

Can we trust Southwark Council's July 2021 Interim Monitoring Report on the Dulwich Streetspace measures? An analysis of the claim that cycling on Calton Avenue has increased by 231%

A report by One Dulwich

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Executive summary

The analysis in this report shows that:

- The [Interim Monitoring Report](#) published by Southwark Council in July 2021 makes claims about cycling in Calton Avenue that are grossly overstated.
- The alleged increase in cycling of 231% to April 2021, attributed to the closure of the Calton Avenue/Dulwich Village junction, is both unreliable and misleading. Southwark Council chose a baseline figure from a questionable count, at an atypical time of the year (November 2018), using unreliable estimates.
- Using Southwark's own monitoring count from June 2020 as a baseline, **the actual increase to April 2021 was 64 cycles per day or 8%.**
- As the central premise of the Council's argument for closing the Calton Avenue/Dulwich Village junction to vehicles 24/7 was the need to increase cycling, the marginal increase of 64 cycles a day along Calton Avenue suggests this measure is ineffective.
- There are serious questions to be answered about why Southwark Council's Highways officers ignored their own monitoring count and chose instead a questionable, inappropriate baseline.
- In the absence of raw data to enable a proper analysis to be carried out, it is reasonable to assume that other claims of cycling increases published in the report contain similar inaccuracies and misleading conclusions.
- The publication of the report just before the conclusion of the Dulwich Streetspace Review consultation potentially influenced respondents to support the scheme based on misleading data.
- Comparison of Vivacity and historic ATC cycle counts is likely to produce inaccurate and misleading figures.
- Any decision based on this report taken by Southwark Council's Cabinet Member for Transport, Parks and Sport, potentially affecting the lives of thousands of residents, would almost certainly rest on a false understanding of the correct situation.

1. Background

Southwark Council implemented a series of highways measures from late June to November 2020 – involving 24/7 road closures, including the closure of Calton Avenue at Dulwich Village, and the installation of timed restrictions in various roads within and around Dulwich – which were ostensibly a response to Covid-19. These “Dulwich Streetspace” works were carried out as “Experimental Traffic Management Orders” which allow measures to be applied temporarily for a period of up to eighteen months. A decision on the measures will be taken by the Council Cabinet member for Transport, Parks and Sport on or around 9 September 2021.

Southwark Council assured residents that there would be comprehensive monitoring before and after the changes were made to assess the effects on traffic volumes and air quality.

The Council’s stated approach is to review feedback from the public consultation, combined with data derived from monitoring, in order to assess whether the experimental measures are achieving the expected benefits. The Council will then decide whether the measures should be made permanent, amended or removed.

2. The significance of the results of the Interim Monitoring Report

Southwark’s consultation on the Dulwich Streetspace measures started on 17 May 2021 and was due to close eight weeks later on Sunday 11 July. Cabinet members, including Council leader Kieron Williams, committed to an open and transparent process, including the provision of full monitoring data, which would help respondents assess the benefits of the scheme. However, despite these commitments, nothing was released until the publication of the Interim Monitoring Report (prepared by SYSTRA on Southwark’s behalf) on the evening of Friday 9 July, two days before the original end date of the consultation.

The report summary purported to show that the Dulwich Streetspace measures had been a great success: traffic on most streets had decreased, and cycling volumes had increased significantly on many roads, including up to 301% (at September 2020) on Calton Avenue.

Following the release of the monitoring report, Southwark decided to extend the consultation deadline for a week to allow people to consider this new information. The Council actively encouraged previous respondents to revisit the consultation and change their responses in the light of this apparent success (see Appendix B).

After reading the evidence presented on 9 July in the Interim Monitoring Report, it is possible that many who had been trying to balance the benefits of the scheme against the downsides of disruption to less mobile local residents, and displacement of traffic on to the “boundary” roads, may have decided to support the scheme. Similarly, it is possible that

those who may have originally felt the measures did not, on balance, benefit the local community might have decided to change their response to one that was more positive.

This report is also likely to have influenced Southwark Councillors and the Cabinet Member for Transport, Parks and Sport, who is due to make a decision on whether to retain these measures on or around 9 September.

