



COVID-19 LOCAL AUTHORITY TRAVEL AND TRANSPORT DATA WEEKLY DIGEST

Week commencing 26th April 2021

INTRODUCTION

Since the imposition of travel restrictions designed to help dramatically reduce the spread of Covid-19, the Transport Technology Forum has led the collation of transport data from local authorities into information used to understand changes in travel behaviour.

Authorities from cities, towns and counties across England are sharing urban traffic control and automated traffic counter data from the roadside, as well as information on cycling and car parks. Industry has also supplied video analytics and floating vehicle data patterns. This sits alongside data the Department receives about rail and air, public transport, freight and maritime to summarise how, where and when people and goods are moving around the country.

The Transport Technology Forum can publish outcomes from this data set for interested parties, not least those bodies who went above and beyond the call to share their data with us.

ABOUT THE FORUM

This document has been prepared by Arup on behalf of the Transport Technology Forum (TTF) as part of its remit to drive more effective and efficient management of existing and new road networks, as a key national opportunity before, during and after the current COVID-19 emergency. Road transport will remain a key pillar of how people and goods move across the nation, not just on strategic roads. Improving road travel through technology is a core aim of the Forum. The Forum promotes a collaborative culture to open-up the opportunity and address the caution which has historically impeded efficiency and innovation.

ABOUT THIS REPORT

The report provides an ongoing snapshot of travel, summarising weekly, daily, and hourly changes based on information shared by:

- Traffic – 29 data providers, geographically covering approximately 107 local authority districts.
- Cycling – 16 data providers, geographically covering approximately 84 local authority districts including nationwide canal and river paths.

This provides an overview of how public behaviour is changing and what new patterns are being experienced. Local Authorities can benefit by being able to compare what is happening in their areas with the national picture, allowing local and national comparisons to be drawn.

WEEKLY HIGHLIGHTS AND SUMMARY

Traffic

- Overall traffic has increased to an average of 4% below baseline levels in the w/c 19th April, an increase of 5% compared to the previous week. This is most likely due to the reopening of non-essential retail and outdoor hospitality venues on the 12th of April.
- Figure 2 shows that for the w/c 19th April, traffic levels have increased slightly compared to the previous weeks, approaching the pre-pandemic baseline. Traffic levels were consistent throughout the week.
- Weekday AM peak traffic has become more pronounced compared to the previous weeks, while interpeak and PM peak traffic is similar to the previous week.
- Weekend traffic volumes follow a similar trend to the previous weeks, with a distinctive peak around 13:00, as seen in Figure 3.2.
- The variation in traffic by vehicle type is shown in Figure 4.1 for weekday traffic and Figure 4.2. for weekend traffic.
- Local authorities examined in further detail in this report include Birmingham, Derbyshire, Hampshire, Suffolk, City of York, and Leicestershire (excluding Leicester City). Across all local authorities (Figure 5.2), the traffic levels appear to increase following the lifting of some lockdown restrictions on the 12th of April. In some cases, the traffic levels exceed the pre-pandemic baseline. The PM peak is noticeable at 18:00 and is more pronounced across all local authorities compared to the previous week.
- Figure 9 shows that traffic is on average lower on Sundays and higher on Thursdays during Lockdown 3, when compared to the day-of-week trend seen pre-pandemic. Lockdown 3 levels are on average squarely in between Lockdown 1 and Lockdown 2 levels.
- Figure 10 shows a comparison of median traffic levels for timelines of the three national lockdowns. Lockdown 2 experienced a surge in traffic levels immediately before the lockdown, possibly due to businesses mobilising in advance of widespread closure and people travelling to different locations to isolate. Lockdown 3 levels started at Lockdown 1 levels but have now exceeded Lockdown 2 levels.
- Figure 11 shows that Lockdown 3 weekday traffic volumes have clearly distinguishable AM and PM peaks, as opposed to Lockdown 1, which appears more neutral to the traditional peaks with a higher level of interpeak traffic.
- This week's report includes a comparison of the DfT and the TTF data which outlines that similar trends can be observed in both datasets.

Cycling

- As a result of good weather cycling levels have remained high (Figure 6). The trend closely follows the one seen during previous weeks, with higher cycling levels during the weekend. The weekly high is 131% above the baseline on Saturday the 25th of April and the weekly low is 13% above the baseline on Wednesday the 21st of April.
- Weekday cycling for the week commencing 19th April has attenuated AM and PM peaks (Figure 8.1).
- The weekend cycling profile is similar to the previous two weeks (Figure 8.2).

