25%	FAIL	No
369022_367104	Salter Rd/Shipwright Rd - Rotherhithe St/Salter Rd (E Link)	Local Bus	455	0	0	0	0	743	63%	25%	FAIL	No
367090_367136	Rotherhithe New Rd Roundabout - Rotherhithe New Rd/Silwood St.	Walk Element						256				
367100_369034	Lower Rd/Cope St. - Lower Road Surrey Quays Stn (Stop M)	Walk Element						296				
369016_367063	Southwark Park Stop C - Jamaica Road S'Wark Pk Rd	Walk Element						352				
369022_367104	Salter Rd/Shipwright Rd - Rotherhithe St/Salter Rd	Walk Element						109				
<b>From Study Area Total</b>			<b>4550</b>	<b>0</b>	<b>79466</b>	<b>9294</b>	<b>0</b>	<b>91363</b>	<b>-2%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Assignment Validation of Boardings at Key Stations/Stops													
Node ID	Node Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?	
360122	Bermondsey Northbound Platform	Jubilee Line	0	0	2878	0	0	2866	0%	25%	PASS	No	
360123	Bermondsey Southbound Platform	Jubilee Line	0	0	1274	0	0	629	-51%	25%	FAIL	No	
360318	Canada Water Northbound Platform	London Overground	0	0	0	2208	0	1037	-53%	25%	FAIL	No	
360319	Canada Water Southbound Platform	London Overground	0	0	0	713	0	1068	50%	25%	FAIL	No	
360322	Canada Water Northbound Platform	Jubilee Line	0	0	9746	0	0	7787	-20%	25%	PASS	No	
360323	Canada Water Southbound Platform	Jubilee Line	0	0	3672	0	0	3376	-8%	25%	PASS	No	
360218	Rotherhithe Northbound Platform	London Overground	0	0	0	757	0	615	-19%	25%	PASS	No	
360219	Rotherhithe Southbound Platform	London Overground	0	0	0	758	0	275	-64%	25%	FAIL	No	
360418	Surrey Quays Northbound Platform	London Overground	0	0	0	2088	0	2074	-1%	25%	PASS	No	
360419	Surrey Quays Southbound Platform	London Overground	0	0	0	739	0	372	-50%	25%	FAIL	No	
<b>Total Boardings</b>			<b>0</b>	<b>0</b>	<b>17570</b>	<b>7263</b>	<b>0</b>	<b>20099</b>	<b>-19%</b>	<b>15%</b>	<b>FAIL</b>	<b>No</b>	

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Assignment Validation of Alightings at Key Stations/Stops													
Node ID	Node Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?	
360122	Bermondsey Northbound Platform	Jubilee Line	0	0	1526	0	0	823	-46%	25%	FAIL	No	
360123	Bermondsey Southbound Platform	Jubilee Line	0	0	891	0	0	1242	39%	25%	FAIL	No	
360318	Canada Water Northbound Platform	London Overground	0	0	0	5102	0	4571	-10%	25%	PASS	No	
360319	Canada Water Southbound Platform	London Overground	0	0	0	2753	0	1284	-53%	25%	FAIL	No	
360322	Canada Water Northbound Platform	Jubilee Line	0	0	1655	0	0	1998	21%	25%	PASS	No	
360323	Canada Water Southbound Platform	Jubilee Line	0	0	1996	0	0	1330	-33%	25%	FAIL	No	
360218	Rotherhithe Northbound Platform	London Overground	0	0	0	339	0	192	-43%	25%	FAIL	Yes	
360219	Rotherhithe Southbound Platform	London Overground	0	0	0	126	0	269	113%	25%	FAIL	Yes	
360418	Surrey Quays Northbound Platform	London Overground	0	0	0	1055	0	270	-74%	25%	FAIL	No	
360419	Surrey Quays Southbound Platform	London Overground	0	0	0	494	0	479	-3%	25%	PASS	No	
<b>Total Alightings</b>			<b>0</b>	<b>0</b>	<b>6068</b>	<b>9869</b>	<b>0</b>	<b>12458</b>	<b>-22%</b>	<b>15%</b>	<b>FAIL</b>	<b>No</b>	

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.



<b>Trip Matrix Validation</b>						
<b>Proportion of links within 15% of Observed:</b>			<b>100%</b>			
WebTAG criteria = 95%						
		Total Assigned Passengers*	Total Observed Passengers	Difference	WebTAG Criteria	WebTAG Pass/Fail
<b>Up to London Screenline Screenline</b>	<b>Northbound</b>	170046	189260	-10%	15%	<b>PASS</b>
	<b>Southbound</b>	62314	62559	0%	15%	<b>PASS</b>
<b>Down From London Screenline</b>	<b>North/Westbound</b>	54236	49253	10%	15%	<b>PASS</b>
	<b>Southbound</b>	66210	65530	1%	15%	<b>PASS</b>
<b>Into Study Area</b>		85589	86696	-1%	15%	<b>PASS</b>
<b>From Study Area</b>		92376	93310	-1%	15%	<b>PASS</b>

\*Assigned passengers include walk demand

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Up to London Screenline - Northbound													
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?	
360318_360218	Canada Water - Rotherhithe	London Overground	0	0	0	7624	0	5637	-26%	25%	FAIL	No	
370463_350263	South Bermondsey - London Bridge	Southern	0	0	0	0	5207						
390163_350261	New Cross Gate - London Bridge	Southern	0	0	0	0	44026	0	-27%	25%	FAIL	No	
390163_350263	New Cross Gate - London Bridge	Southern	0	0	0	0	27147						
390163_350265	New Cross Gate - London Bridge	Thameslink	0	0	0	0	1811	3406	88%	25%	FAIL	No	
390261_350261	Deptford - London Bridge	South Eastern	0	0	0	0		3653					
390261_350283	Deptford - London Bridge	South Eastern	0	0	0	0		10506					
390361_350261	New Cross Gate - London Bridge	South Eastern	0	0	0	0	95569	39783	-8%	25%	PASS	No	
390361_350265	New Cross Gate - London Bridge	South Eastern	0	0	0	0		0					
390361_350283	New Cross Gate - London Bridge	South Eastern	0	0	0	0		34355					
360322_360122	Canada Water - Bermondsey	Jubilee Line	0	0	35189	0	0	33258	-5%	25%	PASS	No	
367024_369016	Lower Rd Jamaica Rd Roundabout - Rotherhithe Jamaica Rd	Local Bus	2867	0	0	0	0	3018	5%	25%	PASS	No	
367024_369020	Lower Rd Jamaica Rd Roundabout - Rotherhithe Tunnel	Local Bus	479	0	0	0	0	431	-10%	25%	PASS	No	
367066_369015	S'Wark Pk Rd Roundabout Stalham St - S'Wark Pk Rd Clements Rd	Local Bus	171	0	0	0	0	164	-4%	25%	PASS	Yes	
379073_377374	St James' Rd Catlin St - St James Rd Lynton Rd	Local Bus	509	0	0	0	0	399	-22%	25%	PASS	No	
377383_379033	Southwark Park Rd Ambrose St - S'Wark Pk R/St James's Rd	Local Bus	1015	0	0	0	0	884	-13%	25%	PASS	No	
367024_369016	Lower Rd Jamaica Rd Roundabout - Rotherhithe Jamaica Rd	Wa k Element						691					
367024_369020	Lower Rd Jamaica Rd Roundabout - Rotherhithe Tunnel	Wa k Element						133					
367066_369015	S'Wark Pk Rd Roundabout Stalham St - S'Wark Pk Rd Clements Rd	Wa k Element						513					
379073_377374	St James' Rd Catlin St - St James Rd Lynton Rd	Wa k Element						31					
377383_379033	Southwark Park Rd Ambrose St - S'Wark Pk R/St James's Rd	Wa k Element						13					
367024_367023	Lower Rd Jamaica Rd Roundabout - Jamaica Rd Cathay St	Wa k Element						0					
367033_367013	Southwark Park Rd Drummond Rd - Clements Rd Drummond Rd	Wa k Element						15					
367066_367012	S'Wark Pk Rd Roundabout Stalham St - S'Wark Pk Rd Gataker St	Wa k Element						0					
367024_367115	Lower Rd Jamaica Rd Roundabout - Swan Rd Swan Rd	Wa k Element						45					
367116_367115	Renforth St Albion St - Swan Rd Swan Rd	Wa k Element						14					
377383_367172	Southwark Park Rd Ambrose St - St. Jame's Rd Blue Anchor Ln	Wa k Element						150					
369061_369060	Poolmans St Garter Way - Needleman St Basque Crt	Wa k Element						300					
377432_377434	Lynton Rd Beatrice Rd - Simms Rd Beatrice Rd	Wa k Element						0					
377432_377374	Lynton Rd Beatrice Rd - St James Rd Lynton Rd	Wa k Element						74					
<b>Screenline Total</b>			<b>5041</b>	<b>0</b>	<b>35189</b>	<b>7624</b>	<b>141406</b>	<b>167848</b>	<b>-11%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>	

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Up to London Screenline - Southbound												
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
350260_390162	London Bridge- New Cross Gate	Southern	0	0	0	0		0				
350262_370462	London Bridge - South Bermondsey	Southern	0	0	0	0	3647	1207	-1%	25%	PASS	No
350262_390162	London Bridge- New Cross Gate	Southern	0	0	0	0		2419				
350264_390162	London Bridge- New Cross Gate	Thameslink	0	0	0	0	1439	1365	-5%	25%	PASS	No
350260_390260	London Bridge- Deptford	South Eastern	0	0	0	0		0				
350260_390360	London Bridge- New Cross	South Eastern	0	0	0	0		3970				
350264_390360	London Bridge- New Cross	South Eastern	0	0	0	0	6986	0	4%	25%	PASS	No
350282_390260	London Bridge/Cannon St. - Deptford	South Eastern	0	0	0	0		1700				
350282_390360	London Bridge- New Cross	South Eastern	0	0	0	0		1575				
360219_360319	Rotherhithe - Canada Water	London Overground	0	0	0	3709	0	3073	-17%	25%	PASS	No
360123_360323	Bermondsey - Canada Water	Jubilee Line	0	0	42571	0	0	41929	-2%	25%	PASS	No
369016_367024	Rotherhithe Jamaica Road - Lower Rd Jamaica Rd Roundabout	Local Bus	1244	0	0	0	0	954	-23%	25%	PASS	No
369020_367024	Rotherhithe Tunnel - Lower Rd Jamaica Rd Roundabout	Local Bus	1399	0	0	0	0	1721	23%	25%	PASS	No
369015_367066	S'Wark Pk Rd Clements Rd - S'Wark Pk Rd Roundabout Stalham St	Local Bus	195	0	0	0	0	225	16%	25%	PASS	Yes
377374_379073	St James Rd Lynton Rd - St James Rd Catlin St	Local Bus	518	0	0	0	0	384	-26%	25%	FAIL	No
379033_377383	S'Wark Pk R/St James'S R - Southwark Park Rd Ambrose St	Local Bus	851	0	0	0	0	675	-21%	25%	PASS	No
369016_367024	Rotherhithe Jamaica Road - Lower Rd Jamaica Rd Roundabout	Wak Element						229				
369020_367024	Rotherhithe Tunnel - Lower Rd Jamaica Rd Roundabout	Wak Element						112				
369015_367066	S'Wark Pk Rd Clements Rd - S'Wark Pk Rd Roundabout Stalham St	Wak Element						385				
377374_379073	St James Rd Lynton Rd - St James Rd Catlin St	Wak Element						18				
379033_377383	S'Wark Pk R/St James'S R - Southwark Park Rd Ambrose St	Wak Element						5				
367023_367024	Jamaica Rd Cathay St - Lower Rd Jamaica Rd Roundabout	Wak Element						0				
367013_367033	Clements Rd Drummond Rd - Southwark Park Rd Drummond Rd	Wak Element						60				
367012_367066	S'Wark Pk Rd Gataker St - S'Wark Pk Rd Roundabout Stalham St	Wak Element						0				
367115_367024	Swan Rd Swan Rd - Lower Rd Jamaica Rd Roundabout	Wak Element						16				
367115_367116	Swan Rd Swan Rd - Renforth St Albion St	Wak Element						9				
367172_377383	St. Jame's Rd Blue Anchor Ln - Southwark Park Rd Ambrose St	Wak Element						46				
369060_369061	Poolmans St Garter Way - Needleman St Basque Crt	Wak Element						655				
377374_377432	St James Rd Lynton Rd - Lynton Rd Beatrice Rd	Wak Element						74				
377434_377432	Simms Rd Beatrice Rd - Lynton Rd Beatrice Rd	Wak Element						0				
<b>Screenline Total</b>			<b>4207</b>	<b>0</b>	<b>42571</b>	<b>3709</b>	<b>12072</b>	<b>61197</b>	<b>-2%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Down from London Screenline - North/westbound													
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?	
360418_360318	Surrey Quays - Canada Water	London Overground	0	0	0	10519	0	8832	-16%	25%	PASS	No	
80722_360322	Canary Wharf - Canada Water	Jubilee Line	0	0	27157	0	27313	1%	25%	PASS	No		
80791_70191	Canary Wharf - West India Quay	DLR	0	7063	0	0	5956	5%	25%	PASS	No		
80793_70193	Canary Wharf - West India Quay	DLR	0	0	0	0	1443						
87111_87168	Marsh Wall Roundabout - Westferry Circus Roundabout	Local Bus	0	0	0	0	23	#DIV/0!	25%	#DIV/0!	Yes		
87141_87170	Cabot Sq S Colonnade - W India Ave Cabot Sq	Local Bus	744	0	0	0	715	-4%	25%	PASS	No		
367101_369053	Redriff R Surrey Quays Rd - Surrey Quays Leisure Cen	Local Bus	2528	0	0	0	3372	33%	25%	FAIL	No		
367102_367127	Redriff Rd Quebec Way - Redriff Rd Omega Gate	Local Bus	338	0	0	0	526	56%	25%	FAIL	Yes		
367149_369030	Surrey Quays Overground - Lower Road Orange Place	Local Bus	905	0	0	0	1157	28%	25%	FAIL	No		
87111_87168	Marsh Wall Roundabout - Westferry Circus Roundabout	Walk Element					64						
87141_87170	Cabot Sq S Colonnade - W India Ave Cabot Sq	Walk Element					688						
367101_369053	Redriff R Surrey Quays Rd - Surrey Quays Leisure Cen	Walk Element					2						
367102_367127	Redriff Rd Quebec Way - Redriff Rd Omega Gate	Walk Element					105						
367149_369030	Surrey Quays Overground - Lower Road Orange Place	Walk Element					37						
87205_77043	Canada Sq Upper Bank St - Upper Bank St Aspen Way	Walk Element					3295						
87141_87142	Cabot Sq S Colonnade - Colonnade Sq Cabot Sq	Walk Element					0						
89082_87142	Canada Square Canary Whf - Colonnade Sq Cabot Sq	Walk Element					1						
367088_367087	Surrey Quays Shopping Centre - Surrey Quays Rd Deal Porters	Walk Element					3						
367102_367152	Redriff Rd Quebec Way - Quebec Way Teredo St	Walk Element					15						
367129_367146	Omega Gate Plover Way - Norway Gate Plover Way	Walk Element					0						
367130_367146	Finland St Norway Gate - Norway Gate Plover Way	Walk Element					244						
367129_367127	Omega Gate Plover Way - Redriff Rd Omega Gate	Walk Element					11						
<b>Screenline Total</b>			<b>4514</b>	<b>7063</b>	<b>27157</b>	<b>10519</b>	<b>0</b>	<b>49337</b>	<b>0%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>	

