

# **OPEN OUR ROADS**

## **The LTN's impact on congestion**

**A data supplement for TMAC based on  
TfL's record of local bus journey times**

**December 2020**

**TFL  
ENDORSEMENT**

The use of bus journey data for monitoring congestion is actively endorsed and utilised by TfL. **Andrew Miles, Consultation Specialist at TfL**, confirmed that this is one of the two data sources TfL will be using to monitor traffic in the area due to its efficacy. He said: ***“There are no bus lanes locally to limit the effects of any congestion on buses, so bus performance data also provides a good and reliable indicator of conditions for general traffic in the area”.***

**Purpose**

This briefing is to inform you, as members of Croydon Council’s Traffic Management Advisory Committee, of new data measuring the increase in congestion caused by Croydon Council’s Low Traffic Neighbourhood (LTN) scheme in Crystal Palace and South Norwood.

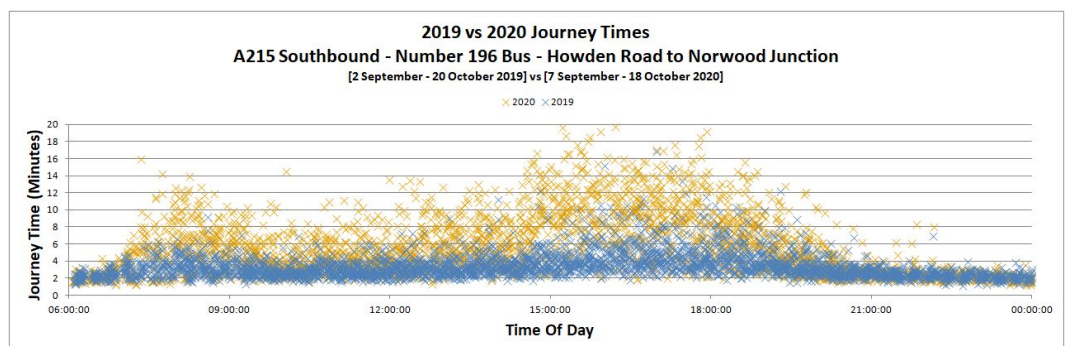
Until now, it was not possible to measure this impact of the scheme upon the main ‘A’ roads around the boundary of the LTN. This was because the Council did not take baseline traffic data prior to introducing the scheme during the Covid pandemic.

However, TfL bus journey tracking data, one of the only reliable sources, allows a comparison of traffic levels seen after the Council’s implementation of the LTN to 2019 traffic levels. This allows us to see the increase of traffic congestion through public transport journey times, providing a very sobering insight into the impact of the LTN.

**We urge you to consider this information very carefully as you make your decision on the future of the scheme.**

**What you’ll find in this document**

The TfL bus journey time data has been turned into a visualisation so you can see the difference between 2019 and 2020. Links to the original data have been included, so you can drill down into the data for yourself. The visualisations look like the one below, which depict the the 196 bus times between two stops.



## Implications of increased congestion on main roads

**“Ella died of asthma contributed to by exposure to excessive air pollution... The whole of Ella’s life was lived in close proximity to highly polluting roads. I have no difficulty in concluding that her personal exposure to nitrogen dioxide and PM was very high.”**

**Dr Philp Barlow**  
Coroner, Southwark  
Coroner’s Court

Whilst the transport sector does not contribute as much to greenhouse gas emissions and dangerous air pollution as other sectors, like industrial manufacturing, we know that road vehicle emissions can be more harmful to human health, as they occur in areas where people live and work. This includes the main roads in the London Borough of Croydon that are absorbing the displaced traffic from the LTN.

In the following pages, we have calculated the potential increase in CO2 emissions based on increased journey times. However, the real concern is the increase in harmful pollutants such as those cited in a landmark hearing [linking the death of Ella Kissi-Debrah to NOx](#). Ella lived on the South Circular in Lewisham, just 6 miles from North Croydon.

Diesel vehicles - including buses - produce more of these harmful pollutants - nitrogen oxides (NO2, NOx) and particulate matter (PM) - than petrol or electric vehicles.

As it’s not possible to know the number of diesel vs petrol vs electric vehicles on the following roads, we have limited our calculations to CO2. However, it is reasonable to expect the same increase in these harmful pollutants with the increased congestion caused by the LTN, exposing those living, working and travelling by the main roads to dangerous conditions.

## Executive summary

The TfL data reveals **severe delays to bus journeys in South Norwood** since the introduction of the LTN.

The Number 75 bus from Penge into South Norwood:

- consistently takes 15 – 20 minutes longer during the morning peak compared with the 2019 baseline;
- takes 5 – 10 minutes longer during the evening peak;
- 3 – 5 minutes longer throughout the majority of the day.

At 08:04, the 75 bus from Lewisham should take 1h13m to reach Fairfield Halls. From Anerley Road it normally takes 30 minutes. A 20 minute delay to that would nearly double the journey time to Croydon.

All road users of the A213 – not just buses – are suffering these same delays due to traffic congestion. [DfT traffic counts](#) show this road on average is used by 17,000 vehicles every day. Even with a very conservative estimate, it is highly likely that thousands of vehicles per day are being delayed by an average of 10 minutes due to the LTN.

**Consider the additional pollution and CO2 emissions this must be causing** due to all the additional engine idling and start-stop movements: If 5,000 cars are idling for 10 minutes, consuming a typical 0.25 litres of fuel per hour, they will produce half a tonne of CO2 in that time.

That would translate into **more than 100 tonnes of additional CO2 per year caused by this aspect of the LTN alone**, and this may be a significant under-estimate of the true figure. [Start-and-stop movements](#) will only add to this so the true figure could be multiple times higher.

That's without even considering the longer routes that some traffic has to take on diversion around the closed roads. This is all in addition to the social, economic and mental health cost on all bus passengers and motorists caught in this traffic.

The A215 on South Norwood Hill is a similar story, told by the journeys of the Number 196 bus. Throughout the entire day, journeys consistently take **4 – 8 minutes longer** compared with the 2019 baseline. [DfT traffic counts](#) are similarly around 17,000 vehicles per day on average. Many thousands of vehicles are therefore stuck in traffic for 4 – 8 minutes

### **A NOTE ON THE CRYSTAL PALACE SCAFFOLDING**

The primary focus of this report is on South Norwood. It is highly unlikely that the traffic in South Norwood was affected by the Crystal Palace scaffolding in any significant way, since these are very distinct routes.

longer per day as a result of the LTN. That could easily translate into **another 50 tonnes of CO2 per year from this aspect of the LTN** on this particular road alone.

Data is not yet available for Crystal Palace Church Road after the removal of the scaffolding on 1<sup>st</sup> November. We will share this data when available. In the meantime, the effect of the widely-reported traffic congestion in Crystal Palace is clear to see in the delays experienced by bus route 157 via Anerley Hill (A214).

