Chiswick High Road cycling, safety and bus improvements

August 2023

In December 2020, we and the London Borough of Hounslow made a series of changes to Cycleway 9 along Chiswick High Road, using an Experimental Traffic Order. We introduced these changes as an emergency response to the pandemic, to help and encourage people to walk and cycle.

We monitored the scheme and discussed it with local people, and as a result of this work developed a series of improvements that the London Borough of Hounslow, as the highway authority for Chiswick High Road made in July 2021. These improvements were then monitored through a new Experimental Traffic Order, to test whether or not they would be successful.

We held a consultation on the improved scheme between October 2022 and April 2023, to supplement our monitoring of it and give local people opportunity to share their own experiences. We published a range of information in our consultation, including how we would be monitoring the experiment and its success criteria.

We have now supplied a comprehensive pack of data about the outcomes of the experimental scheme to the London Borough of Hounslow. This information will be used to support their decision making on the future of this scheme. We also supplied the London Borough of Hounslow with our Consultation Report, which we have also published on our website.

Purpose of this report

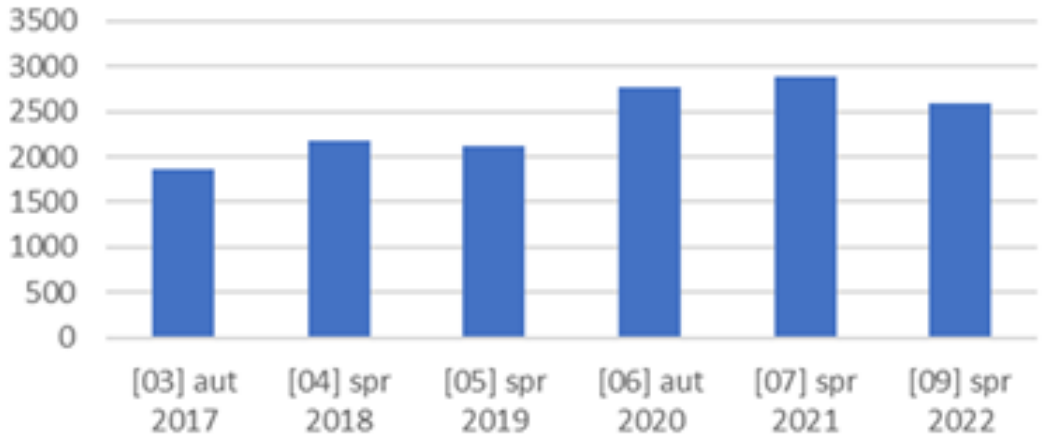
This report summarises the monitoring data we have supplied to Hounslow to show what effects we have seen on cycling rates, road safety, bus journey times and journey times for other traffic.

Impacts on cycling

In Spring 2021, we installed automatic monitoring cameras at Heathfield Terrace and Chiswick High Road (west of Chiswick Lane) to count the number of cyclists using the new cycle lanes we had introduced as part of the experiment. Before the cameras were installed, and from autumn 2017, we counted the number of people cycling on Chiswick High Road manually once a year.

The chart below shows the number of people cycling on Chiswick High Road each year since 2017.