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Down from London Screenline - Southbound													
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?	
360319_360419	Canada Water - Surrey Quays	London Overground	0	0	0	1670	0	2333	40%	25%	FAIL	No	
360323_80723	Canada Water - Canary Wharf	Jubilee Line	0	0	44277	0	43951	-1%	25%	PASS	No		
70190_80790	West India Quay - Canary Wharf	DLR	0	16185	0	0	8536	-17%	25%	PASS	No		
70192_80792	West India Quay - Canary Wharf	DLR	0	0	0	0	4930						
87168_87111	Westferry Circus Roundabout - Marsh Wall Roundabout	Local Bus	85	0	0	0	28	-67%	25%	FAIL	Yes		
87142_89082	Colonnade Sq Cabot Sq - Canada Square Canary Whf	Local Bus	1221	0	0	0	838	-31%	25%	FAIL	No		
369053_367101	Surrey Quays Leisure Cen - Redriff R Surrey Quays Rd	Local Bus	976	0	0	0	1341	37%	25%	FAIL	No		
367127_367102	Redriff Rd Omega Gate - Redriff Rd Quebec Way	Local Bus	1116	0	0	0	1335	20%	25%	PASS	No		
369030_367149	Lower Road Orange Place - Surrey Quays Overground	Local Bus	0	0	0	0	382	#DIV/0!	25%	#DIV/0!	Yes		
87168_87111	Westferry Circus Roundabout - Marsh Wall Roundabout	Walk Element					146						
87142_89082	Colonnade Sq Cabot Sq - Canada Square Canary Whf	Walk Element					0						
369053_367101	Surrey Quays Leisure Cen - Redriff R Surrey Quays Rd	Walk Element					0						
367127_367102	Redriff Rd Omega Gate - Redriff Rd Quebec Way	Walk Element					151						
369030_367149	Lower Road Orange Place - Surrey Quays Overground	Walk Element					62						
77043_87205	Upper Bank St Aspen Way - Canada Sq Upper Bank St	Walk Element					1250						
87142_87141	Colonnade Sq Cabot Sq - Cabot Sq S Colonnade	Walk Element					0						
87170_87141	W India Ave Cabot Sq - Cabot Sq S Colonnade	Walk Element					642						
367087_367088	Surrey Quays Rd Deal Porters Way - Surrey Quays Shopping Ce	Walk Element					6						
367152_367102	Quebec Way Teredo St - Redriff Rd Quebec Way	Walk Element					7						
367146_367129	Norway Gate Plover Way - Omega Gate Plover Way	Walk Element					0						
367146_367130	Norway Gate Plover Way - Finland St Norway Gate	Walk Element					47						
367127_367129	Redriff Rd Omega Gate - Omega Gate Plover Way	Walk Element					1						
<b>Screenline Total</b>			<b>3398</b>	<b>16185</b>	<b>44277</b>	<b>1670</b>	<b>0</b>	<b>63674</b>	<b>-3%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>	

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Assignment Validation of Cordon Links into Study Area												
Link D	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
360418_360318	Surrey Quays - Canada Water	London Overground	0	0	0	10519	0	8832	-16%	25%	PASS	No
360219_360319	Rotherhithe - Canada Water	London Overground	0	0	0	3709	0	3073	-17%	25%	PASS	No
360123_360323	Bermondsey - Canada Water	Jubilee Line	0	0	42571	0	0	41929	-2%	25%	PASS	No
80722_360322	Canary Wharf - Canada Water	Jubilee Line	0	0	27157	0	0	27313	1%	25%	PASS	No
367136_367090	Rotherhithe New Rd/Silwood St. - Rotherhithe New Rd Roundabout (SW Link)	Local Bus	828	0	0	0	0	615	-26%	25%	FAIL	No
369034_367100	Lower Road Surrey Quays Stn (Stop M) - Lower Rd/Cope St. (S Link)	Local Bus	#N/A	0	0	0	0	-	#VALUE!	25%	#VALUE!	#N/A
367063_369016	Jamaica Road S'Wark Pk Rd - Southwark Park Stop C (NW Link)	Local Bus	1215	0	0	0	0	963	-21%	25%	PASS	No
367104_369022	Rotherhithe St/Salter Rd - Salter Rd/Shipwright Rd (E Link)	Local Bus	697	0	0	0	0	790	13%	25%	PASS	No
367136_367090	Rotherhithe New Rd/Silwood St. - Rotherhithe New Rd Roundabout	Walk Element						689				
369034_367100	Lower Road Surrey Quays Stn (Stop M) - Lower Rd/Cope St.	Walk Element						818				
367063_369016	Jamaica Road S'Wark Pk Rd - Southwark Park Stop C	Walk Element						80				
367104_369022	Rotherhithe St/Salter Rd - Salter Rd/Shipwright Rd	Walk Element						247				
<b>Into Study Area Total</b>			<b>2740</b>	<b>0</b>	<b>69728</b>	<b>14228</b>	<b>0</b>	<b>83515</b>	<b>-4%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Assignment Validation of Cordon Links from Study Area												
Link D	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
360319_360419	Canada Water - Surrey Quays	London Overground	0	0	0	1670	0	2333	40%	25%	FAIL	No
360318_360218	Canada Water - Rotherhithe	London Overground	0	0	0	7624	0	5637	-26%	25%	FAIL	No
360322_360122	Canada Water - Bermondsey	Jubilee Line	0	0	35189	0	0	33258	-5%	25%	PASS	No
360323_80723	Canada Water - Canary Wharf	Jubilee Line	0	0	44277	0	0	43951	-1%	25%	PASS	No
367090_367136	Rotherhithe New Rd Roundabout - Rotherhithe New Rd/Silwood St. (SW Link)	Local Bus	715	0	0	0	0	533	-25%	25%	FAIL	No
367100_369034	Lower Rd/Cope St. - Lower Road Surrey Quays Stn (Stop M) (S Link)	Local Bus	854	0	0	0	0	1496	75%	25%	FAIL	No
369016_367063	Southwark Park Stop C - Jamaica Road S'Wark Pk Rd (NW Link)	Local Bus	2525	0	0	0	0	3217	27%	25%	FAIL	No
369022_367104	Salter Rd/Shipwright Rd - Rotherhithe St/Salter Rd (E Link)	Local Bus	455	0	0	0	0	746	64%	25%	FAIL	No
367090_367136	Rotherhithe New Rd Roundabout - Rotherhithe New Rd/Silwood St.	Walk Element						214				
367100_369034	Lower Rd/Cope St. - Lower Road Surrey Quays Stn (Stop M)	Walk Element						267				
369016_367063	Southwark Park Stop C - Jamaica Road S'Wark Pk Rd	Walk Element						352				
369022_367104	Salter Rd/Shipwright Rd - Rotherhithe St/Salter Rd	Walk Element						109				
<b>From Study Area Total</b>			<b>4550</b>	<b>0</b>	<b>79466</b>	<b>9294</b>	<b>0</b>	<b>91171</b>	<b>-2%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Assignment Validation of Boardings at Key Stations/Stops												
Node ID	Node Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
360122	Bermondsey Northbound Platform	Jubilee Line	0	0	2878	0	0	2876	0%	25%	PASS	No
360123	Bermondsey Southbound Platform	Jubilee Line	0	0	1274	0	0	626	-51%	25%	FAIL	No
360318	Canada Water Northbound Platform	London Overground	0	0	0	2208	0	1070	-52%	25%	FAIL	No
360319	Canada Water Southbound Platform	London Overground	0	0	0	713	0	562	-21%	25%	PASS	No
360322	Canada Water Northbound Platform	Jubilee Line	0	0	9746	0	0	7672	-21%	25%	PASS	No
360323	Canada Water Southbound Platform	Jubilee Line	0	0	3672	0	0	3217	-12%	25%	PASS	No
360218	Rotherhithe Northbound Platform	London Overground	0	0	0	757	0	616	-19%	25%	PASS	No
360219	Rotherhithe Southbound Platform	London Overground	0	0	0	758	0	278	-63%	25%	FAIL	No
360418	Surrey Quays Northbound Platform	London Overground	0	0	0	2088	0	2090	0%	25%	PASS	No
360419	Surrey Quays Southbound Platform	London Overground	0	0	0	739	0	281	-62%	25%	FAIL	No
<b>Total Boardings</b>			<b>0</b>	<b>0</b>	<b>17570</b>	<b>7263</b>	<b>0</b>	<b>19288</b>	<b>-22%</b>	<b>15%</b>	<b>FAIL</b>	<b>No</b>