## **The data**

TfL's IBus system automatically tracks each bus as it makes each journey. The arrival time at each bus stop is recorded in a database for future reference. We obtained the data for a 7-week period in September and October 2020, and the corresponding period of 2019. These dates were selected as they were after Covid restrictions had eased, prior to the second national lockdown and while schools were open.

### **Covid-19 effects**

Due to the unusual conditions of pandemic, the [DfT is recording](#) lower levels of all vehicles on roads in the UK compared to pre-pandemic levels. The data in this report provides the current best available prediction of the impact, but the true impact is likely to be even higher if traffic levels return to pre-pandemic levels after everyday life normalises.

### **Methodology**

We selected two bus stops on each route to measure the traffic conditions between those two points in the area surrounding the LTN. We calculated the journey time between these two bus stops by subtracting the two arrival times. We visualised this data as a chart which shows the duration of each journey at the time it occurred, as a point on a two-dimensional scatter graph. We repeated this for both years, and then compared the results.

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## **Interpreting the charts**

When viewing the charts, the height of each point represents the journey duration. The higher the point: the longer the journey. The vertical gap between the 2019 data points and the 2020 data points indicates how much longer journeys are taking compared with last year.

These increased journey times are an indication of increased traffic delays - on average - on these routes. We do not see any significant changes to the bus schedules in the past year that would account for any of the delays. Based on the magnitude of the delays, and how well they correlate with peak traffic times, there can be no doubt that increased traffic congestion due to the LTN is the primary cause.

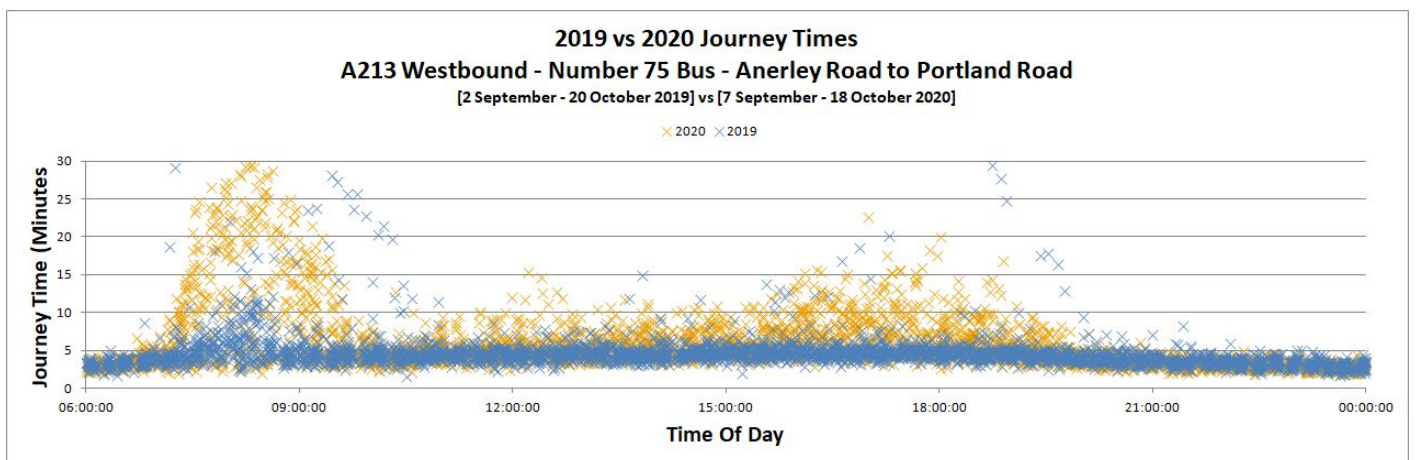
# Number 75 - A213 Westbound into South Norwood

## The route

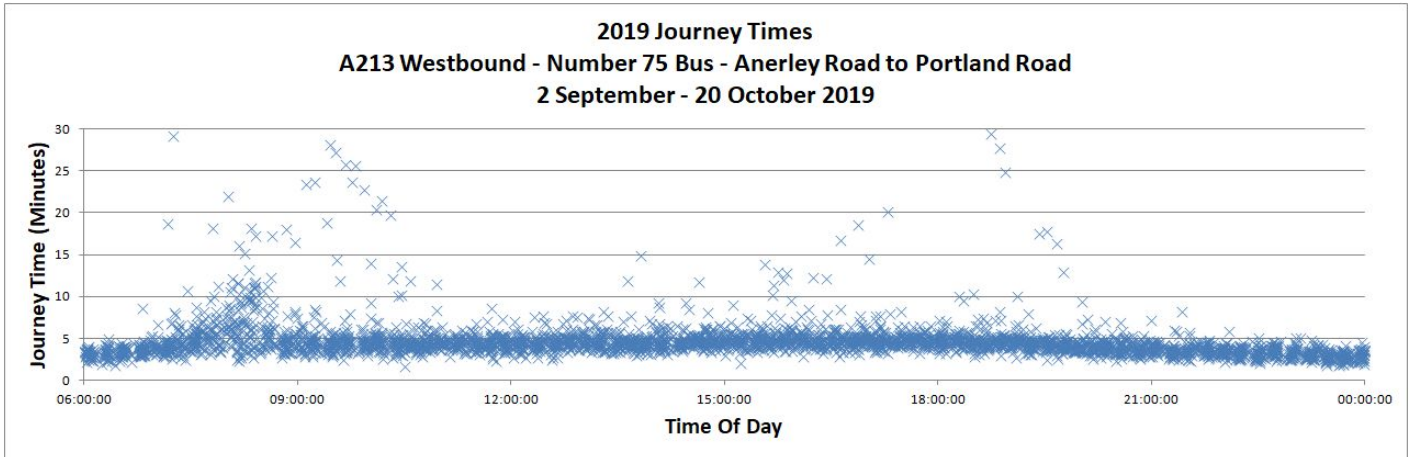
- ✓ Not impacted by the Crystal Palace Scaffolding
- ✓ Impacted by Crystal Palace and South Norwood LTN road closures



