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Date 16 February 2016

Project Church Street Closure Monitoring - Isleworth

Project No. 22900801

Church Street Trial Closure – Impact Analysis Note January 2016

As the initial part of our study into the Church Street closure in Isleworth, Steer Davies Gleave has collated a number of data sources to give initial analysis on the ongoing effects of the closure of Church Street.

With Church Street being a current North – South route around Isleworth, it is important to analyse and monitor the traffic behaviour as this will highlight any changes in traffic flows in the area. However, as this is an initial review of data, no firm conclusions can be drawn whilst the network and traffic is still recalibrating in response to the recent closure, whilst the survey dates of January / February are not in a recognised ‘neutral’ month for traffic behaviour.

Figure 1: Isleworth Study Area



North Street Impact

As an initial assessment of traffic flows, Automated Traffic Count data (using MetroCount traffic loops) was collected on North Street (to the West of Silverhall Street) for one week from Friday 29 January 2016 until Thursday 4 February 2016. The data collected shows vehicle numbers split by classification (vehicle type) and vehicle speed per hour over 24 hour periods for the full 7 day week period.

These surveys follow a previous (pre-closure) ATC survey undertaken the week of Sat 15 November 2014 to Friday 21 November 2014, which is being used as a basis to analyse the effects of the closure of Church Street on traffic flows and routing along North Street.

Figure 2: ATC Loop Location on North Street (January 2016)



As indicated in Table 1 and Table 2 below, the initial results show that traffic flows with the closure have increased along North Street in 2016, with both the AM and PM peak periods on an average weekday and weekend showing increases in traffic along this route.

Table 1: North Street Weekday ATC Peak Flows

	AM Weekday Peak Flows								PM Weekday Peak Flows							
	Eastbound				Westbound				Eastbound				Westbound			
	2014	2016	Change	%	2014	2016	Change	%	2014	2016	Change	%	2014	2016	Change	%
Peak Hour	08:00	08:00			08:00	08:00			15:00	17:00			15:00	17:00		
Flow	131	157	+27	+20%	161	216	+54	+34%	78	124	+46	+60%	141	153	+12	+8%

Table 2: North Street Weekend ATC Peak Flows

	Weekend Peak Flows							
	Eastbound				Westbound			
	2014	2016	Change	%	2014	2016	Change	%
Peak Hour	12:00	13:00			13:00	13:00		
Flow	67	91	+24	+36%	61	72	+11	+18%

Table 2 show that the weekend period peaks around lunchtime between 12:00-14:00, with flow increasing post-closure. Traffic on North Street peaks at approximately 163 vehicles (in both directions) between 13:00-14:00 at the weekend.

As shown in Table 1, the AM peak hour remains consistent between the pre (2014) and post (2016) closure periods, at 08:00 for both directions, whilst the PM peak hour changes from 15:00-16:00 (coinciding with school closing times) to later in the day at 17:00-18:00, with this time typically associated with general work / office based peak hour traffic flows. A like for like comparison of the former 15:00-16:00 peak hour is shown in Table 3 below, where it can be seen that there is a 45% increase in traffic in the eastbound direction, however, there is a slight 10% decrease in the westbound direction.

Table 3: North Street Weekday ATC 2014 Peak Flow Comparison

	AM Weekday Flows								PM Weekday Flows							
	Eastbound				Westbound				Eastbound				Westbound			
	2014	2016	Change	%	2014	2016	Change	%	2014	2016	Change	%	2014	2016	Change	%
Peak Hour	08:00	08:00			08:00	08:00			15:00	15:00			15:00	15:00		
Flow	131	157	+27	+20%	161	216	+54	+34%	78	113	+35	+45%	141	127	-14	-10%

Table 4 shows the ATC 2014 peak flow for the weekend compared to 2016 levels. In the eastbound direction, 12:00-13:00 was the peak time in 2014, slightly earlier than the 2016 peak at 13:00-14:00, with traffic level changes being insignificant.

Table 4: North Street Weekend ATC 2014 Peak Flow Comparison

	Weekend Flows							
	Eastbound				Westbound			
	2014	2016	Change	%	2014	2016	Change	%
Peak Hour	12:00	12:00			13:00	13:00		
Flow	67	68	+1	+1%	61	72	+11	+18%

The change in traffic flows throughout the day is perhaps best illustrated in Figures 3-6 below, showing the change in directional traffic flows between the years. Figures 3 and 4 show that whilst the three main peak periods (08:00-09:00, 15:00-16:00, and 17:00-18:00) remain during a typical weekday, the general level of traffic in 2016 post-closure is higher than pre-closure levels.