1. CHANGE IN AVERAGE DAILY TRAFFIC FLOW OVER TIME

Compared to baseline (%)

Traffic levels increase overall as the lockdown restrictions are lifted.

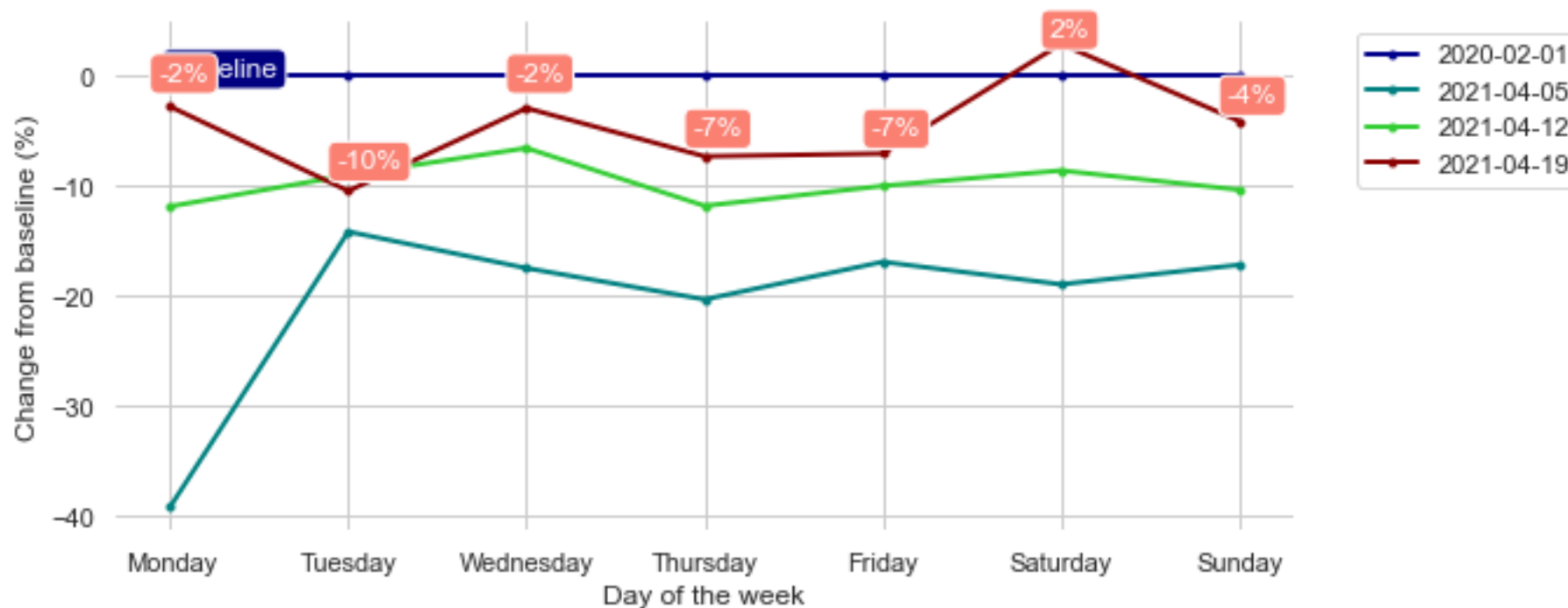


2. CHANGE IN AVERAGE DAILY TRAFFIC FLOW BY DAY OF WEEK

Compared to baseline (%)

Overall average traffic volumes have increased to around 4% below the baseline.

Traffic levels are above the baseline at 2% on Saturday the 18th of April.