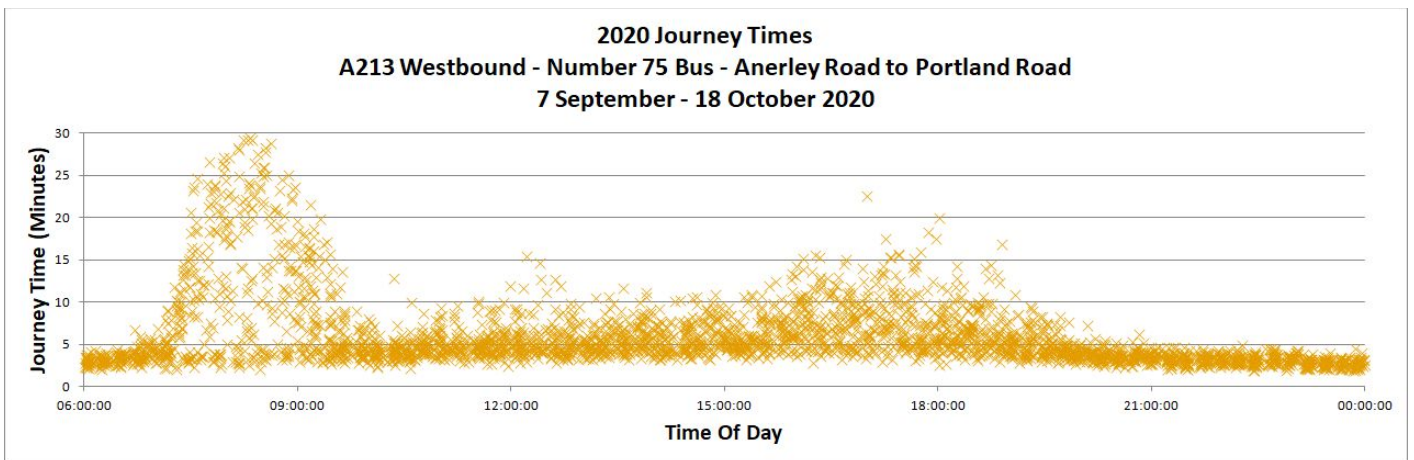
## Before and after the LTN



**Before the LTN**



**After the LTN**



SOURCE: [TfL IBus journey time data](#)



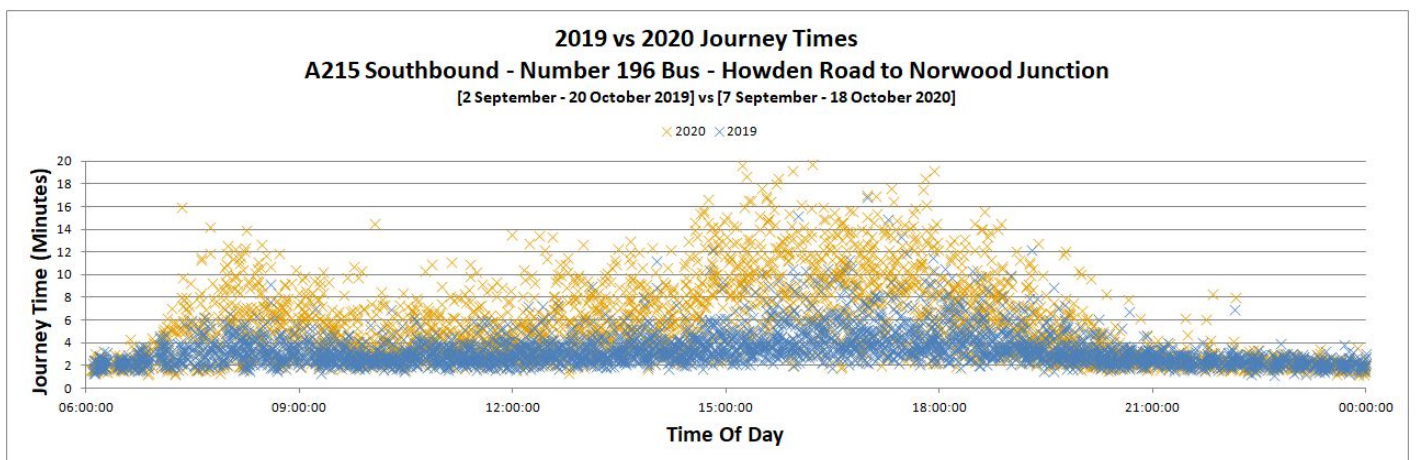
# Number 196 - A215 Southbound into South Norwood

## The route

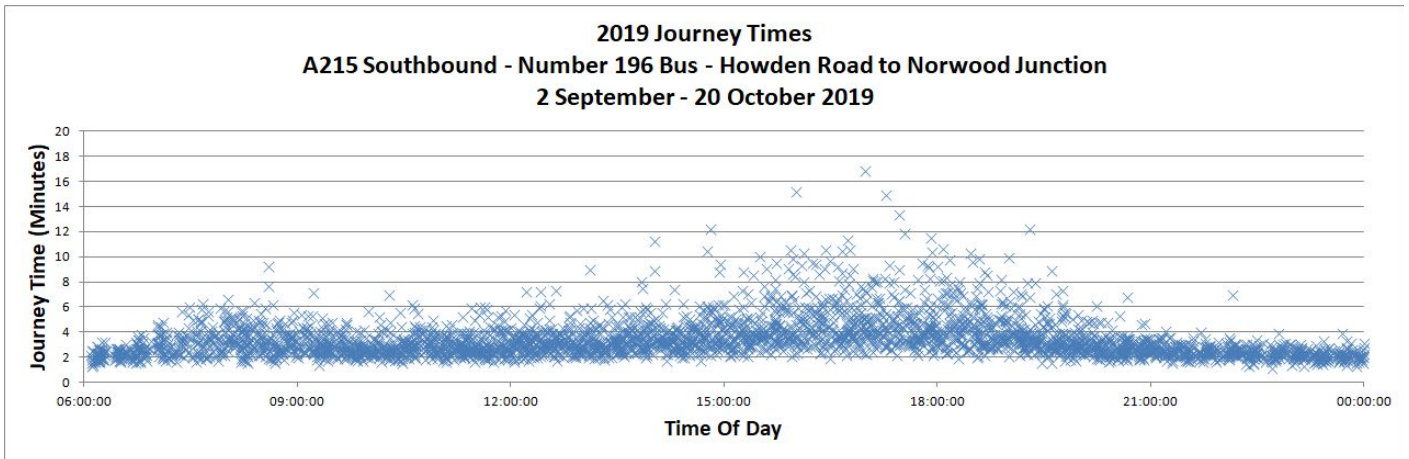
- ✓ Not impacted by the Crystal Palace Scaffolding
- ✓ Impacted by Crystal Palace and South Norwood LTN road closures