Figure 3: North Street Weekday Eastbound Traffic Flow Comparison (24hr)

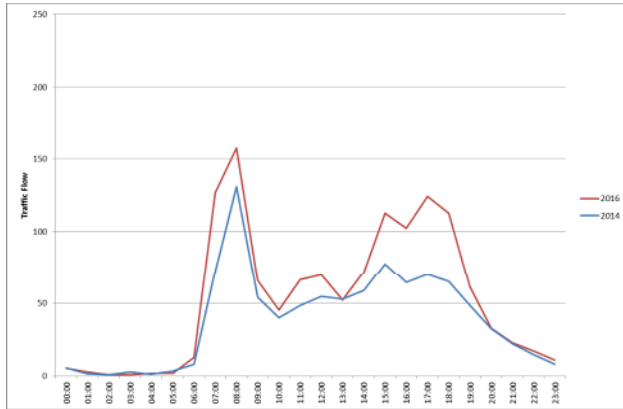
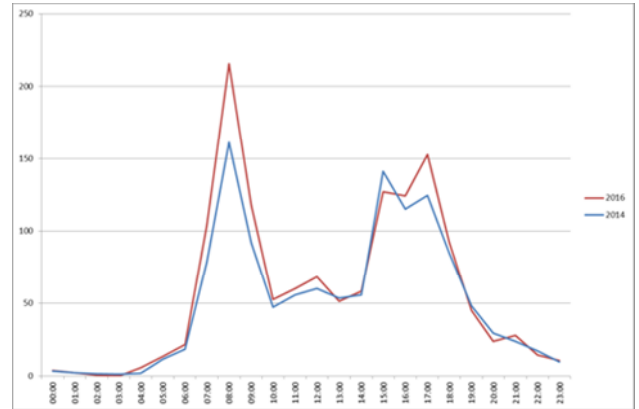


Figure 4: North Street Weekday Westbound Traffic Flow Comparison (24hr)



Figures 5 and 6 show a much clearer peak around lunchtime, with a notable increase in traffic in the eastbound direction in particular.

Figure 5: North Street Weekend Eastbound Traffic Flow Comparison (24hr)

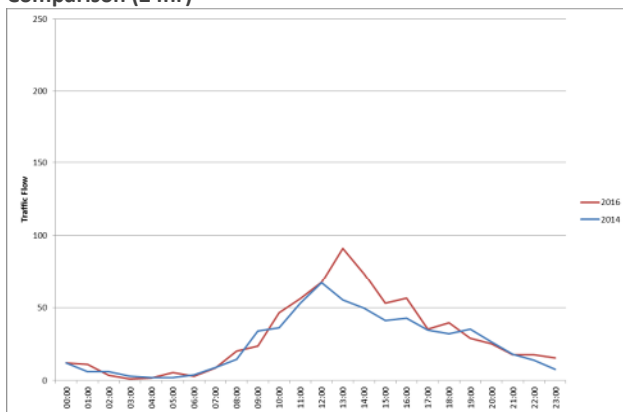
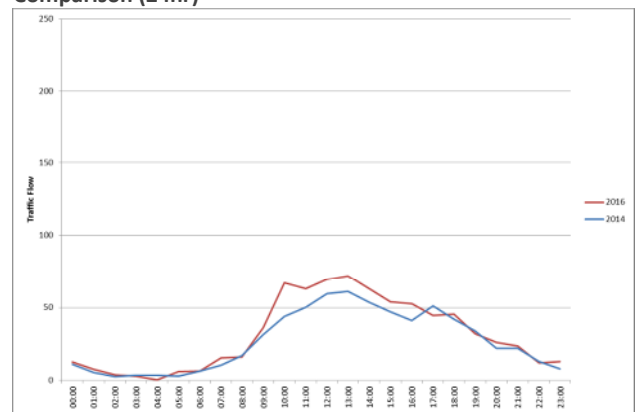


Figure 6: North Street Weekend Westbound Traffic Flow Comparison (24hr)