3. But can we trust the data in the Interim Monitoring Report?

As we have discovered from previous Southwark Council publications and claims – for example, the discredited 47% increase in traffic though Dulwich Village junction, the alleged 100% increase in motor vehicles along Calton Avenue, and the so-called “strong support” for closing the Calton Avenue/Dulwich Village junction – any analysis and reports by the Council need to be examined closely to see whether they are accurate or supported by the data. Frequently it seems, they are not.

Despite promises, Southwark has so far published very little of the raw data underlying the Interim Monitoring Report and no details of the adjustments and calculations they have used to reach their published conclusions. However, we can analyse one of their most striking claims, that there has been a massive increase in cycling along Calton Avenue.

4. Why analyse Calton Avenue?

Firstly, the 24/7 closure of the Calton Avenue/Dulwich Village junction – highly contentious among local residents because of the resulting disruption and traffic displacement – has been justified by Southwark Council because of the importance of Calton Avenue for cycling as part of Cycle Quietway 7. If the closure can result in an increase in cycling of up to 301%, as the Interim Monitoring Report claims, then this benefit could be judged to outweigh all the resulting disbenefits (echoing the wording of the letter written to local authorities on 16 October 2020 by the Secretary of State for Transport).

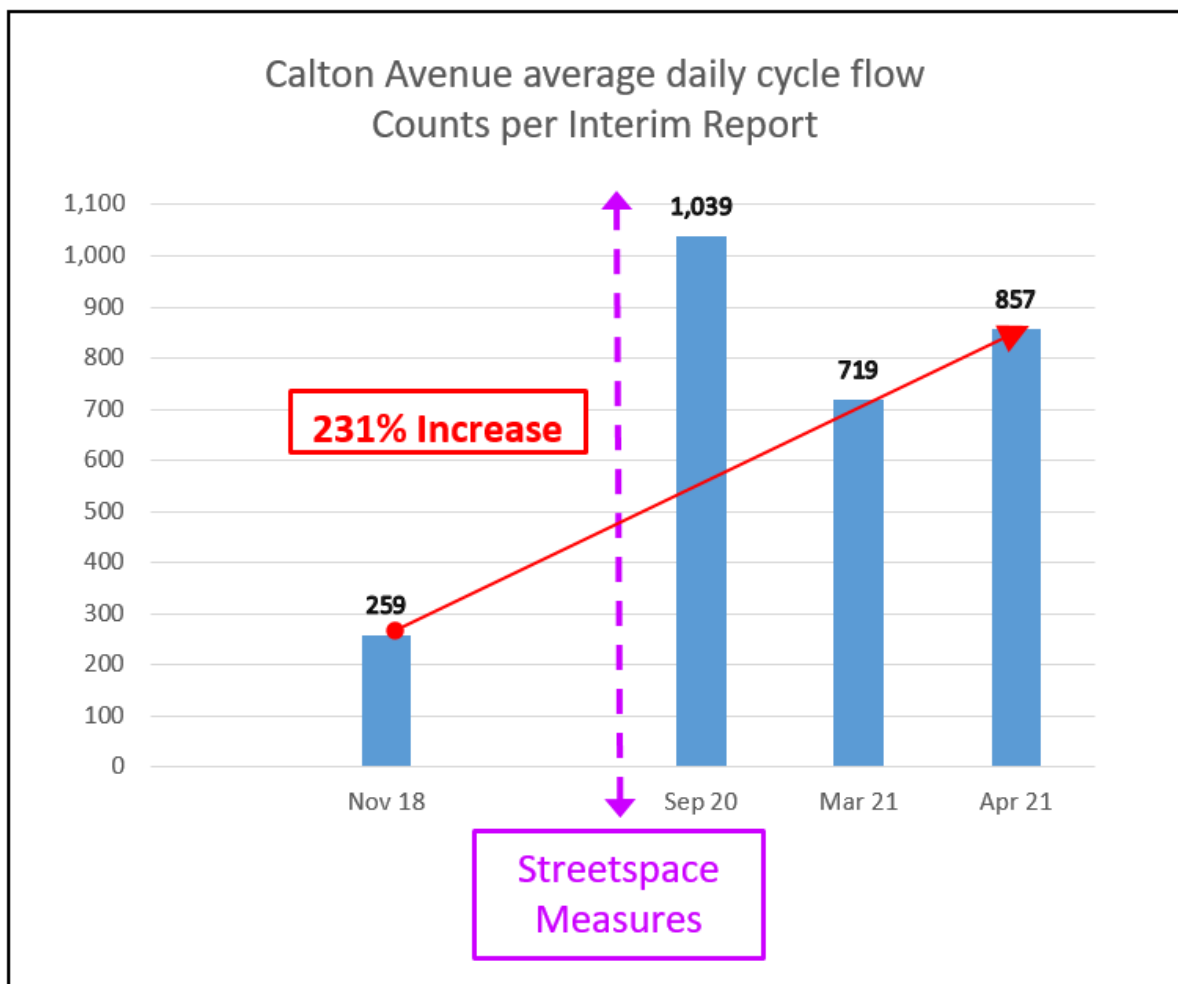
Conversely, if it turns out that any increase in cycling is relatively minor, and may have simply resulted from the effects of Covid-19, then the rationale for the 24/7 closure is undermined, especially when considered against the impact on residents living on the boundary roads.