Average annual cycling rates on Chiswick High Road



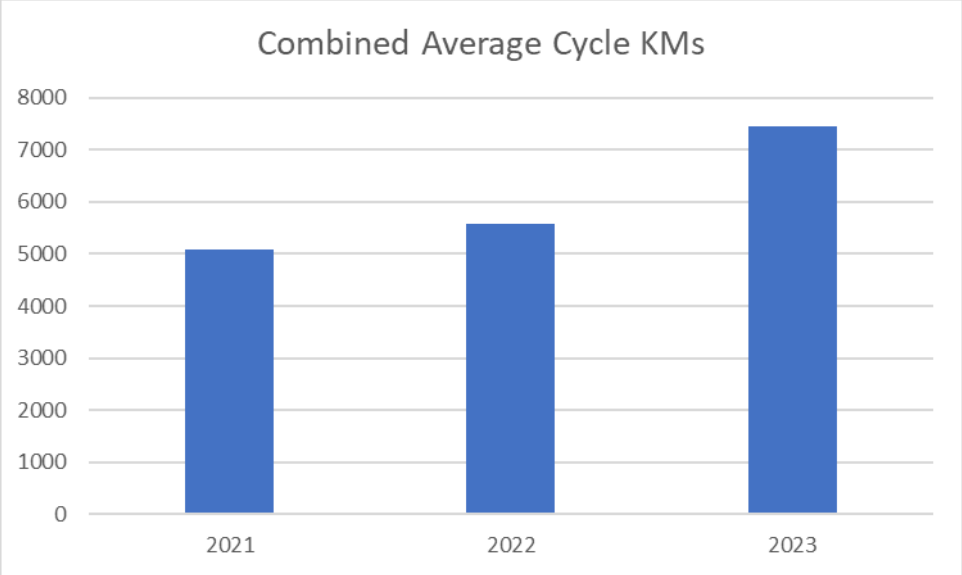
In spring 2019, before the experimental changes to Chiswick High Road were first built, our manual counts showed that there were 2,114 people cycling here during the week. By spring 2022, we counted 2,592 people cycling. This is an increase of 23 per cent.

What effects have the most recent improvements to the scheme had?

Last summer, the London Borough of Hounslow began to make a series of improvements to the experimental scheme. These improvements were developed in response to feedback from local people and were built in two phases and were fully completed by February 2023. We've looked at what effect these more recent improvements have had on cycling, and we've looked specifically at how much cycling take places on Chiswick High Road. We've measured the total distance travelled by all cyclists in a particular area: this is called 'Cycle Kilometres'. We use this measure because it gives us a more complete picture of what demand there is from cyclists on a particular road.

The chart below shows the total 'Cycle Kilometres' travelled by people cycling on Chiswick High Road between March and June each year in 2021, 2022 and 2023. The chart shows that from 2021 to 2023 there has been a 47 per cent increase in the distance travelled by cyclists.

Average cycle 'kilometres' on Chiswick High Road since 2021



Effects on road safety

Highway authorities normally consider at least three years' worth of collision data when making conclusions about road safety matters. Improvements were being made to the experimental scheme on Chiswick High Road over various time periods and at different locations until February 2023, so it isn't possible to look at three years of data while the scheme was operational as normal in this case. We can however look at the indicative annual collision 'rate'[1] this year and compare it to previous years both before and after the original scheme was introduced.

The table below shows the number of collisions that have been recorded in 2018 and 2019 (which are included as a 'baseline' period before the scheme was introduced, for comparison purposes), and also during various stages of the construction of the experimental changes to Chiswick High Road. The improvements to the scheme were specifically designed to address safety risks that the collision data highlighted from early 2021 onwards. The improvements included changes at side roads to make cyclists and drivers more visible to each other (by highlighting the presence of cyclists and their positioning through the junction) as well as physical measures to encourage slower driving speeds. We have looked at key time periods to understand changes in collisions since 2018 and 2019. The annual collision rate is also included, in brackets.

[1] We calculate an annual collision 'rate' during a particular period of time by multiplying the total number of collisions that have been recorded in that time period, by the percentage of year covered by that time period. So for example, if we know that 10 collisions were recorded on a road between January and June (six months), the annual collision rate would be estimated to be 20 (by multiplying the number of collisions over six months by two to get a full year's worth of data).

Study Period	All Collisions	Serious Collisions	Cycle Collisions	Pedestrian Collisions
2018	25	3	6	4
2019	16	4	7	1
Dec 20-Nov 21: original scheme, before the improvements were built	23 (25.7)	3 (3.3)	11 (12.3)	3 (3.3)
Jul-Oct 22: the first phase of the improvements to the scheme were built, but the second phase was yet to be built	6 (23.5)	1 (3.9)	3 (11.8)	0 (0)
Feb-Jun 23: all improvements to the scheme are completed	2 (5.7)	0 (0)	1 (2.8)	0 (0)

*The figures in brackets are the annual collision rate for that period of time

The table shows us that now that the improvements to the scheme have been fully completed, the collision rate has decreased significantly compared to the time before the experimental scheme was introduced and compared to the original experiment. We will of course need to collect more data, but we are encouraged by these initial indications.