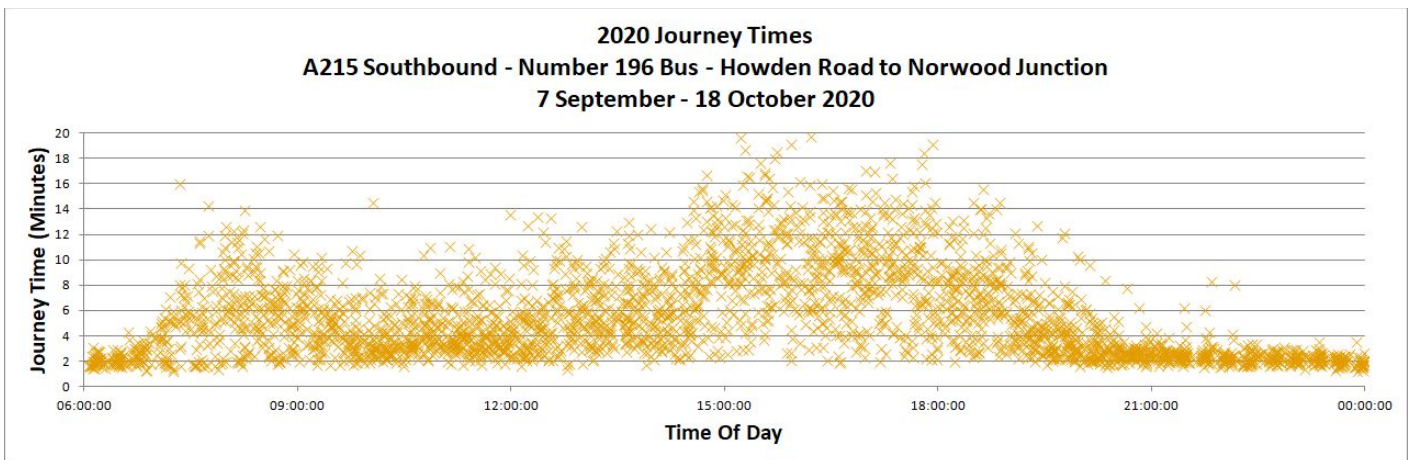
## Before and after the LTN



**Before the LTN**



**After the LTN**

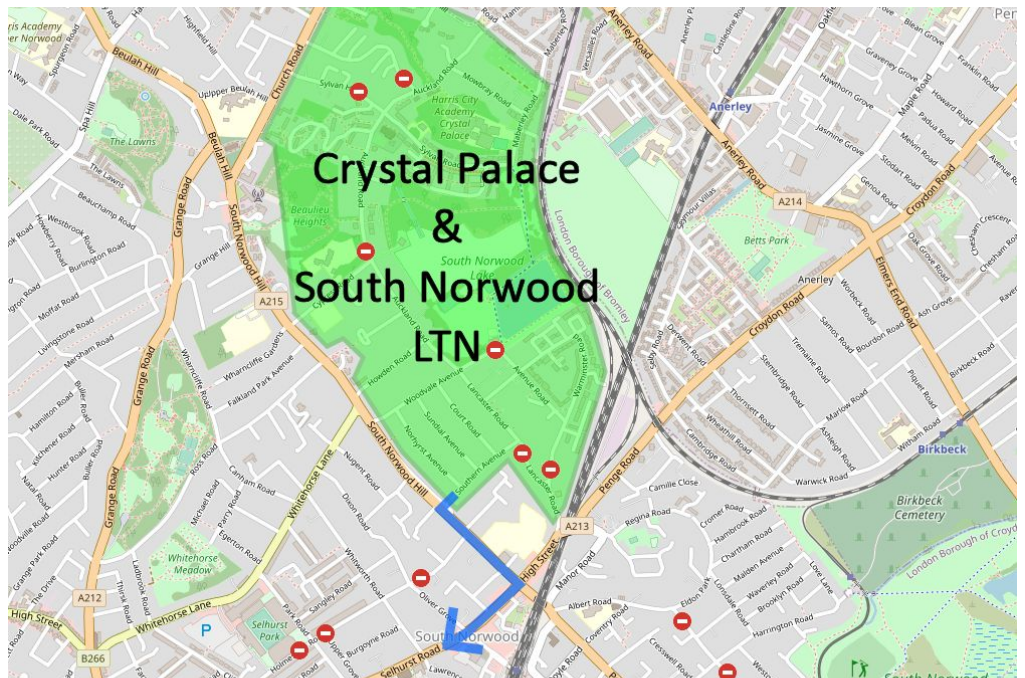


SOURCE: [TfL IBus journey time data](#)

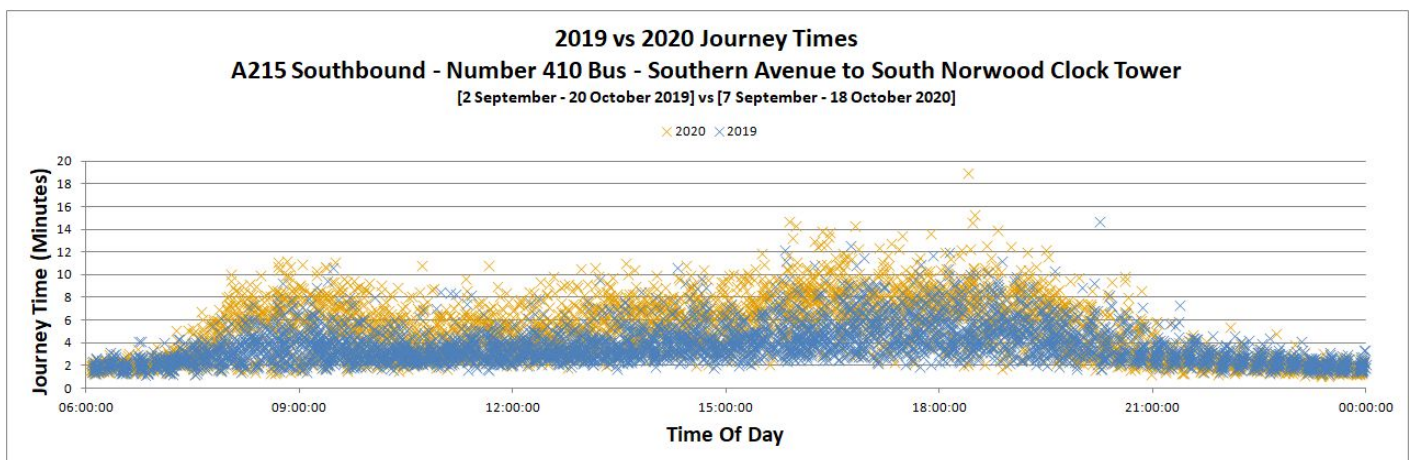
# Number 410 - A215 Southbound into South Norwood