A second reason for looking at Calton Avenue is the availability of historic data. Despite previous promises from our Councillors, very little of the raw data (for example, traffic counts) underlying the Interim Monitoring Report has so far been released by Southwark Council. However, Calton Avenue was the subject of the previous Quietway 7 consultation and, as a result, there are publicly available traffic counts for use as a comparison. When, or

if, Southwark Council releases the data underlying the other claims in their Interim Monitoring Report, a similar analysis can be carried out.

5. So has the closure of the Calton Avenue/Dulwich Village junction caused a significant increase in cycling?

Looking at the conclusions of Southwark’s Interim Monitoring Report, this would appear to be the case. According to the report’s detailed tables, cycle counts along Calton Avenue had increased by 301% at September 2020, before reducing to a 231% increase in April 2021. In both cases this comparison is against a base figure from November 2018, before Covid-19 and before the junction was closed. The figures from the interim report are shown in the graph below.



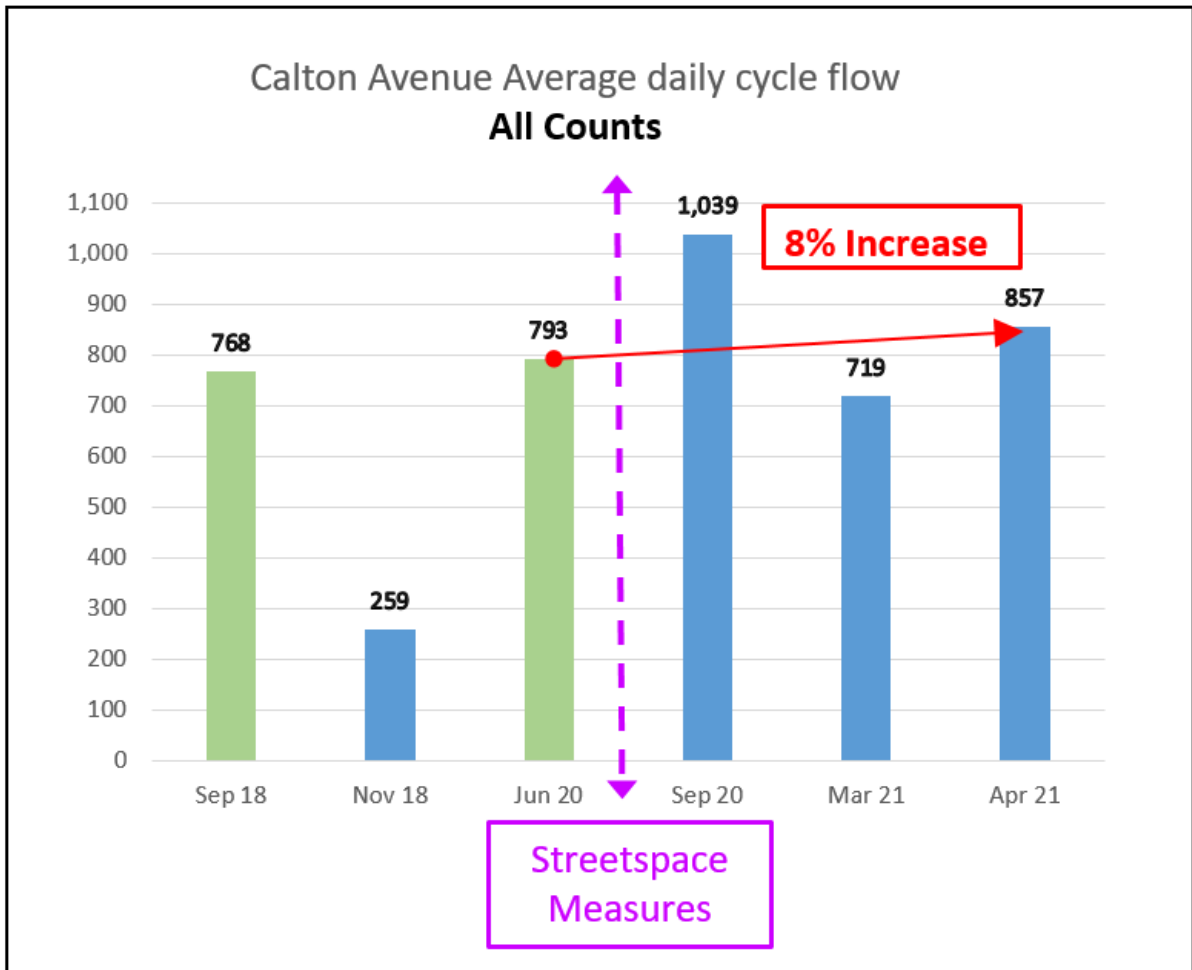
6. Is the claimed increase reliable and representative?