Concerns about bus stop bypasses

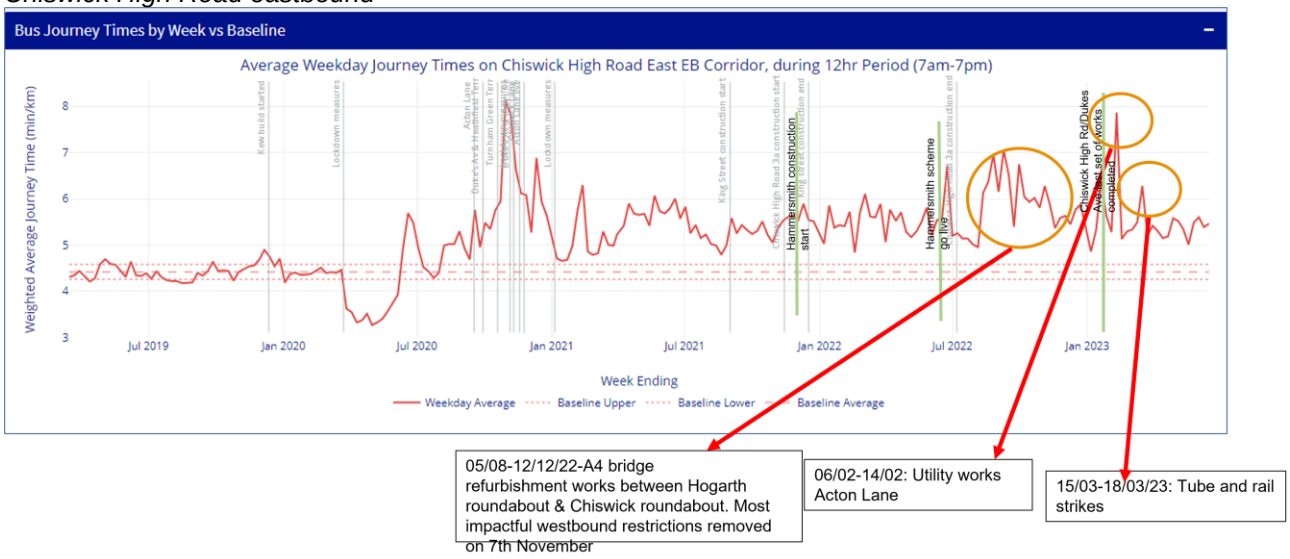
We know that some people are concerned about new 'bus stop bypasses' that were introduced when the changes were first made to Chiswick High Road. These enable cyclists to safely pass buses waiting at bus stops, and they have been designed to ensure that both pedestrians and cyclists can use them safely. We've looked at whether there have been any collisions between pedestrians and cyclists on Chiswick High Road since the scheme was originally introduced in December 2020. There has only been one collision recorded that involved a pedestrian and a cyclist and this happened while we were building improvements to the scheme, and when the cycle lane (and therefore the bus stop bypass) was closed. There have been no pedestrian collisions recorded since the full improvements were completed.