## The route

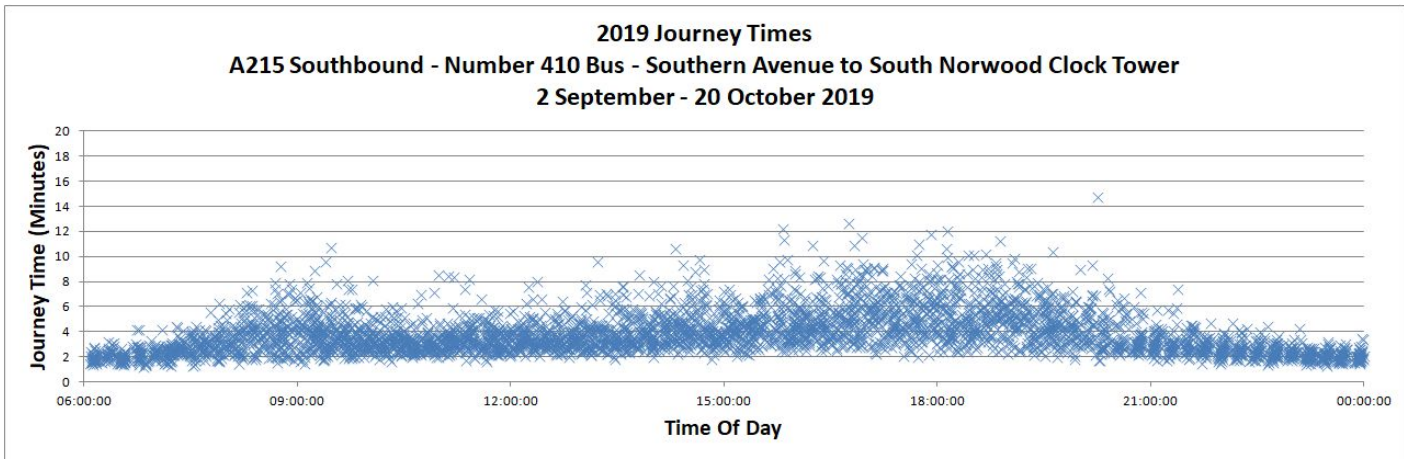
- ✓ Not impacted by the Crystal Palace Scaffolding
- ✓ Impacted by Crystal Palace and South Norwood LTN road closures



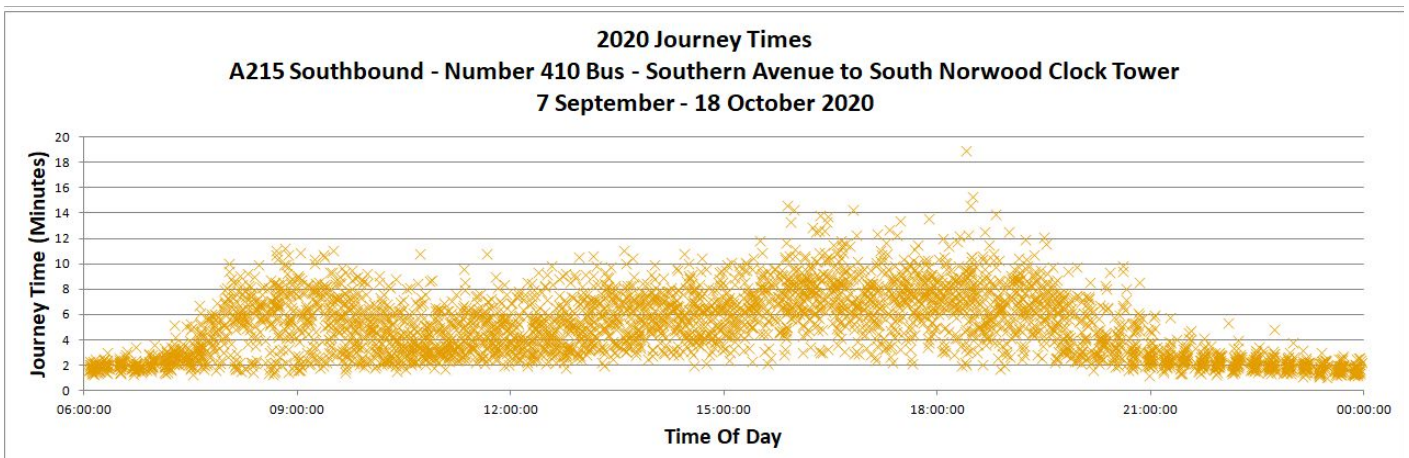
## Before and after the LTN



**Before the LTN**



**After the LTN**



SOURCE: [TfL IBus journey time data](#)