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Assignment Validation of Alightings at Key Stations/Stops												
Node ID	Node Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
360122	Bermondsey Northbound Platform	Jubilee Line	0	0	1526	0	0	830	-46%	25%	FAIL	No
360123	Bermondsey Southbound Platform	Jubilee Line	0	0	891	0	0	1281	44%	25%	FAIL	No
360318	Canada Water Northbound Platform	London Overground	0	0	0	5102	0	4265	-16%	25%	PASS	No
360319	Canada Water Southbound Platform	London Overground	0	0	0	2753	0	1301	-53%	25%	FAIL	No
360322	Canada Water Northbound Platform	Jubilee Line	0	0	1655	0	0	1727	4%	25%	PASS	No
360323	Canada Water Southbound Platform	Jubilee Line	0	0	1996	0	0	1196	-40%	25%	FAIL	No
360218	Rotherhithe Northbound Platform	London Overground	0	0	0	339	0	189	-44%	25%	FAIL	Yes
360219	Rotherhithe Southbound Platform	London Overground	0	0	0	126	0	273	117%	25%	FAIL	Yes
360418	Surrey Quays Northbound Platform	London Overground	0	0	0	1055	0	255	-76%	25%	FAIL	No
360419	Surrey Quays Southbound Platform	London Overground	0	0	0	494	0	385	-22%	25%	PASS	No
<b>Total Alightings</b>			<b>0</b>	<b>0</b>	<b>6068</b>	<b>9869</b>	<b>0</b>	<b>11702</b>	<b>-27%</b>	<b>15%</b>	<b>FAIL</b>	<b>No</b>

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Trip Matrix Validation						
<b>Proportion of links within 15% of Observed:</b>			<b>100%</b>			
WebTAG criteria = 95%						
		Total Assigned Passengers*	Total Observed Passengers	Difference	WebTAG Criteria	WebTAG Pass/Fail
Up to London Screenline Screenline	Northbound	169827	189260	-10%	15%	PASS
	Southbound	62806	62559	0%	15%	PASS
Down From London Screenline	North/Westbound	53802	49253	9%	15%	PASS
	Southbound	65986	65530	1%	15%	PASS
Into Study Area		85349	86696	-2%	15%	PASS
From Study Area		92113	93310	-1%	15%	PASS

\*Assigned passengers include walk demand

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Up to London Screenline - Northbound													
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?	
360318_360218	Canada Water - Rotherhithe	London Overground	0	0	0	7624	0	5034	-34%	25%	FAIL	No	
370463_350263	South Bermondsey - London Bridge	Southern	0	0	0	0		5240					
390163_350261	New Cross Gate - London Bridge	Southern	0	0	0	0	44026	0	-26%	25%	FAIL	No	
390163_350263	New Cross Gate - London Bridge	Southern	0	0	0	0		27352					
390163_350265	New Cross Gate - London Bridge	Thameslink	0	0	0	0	1811	3409	88%	25%	FAIL	No	
390261_350261	Deptford - London Bridge	South Eastern	0	0	0	0		3657					
390261_350283	Deptford - London Bridge	South Eastern	0	0	0	0		10517					
390361_350261	New Cross Gate - London Bridge	South Eastern	0	0	0	0	95569	39790	-8%	25%	PASS	No	
390361_350265	New Cross Gate - London Bridge	South Eastern	0	0	0	0		0					
390361_350283	New Cross Gate - London Bridge	South Eastern	0	0	0	0		34418					
360322_360122	Canada Water - Bermondsey	Jubilee Line	0	0	35189	0	0	33089	-6%	25%	PASS	No	
367024_369016	Lower Rd Jamaica Rd Roundabout - Rotherhithe Jamaica Rd	Local Bus	2867	0	0	0	0	3149	10%	25%	PASS	No	
367024_369020	Lower Rd Jamaica Rd Roundabout - Rotherhithe Tunnel	Local Bus	479	0	0	0	0	445	-7%	25%	PASS	No	
367066_369015	S'Wark Pk Rd Roundabout Stalham St - S'Wark Pk Rd Clements Rd	Local Bus	171	0	0	0	0	170	-1%	25%	PASS	Yes	
379073_377374	St James' Rd Catlin St - St James Rd Lynton Rd	Local Bus	509	0	0	0	0	410	-19%	25%	PASS	No	
377383_379033	Southwark Park Rd Ambrose St - S'Wark Pk R/St James's Rd	Local Bus	1015	0	0	0	0	935	-8%	25%	PASS	No	
367024_369016	Lower Rd Jamaica Rd Roundabout - Rotherhithe Jamaica Rd	Wa k Element						724					
367024_369020	Lower Rd Jamaica Rd Roundabout - Rotherhithe Tunnel	Wa k Element						120					
367066_369015	S'Wark Pk Rd Roundabout Stalham St - S'Wark Pk Rd Clements Rd	Wa k Element						517					
379073_377374	St James' Rd Catlin St - St James Rd Lynton Rd	Wa k Element						33					
377383_379033	Southwark Park Rd Ambrose St - S'Wark Pk R/St James's Rd	Wa k Element						13					
367024_367023	Lower Rd Jamaica Rd Roundabout - Jamaica Rd Cathay St	Wa k Element						0					
367033_367013	Southwark Park Rd Drummond Rd - Clements Rd Drummond Rd	Wa k Element						16					
367066_367012	S'Wark Pk Rd Roundabout Stalham St - S'Wark Pk Rd Gataker St	Wa k Element						0					
367024_367115	Lower Rd Jamaica Rd Roundabout - Swan Rd Swan Rd	Wa k Element						49					
367116_367115	Renforth St Albion St - Swan Rd Swan Rd	Wa k Element						14					
377383_367172	Southwark Park Rd Ambrose St - St. Jame's Rd Blue Anchor Ln	Wa k Element						150					
369061_369060	Poolmans St Garter Way - Needleman St Basque Crt	Wa k Element						301					
377432_377434	Lynton Rd Beatrice Rd - Simms Rd Beatrice Rd	Wa k Element						0					
377432_377374	Lynton Rd Beatrice Rd - St James Rd Lynton Rd	Wa k Element						74					
<b>Screenline Total</b>			<b>5041</b>	<b>0</b>	<b>35189</b>	<b>7624</b>	<b>141406</b>	<b>167615</b>	<b>-11%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>	

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.



Up to London Screenline - Southbound													
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?	
350260_390162	London Bridge- New Cross Gate	Southern	0	0	0	0		0					
350262_370462	London Bridge - South Bermondsey	Southern	0	0	0	0	3647	1241	2%	25%	PASS	No	
350262_390162	London Bridge- New Cross Gate	Southern	0	0	0	0		2471					
350264_390162	London Bridge- New Cross Gate	Thameslink	0	0	0	0	1439	1366	-5%	25%	PASS	No	
350260_390260	London Bridge- Deptford	South Eastern	0	0	0	0		0					
350260_390360	London Bridge- New Cross	South Eastern	0	0	0	0		3975					
350264_390360	London Bridge- New Cross	South Eastern	0	0	0	0	6986	0	6%	25%	PASS	No	
350282_390260	London Bridge/Cannon St. - Deptford	South Eastern	0	0	0	0		1723					
350282_390360	London Bridge- New Cross	South Eastern	0	0	0	0		1677					
360219_360319	Rotherhithe - Canada Water	London Overground	0	0	0	3709	0	2119	-43%	25%	FAIL	No	
360123_360323	Bermondsey - Canada Water	Jubilee Line	0	0	42571	0	0	41982	-1%	25%	PASS	No	
369016_367024	Rotherhithe Jamaica Road - Lower Rd Jamaica Rd Roundabout	Local Bus	1244	0	0	0	0	971	-22%	25%	PASS	No	
369020_367024	Rotherhithe Tunnel - Lower Rd Jamaica Rd Roundabout	Local Bus	1399	0	0	0	0	1759	26%	25%	FAIL	No	
369015_367066	S'Wark Pk Rd Clements Rd - S'Wark Pk Rd Roundabout Stalham St	Local Bus	195	0	0	0	0	235	21%	25%	PASS	Yes	
377374_379073	St James Rd Lynton Rd - St James Rd Catlin St	Local Bus	518	0	0	0	0	396	-24%	25%	PASS	No	
379033_377383	S'Wark Pk R/St James'S R - Southwark Park Rd Ambrose St	Local Bus	851	0	0	0	0	682	-20%	25%	PASS	No	
369016_367024	Rotherhithe Jamaica Road - Lower Rd Jamaica Rd Roundabout	Wak Element						238					
369020_367024	Rotherhithe Tunnel - Lower Rd Jamaica Rd Roundabout	Wak Element						116					
369015_367066	S'Wark Pk Rd Clements Rd - S'Wark Pk Rd Roundabout Stalham St	Wak Element						391					
377374_379073	St James Rd Lynton Rd - St James Rd Catlin St	Wak Element						17					
379033_377383	S'Wark Pk R/St James'S R - Southwark Park Rd Ambrose St	Wak Element						5					
367023_367024	Jamaica Rd Cathay St - Lower Rd Jamaica Rd Roundabout	Wak Element						0					
367013_367033	Clements Rd Drummond Rd - Southwark Park Rd Drummond Rd	Wak Element						63					
367012_367066	S'Wark Pk Rd Gataker St - S'Wark Pk Rd Roundabout Stalham St	Wak Element						0					
367115_367024	Swan Rd Swan Rd - Lower Rd Jamaica Rd Roundabout	Wak Element						22					
367115_367116	Swan Rd Swan Rd - Renforth St Albion St	Wak Element						11					
367172_377383	St. Jame's Rd Blue Anchor Ln - Southwark Park Rd Ambrose St	Wak Element						46					
369060_369061	Poolmans St Garter Way - Needleman St Basque Crt	Wak Element						661					
377374_377432	St James Rd Lynton Rd - Lynton Rd Beatrice Rd	Wak Element						75					
377434_377432	Simms Rd Beatrice Rd - Lynton Rd Beatrice Rd	Wak Element						0					
<b>Screenline Total</b>			<b>4207</b>	<b>0</b>	<b>42571</b>	<b>3709</b>	<b>12072</b>	<b>60597</b>	<b>-3%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>	