Effects on bus journey times

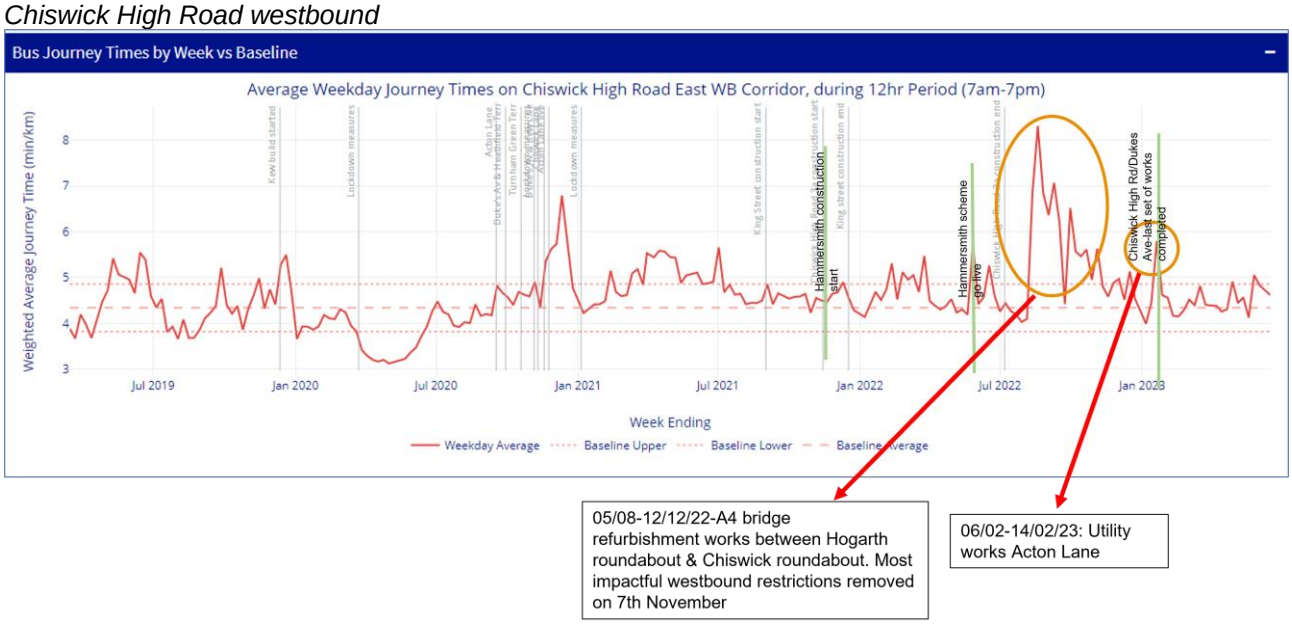
We use a system called 'iBus' to track the journey time of buses travelling from stop to stop. We've been monitoring the journey times of buses using Chiswick High Road since 2019. The charts below show average weekday bus journey times for buses travelling eastbound and westbound on Chiswick High Road, and for buses travelling northbound on Chiswick Lane.

We've indicated in the charts with dotted pink lines the upper and lower thresholds for 'normal' bus journey times that we'd expect in 2019. Journey times above the upper threshold would give us some cause for concern, and anything within or below the dotted pink lines shows a good standard of service. For completeness we've also highlighted events or roadworks which would have had an effect on bus journey times, such as utility works and the major works to the A4.