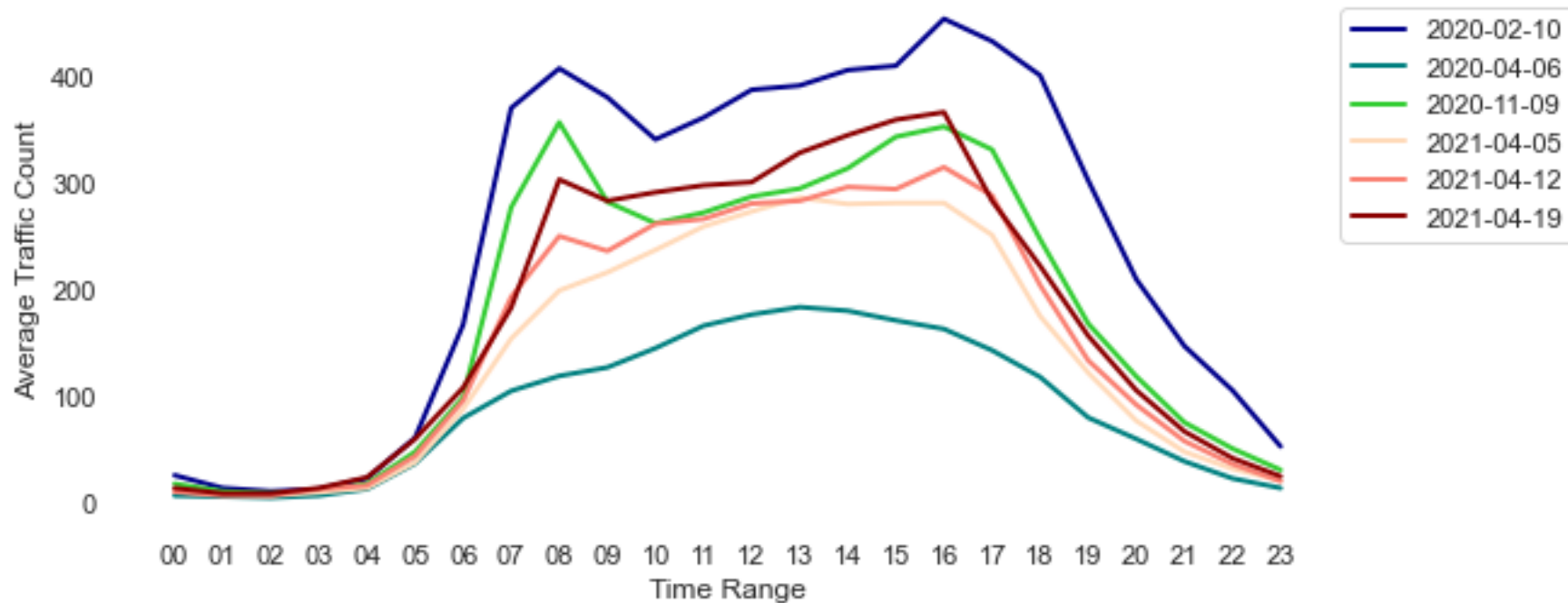


Average day of week traffic volumes compared to the baseline week (01/02/2020), and the 3 most recent weeks.

3.1. MEDIAN WEEKDAY TRAFFIC BY HOUR OF DAY

Hourly traffic counts

The weekday AM peak is becoming more pronounced compared to previous weeks.