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Down from London Screenline - North/westbound												
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
360418_360318	Surrey Quays - Canada Water	London Overground	0	0	0	10519	0	7395	-30%	25%	FAIL	No
80722_360322	Canary Wharf - Canada Water	Jubilee Line	0	0	27157	0	0	27409	1%	25%	PASS	No
80791_70191	Canary Wharf - West India Quay	DLR	0	7063	0	0	0	5970	5%	25%	PASS	No
80793_70193	Canary Wharf - West India Quay	DLR	0	0	0	0	0	1472				
87111_87168	Marsh Wall Roundabout - Westferry Circus Roundabout	Local Bus	0	0	0	0	0	23	#DIV/0!	25%	#DIV/0!	Yes
87141_87170	Cabot Sq S Colonnade - W India Ave Cabot Sq	Local Bus	744	0	0	0	0	730	-2%	25%	PASS	No
367101_369053	Redriff R Surrey Quays Rd - Surrey Quays Leisure Cen	Local Bus	2528	0	0	0	0	3526	39%	25%	FAIL	No
367102_367127	Redriff Rd Quebec Way - Redriff Rd Omega Gate	Local Bus	338	0	0	0	0	539	60%	25%	FAIL	Yes
367149_369030	Surrey Quays Overground - Lower Road Orange Place	Local Bus	905	0	0	0	0	1414	56%	25%	FAIL	No
87111_87168	Marsh Wall Roundabout - Westferry Circus Roundabout	Walk Element						66				
87141_87170	Cabot Sq S Colonnade - W India Ave Cabot Sq	Walk Element						701				
367101_369053	Redriff R Surrey Quays Rd - Surrey Quays Leisure Cen	Walk Element						3				
367102_367127	Redriff Rd Quebec Way - Redriff Rd Omega Gate	Walk Element						105				
367149_369030	Surrey Quays Overground - Lower Road Orange Place	Walk Element						20				
87205_77043	Canada Sq Upper Bank St - Upper Bank St Aspen Way	Walk Element						3300				
87141_87142	Cabot Sq S Colonnade - Colonnade Sq Cabot Sq	Walk Element						0				
89082_87142	Canada Square Canary Whf - Colonnade Sq Cabot Sq	Walk Element						1				
367088_367087	Surrey Quays Shopping Centre - Surrey Quays Rd Deal Porters	Walk Element						752				
367102_367152	Redriff Rd Quebec Way - Quebec Way Teredo St	Walk Element						16				
367129_367146	Omega Gate Plover Way - Norway Gate Plover Way	Walk Element						0				
367130_367146	Finland St Norway Gate - Norway Gate Plover Way	Walk Element						250				
367129_367127	Omega Gate Plover Way - Redriff Rd Omega Gate	Walk Element						11				
<b>Screenline Total</b>			<b>4514</b>	<b>7063</b>	<b>27157</b>	<b>10519</b>	<b>0</b>	<b>48478</b>	<b>-2%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Down from London Screenline - Southbound												
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
360319_360419	Canada Water - Surrey Quays	London Overground	0	0	0	1670	0	1986	19%	25%	PASS	No
360323_80723	Canada Water - Canary Wharf	Jubilee Line	0	0	44277	0	0	43910	-1%	25%	PASS	No
70190_80790	West India Quay - Canary Wharf	DLR	0	16185	0	0	0	8595	-16%	25%	PASS	No
70192_80792	West India Quay - Canary Wharf	DLR	0	0	0	0	0	4924				
87168_87111	Westferry Circus Roundabout - Marsh Wall Roundabout	Local Bus	85	0	0	0	0	28	-67%	25%	FAIL	Yes
87142_89082	Colonnade Sq Cabot Sq - Canada Square Canary Whf	Local Bus	1221	0	0	0	0	867	-29%	25%	FAIL	No
369053_367101	Surrey Quays Leisure Cen - Redriff R Surrey Quays Rd	Local Bus	976	0	0	0	0	1374	41%	25%	FAIL	No
367127_367102	Redriff Rd Omega Gate - Redriff Rd Quebec Way	Local Bus	1116	0	0	0	0	1349	21%	25%	PASS	No
369030_367149	Lower Road Orange Place - Surrey Quays Overground	Local Bus	0	0	0	0	0	372	#DIV/0!	25%	#DIV/0!	Yes
87168_87111	Westferry Circus Roundabout - Marsh Wall Roundabout	Walk Element						151				
87142_89082	Colonnade Sq Cabot Sq - Canada Square Canary Whf	Walk Element						0				
369053_367101	Surrey Quays Leisure Cen - Redriff R Surrey Quays Rd	Walk Element						0				
367127_367102	Redriff Rd Omega Gate - Redriff Rd Quebec Way	Walk Element						156				
369030_367149	Lower Road Orange Place - Surrey Quays Overground	Walk Element						13				
77043_87205	Upper Bank St Aspen Way - Canada Sq Upper Bank St	Walk Element						1260				
87142_87141	Colonnade Sq Cabot Sq - Cabot Sq S Colonnade	Walk Element						0				
87170_87141	W India Ave Cabot Sq - Cabot Sq S Colonnade	Walk Element						670				
367087_367088	Surrey Quays Rd Deal Porters Way - Surrey Quays Shopping Ce	Walk Element						8				
367152_367102	Quebec Way Teredo St - Redriff Rd Quebec Way	Walk Element						7				
367146_367129	Norway Gate Plover Way - Omega Gate Plover Way	Walk Element						0				
367146_367130	Norway Gate Plover Way - Finland St Norway Gate	Walk Element						48				
367127_367129	Redriff Rd Omega Gate - Omega Gate Plover Way	Walk Element						1				
<b>Screenline Total</b>			<b>3398</b>	<b>16185</b>	<b>44277</b>	<b>1670</b>	<b>0</b>	<b>63405</b>	<b>-3%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Assignment Validation of Cordon Links into Study Area												
Link D	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
360418_360318	Surrey Quays - Canada Water	London Overground	0	0	0	10519	0	7395	-30%	25%	FAIL	No
360219_360319	Rotherhithe - Canada Water	London Overground	0	0	0	3709	0	2119	-43%	25%	FAIL	No
360123_360323	Bermondsey - Canada Water	Jubilee Line	0	0	42571	0	0	41982	-1%	25%	PASS	No
80722_360322	Canary Wharf - Canada Water	Jubilee Line	0	0	27157	0	0	27409	1%	25%	PASS	No
367136_367090	Rotherhithe New Rd/Silwood St. - Rotherhithe New Rd Roundabout (SW Link)	Local Bus	828	0	0	0	0	611	-26%	25%	FAIL	No
369034_367100	Lower Road Surrey Quays Stn (Stop M) - Lower Rd/Cope St. (S Link)	Local Bus	#N/A	0	0	0	0	-	#VALUE!	25%	#VALUE!	#N/A
367063_369016	Jamaica Road S'Wark Pk Rd - Southwark Park Stop C (NW Link)	Local Bus	1215	0	0	0	0	982	-19%	25%	PASS	No
367104_369022	Rotherhithe St/Salter Rd - Salter Rd/Shipwright Rd (E Link)	Local Bus	697	0	0	0	0	789	13%	25%	PASS	No
367136_367090	Rotherhithe New Rd/Silwood St. - Rotherhithe New Rd Roundabout	Walk Element						697				
369034_367100	Lower Road Surrey Quays Stn (Stop M) - Lower Rd/Cope St.	Walk Element						738				
367063_369016	Jamaica Road S'Wark Pk Rd - Southwark Park Stop C	Walk Element						82				
367104_369022	Rotherhithe St/Salter Rd - Salter Rd/Shipwright Rd	Walk Element						257				
<b>Into Study Area Total</b>			<b>2740</b>	<b>0</b>	<b>69728</b>	<b>14228</b>	<b>0</b>	<b>81287</b>	<b>-6%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Assignment Validation of Cordon Links from Study Area												
Link D	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
360319_360419	Canada Water - Surrey Quays	London Overground	0	0	0	1670	0	1986	19%	25%	PASS	No
360318_360218	Canada Water - Rotherhithe	London Overground	0	0	0	7624	0	5034	-34%	25%	FAIL	No
360322_360122	Canada Water - Bermondsey	Jubilee Line	0	0	35189	0	0	33089	-6%	25%	PASS	No
360323_80723	Canada Water - Canary Wharf	Jubilee Line	0	0	44277	0	0	43910	-1%	25%	PASS	No
367090_367136	Rotherhithe New Rd Roundabout - Rotherhithe New Rd/Silwood St. (SW Link)	Local Bus	715	0	0	0	0	567	-21%	25%	PASS	No
367100_369034	Lower Rd/Cope St. - Lower Road Surrey Quays Stn (Stop M) (S Link)	Local Bus	854	0	0	0	0	1593	86%	25%	FAIL	No
369016_367063	Southwark Park Stop C - Jamaica Road S'Wark Pk Rd (NW Link)	Local Bus	2525	0	0	0	0	3379	34%	25%	FAIL	No
369022_367104	Salter Rd/Shipwright Rd - Rotherhithe St/Salter Rd (E Link)	Local Bus	455	0	0	0	0	751	65%	25%	FAIL	No
367090_367136	Rotherhithe New Rd Roundabout - Rotherhithe New Rd/Silwood St.	Walk Element						230				
367100_369034	Lower Rd/Cope St. - Lower Road Surrey Quays Stn (Stop M)	Walk Element						191				
369016_367063	Southwark Park Stop C - Jamaica Road S'Wark Pk Rd	Walk Element						350				
369022_367104	Salter Rd/Shipwright Rd - Rotherhithe St/Salter Rd	Walk Element						110				
<b>From Study Area Total</b>			<b>4550</b>	<b>0</b>	<b>79466</b>	<b>9294</b>	<b>0</b>	<b>90309</b>	<b>-3%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Assignment Validation of Boardings at Key Stations/Stops													
Node ID	Node Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?	
360122	Bermondsey Northbound Platform	Jubilee Line	0	0	2878	0	0	2903	1%	25%	PASS	No	
360123	Bermondsey Southbound Platform	Jubilee Line	0	0	1274	0	0	627	-51%	25%	FAIL	No	
360318	Canada Water Northbound Platform	London Overground	0	0	0	2208	0	743	-66%	25%	FAIL	No	
360319	Canada Water Southbound Platform	London Overground	0	0	0	713	0	697	-2%	25%	PASS	No	
360322	Canada Water Northbound Platform	Jubilee Line	0	0	9746	0	0	7484	-23%	25%	PASS	No	
360323	Canada Water Southbound Platform	Jubilee Line	0	0	3672	0	0	3022	-18%	25%	PASS	No	
360218	Rotherhithe Northbound Platform	London Overground	0	0	0	757	0	442	-42%	25%	FAIL	No	
360219	Rotherhithe Southbound Platform	London Overground	0	0	0	758	0	93	-88%	25%	FAIL	No	
360418	Surrey Quays Northbound Platform	London Overground	0	0	0	2088	0	966	-54%	25%	FAIL	No	
360419	Surrey Quays Southbound Platform	London Overground	0	0	0	739	0	299	-60%	25%	FAIL	No	
<b>Total Boardings</b>			<b>0</b>	<b>0</b>	<b>17570</b>	<b>7263</b>	<b>0</b>	<b>17276</b>	<b>-30%</b>	<b>15%</b>	<b>FAIL</b>		

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Assignment Validation of Alightings at Key Stations/Stops													
Node ID	Node Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?	
360122	Bermondsey Northbound Platform	Jubilee Line	0	0	1526	0	0	827	-46%	25%	FAIL	No	
360123	Bermondsey Southbound Platform	Jubilee Line	0	0	891	0	0	1299	46%	25%	FAIL	No	
360318	Canada Water Northbound Platform	London Overground	0	0	0	5102	0	3104	-39%	25%	FAIL	No	
360319	Canada Water Southbound Platform	London Overground	0	0	0	2753	0	830	-70%	25%	FAIL	No	
360322	Canada Water Northbound Platform	Jubilee Line	0	0	1655	0	0	1804	9%	25%	PASS	No	
360323	Canada Water Southbound Platform	Jubilee Line	0	0	1996	0	0	1095	-45%	25%	FAIL	No	
360218	Rotherhithe Northbound Platform	London Overground	0	0	0	339	0	116	-66%	25%	FAIL	Yes	
360219	Rotherhithe Southbound Platform	London Overground	0	0	0	126	0	198	57%	25%	FAIL	Yes	
360418	Surrey Quays Northbound Platform	London Overground	0	0	0	1055	0	233	-78%	25%	FAIL	No	
360419	Surrey Quays Southbound Platform	London Overground	0	0	0	494	0	367	-26%	25%	FAIL	No	
<b>Total Alightings</b>			<b>0</b>	<b>0</b>	<b>6068</b>	<b>9869</b>	<b>0</b>	<b>9873</b>	<b>-38%</b>	<b>15%</b>	<b>FAIL</b>		

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Trip Matrix Validation						
<b>Proportion of links within 15% of Observed:</b>			<b>100%</b>			
WebTAG criteria = 95%						
		Total Assigned Passengers*	Total Observed Passengers	Difference	WebTAG Criteria	WebTAG Pass/Fail
Up to London Screenline Screenline	Northbound	169626	189260	-10%	15%	PASS
	Southbound	62242	62559	-1%	15%	PASS
Down From London Screenline	North/Westbound	53703	49253	9%	15%	PASS
	Southbound	65719	65530	0%	15%	PASS
Into Study Area		83061	86696	-4%	15%	PASS
From Study Area		91190	93310	-2%	15%	PASS