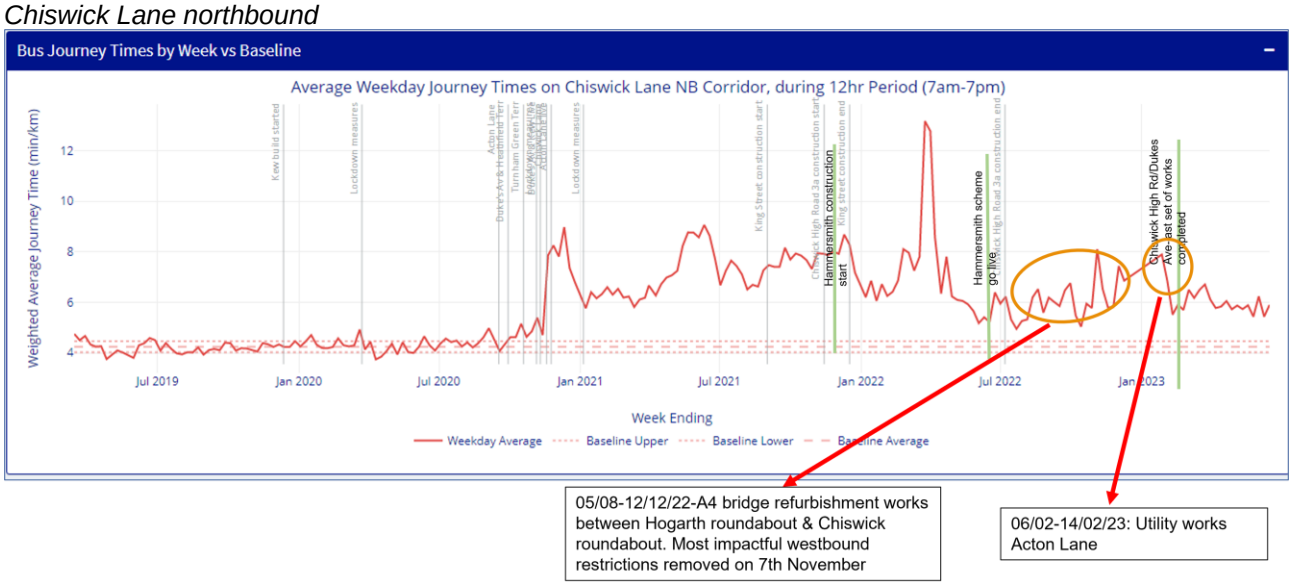
Chiswick High Road eastbound



Chiswick High Road westbound



Chiswick Lane northbound



What effects have the most recent changes to the scheme had?

The charts show that there were periods where buses were delayed, although given the volume of roadworks that have been taking place it is very difficult to identify what the root causes of these delays were. The improvements to the scheme that were completed in February 2023 were intended partly to help buses run more reliably and when we compare data from the last few months with data from the same period before the temporary improvements were built, we see that there have been some improvements in bus journey times.

The data shows that journey times for buses in the westbound direction are now very similar to the levels we saw in 2019, before the scheme was introduced. Buses running eastbound on Chiswick High Road and northbound on Chiswick Lane are performing less well, although this is to be expected given the changes that have been made. Eastbound buses on Chiswick High Road are on average less than one minute slower per kilometre travelled compared to journey times in 2019. Northbound buses on Chiswick Lane North are on average 1.7 minutes slower per kilometre travelled compared to journey times in 2019.

The most recent changes we made to the scheme have certainly helped buses to run more reliably, although we do need to continue to look at what could be done to help buses in the eastbound direction to run more reliably.

The bus 'gate' at Action Lane

We built a new bus 'gate' at the Acton Lane junction with Chiswick High Road. This acts as a virtual eastbound bus lane between Acton Lane and Heathfield Terrace, and it does so by helping buses get to the front of the queue at the Acton Lane junction. It was intended to help protect eastbound buses from delays and we've looked what effects it has had.

We've looked at bus journey times on the section of Chiswick High Road between Acton Lane and Heathfield Terrace in 2019, before the scheme was originally introduced, and compared these to eastbound bus journey times over the last few months. We've found that buses gain an average of 10 seconds every time they use the bus gate, benefitting 6,500 passengers per weekday.

We've also looked at whether the bus gate might be affecting other traffic. We found the following:

- Journey times for traffic on this section of Chiswick High Road are broadly what they were in 2019, suggesting that the bus gate causes no particular delays
- Traffic volumes on Sutton Lane North, Heathfield Terrace, Heathfield Gardens and Wellesley Road are now in fact lower than they were before the scheme was introduced