All the increases depend on the baseline figures chosen by the Council. The one used to calculate the large increase in cycling on Calton Avenue is from November 2018 and shows total average daily cycle movements of 259 (see Appendix A, note 2). For those familiar with the area, this figure seems very low as a general measure of cycling along Calton Avenue, especially following the remodelling of the Calton Avenue/Dulwich Village junction in 2017 which, according to Southwark Council, had increased the number of people cycling. Are there any other measures we can use?

Luckily, the Department for Transport (DfT) carried out a manual traffic count on Calton Avenue in September 2018. This counted 901 cycle movements, which they used to calculate an adjusted “Annual Average Day” figure of 768 (see Appendix A, note 1), a figure that is much more in line with expectations.

More importantly, traffic consultancy Tracsis carried out a traffic count on Calton Avenue on behalf of Southwark Council in June 2020 in the four weeks leading up to the road closure. This shows average cycle movements of 793 per day (see Appendix A, note 3). Presumably this count was part of the “pre-closure” monitoring promised by the Council and would be ideal to separate the impact of Covid-19 from the impact of the closure. However, neither the DfT count nor Southwark’s own count for June 2020 appeared in the interim report.

A graph showing all available traffic counts, including those excluded from the interim report, is shown below. This shows a very different picture to the one put forward by Southwark Council in the report. Instead of an increase of 231% this gives an increase in cycling from June 2020 to Apr 2021 of **only 64 movements, or 8%** of a properly comparable base.



7. Why was the November 2018 baseline that Southwark Council chose so low?

The November 2018 traffic count was carried out by an Automatic Traffic Count machine (ATC) and there are several possible reasons why it is so low:

- Fewer people cycle in November because it is darker and colder, and bad weather is much more likely. Southwark Council officers have agreed that this could make the November 2018 count unrepresentative of the regular flow.
- ATC counters are designed to count motor vehicles and are not necessarily accurate when counting pedal cycles (more of this below). Southwark Council officers have now admitted, in response to questions, that the November 2018 cycle figures are only estimates, as opposed to the much more accurate manual DfT count from September 2018.
- A further reason could be that the count was carried out slightly later – not in November 2018 but in the week before Christmas, when it is even colder and darker and when schools are winding down for the end of term. Southwark provided two

files for this traffic count. The second one, used for the report, included adjustments and had a counting period of 12-18 November. The first one, with original data before adjustments, showed the period as being 12-17 **December**. This inconsistency is very worrying: apart from the uncertainty about the actual dates, it undermines the accuracy and credibility of the underlying data.

Whatever the reasons for the November (or December) count being so low, it is clear that it is not suitable for use as a comparable baseline figure to monitor cycle increases – unless, of course, Southwark Council wished to choose a deliberately low figure to artificially inflate the claimed increase?