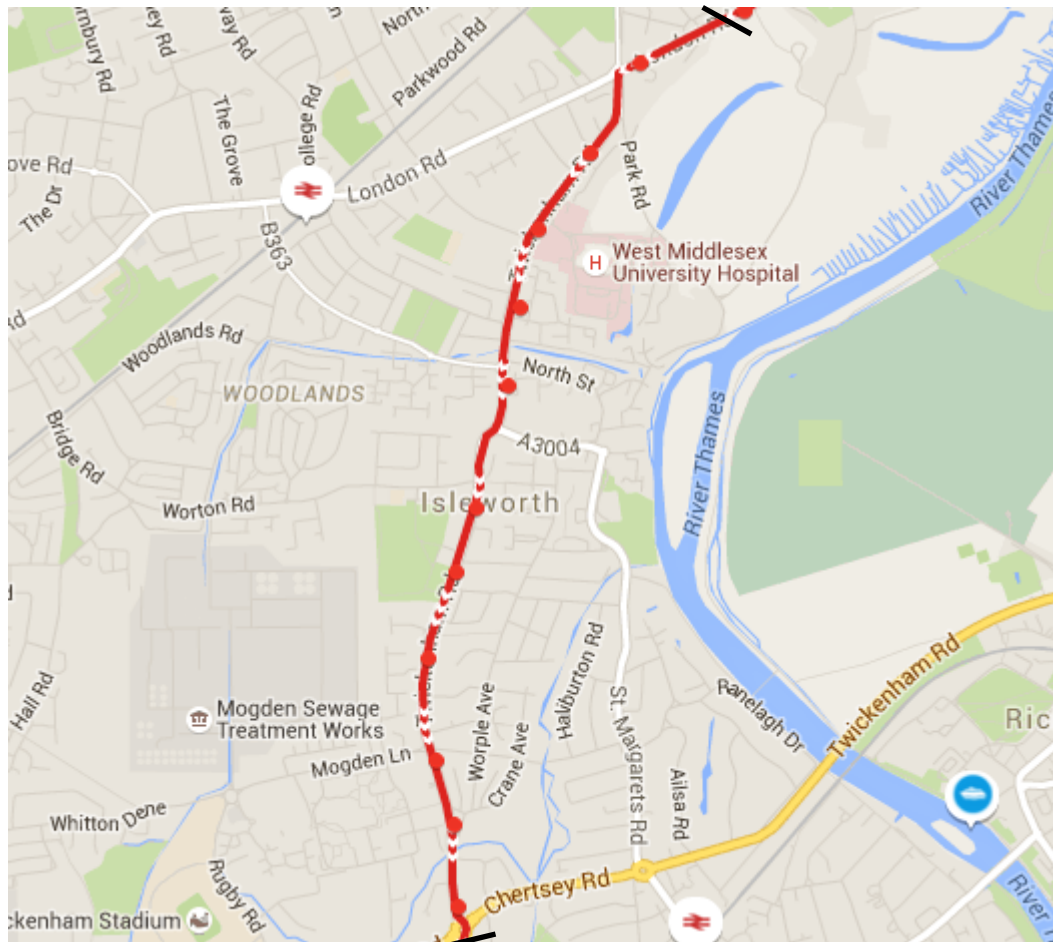
Wider Network Impact

With the closure in place, analysis has been undertaken to determine whether this has had any detrimental impact on bus journey times in and around Isleworth. Bus journey times have been analysed over three time periods, November 2014 (to match the initial ATC surveys), November 2015 (just before Church Street closure), and February 2016 (post-closure, to match recent ATC surveys). Journey times have been taken from iBus data provided by Transport for London, and we have chosen to analyse two main routes, the 267 and H37.

Bus Route 267

As shown in Figure 7 below, bus route 267 travels north – south through the study area along the main Twickenham Road.

Figure 7: Bus Route 267 (taken from www.tfl.gov.uk)



With a bus scheduled approximately every 10 minutes throughout the day (06:00-18:00), the 267 provides a key public transport link for Isleworth, connecting it with Twickenham and Fulwell to the South and Brentford and into Hammersmith to the North / East. Data has been provided from Syon Lane / London Road in the North to Hill View Road (just past the A316) in the South.