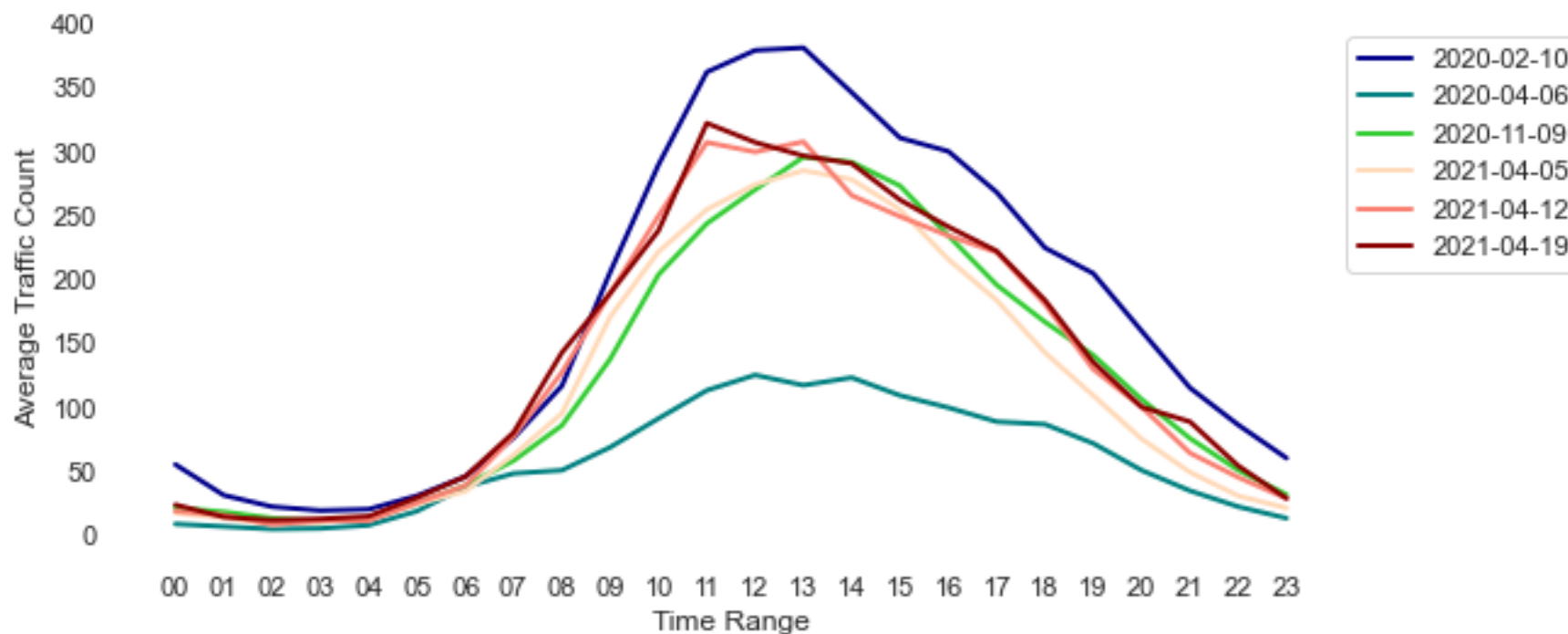
Weekday traffic volumes compared to a pre-pandemic week (10/02/20) and early lockdown (06/04/20) across all datasets. This graph uses the median traffic count for each hour of each weekday, as well as the median across all weekdays. This is different to what has been published in previous reports (before 15 March 2021), which made use of the sum of traffic counts for each hour of each weekday, and the average across all weekdays.

3.2. MEDIAN WEEKEND TRAFFIC BY HOUR OF DAY

Hourly traffic counts

Weekend traffic has a similar pattern as the previous two weeks.

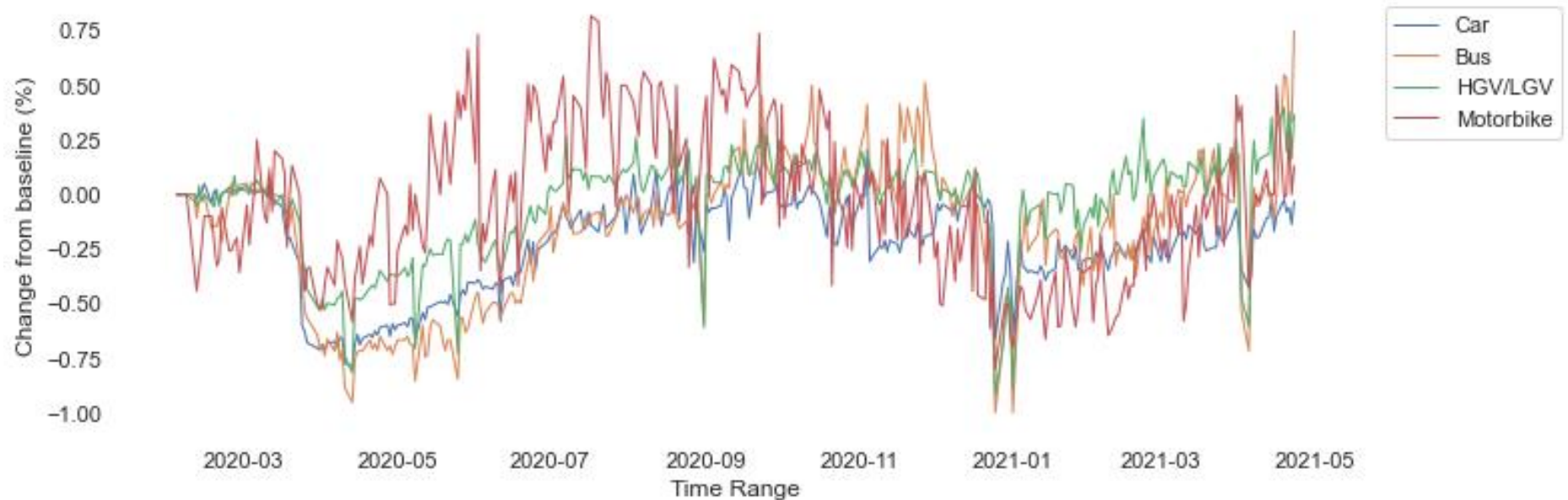
There is a peak in weekend traffic around 13:00 in the afternoon.