8. Why didn't Southwark Council use the June 2020 traffic count as a baseline?

The Calton Avenue June 2020 traffic counts were carried out as part of Southwark's "pre-Streetspace" monitoring. So why weren't they shown in the report or used as the baseline? The June 2020 Tracsis counts for several other roads **were** used as baselines in the report and we believe the September 2020 to April 2021 counts shown in the report were all carried out by Tracsis, presumably using the same technology and software. The June 2020 count was also very much in line with the DfT manual count from September 2018, which suggests it was a reasonably accurate representation of the pre-Streetspace cycle movements.

One possibility is that the June 2020 Tracsis count for Calton Avenue was not used as a baseline because it shows average daily cycle flows of 793. This reduces the increase in cycling from June 2020 to April 2021 to only 64 movements, or 8% of a comparable base, which is far less impressive than the percentage published.

Instead of the June 2020 comparable traffic count, carried out explicitly to help assess the effects of the Streetspace scheme, Southwark Council officers chose to use as a baseline estimates from an unreliable traffic count carried out in the depths of winter for a different purpose. This raises serious questions about the judgement and objectivity of Southwark's Highways department.

9. A further complication: do ATCs produce accurate pedal cycle counts, and can they be compared to Vivacity data?

Many, if not all, of the baseline cycle counts used in Southwark's report come from Automatic Traffic Counters (ATCs). These measure traffic based on pairs of pneumatic tubes stretched across the road. When a vehicle crosses a tube it generates a pulse of air which is

recorded and then analysed by software provided by the manufacture. Based on the timing of the pulse, the software uses algorithms to classify the vehicle into various classes. A sample of one such report is shown in Appendix C. However, even the Council's own officers have admitted that the cycle figures produced by ATCs are only estimates. For example, the original Tracsis report for November 2018 combines all two-wheeled vehicles and does not even distinguish between pedal cycles, motor scooters and motor bikes.

There is a highly relevant academic study from 2016 that reviewed the accuracy of ATCs for counting pedal cycle movements (see Appendix A, note 5). It concluded that:

- Standard ATCs using standard software algorithms consistently undercounted pedal cycles with an error rate of up to 73%.
- The undercount was much worse where there was mixed cycle and vehicle traffic and also where there were higher volumes of pedal cycles.
- The accuracy of the ATCs improved where the traffic was mainly or only pedal cycles.
- The accuracy also depended on software versions and whether a pedal cycle specific algorithm was used to analyse the results.

So, unless the ATCs have been set up specifically to count pedal cycles, it is highly likely that they are undercounting cycle volumes. Given that many of the baseline cycling figures, apart from the June 2020 pre-Streetspace Tracsis monitoring, were standard ATC traffic counts, it is likely that they are an underestimate and cannot be used to compare with ATC counts set up specifically to monitor cycles.

For example, the Interim Monitoring Report shows baseline ATC cycle figures for Dulwich Village North, one of the main cycle routes through the area, with an am peak in September 2019 of 28 cycle movements. However, a manual traffic survey in February 2015 showed an am peak of 138 cycle movements, far higher than the ATC counts. This confirms our view that the pre-Covid baseline ATC cycle counts cannot be relied upon.

Several of the post-Streetspace counts for active travel have been carried out with a system called Vivacity which uses video cameras to capture images of motor vehicles, pedestrians and pedal cycles. The images are then analysed using Artificial Intelligence techniques (pattern recognition and machine learning) to provide detailed movement counts. As this is a new technology, we would expect it to produce much more accurate data. However, for pedal cycles it would be misleading to compare pre-Streetspace ATC counts with post-Streetspace Vivacity counts as they work on a very different basis.

10. Conclusion

- We are lucky that for historic reasons there is so much previous data available for Calton Avenue. (Data promised for other locations in Dulwich has not yet been published, so a similar analysis for other roads in the area has not been possible.)
- Our analysis shows that Southwark Council officers have chosen to use a highly inappropriate baseline figure for one of the major conclusions in the report when a much more suitable figure was available.
- This apparent bias casts doubt not just on the cycle figures but on the motor vehicle traffic figures, and on the overall conclusions of the report.
- Due to these flaws, any decision taken by Southwark Council's Cabinet member based on this unreliable report is bound to be open to challenge.