\*Assigned passengers include walk demand

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Up to London Screenline - Northbound													
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?	
360318_360218	Canada Water - Rotherhithe	London Overground	0	0	0	7624	0	5937	-22%	25%	PASS	No	
370463_350263	South Bermondsey - London Bridge	Southern	0	0	0	0	5191						
390163_350261	New Cross Gate - London Bridge	Southern	0	0	0	0	44026	0	-27%	25%	FAIL	No	
390163_350263	New Cross Gate - London Bridge	Southern	0	0	0	0	27004						
390163_350265	New Cross Gate - London Bridge	Thameslink	0	0	0	0	1811	3405	88%	25%	FAIL	No	
390261_350261	Deptford - London Bridge	South Eastern	0	0	0	0		3648					
390261_350283	Deptford - London Bridge	South Eastern	0	0	0	0		10496					
390361_350261	New Cross Gate - London Bridge	South Eastern	0	0	0	0	95569	39762	-8%	25%	PASS	No	
390361_350265	New Cross Gate - London Bridge	South Eastern	0	0	0	0		0					
390361_350283	New Cross Gate - London Bridge	South Eastern	0	0	0	0		34289					
360322_360122	Canada Water - Bermondsey	Jubilee Line	0	0	35189	0	0	33394	-5%	25%	PASS	No	
367024_369016	Lower Rd Jamaica Rd Roundabout - Rotherhithe Jamaica Rd	Local Bus	2867	0	0	0	0	2933	2%	25%	PASS	No	
367024_369020	Lower Rd Jamaica Rd Roundabout - Rotherhithe Tunnel	Local Bus	479	0	0	0	0	427	-11%	25%	PASS	No	
367066_369015	S'Wark Pk Rd Roundabout Stalham St - S'Wark Pk Rd Clements Rd	Local Bus	171	0	0	0	0	165	-4%	25%	PASS	Yes	
379073_377374	St James' Rd Catlin St - St James Rd Lynton Rd	Local Bus	509	0	0	0	0	394	-23%	25%	PASS	No	
377383_379033	Southwark Park Rd Ambrose St - S'Wark Pk R/St James's Rd	Local Bus	1015	0	0	0	0	864	-15%	25%	PASS	No	
367024_369016	Lower Rd Jamaica Rd Roundabout - Rotherhithe Jamaica Rd	Wa k Element						675					
367024_369020	Lower Rd Jamaica Rd Roundabout - Rotherhithe Tunnel	Wa k Element						142					
367066_369015	S'Wark Pk Rd Roundabout Stalham St - S'Wark Pk Rd Clements Rd	Wa k Element						510					
379073_377374	St James' Rd Catlin St - St James Rd Lynton Rd	Wa k Element						31					
377383_379033	Southwark Park Rd Ambrose St - S'Wark Pk R/St James's Rd	Wa k Element						13					
367024_367023	Lower Rd Jamaica Rd Roundabout - Jamaica Rd Cathay St	Wa k Element						0					
367033_367013	Southwark Park Rd Drummond Rd - Clements Rd Drummond Rd	Wa k Element						15					
367066_367012	S'Wark Pk Rd Roundabout Stalham St - S'Wark Pk Rd Gataker St	Wa k Element						0					
367024_367115	Lower Rd Jamaica Rd Roundabout - Swan Rd Swan Rd	Wa k Element						44					
367116_367115	Renforth St Albion St - Swan Rd Swan Rd	Wa k Element						13					
377383_367172	Southwark Park Rd Ambrose St - St. Jame's Rd Blue Anchor Ln	Wa k Element						149					
369061_369060	Poolmans St Garter Way - Needleman St Basque Crt	Wa k Element						298					
377432_377434	Lynton Rd Beatrice Rd - Simms Rd Beatrice Rd	Wa k Element						0					
377432_377374	Lynton Rd Beatrice Rd - St James Rd Lynton Rd	Wa k Element						75					
<b>Screenline Total</b>			<b>5041</b>	<b>0</b>	<b>35189</b>	<b>7624</b>	<b>141406</b>	<b>167909</b>	<b>-11%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>	

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Up to London Screenline - Southbound												
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
350260_390162	London Bridge- New Cross Gate	Southern	0	0	0	0		0				
350262_370462	London Bridge - South Bermondsey	Southern	0	0	0	0	3647	1187	-2%	25%	PASS	No
350262_390162	London Bridge- New Cross Gate	Southern	0	0	0	0		2399				
350264_390162	London Bridge- New Cross Gate	Thameslink	0	0	0	0	1439	1362	-5%	25%	PASS	No
350260_390260	London Bridge- Deptford	South Eastern	0	0	0	0		0				
350260_390360	London Bridge- New Cross	South Eastern	0	0	0	0		3967				
350264_390360	London Bridge- New Cross	South Eastern	0	0	0	0	6986	0	3%	25%	PASS	No
350282_390260	London Bridge/Cannon St. - Deptford	South Eastern	0	0	0	0		1683				
350282_390360	London Bridge- New Cross	South Eastern	0	0	0	0		1545				
360219_360319	Rotherhithe - Canada Water	London Overground	0	0	0	3709	0	3516	-5%	25%	PASS	No
360123_360323	Bermondsey - Canada Water	Jubilee Line	0	0	42571	0	0	41742	-2%	25%	PASS	No
369016_367024	Rotherhithe Jamaica Road - Lower Rd Jamaica Rd Roundabout	Local Bus	1244	0	0	0	0	949	-24%	25%	PASS	No
369020_367024	Rotherhithe Tunnel - Lower Rd Jamaica Rd Roundabout	Local Bus	1399	0	0	0	0	1683	20%	25%	PASS	No
369015_367066	S'Wark Pk Rd Clements Rd - S'Wark Pk Rd Roundabout Stalham St	Local Bus	195	0	0	0	0	218	12%	25%	PASS	Yes
377374_379073	St James Rd Lynton Rd - St James Rd Catlin St	Local Bus	518	0	0	0	0	376	-27%	25%	FAIL	No
379033_377383	S'Wark Pk R/St James'S R - Southwark Park Rd Ambrose St	Local Bus	851	0	0	0	0	676	-21%	25%	PASS	No
369016_367024	Rotherhithe Jamaica Road - Lower Rd Jamaica Rd Roundabout	Wa k Element						229				
369020_367024	Rotherhithe Tunnel - Lower Rd Jamaica Rd Roundabout	Wa k Element						111				
369015_367066	S'Wark Pk Rd Clements Rd - S'Wark Pk Rd Roundabout Stalham St	Wa k Element						383				
377374_379073	St James Rd Lynton Rd - St James Rd Catlin St	Wa k Element						18				
379033_377383	S'Wark Pk R/St James'S R - Southwark Park Rd Ambrose St	Wa k Element						5				
367023_367024	Jamaica Rd Cathay St - Lower Rd Jamaica Rd Roundabout	Wa k Element						0				
367013_367033	Clements Rd Drummond Rd - Southwark Park Rd Drummond Rd	Wa k Element						56				
367012_367066	S'Wark Pk Rd Gataker St - S'Wark Pk Rd Roundabout Stalham St	Wa k Element						0				
367115_367024	Swan Rd Swan Rd - Lower Rd Jamaica Rd Roundabout	Wa k Element						14				
367115_367116	Swan Rd Swan Rd - Renforth St Albion St	Wa k Element						9				
367172_377383	St. Jame's Rd Blue Anchor Ln - Southwark Park Rd Ambrose St	Wa k Element						46				
369060_369061	Poolmans St Garter Way - Needleman St Basque Crt	Wa k Element						653				
377374_377432	St James Rd Lynton Rd - Lynton Rd Beatrice Rd	Wa k Element						74				
377434_377432	Simms Rd Beatrice Rd - Lynton Rd Beatrice Rd	Wa k Element						0				
<b>Screenline Total</b>			<b>4207</b>	<b>0</b>	<b>42571</b>	<b>3709</b>	<b>12072</b>	<b>61303</b>	<b>-2%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Down from London Screenline - North/westbound													
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?	
360418_360318	Surrey Quays - Canada Water	London Overground	0	0	0	10519	0	9612	-9%	25%	PASS	No	
80722_360322	Canary Wharf - Canada Water	Jubilee Line	0	0	27157	0	27254	0%	25%	PASS	No		
80791_70191	Canary Wharf - West India Quay	DLR	0	7063	0	0	5942	4%	25%	PASS	No		
80793_70193	Canary Wharf - West India Quay	DLR	0	0	0	0	1428						
87111_87168	Marsh Wall Roundabout - Westferry Circus Roundabout	Local Bus	0	0	0	0	23	#DIV/0!	25%	#DIV/0!	Yes		
87141_87170	Cabot Sq S Colonnade - W India Ave Cabot Sq	Local Bus	744	0	0	0	702	-6%	25%	PASS	No		
367101_369053	Redriff R Surrey Quays Rd - Surrey Quays Leisure Cen	Local Bus	2528	0	0	0	3059	21%	25%	PASS	No		
367102_367127	Redriff Rd Quebec Way - Redriff Rd Omega Gate	Local Bus	338	0	0	0	514	52%	25%	FAIL	Yes		
367149_369030	Surrey Quays Overground - Lower Road Orange Place	Local Bus	905	0	0	0	1048	16%	25%	PASS	No		
87111_87168	Marsh Wall Roundabout - Westferry Circus Roundabout	Walk Element					64						
87141_87170	Cabot Sq S Colonnade - W India Ave Cabot Sq	Walk Element					686						
367101_369053	Redriff R Surrey Quays Rd - Surrey Quays Leisure Cen	Walk Element					2						
367102_367127	Redriff Rd Quebec Way - Redriff Rd Omega Gate	Walk Element					107						
367149_369030	Surrey Quays Overground - Lower Road Orange Place	Walk Element					38						
87205_77043	Canada Sq Upper Bank St - Upper Bank St Aspen Way	Walk Element					3292						
87141_87142	Cabot Sq S Colonnade - Colonnade Sq Cabot Sq	Walk Element					0						
89082_87142	Canada Square Canary Whf - Colonnade Sq Cabot Sq	Walk Element					1						
367088_367087	Surrey Quays Shopping Centre - Surrey Quays Rd Deal Porters	Walk Element					3						
367102_367152	Redriff Rd Quebec Way - Quebec Way Teredo St	Walk Element					15						
367129_367146	Omega Gate Plover Way - Norway Gate Plover Way	Walk Element					0						
367130_367146	Finland St Norway Gate - Norway Gate Plover Way	Walk Element					237						
367129_367127	Omega Gate Plover Way - Redriff Rd Omega Gate	Walk Element					11						
<b>Screenline Total</b>			<b>4514</b>	<b>7063</b>	<b>27157</b>	<b>10519</b>	<b>0</b>	<b>49582</b>	<b>1%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>	

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Down from London Screenline - Southbound													
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?	
360319_360419	Canada Water - Surrey Quays	London Overground	0	0	0	1670	0	2541	52%	25%	FAIL	No	
360323_80723	Canada Water - Canary Wharf	Jubilee Line	0	0	44277	0	43966	-1%	25%	PASS	No		
70190_80790	West India Quay - Canary Wharf	DLR	0	16185	0	0	8520	-17%	25%	PASS	No		
70192_80792	West India Quay - Canary Wharf	DLR	0	0	0	0	4904						
87168_87111	Westferry Circus Roundabout - Marsh Wall Roundabout	Local Bus	85	0	0	0	28	-67%	25%	FAIL	Yes		
87142_89082	Colonnade Sq Cabot Sq - Canada Square Canary Whf	Local Bus	1221	0	0	0	824	-33%	25%	FAIL	No		
369053_367101	Surrey Quays Leisure Cen - Redriff R Surrey Quays Rd	Local Bus	976	0	0	0	1310	34%	25%	FAIL	No		
367127_367102	Redriff Rd Omega Gate - Redriff Rd Quebec Way	Local Bus	1116	0	0	0	1315	18%	25%	PASS	No		
369030_367149	Lower Road Orange Place - Surrey Quays Overground	Local Bus	0	0	0	0	368	#DIV/0!	25%	#DIV/0!	Yes		
87168_87111	Westferry Circus Roundabout - Marsh Wall Roundabout	Walk Element					146						
87142_89082	Colonnade Sq Cabot Sq - Canada Square Canary Whf	Walk Element					0						
369053_367101	Surrey Quays Leisure Cen - Redriff R Surrey Quays Rd	Walk Element					0						
367127_367102	Redriff Rd Omega Gate - Redriff Rd Quebec Way	Walk Element					150						
369030_367149	Lower Road Orange Place - Surrey Quays Overground	Walk Element					63						
77043_87205	Upper Bank St Aspen Way - Canada Sq Upper Bank St	Walk Element					1237						
87142_87141	Colonnade Sq Cabot Sq - Cabot Sq S Colonnade	Walk Element					0						
87170_87141	W India Ave Cabot Sq - Cabot Sq S Colonnade	Walk Element					624						
367087_367088	Surrey Quays Rd Deal Porters Way - Surrey Quays Shopping Ce	Walk Element					6						
367152_367102	Quebec Way Teredo St - Redriff Rd Quebec Way	Walk Element					7						
367146_367129	Norway Gate Plover Way - Omega Gate Plover Way	Walk Element					0						
367146_367130	Norway Gate Plover Way - Finland St Norway Gate	Walk Element					47						
367127_367129	Redriff Rd Omega Gate - Omega Gate Plover Way	Walk Element					1						
<b>Screenline Total</b>			<b>3398</b>	<b>16185</b>	<b>44277</b>	<b>1670</b>	<b>0</b>	<b>63776</b>	<b>-3%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>	

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.