Table 5 and Table 6 below show the average total journey time through the network for the north and southbound routes respectively.

Table 5: Route 267 NB Journey Times (in seconds)

	Nov 2014	Nov 2015	Feb 2016
0500-0700	471	438	413
0700-1000	861	826	811
1000-1300	643	650	642
1300-1600	792	750	722
1600-1900	907	858	852
1900-2200	508	557	365
2200-0000	430	448	274
All	712	692	698

Table 6: Route 267 SB Journey Times (in seconds)

	Nov 2014	Nov 2015	Feb 2016
0000-0500	262	256	252
0500-0700	439	465	320
0700-1000	805	1117	960
1000-1300	614	615	567
1300-1600	765	789	758
1600-1900	980	955	949
1900-2200	536	521	557
2200-0000	397	347	198
All	747	792	759

Whilst looking at the mean actual journey times extracted from the iBus data, it is inconclusive as to whether the closure has had any major impact on the journey times along this route, with the average weighted daily journey time remaining relatively consistent between 2014 and 2016. Alongside this the average journey time profile across the day (as shown in Figure 9 and Figure 11) remains relatively consistent, peaking in all three years at 07:00-10:00 and 16:00-19:00, with much quicker journey times in the early morning and late evening in both directions.

Figure 8: Route 267 Average Daily Journey Time

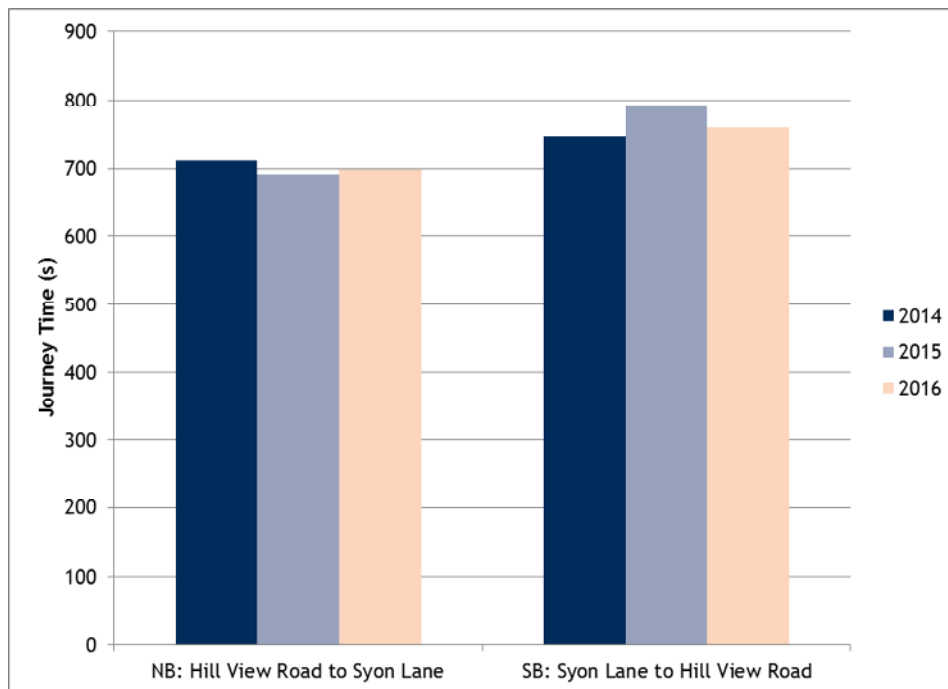


Figure 9: Route 267 NB Average Journey Time Across Day

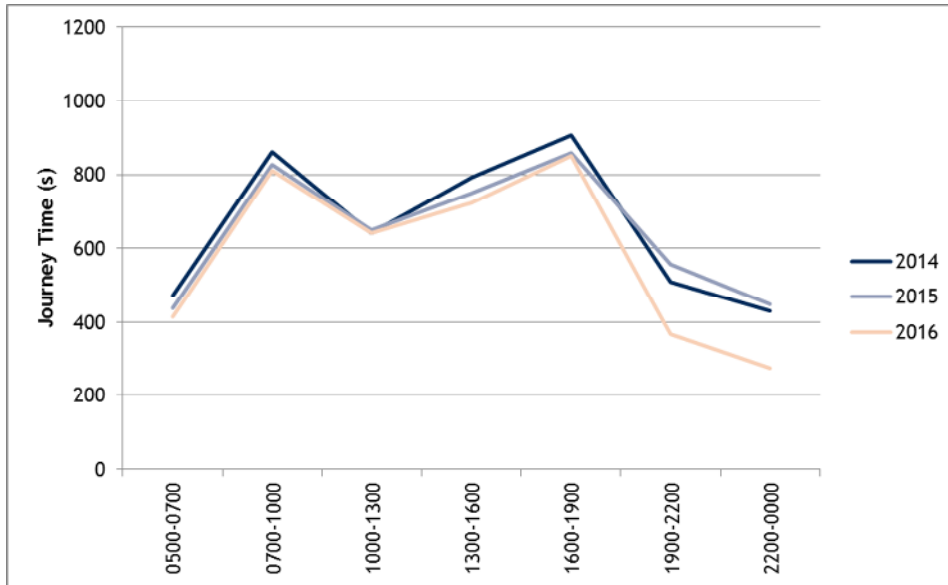
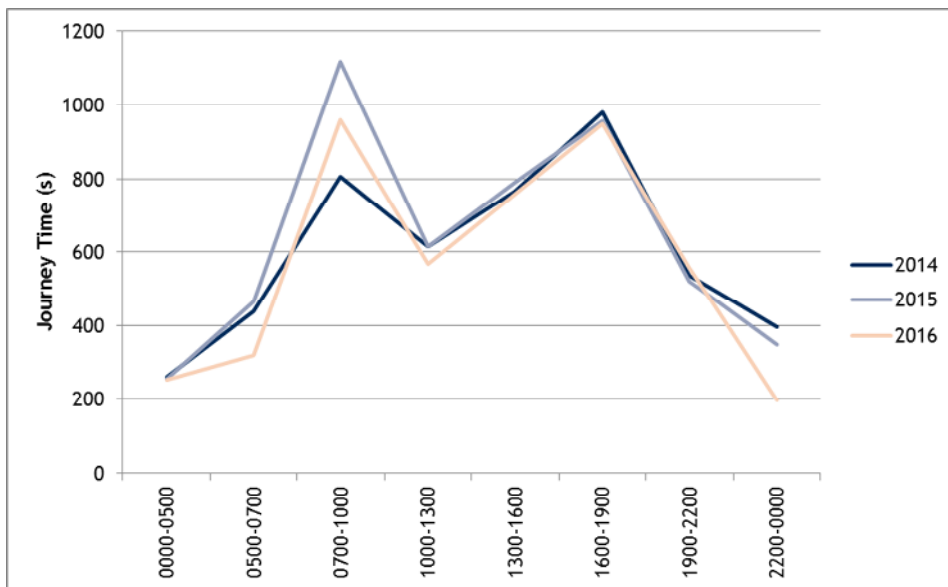