Disclaimer

One Dulwich takes full responsibility for the work presented here, and all the opinions expressed are solely our own.

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Appendix A - Data sources and references

1) September 2018 cycle counts

Department for Transport (DfT) Average Annual Daily Flow figures taken from a manual count carried out in September 2018.

<https://roadtraffic.dft.gov.uk/manualcountpoints/801350>

2) November 2018 cycle counts

Tracsis traffic count data, both original and adjusted files, provided by Southwark Council following a request.

3) June 2020 cycle counts

Tracsis traffic count data downloaded from Southwark Council's map portal.

<https://geo.southwark.gov.uk/connect/analyst/mobile/#/main?mapcfg=Southwark%20Highways>

The figure of 793 pedal cycle movements for June is the average of the "7 Day Average" counts for the four-week period 1 -28 June, just before the closure of the junction.

4) September 2020, March 2021 and April 2021 cycle counts

Data taken from Appendix B of Southwark Council's Interim Monitoring Report 7 July 2021.

Underlying raw data for these traffic counts has still not yet been published.

<https://www.southwark.gov.uk/transport-and-roads/improving-our-streets/live-projects/dulwich-review>

5) Accuracy of Bicycle Counting with Pneumatic Tubes in Oregon

K Nordback - Portland State University et al 2016

https://pdxscholar.library.pdx.edu/cgi/viewcontent.cgi?article=1365&context=cengin_fac

Appendix B – Southwark Council’s Dulwich Streetspace website

Screenprint from Southwark Council’s website, updated around 9 July 2021

This shows Southwark encouraging respondents to change previous responses to the Streetspace consultation in the light of the Interim Monitoring Report.

Monitoring data and new meeting

Please see attached below a summary of the monitoring data obtained in April 2021. This is a snapshot of how road traffic is acting at this particular time, and we are continuing to monitor activity throughout the period of this review.

In light of the publication of this data, we're holding a fourth online meeting for residents on Tuesday 13 July at 6pm. [Register your interest](#) and you'll be sent a link. There will be a presentation on the new data and a chance to discuss it with officers and other residents.

We're also extending the consultation period to **18 July 2021**, to allow time for people to consider the new information.

If you've already responded but wish to change some of your answers, you may do so but please give the same name and details, and indicate clearly that this is your second response (we'll disregard your earlier response).












Related documents

- [Dulwich monitoring report - summary](#) (pdf, 2.7mb)
- [Dulwich LTN Monitoring Report July 2021](#) (pdf, 20.6mb)
- [Dulwich LTN Appendix A July 2021](#) (pdf, 2.3mb)
- [Dulwich LTN Appendix B July 2021](#) (pdf, 3.2mb)
- [Dulwich LTN Appendix C July 2021](#) (pdf, 4.6mb)

Appendix C – Tracsis Report

Extract from Tracsis Traffic Count report from November 2018 (see Appendix A, note 2)

This extract was taken from the original file before adjustments and shows the sample classification scheme from the November/December 2018 Calton Avenue traffic count. Note that this scheme does not differentiate between pedal cycles and motor cycles and appears to be using the manufacturer's standard ARX scheme.

ARX Classification Scheme					
Class No.	No. Axles	Axle Groups	Description	Aggregate	Vehicle Example
1	2	1 or 2	Very Short - Bicycle or Motorcycle	Light	
2	2	1 or 2	Short - Car, 4WD or Light Van		
3	3/4/5	3	Short Towing - Trailer, Caravan etc.		
4	2	2	2-Axle Truck or Bus	Medium	
5	3	2	3-Axle Truck or Bus		
6	>3	2	4-Axle Truck		
7	3	3	3-Axle Articulated Vehicle or Rigid Vehicle & Trailer	Heavy	
8	4	>2	4-Axle Articulated Vehicle or Rigid Vehicle & Trailer		
9	5	>2	5-Axle Articulated Vehicle or Rigid Vehicle & Trailer		
10	>=6	>2	6 (or more) Axle Articulated Vehicle or Rigid Vehicle & Trailer		
11	>6	4	B-Double or Heavy Truck & Trailer		
12	>6	>=5	Double or Triple Heavy Truck & 2 (or more) Trailers		