Assignment Validation of Cordon Links into Study Area												
Link D	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
360418_360318	Surrey Quays - Canada Water	London Overground	0	0	0	10519	0	9612	-9%	25%	PASS	No
360219_360319	Rotherhithe - Canada Water	London Overground	0	0	0	3709	0	3516	-5%	25%	PASS	No
360123_360323	Bermondsey - Canada Water	Jubilee Line	0	0	42571	0	0	41742	-2%	25%	PASS	No
80722_360322	Canary Wharf - Canada Water	Jubilee Line	0	0	27157	0	0	27254	0%	25%	PASS	No
367136_367090	Rotherhithe New Rd/Silwood St. - Rotherhithe New Rd Roundabout (SW Link)	Local Bus	828	0	0	0	0	621	-25%	25%	FAIL	No
369034_367100	Lower Road Surrey Quays Stn (Stop M) - Lower Rd/Cope St. (S Link)	Local Bus	#N/A	0	0	0	0	-	#VALUE!	25%	#VALUE!	#N/A
367063_369016	Jamaica Road S'Wark Pk Rd - Southwark Park Stop C (NW Link)	Local Bus	1215	0	0	0	0	961	-21%	25%	PASS	No
367104_369022	Rotherhithe St/Salter Rd - Salter Rd/Shipwright Rd (E Link)	Local Bus	697	0	0	0	0	780	12%	25%	PASS	No
367136_367090	Rotherhithe New Rd/Silwood St. - Rotherhithe New Rd Roundabout	Walk Element						702				
369034_367100	Lower Road Surrey Quays Stn (Stop M) - Lower Rd/Cope St.	Walk Element						847				
367063_369016	Jamaica Road S'Wark Pk Rd - Southwark Park Stop C	Walk Element						80				
367104_369022	Rotherhithe St/Salter Rd - Salter Rd/Shipwright Rd	Walk Element						245				
<b>Into Study Area Total</b>			<b>2740</b>	<b>0</b>	<b>69728</b>	<b>14228</b>	<b>0</b>	<b>84486</b>	<b>-3%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Assignment Validation of Cordon Links from Study Area												
Link D	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
360319_360419	Canada Water - Surrey Quays	London Overground	0	0	0	1670	0	2541	52%	25%	FAIL	No
360318_360218	Canada Water - Rotherhithe	London Overground	0	0	0	7624	0	5937	-22%	25%	PASS	No
360322_360122	Canada Water - Bermondsey	Jubilee Line	0	0	35189	0	0	33394	-5%	25%	PASS	No
360323_80723	Canada Water - Canary Wharf	Jubilee Line	0	0	44277	0	0	43966	-1%	25%	PASS	No
367090_367136	Rotherhithe New Rd Roundabout - Rotherhithe New Rd/Silwood St. (SW Link)	Local Bus	715	0	0	0	0	518	-28%	25%	FAIL	No
367100_369034	Lower Rd/Cope St. - Lower Road Surrey Quays Stn (Stop M) (S Link)	Local Bus	854	0	0	0	0	1470	72%	25%	FAIL	No
369016_367063	Southwark Park Stop C - Jamaica Road S'Wark Pk Rd (NW Link)	Local Bus	2525	0	0	0	0	3118	23%	25%	PASS	No
369022_367104	Salter Rd/Shipwright Rd - Rotherhithe St/Salter Rd (E Link)	Local Bus	455	0	0	0	0	737	62%	25%	FAIL	No
367090_367136	Rotherhithe New Rd Roundabout - Rotherhithe New Rd/Silwood St.	Walk Element						232				
367100_369034	Lower Rd/Cope St. - Lower Road Surrey Quays Stn (Stop M)	Walk Element						275				
369016_367063	Southwark Park Stop C - Jamaica Road S'Wark Pk Rd	Walk Element						351				
369022_367104	Salter Rd/Shipwright Rd - Rotherhithe St/Salter Rd	Walk Element						109				
<b>From Study Area Total</b>			<b>4550</b>	<b>0</b>	<b>79466</b>	<b>9294</b>	<b>0</b>	<b>91681</b>	<b>-2%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Assignment Validation of Boardings at Key Stations/Stops													
Node ID	Node Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?	
360122	Bermondsey Northbound Platform	Jubilee Line	0	0	2878	0	0	2868	0%	25%	PASS	No	
360123	Bermondsey Southbound Platform	Jubilee Line	0	0	1274	0	0	591	-54%	25%	FAIL	No	
360318	Canada Water Northbound Platform	London Overground	0	0	0	2208	0	1195	-46%	25%	FAIL	No	
360319	Canada Water Southbound Platform	London Overground	0	0	0	713	0	544	-24%	25%	PASS	No	
360322	Canada Water Northbound Platform	Jubilee Line	0	0	9746	0	0	7831	-20%	25%	PASS	No	
360323	Canada Water Southbound Platform	Jubilee Line	0	0	3672	0	0	3464	-6%	25%	PASS	No	
360218	Rotherhithe Northbound Platform	London Overground	0	0	0	757	0	669	-12%	25%	PASS	No	
360219	Rotherhithe Southbound Platform	London Overground	0	0	0	758	0	356	-53%	25%	FAIL	No	
360418	Surrey Quays Northbound Platform	London Overground	0	0	0	2088	0	2578	23%	25%	PASS	No	
360419	Surrey Quays Southbound Platform	London Overground	0	0	0	739	0	280	-62%	25%	FAIL	No	
<b>Total Boardings</b>			<b>0</b>	<b>0</b>	<b>17570</b>	<b>7263</b>	<b>0</b>	<b>20376</b>	<b>-18%</b>	<b>15%</b>	<b>FAIL</b>	<b>No</b>	

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Assignment Validation of Alightings at Key Stations/Stops													
Node ID	Node Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?	
360122	Bermondsey Northbound Platform	Jubilee Line	0	0	1526	0	0	833	-45%	25%	FAIL	No	
360123	Bermondsey Southbound Platform	Jubilee Line	0	0	891	0	0	1270	43%	25%	FAIL	No	
360318	Canada Water Northbound Platform	London Overground	0	0	0	5102	0	4870	-5%	25%	PASS	No	
360319	Canada Water Southbound Platform	London Overground	0	0	0	2753	0	1519	-45%	25%	FAIL	No	
360322	Canada Water Northbound Platform	Jubilee Line	0	0	1655	0	0	1691	2%	25%	PASS	No	
360323	Canada Water Southbound Platform	Jubilee Line	0	0	1996	0	0	1241	-38%	25%	FAIL	No	
360218	Rotherhithe Northbound Platform	London Overground	0	0	0	339	0	196	-42%	25%	FAIL	Yes	
360219	Rotherhithe Southbound Platform	London Overground	0	0	0	126	0	344	173%	25%	FAIL	Yes	
360418	Surrey Quays Northbound Platform	London Overground	0	0	0	1055	0	270	-74%	25%	FAIL	No	
360419	Surrey Quays Southbound Platform	London Overground	0	0	0	494	0	431	-13%	25%	PASS	No	
<b>Total Alightings</b>			<b>0</b>	<b>0</b>	<b>6068</b>	<b>9869</b>	<b>0</b>	<b>12665</b>	<b>-21%</b>	<b>15%</b>	<b>FAIL</b>	<b>No</b>	

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Trip Matrix Validation						
<b>Proportion of links within 15% of Observed:</b>			<b>100%</b>			
WebTAG criteria = 95%						
		Total Assigned Passengers*	Total Observed Passengers	Difference	WebTAG Criteria	WebTAG Pass/Fail
Up to London Screenline Screenline	Northbound	169874	189260	-10%	15%	PASS
	Southbound	62901	62559	1%	15%	PASS
Down From London Screenline	North/Westbound	54038	49253	10%	15%	PASS
	Southbound	66057	65530	1%	15%	PASS
Into Study Area		86360	86696	0%	15%	PASS
From Study Area		92648	93310	-1%	15%	PASS

\*Assigned passengers include walk demand

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Up to London Screenline - Northbound													
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?	
360318_360218	Canada Water - Rotherhithe	London Overground	0	0	0	7624	0	6007	-21%	25%	PASS	No	
370463_350263	South Bermondsey - London Bridge	Southern	0	0	0	0	5608						
390163_350261	New Cross Gate - London Bridge	Southern	0	0	0	0	44026	0	-26%	25%	FAIL	No	
390163_350263	New Cross Gate - London Bridge	Southern	0	0	0	0	26990						
390163_350265	New Cross Gate - London Bridge	Thameslink	0	0	0	0	1811	3400	88%	25%	FAIL	No	
390261_350261	Deptford - London Bridge	South Eastern	0	0	0	0		3646					
390261_350283	Deptford - London Bridge	South Eastern	0	0	0	0		10493					
390361_350261	New Cross Gate - London Bridge	South Eastern	0	0	0	0	95569	39758	-8%	25%	PASS	No	
390361_350265	New Cross Gate - London Bridge	South Eastern	0	0	0	0		0					
390361_350283	New Cross Gate - London Bridge	South Eastern	0	0	0	0		34292					
360322_360122	Canada Water - Bermondsey	Jubilee Line	0	0	35189	0	0	33175	-6%	25%	PASS	No	
367024_369016	Lower Rd Jamaica Rd Roundabout - Rotherhithe Jamaica Rd	Local Bus	2867	0	0	0	0	2757	-4%	25%	PASS	No	
367024_369020	Lower Rd Jamaica Rd Roundabout - Rotherhithe Tunnel	Local Bus	479	0	0	0	0	423	-12%	25%	PASS	No	
367066_369015	S'Wark Pk Rd Roundabout Stalham St - S'Wark Pk Rd Clements Rd	Local Bus	171	0	0	0	0	158	-8%	25%	PASS	Yes	
379073_377374	St James' Rd Catlin St - St James Rd Lynton Rd	Local Bus	509	0	0	0	0	376	-26%	25%	FAIL	No	
377383_379033	Southwark Park Rd Ambrose St - S'Wark Pk R/St James's Rd	Local Bus	1015	0	0	0	0	825	-19%	25%	PASS	No	
367024_369016	Lower Rd Jamaica Rd Roundabout - Rotherhithe Jamaica Rd	Wa k Element						675					
367024_369020	Lower Rd Jamaica Rd Roundabout - Rotherhithe Tunnel	Wa k Element						142					
367066_369015	S'Wark Pk Rd Roundabout Stalham St - S'Wark Pk Rd Clements Rd	Wa k Element						508					
379073_377374	St James' Rd Catlin St - St James Rd Lynton Rd	Wa k Element						27					
377383_379033	Southwark Park Rd Ambrose St - S'Wark Pk R/St James's Rd	Wa k Element						15					
367024_367023	Lower Rd Jamaica Rd Roundabout - Jamaica Rd Cathay St	Wa k Element						0					
367033_367013	Southwark Park Rd Drummond Rd - Clements Rd Drummond Rd	Wa k Element						15					
367066_367012	S'Wark Pk Rd Roundabout Stalham St - S'Wark Pk Rd Gataker St	Wa k Element						0					
367024_367115	Lower Rd Jamaica Rd Roundabout - Swan Rd Swan Rd	Wa k Element						44					
367116_367115	Renforth St Albion St - Swan Rd Swan Rd	Wa k Element						13					
377383_367172	Southwark Park Rd Ambrose St - St. Jame's Rd Blue Anchor Ln	Wa k Element						146					
369061_369060	Poolmans St Garter Way - Needleman St Basque Cr	Wa k Element						298					
377432_377434	Lynton Rd Beatrice Rd - Simms Rd Beatrice Rd	Wa k Element						0					
377432_377374	Lynton Rd Beatrice Rd - St James Rd Lynton Rd	Wa k Element						70					
<b>Screenline Total</b>			<b>5041</b>	<b>0</b>	<b>35189</b>	<b>7624</b>	<b>141406</b>	<b>167908</b>	<b>-11%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>	