# Number 75 - A213 Southbound into South Norwood

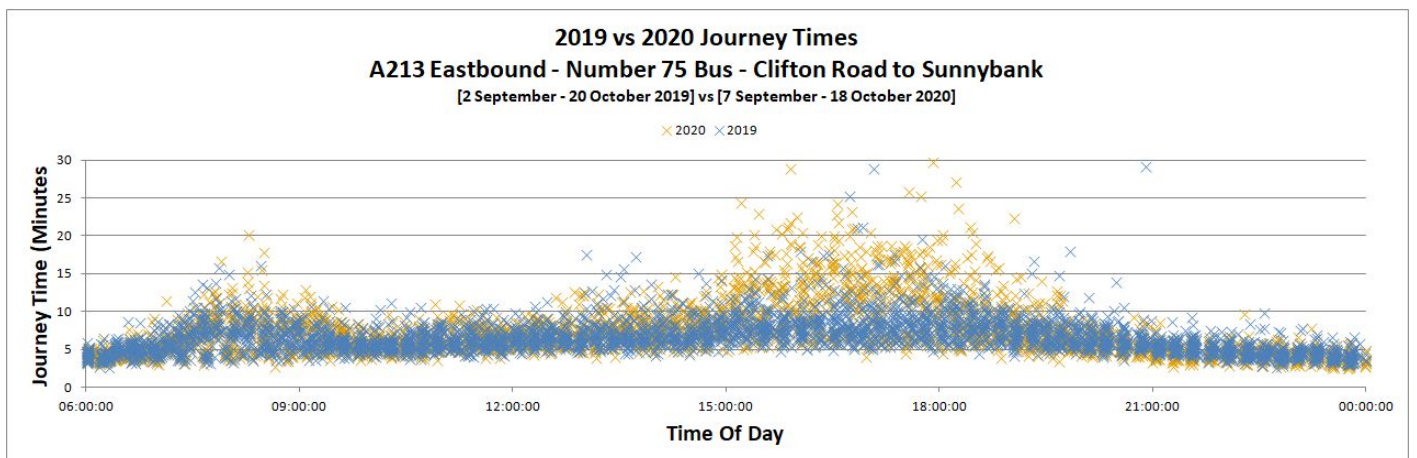
## The route

✓ Not impacted by the Crystal Palace Scaffolding

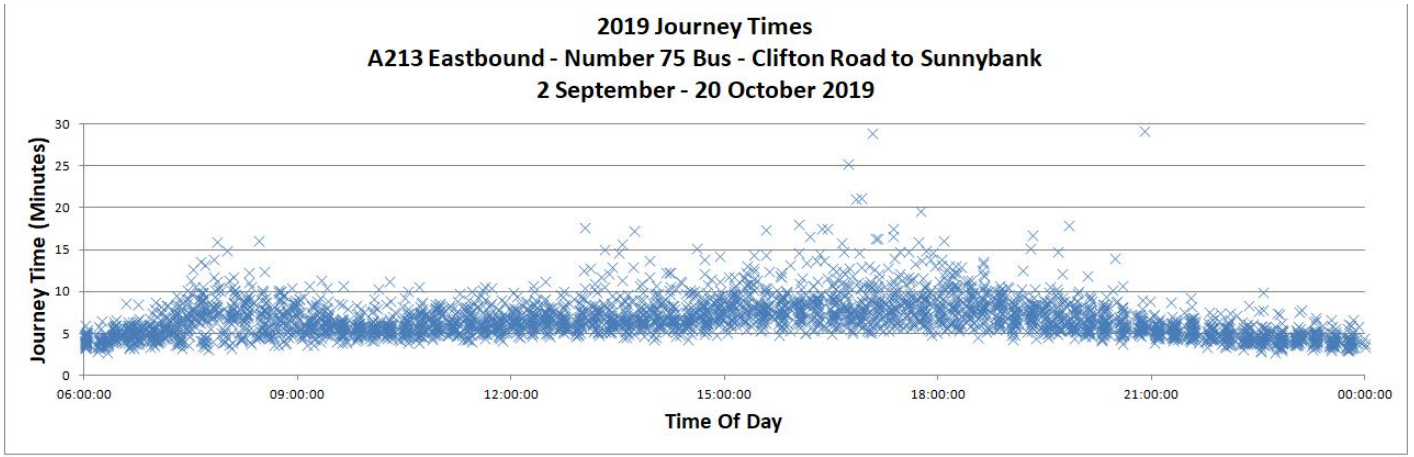
⚠ Likely impacted by the Holmesdale Road closures



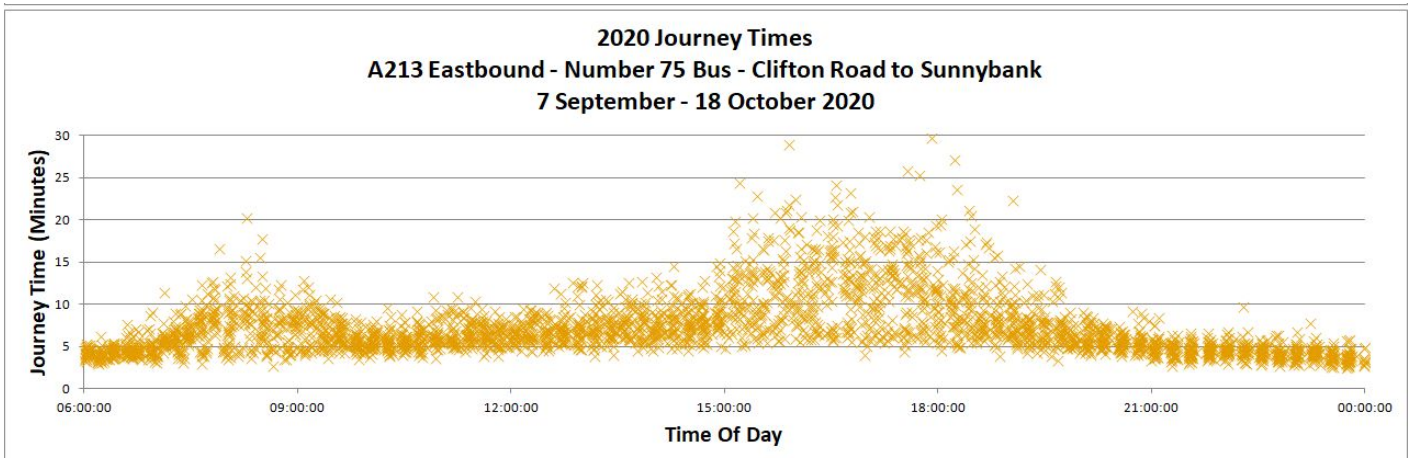
## Before and after the LTN



**Before the LTN**




**After the LTN**




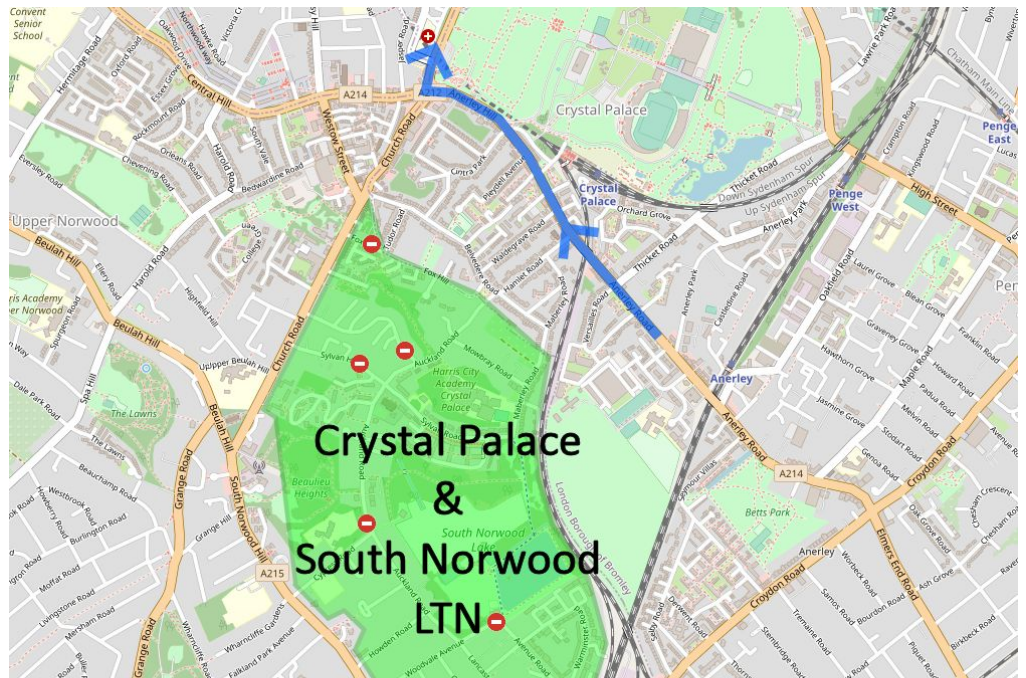
SOURCE: [TfL IBus journey time data](#)