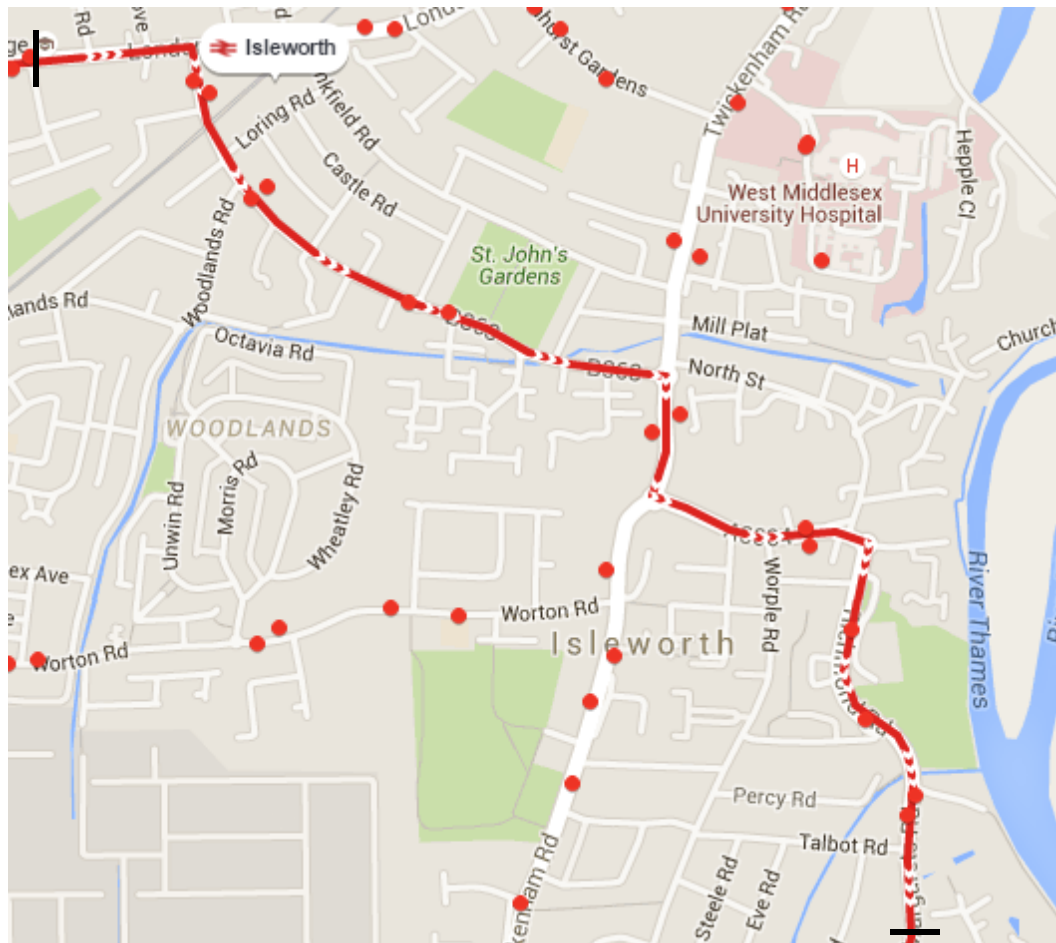
Figure 10: Route 267 SB Average Journey Time Across Day



Bus Route H37

As shown in Figure 11, bus route H37 travels laterally through the study area from West Thames College to the North West of Isleworth, along St John’s Road to Twickenham Road before travelling along South Street and heading south along Richmond Road towards the A316.

Figure 11: Bus Route H37 (taken from www.tfl.gov.uk)



With a bus scheduled every 4-8 minutes in the day time (07:00-19:00), the high frequency of buses and the connecting of Isleworth national rail station with the residential areas surrounding North Street and South Street in Isleworth, indicates that the H37 provides another key public transport link through the town.

Table 7 and Table 8 show the average total journey time through the network for the east and westbound routes respectively.

Table 7: Route H37 EB Journey Times (in seconds)

	Nov 2014	Nov 2015	Feb 2016
0000-0500	357	314	300
0500-0700	476	468	454
0700-1000	722	719	705
1000-1300	624	606	604
1300-1600	642	638	617
1600-1900	681	691	708
1900-2200	509	504	493
2200-0000	415	463	396
All	629	621	608

Table 8: Route H37 EB Journey Times (in seconds)

	Nov 2014	Nov 2015	Feb 2016
0000-0500	443	407	334
0500-0700	460	355	328
0700-1000	644	638	623
1000-1300	610	601	622
1300-1600	619	636	630
1600-1900	677	697	691
1900-2200	536	542	532
2200-0000	436	423	424
All	612	611	608

The tables again show little change in journey time from the pre-closure periods of November 2014 and November 2015 to February 2016. The eastbound shows a small decrease in average weighted bus journey times, whilst the difference in the westbound journey time is minor. The bus daily journey profile shown in Figure 13 and Figure 14 continue to show consistent journey times over the three surveyed period, but with a less distinct 'peak' pattern, with less variance in journey times across the main part of the day (07:00-19:00) than seen with route 267.