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Up to London Screenline - Southbound													
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?	
350260_390162	London Bridge- New Cross Gate	Southern	0	0	0	0		0					
350262_370462	London Bridge - South Bermondsey	Southern	0	0	0	0	3647	1275	1%	25%	PASS	No	
350262_390162	London Bridge- New Cross Gate	Southern	0	0	0	0		2411					
350264_390162	London Bridge- New Cross Gate	Thameslink	0	0	0	0	1439	1362	-5%	25%	PASS	No	
350260_390260	London Bridge- Deptford	South Eastern	0	0	0	0		0					
350260_390360	London Bridge- New Cross	South Eastern	0	0	0	0		3973					
350264_390360	London Bridge- New Cross	South Eastern	0	0	0	0	6986	0	3%	25%	PASS	No	
350282_390260	London Bridge/Cannon St. - Deptford	South Eastern	0	0	0	0		1684					
350282_390360	London Bridge- New Cross	South Eastern	0	0	0	0		1544					
360219_360319	Rotherhithe - Canada Water	London Overground	0	0	0	3709	0	3552	-4%	25%	PASS	No	
360123_360323	Bermondsey - Canada Water	Jubilee Line	0	0	42571	0	0	41737	-2%	25%	PASS	No	
369016_367024	Rotherhithe Jamaica Road - Lower Rd Jamaica Rd Roundabout	Local Bus	1244	0	0	0	0	925	-26%	25%	FAIL	No	
369020_367024	Rotherhithe Tunnel - Lower Rd Jamaica Rd Roundabout	Local Bus	1399	0	0	0	0	1678	20%	25%	PASS	No	
369015_367066	S'Wark Pk Rd Clements Rd - S'Wark Pk Rd Roundabout Stalham St	Local Bus	195	0	0	0	0	209	7%	25%	PASS	Yes	
377374_379073	St James Rd Lynton Rd - St James Rd Catlin St	Local Bus	518	0	0	0	0	348	-33%	25%	FAIL	No	
379033_377383	S'Wark Pk R/St James'S R - Southwark Park Rd Ambrose St	Local Bus	851	0	0	0	0	649	-24%	25%	PASS	No	
369016_367024	Rotherhithe Jamaica Road - Lower Rd Jamaica Rd Roundabout	Wa k Element						229					
369020_367024	Rotherhithe Tunnel - Lower Rd Jamaica Rd Roundabout	Wa k Element						98					
369015_367066	S'Wark Pk Rd Clements Rd - S'Wark Pk Rd Roundabout Stalham St	Wa k Element						379					
377374_379073	St James Rd Lynton Rd - St James Rd Catlin St	Wa k Element						17					
379033_377383	S'Wark Pk R/St James'S R - Southwark Park Rd Ambrose St	Wa k Element						6					
367023_367024	Jamaica Rd Cathay St - Lower Rd Jamaica Rd Roundabout	Wa k Element						0					
367013_367033	Clements Rd Drummond Rd - Southwark Park Rd Drummond Rd	Wa k Element						13					
367012_367066	S'Wark Pk Rd Gataker St - S'Wark Pk Rd Roundabout Stalham St	Wa k Element						0					
367115_367024	Swan Rd Swan Rd - Lower Rd Jamaica Rd Roundabout	Wa k Element						14					
367115_367116	Swan Rd Swan Rd - Renforth St Albion St	Wa k Element						9					
367172_377383	St. Jame's Rd Blue Anchor Ln - Southwark Park Rd Ambrose St	Wa k Element						45					
369060_369061	Poolmans St Garter Way - Needleman St Basque Crt	Wa k Element						653					
377374_377432	St James Rd Lynton Rd - Lynton Rd Beatrice Rd	Wa k Element						70					
377434_377432	Simms Rd Beatrice Rd - Lynton Rd Beatrice Rd	Wa k Element						0					
<b>Screenline Total</b>			<b>4207</b>	<b>0</b>	<b>42571</b>	<b>3709</b>	<b>12072</b>	<b>61347</b>	<b>-2%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>	

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Down from London Screenline - North/westbound												
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
360418_360318	Surrey Quays - Canada Water	London Overground	0	0	0	10519	0	9499	-10%	25%	PASS	No
80722_360322	Canary Wharf - Canada Water	Jubilee Line	0	0	27157	0	0	27268	0%	25%	PASS	No
80791_70191	Canary Wharf - West India Quay	DLR	0	7063	0	0	0	5939	4%	25%	PASS	No
80793_70193	Canary Wharf - West India Quay	DLR	0	0	0	0	0	1425				
87111_87168	Marsh Wall Roundabout - Westferry Circus Roundabout	Local Bus	0	0	0	0	0	23	#DIV/0!	25%	#DIV/0!	Yes
87141_87170	Cabot Sq S Colonnade - W India Ave Cabot Sq	Local Bus	744	0	0	0	0	699	-6%	25%	PASS	No
367101_369053	Redriff R Surrey Quays Rd - Surrey Quays Leisure Cen	Local Bus	2528	0	0	0	0	2844	13%	25%	PASS	No
367102_367127	Redriff Rd Quebec Way - Redriff Rd Omega Gate	Local Bus	338	0	0	0	0	509	51%	25%	FAIL	Yes
367149_369030	Surrey Quays Overground - Lower Road Orange Place	Local Bus	905	0	0	0	0	1004	11%	25%	PASS	No
87111_87168	Marsh Wall Roundabout - Westferry Circus Roundabout	Walk Element						64				
87141_87170	Cabot Sq S Colonnade - W India Ave Cabot Sq	Walk Element						686				
367101_369053	Redriff R Surrey Quays Rd - Surrey Quays Leisure Cen	Walk Element						2				
367102_367127	Redriff Rd Quebec Way - Redriff Rd Omega Gate	Walk Element						113				
367149_369030	Surrey Quays Overground - Lower Road Orange Place	Walk Element						57				
87205_77043	Canada Sq Upper Bank St - Upper Bank St Aspen Way	Walk Element						3293				
87141_87142	Cabot Sq S Colonnade - Colonnade Sq Cabot Sq	Walk Element						0				
89082_87142	Canada Square Canary Whf - Colonnade Sq Cabot Sq	Walk Element						1				
367088_367087	Surrey Quays Shopping Centre - Surrey Quays Rd Deal Porters	Walk Element						3				
367102_367152	Redriff Rd Quebec Way - Quebec Way Teredo St	Walk Element						24				
367129_367146	Omega Gate Plover Way - Norway Gate Plover Way	Walk Element						0				
367130_367146	Finland St Norway Gate - Norway Gate Plover Way	Walk Element						230				
367129_367127	Omega Gate Plover Way - Redriff Rd Omega Gate	Walk Element						11				
<b>Screenline Total</b>			<b>4514</b>	<b>7063</b>	<b>27157</b>	<b>10519</b>	<b>0</b>	<b>49210</b>	<b>0%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Down from London Screenline - Southbound												
Link ID	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
360319_360419	Canada Water - Surrey Quays	London Overground	0	0	0	1670	0	2630	57%	25%	FAIL	No
360323_80723	Canada Water - Canary Wharf	Jubilee Line	0	0	44277	0	0	43948	-1%	25%	PASS	No
70190_80790	West India Quay - Canary Wharf	DLR	0	16185	0	0	0	8513	-17%	25%	PASS	No
70192_80792	West India Quay - Canary Wharf	DLR	0	0	0	0	0	4907				
87168_87111	Westferry Circus Roundabout - Marsh Wall Roundabout	Local Bus	85	0	0	0	0	28	-67%	25%	FAIL	Yes
87142_89082	Colonnade Sq Cabot Sq - Canada Square Canary Whf	Local Bus	1221	0	0	0	0	824	-33%	25%	FAIL	No
369053_367101	Surrey Quays Leisure Cen - Redriff R Surrey Quays Rd	Local Bus	976	0	0	0	0	1254	29%	25%	FAIL	No
367127_367102	Redriff Rd Omega Gate - Redriff Rd Quebec Way	Local Bus	1116	0	0	0	0	1287	15%	25%	PASS	No
369030_367149	Lower Road Orange Place - Surrey Quays Overground	Local Bus	0	0	0	0	0	344	#DIV/0!	25%	#DIV/0!	Yes
87168_87111	Westferry Circus Roundabout - Marsh Wall Roundabout	Walk Element						145				
87142_89082	Colonnade Sq Cabot Sq - Canada Square Canary Whf	Walk Element						0				
369053_367101	Surrey Quays Leisure Cen - Redriff R Surrey Quays Rd	Walk Element						0				
367127_367102	Redriff Rd Omega Gate - Redriff Rd Quebec Way	Walk Element						199				
369030_367149	Lower Road Orange Place - Surrey Quays Overground	Walk Element						69				
77043_87205	Upper Bank St Aspen Way - Canada Sq Upper Bank St	Walk Element						1237				
87142_87141	Colonnade Sq Cabot Sq - Cabot Sq S Colonnade	Walk Element						0				
87170_87141	W India Ave Cabot Sq - Cabot Sq S Colonnade	Walk Element						624				
367087_367088	Surrey Quays Rd Deal Porters Way - Surrey Quays Shopping Ce	Walk Element						6				
367152_367102	Quebec Way Teredo St - Redriff Rd Quebec Way	Walk Element						7				
367146_367129	Norway Gate Plover Way - Omega Gate Plover Way	Walk Element						0				
367146_367130	Norway Gate Plover Way - Finland St Norway Gate	Walk Element						46				
367127_367129	Redriff Rd Omega Gate - Omega Gate Plover Way	Walk Element						1				
<b>Screenline Total</b>			<b>3398</b>	<b>16185</b>	<b>44277</b>	<b>1670</b>	<b>0</b>	<b>63735</b>	<b>-3%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>

NOTE: walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Assignment Validation of Cordon Links into Study Area												
Link D	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
360418_360318	Surrey Quays - Canada Water	London Overground	0	0	0	10519	0	9499	-10%	25%	PASS	No
360219_360319	Rotherhithe - Canada Water	London Overground	0	0	0	3709	0	3552	-4%	25%	PASS	No
360123_360323	Bermondsey - Canada Water	Jubilee Line	0	0	42571	0	0	41737	-2%	25%	PASS	No
80722_360322	Canary Wharf - Canada Water	Jubilee Line	0	0	27157	0	0	27268	0%	25%	PASS	No
367136_367090	Rotherhithe New Rd/Silwood St. - Rotherhithe New Rd Roundabout (SW Link)	Local Bus	828	0	0	0	0	614	-26%	25%	FAIL	No
369034_367100	Lower Road Surrey Quays Stn (Stop M) - Lower Rd/Cope St. (S Link)	Local Bus	#N/A	0	0	0	0	-	#VALUE!	25%	#VALUE!	#N/A
367063_369016	Jamaica Road S'Wark Pk Rd - Southwark Park Stop C (NW Link)	Local Bus	1215	0	0	0	0	937	-23%	25%	PASS	No
367104_369022	Rotherhithe St/Salter Rd - Salter Rd/Shipwright Rd (E Link)	Local Bus	697	0	0	0	0	778	12%	25%	PASS	No
367136_367090	Rotherhithe New Rd/Silwood St. - Rotherhithe New Rd Roundabout	Walk Element						711				
369034_367100	Lower Road Surrey Quays Stn (Stop M) - Lower Rd/Cope St.	Walk Element						864				
367063_369016	Jamaica Road S'Wark Pk Rd - Southwark Park Stop C	Walk Element						80				
367104_369022	Rotherhithe St/Salter Rd - Salter Rd/Shipwright Rd	Walk Element						246				
<b>Into Study Area Total</b>			<b>2740</b>	<b>0</b>	<b>69728</b>	<b>14228</b>	<b>0</b>	<b>84385</b>	<b>-3%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Assignment Validation of Cordon Links from Study Area												
Link D	Link Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?
360319_360419	Canada Water - Surrey Quays	London Overground	0	0	0	1670	0	2630	57%	25%	FAIL	No
360318_360218	Canada Water - Rotherhithe	London Overground	0	0	0	7624	0	6007	-21%	25%	PASS	No
360322_360122	Canada Water - Bermondsey	Jubilee Line	0	0	35189	0	0	33175	-6%	25%	PASS	No
360323_80723	Canada Water - Canary Wharf	Jubilee Line	0	0	44277	0	0	43948	-1%	25%	PASS	No
367090_367136	Rotherhithe New Rd Roundabout - Rotherhithe New Rd/Silwood St. (SW Link)	Local Bus	715	0	0	0	0	494	-31%	25%	FAIL	No
367100_369034	Lower Rd/Cope St. - Lower Road Surrey Quays Stn (Stop M) (S Link)	Local Bus	854	0	0	0	0	1422	66%	25%	FAIL	No
369016_367063	Southwark Park Stop C - Jamaica Road S'Wark Pk Rd (NW Link)	Local Bus	2525	0	0	0	0	2943	17%	25%	PASS	No
369022_367104	Salter Rd/Shipwright Rd - Rotherhithe St/Salter Rd (E Link)	Local Bus	455	0	0	0	0	709	56%	25%	FAIL	No
367090_367136	Rotherhithe New Rd Roundabout - Rotherhithe New Rd/Silwood St.	Walk Element						274				
367100_369034	Lower Rd/Cope St. - Lower Road Surrey Quays Stn (Stop M)	Walk Element						279				
369016_367063	Southwark Park Stop C - Jamaica Road S'Wark Pk Rd	Walk Element						351				
369022_367104	Salter Rd/Shipwright Rd - Rotherhithe St/Salter Rd	Walk Element						110				
<b>From Study Area Total</b>			<b>4550</b>	<b>0</b>	<b>79466</b>	<b>9294</b>	<b>0</b>	<b>91328</b>	<b>-2%</b>	<b>15%</b>	<b>PASS</b>	<b>No</b>