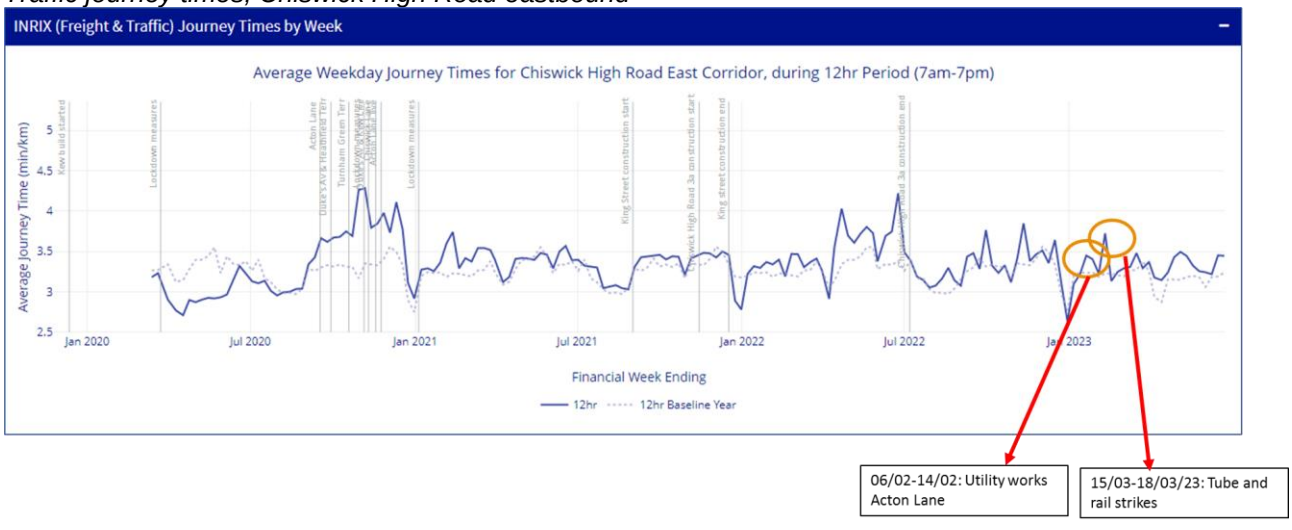
The bus gate plays an important role in helping eastbound buses to run reliably and given that our monitoring has shown that eastbound buses in particular have been delayed, we believe that it is important that the bus lane be retained.

Impacts on other traffic

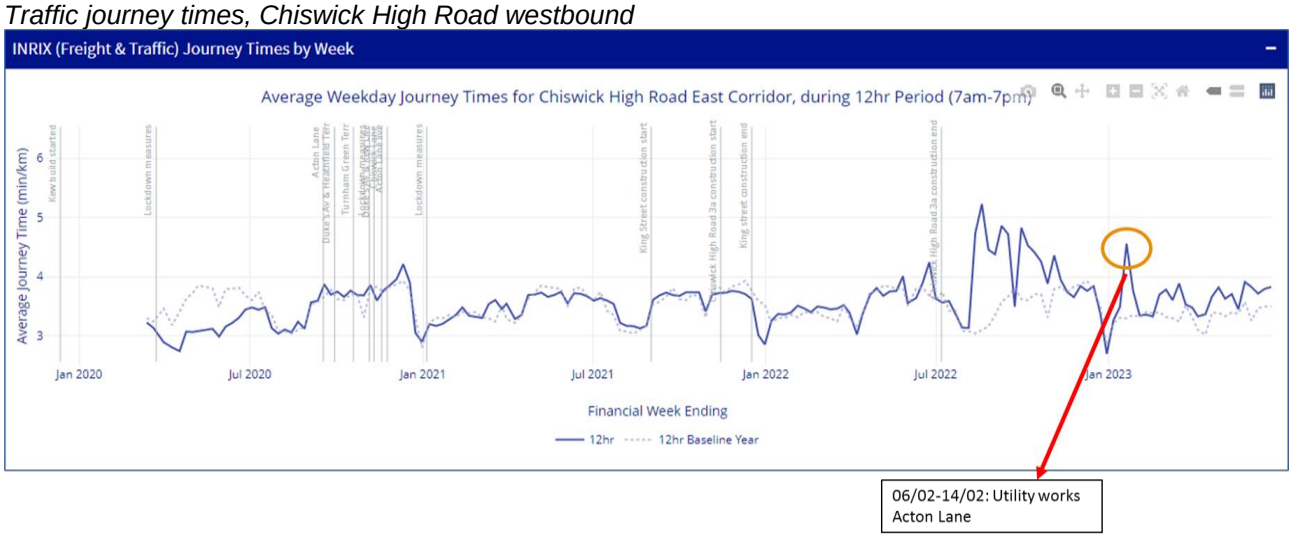
We measure journey times for other traffic, including freight vehicles, using 'INRIX' data. INRIX supply data on traffic performance including journey times which is predominately collected from GPS-enabled vehicles.