# Number 157 - A214 Northbound into Crystal Palace

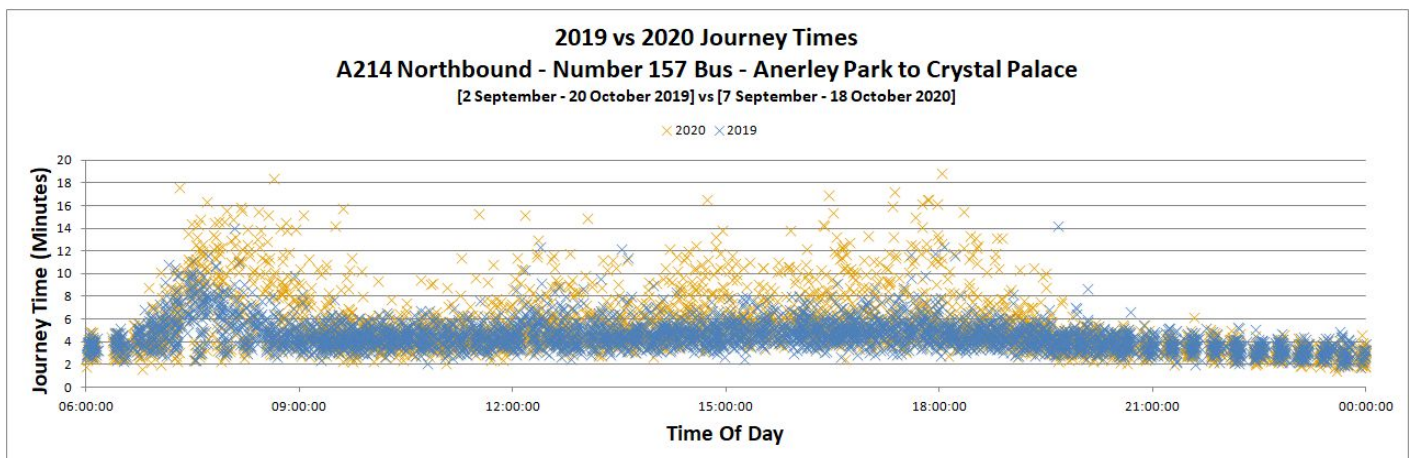
## The route

 Potentially impacted by the Crystal Palace Scaffolding

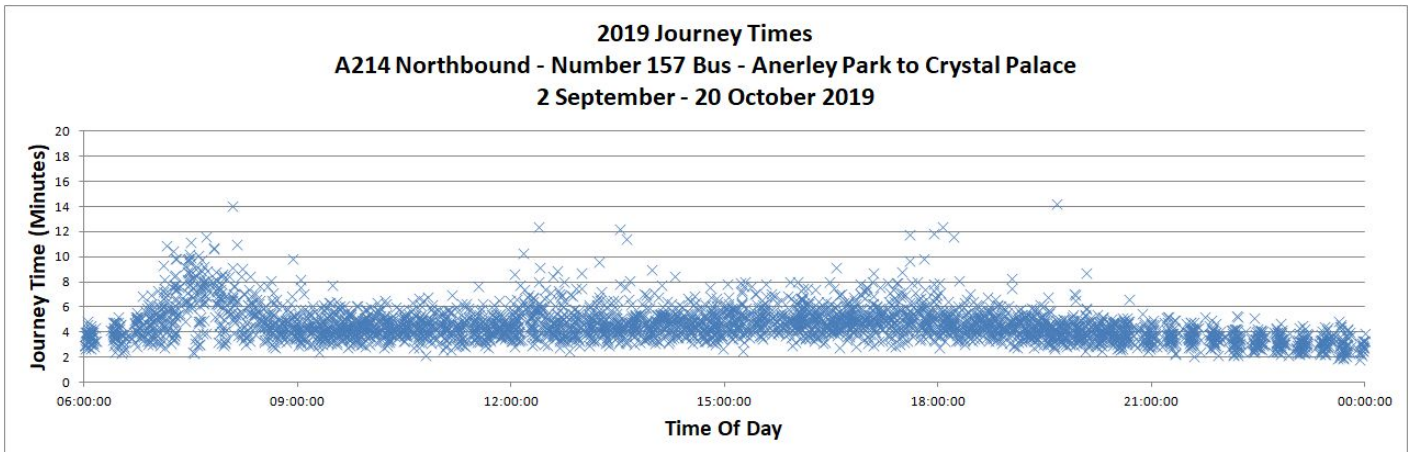
 Impacted by Crystal Palace and South Norwood LTN road closures



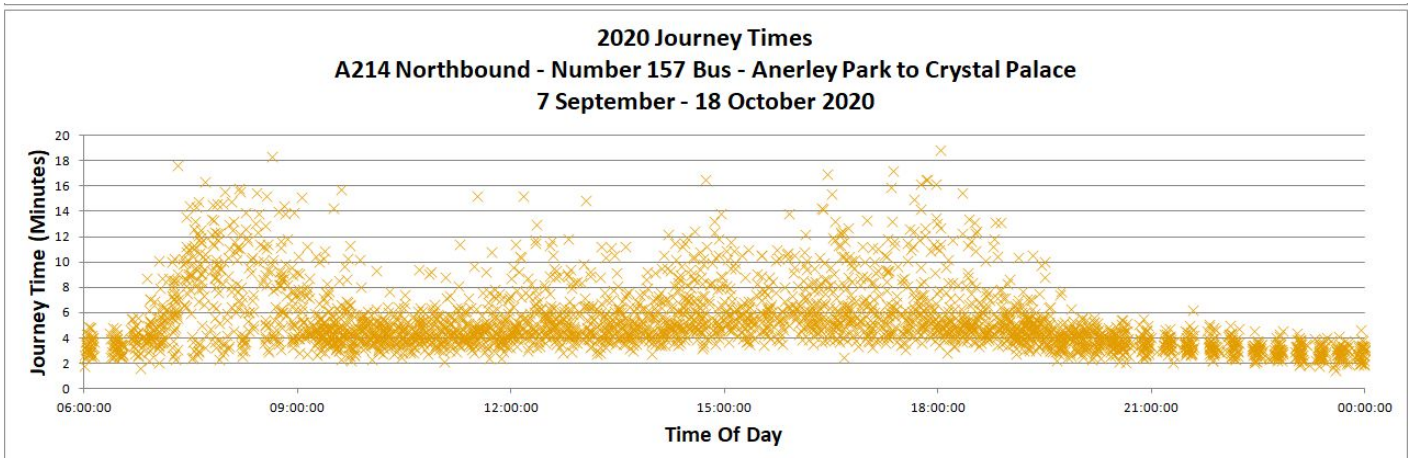
## Before and after the LTN



**Before the LTN**



**After the LTN**





SOURCE: [TfL IBus journey time data](#)