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Assignment Validation of Boardings at Key Stations/Stops													
Node ID	Node Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?	
360122	Bermondsey Northbound Platform	Jubilee Line	0	0	2878	0	0	2861	-1%	25%	PASS	No	
360123	Bermondsey Southbound Platform	Jubilee Line	0	0	1274	0	0	591	-54%	25%	FAIL	No	
360318	Canada Water Northbound Platform	London Overground	0	0	0	2208	0	1160	-47%	25%	FAIL	No	
360319	Canada Water Southbound Platform	London Overground	0	0	0	713	0	581	-19%	25%	PASS	No	
360322	Canada Water Northbound Platform	Jubilee Line	0	0	9746	0	0	7572	-22%	25%	PASS	No	
360323	Canada Water Southbound Platform	Jubilee Line	0	0	3672	0	0	3446	-6%	25%	PASS	No	
360218	Rotherhithe Northbound Platform	London Overground	0	0	0	757	0	642	-15%	25%	PASS	No	
360219	Rotherhithe Southbound Platform	London Overground	0	0	0	758	0	356	-53%	25%	FAIL	No	
360418	Surrey Quays Northbound Platform	London Overground	0	0	0	2088	0	2489	19%	25%	PASS	No	
360419	Surrey Quays Southbound Platform	London Overground	0	0	0	739	0	287	-61%	25%	FAIL	No	
<b>Total Boardings</b>			<b>0</b>	<b>0</b>	<b>17570</b>	<b>7263</b>	<b>0</b>	<b>19985</b>	<b>-20%</b>	<b>15%</b>	<b>FAIL</b>	<b>No</b>	

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.

Assignment Validation of Alightings at Key Stations/Stops													
Node ID	Node Description	Mode / Service	Bus Observed Data	DLR Observed Data	London Underground Observed Data	London Overground Observed Data	National Rail Observed Data	Modelled	Modelled Vs Observed	WebTAG Criteria	Pass/Fail	Observed Flow <150?	
360122	Bermondsey Northbound Platform	Jubilee Line	0	0	1526	0	0	834	-45%	25%	FAIL	No	
360123	Bermondsey Southbound Platform	Jubilee Line	0	0	891	0	0	1225	37%	25%	FAIL	No	
360318	Canada Water Northbound Platform	London Overground	0	0	0	5102	0	4653	-9%	25%	PASS	No	
360319	Canada Water Southbound Platform	London Overground	0	0	0	2753	0	1503	-45%	25%	FAIL	No	
360322	Canada Water Northbound Platform	Jubilee Line	0	0	1655	0	0	1666	1%	25%	PASS	No	
360323	Canada Water Southbound Platform	Jubilee Line	0	0	1996	0	0	1235	-38%	25%	FAIL	No	
360218	Rotherhithe Northbound Platform	London Overground	0	0	0	339	0	196	-42%	25%	FAIL	Yes	
360219	Rotherhithe Southbound Platform	London Overground	0	0	0	126	0	331	163%	25%	FAIL	Yes	
360418	Surrey Quays Northbound Platform	London Overground	0	0	0	1055	0	306	-71%	25%	FAIL	No	
360419	Surrey Quays Southbound Platform	London Overground	0	0	0	494	0	556	13%	25%	PASS	No	
<b>Total Alightings</b>			<b>0</b>	<b>0</b>	<b>6068</b>	<b>9869</b>	<b>0</b>	<b>12505</b>	<b>-22%</b>	<b>15%</b>	<b>FAIL</b>	<b>No</b>	

NOTE walk volumes are included in the summary tables but are EXCLUDED from the validation statistics. They are included to help identify potential under assignment on competing transit links.



<b>Trip Matrix Validation</b>						
<b>Proportion of links within 15% of Observed:</b>			<b>100%</b>			
WebTAG criteria = 95%						
		Total Assigned Passengers*	Total Observed Passengers	Difference	WebTAG Criteria	WebTAG Pass/Fail
<b>Up to London Screenline Screenline</b>	<b>Northbound</b>	169861	189260	-10%	15%	<b>PASS</b>
	<b>Southbound</b>	62880	62559	1%	15%	<b>PASS</b>
<b>Down From London Screenline</b>	<b>North/Westbound</b>	53694	49253	9%	15%	<b>PASS</b>
	<b>Southbound</b>	66069	65530	1%	15%	<b>PASS</b>
<b>Into Study Area</b>		86286	86696	0%	15%	<b>PASS</b>
<b>From Study Area</b>		92342	93310	-1%	15%	<b>PASS</b>

\*Assigned passengers include walk demand

## D. Railplan Strategic Validation

% Difference Between Modelled and Observed													
WE001A08A		NR		LUL		DLR		BUS		Total		Total (walk excepted)	
AM		Diff %		Diff %		Diff %		Diff %		Diff %		Diff %	
Screen Line	Sector	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
CENTRAL	East	16.8%	56.7%	-8.7%	26.3%	5.5%	32.7%	0.6%	-18.2%	8.4%	88.2%	4.2%	23.9%
	North	20.4%	26.9%	-0.5%	23.0%			6.5%	20.8%	12.1%	61.5%	6.1%	23.5%
	North West	2.2%	13.2%	4.6%	27.8%			9.4%	-27.9%	11.3%	35.8%	4.3%	18.2%
	South	1.6%	0.7%	-8.1%	6.0%			9.1%	1.2%	2.9%	19.7%	0.0%	3.4%
	West	9.5%	20.7%	-8.1%	-6.2%			-8.1%	-1.6%	0.4%	11.4%	-4.9%	-2.9%
	<b>TOTAL</b>		<b>6.6%</b>	<b>12.2%</b>	<b>-4.1%</b>	<b>9.7%</b>	<b>5.5%</b>	<b>32.7%</b>	<b>5.0%</b>	<b>-1.8%</b>	<b>6.3%</b>	<b>34.7%</b>	<b>1.8%</b>
INNER	North			10.0%	18.5%			-13.8%	-11.9%	9.3%	31.6%	4.7%	4.6%
	North East			4.6%	12.3%	2.9%	-4.8%	-30.5%	-29.9%	5.1%	10.5%	2.5%	6.1%
	South East					2.8%	-6.9%	-0.7%	-5.4%	22.3%	8.4%	-0.3%	-5.9%
	South West			5.6%	21.5%			-12.4%	-12.5%	12.1%	20.0%	-2.3%	-3.5%
	West			5.1%	14.6%			7.8%	-10.0%	15.1%	25.8%	5.5%	9.7%
<b>TOTAL</b>				<b>6.8%</b>	<b>14.9%</b>	<b>2.9%</b>	<b>-6.0%</b>	<b>-9.3%</b>	<b>-11.8%</b>	<b>10.0%</b>	<b>19.4%</b>	<b>3.3%</b>	<b>3.7%</b>
OUTER	North							111.3%	55.1%	111.5%	55.5%	111.3%	55.1%
	North East			-15.2%	-20.9%			-53.0%	2.0%	-16.5%	14.3%	-17.8%	-8.9%
	South East							11.5%	-48.4%	26.3%	13.3%	11.5%	-48.4%
	South West							235.4%	220.8%	246.3%	234.8%	235.4%	220.8%
	West			-2.1%	8.4%			212.8%	35.4%	21.2%	72.0%	14.9%	22.8%
<b>TOTAL</b>				<b>-8.2%</b>	<b>-6.7%</b>			<b>101.3%</b>	<b>48.2%</b>	<b>19.4%</b>	<b>63.6%</b>	<b>15.1%</b>	<b>35.3%</b>

Note: Blanks indicate instances where observed data is not available to compare against

Note: Total differences exclude modelled demand for which equivalent observed data is not available (except walk volumes)

<b>% Difference Between Modelled and Observed</b>													
<b>CQ113A101</b>		<b>NR</b>		<b>LUL</b>		<b>DLR</b>		<b>BUS</b>		<b>Total</b>		<b>Total (walk excepted)</b>	
<b>AM</b>		<b>Diff %</b>		<b>Diff %</b>		<b>Diff %</b>		<b>Diff %</b>		<b>Diff %</b>		<b>Diff %</b>	
<b>Screen Line</b>	<b>Sector</b>	<b>IN</b>	<b>OUT</b>	<b>IN</b>	<b>OUT</b>	<b>IN</b>	<b>OUT</b>	<b>IN</b>	<b>OUT</b>	<b>IN</b>	<b>OUT</b>	<b>IN</b>	<b>OUT</b>
CENTRAL	East	16.7%	53.5%	-9.2%	24.8%	3.0%	27.5%	-4.4%	-29.3%	7.7%	83.2%	3.5%	19.5%
	North	19.7%	26.1%	-0.9%	24.1%			4.8%	15.6%	11.4%	60.9%	5.4%	23.3%
	North West	2.3%	13.1%	4.6%	27.3%			9.6%	-27.9%	11.4%	35.4%	4.4%	17.9%
	South	1.4%	0.3%	-7.7%	6.0%			8.3%	-4.4%	2.8%	19.0%	0.0%	2.5%
	West	9.5%	20.6%	-8.1%	-6.2%			-8.1%	-1.6%	0.5%	11.5%	-4.9%	-2.9%
	<b>TOTAL</b>	<b>6.4%</b>	<b>11.6%</b>	<b>-4.2%</b>	<b>9.7%</b>	<b>3.0%</b>	<b>27.5%</b>	<b>3.7%</b>	<b>-6.7%</b>	<b>6.0%</b>	<b>33.8%</b>	<b>1.5%</b>	<b>8.6%</b>
INNER	North			10.0%	18.3%			-13.9%	-12.0%	9.2%	31.4%	4.6%	4.5%
	North East			4.5%	11.9%	1.9%	-6.6%	-31.0%	-30.0%	4.8%	10.0%	2.3%	5.6%
	South East					-1.6%	-8.4%	-0.4%	-5.4%	21.9%	8.0%	-0.5%	-6.4%
	South West			5.6%	21.7%			-12.6%	-12.7%	12.1%	20.1%	-2.3%	-3.6%
	West			5.1%	14.4%			7.8%	-10.0%	15.1%	25.7%	5.5%	9.5%
	<b>TOTAL</b>			<b>6.8%</b>	<b>14.6%</b>	<b>1.4%</b>	<b>-7.7%</b>	<b>-9.4%</b>	<b>-11.9%</b>	<b>9.8%</b>	<b>19.1%</b>	<b>3.2%</b>	<b>3.4%</b>
OUTER	North							111.5%	55.1%	111.7%	55.5%	111.5%	55.1%
	North East			-15.2%	-20.9%			-53.4%	0.9%	-16.5%	13.8%	-17.9%	-9.5%
	South East							10.6%	-48.4%	25.3%	13.3%	10.6%	-48.4%
	South West							235.4%	220.4%	246.3%	234.3%	235.4%	220.4%
	West			-2.1%	8.6%			212.7%	35.5%	21.2%	72.1%	14.9%	22.9%
	<b>TOTAL</b>			<b>-8.2%</b>	<b>-6.6%</b>			<b>101.2%</b>	<b>47.9%</b>	<b>19.3%</b>	<b>63.4%</b>	<b>15.0%</b>	<b>35.1%</b>

Note: Blanks indicate instances where observed data is not available to compare against

Note: Total differences exclude modelled demand for which equivalent observed data is not available (except walk volumes)