Weekday traffic volumes compared to a pre-pandemic week (10/02/20) and early lockdown (06/04/20) across all datasets. This graph uses the median traffic count for each hour of each weekday, as well as the median across all weekdays. This is different to what has been published in previous reports (before 15 March 2021), which made use of the sum of traffic counts for each hour of each weekday, and the average across all weekdays.

4.1. CHANGE IN AVERAGE WEEKDAY TRAFFIC FLOW BY VEHICLE CLASS

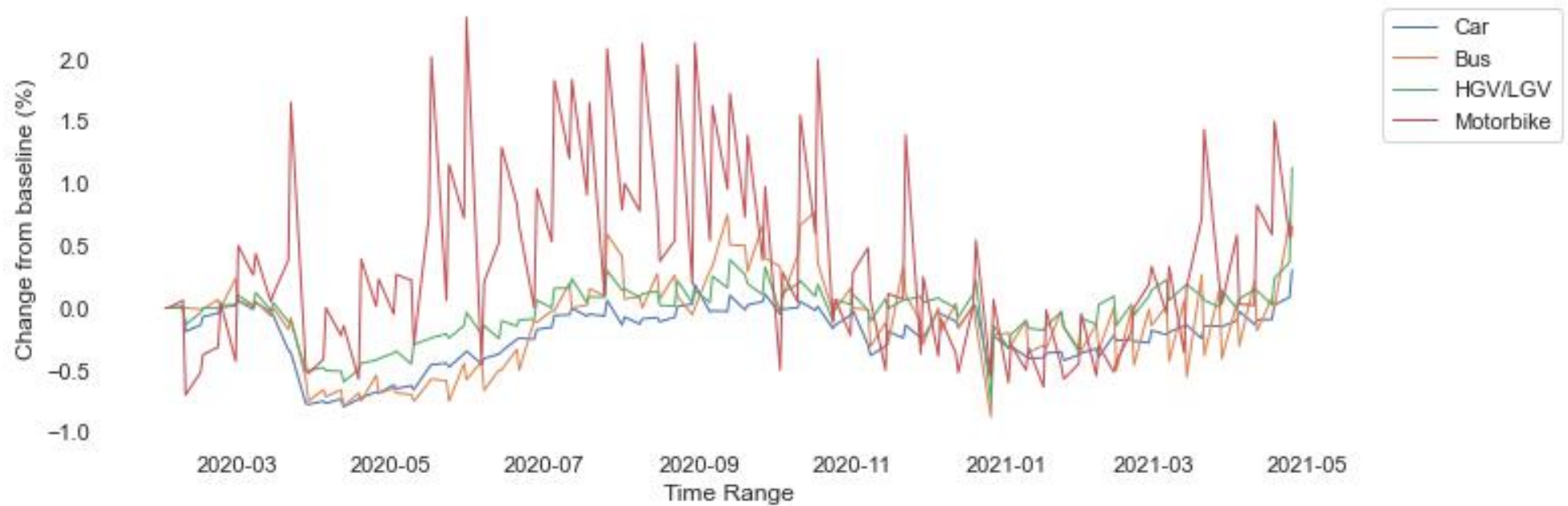
Compared to baseline (%)



Change in average vehicle trips by vehicle class where available in the source dataset.

4.2. CHANGE IN AVERAGE WEEKEND TRAFFIC FLOW BY VEHICLE CLASS

Compared to baseline (%)



Change in average vehicle trips by vehicle class where available in the source dataset.

5.1. FOCUS ON LOCAL AUTHORITIES

Map of local authorities

Five local areas are examined that provide a good geographic spread.