The charts below show average journey times for traffic from January 2020 on Chiswick High Road eastbound, Chiswick High Road westbound and Chiswick Lane northbound. Average weekday journey times back to January 2020 are marked with a solid blue line, and we've compared these with a 'baseline' year from the same period in 2019, marked with a broken blue line. The charts are titled 'Chiswick High Road east corridor' but we have provided data in each direction.

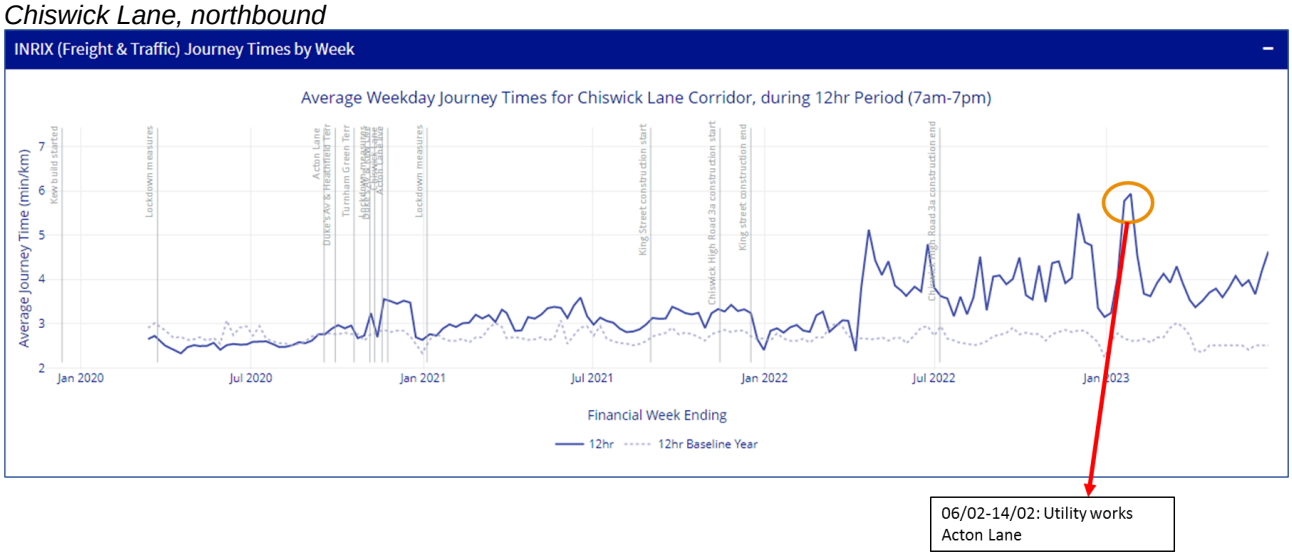
Traffic journey times, Chiswick High Road eastbound



Traffic journey times, Chiswick High Road westbound



Chiswick Lane, northbound



There have certainly been times when traffic on Chiswick High Road and Chiswick Lane has been delayed, although for the most part these delays were caused by road works or other events. Putting the effects of road works aside, journey times for other traffic have been broadly the same or slightly higher as those we saw in 2019. Where journey times have been above what we saw in 2019, the increases are for the most part low. For example, if we look at journey times for traffic heading east on Chiswick High Road, average journey times between March and June 2023 are only 0.16 minutes per kilometre slower than they were in 2019. For westbound traffic in the same period, journey times were 0.31 minutes per kilometre slower than they were in 2019. For Chiswick Lane northbound for the same period, journey times are 1.3 minutes per kilometre slower than they were in 2019. We will however continue to monitor traffic journey times.