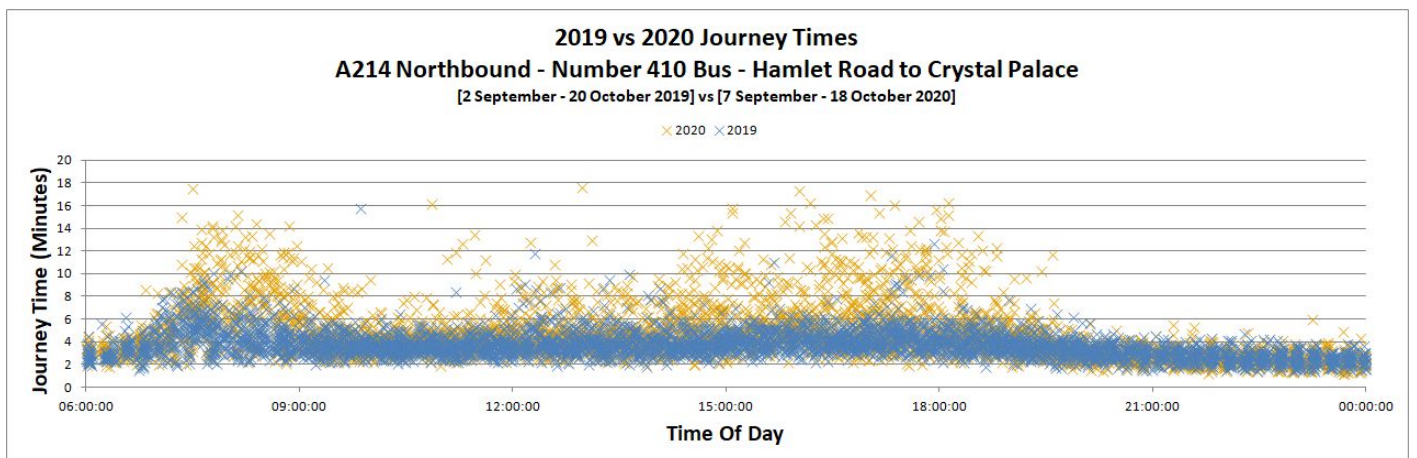
# Number 410 - A214 Northbound into Crystal Palace

## The route

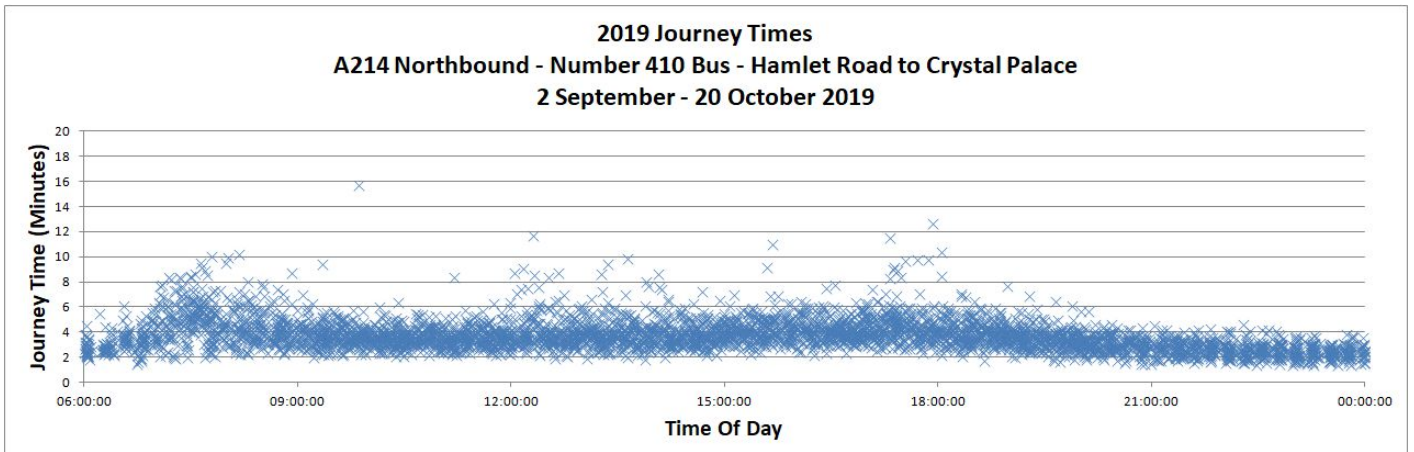
-  Potentially impacted by the Crystal Palace Scaffolding
-  Impacted by Crystal Palace and South Norwood LTN road closures



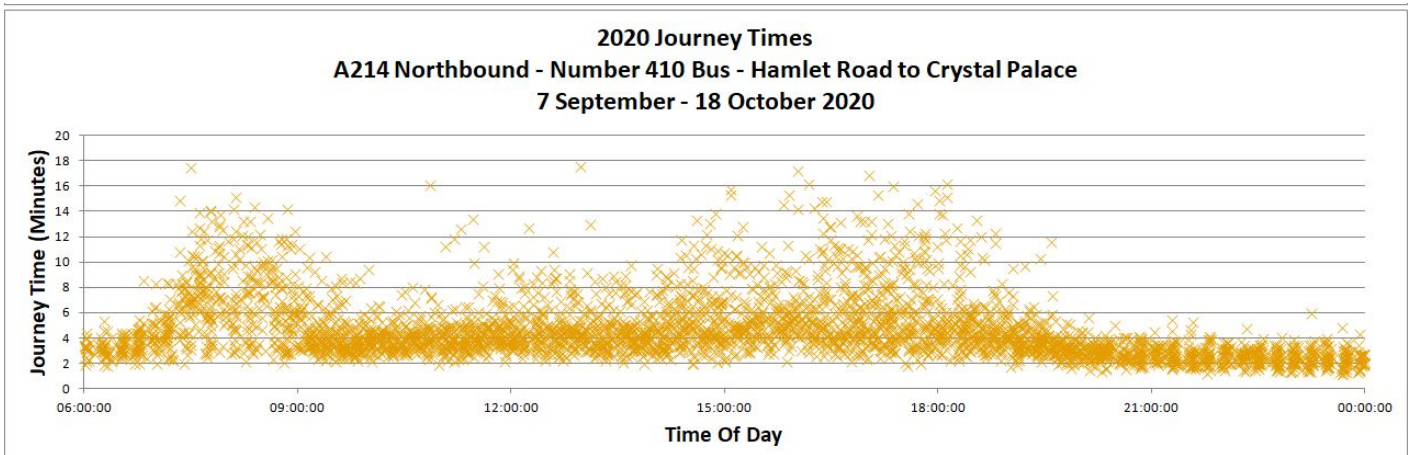
## Before and after the LTN



**Before the LTN**



**After the LTN**



SOURCE: [TfL IBus journey time data](#)

# **Thank you**

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