Figure 12: Route H37 Average Daily Journey Time

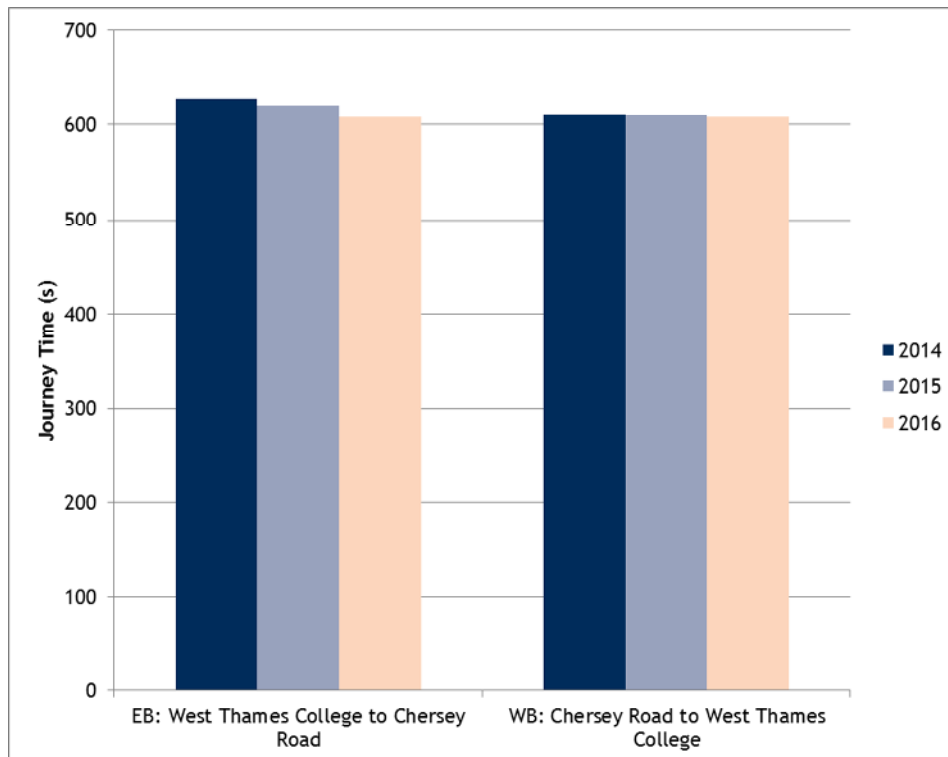


Figure 13: Route H37 EB Average Journey Time Across Day

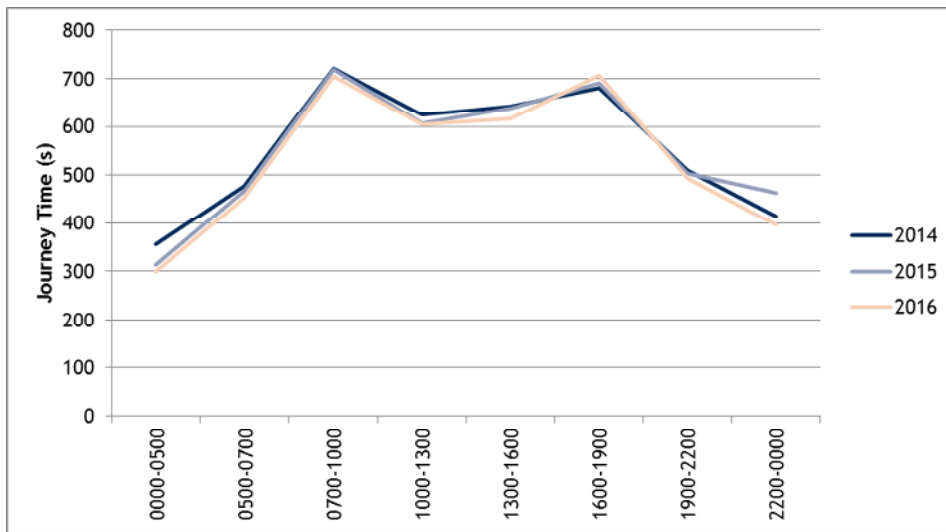


Figure 14: Route H37 WB Average Journey Time Across Day



Initial Conclusions

The ATC data recorded for North Street indicates that traffic flows are 36% (eastbound) and 13% (westbound) higher over an average weekday in early 2016 when compared with those of November 2014.

Analysis of the iBus data suggests that the changes in traffic flows as a result of the Church Street closure are not significantly affecting bus journey times in the Isleworth area.

Whilst the Church Street closure has only been in place for a couple of months, the network is still adapting to the new conditions, and it is therefore too early to identify whether local traffic is being significantly affected by the closure. Ongoing analysis is taking place through the 18 month trial closure period to give a more accurate portrayal of traffic behaviour and any changes which may occur over the course of the closure.