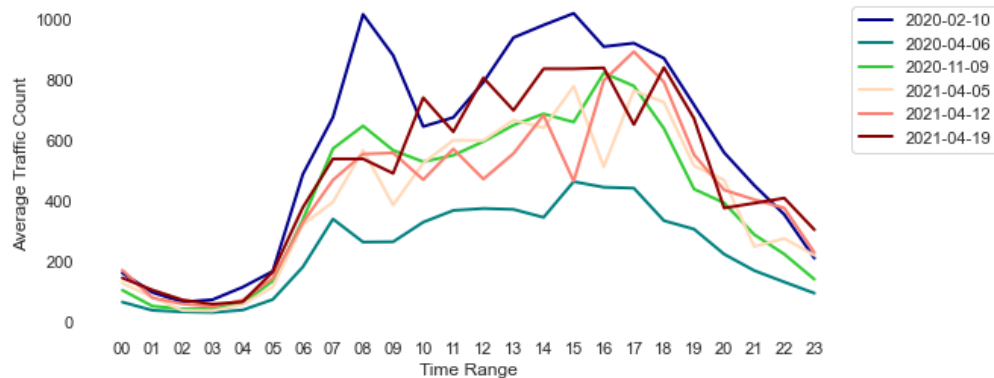


Data has been provided by: Birmingham City Council, City of York Council, Suffolk County Council, Hampshire Council, Derbyshire County Council, Leicestershire County Council (excludes Leicester City).

5.2. MEDIAN WEEKDAY TRAFFIC BY HOUR OF DAY FOR LOCAL AUTHORITIES

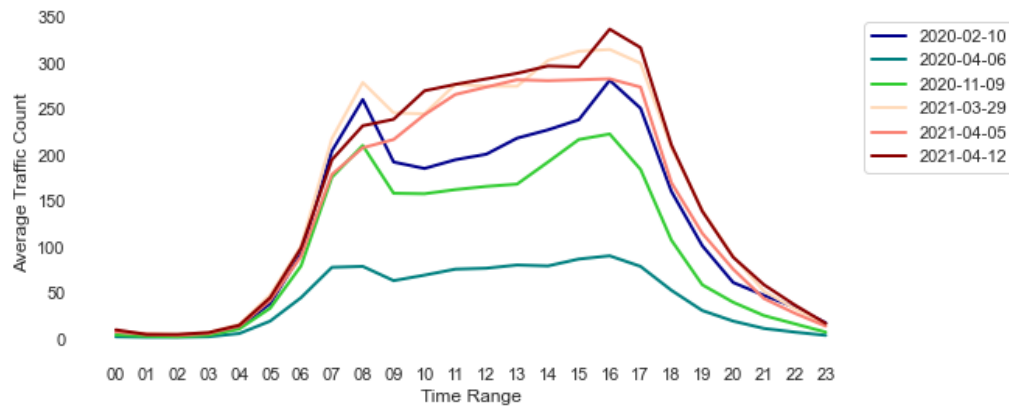
Hourly traffic counts

5.2.1. BIRMINGHAM



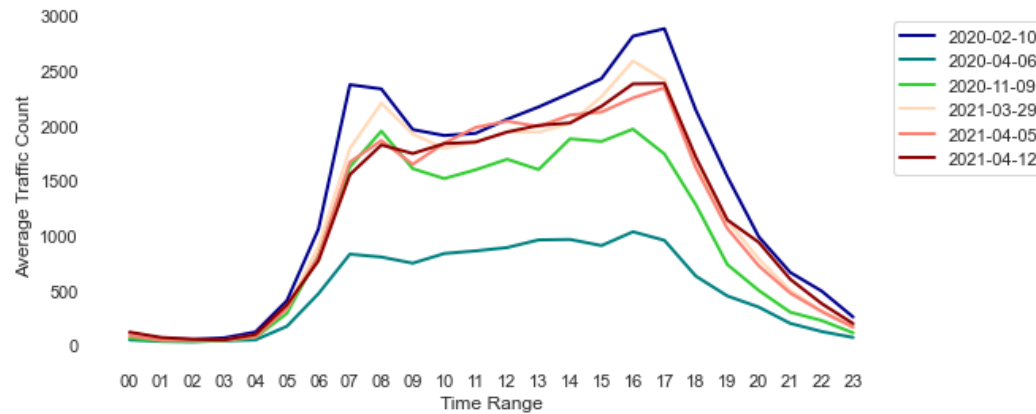
Traffic levels in Birmingham have increased above the levels seen during the second national lockdown. The AM peak is pronounced and a PM peak can be observed.

5.2.2. DERBYSHIRE



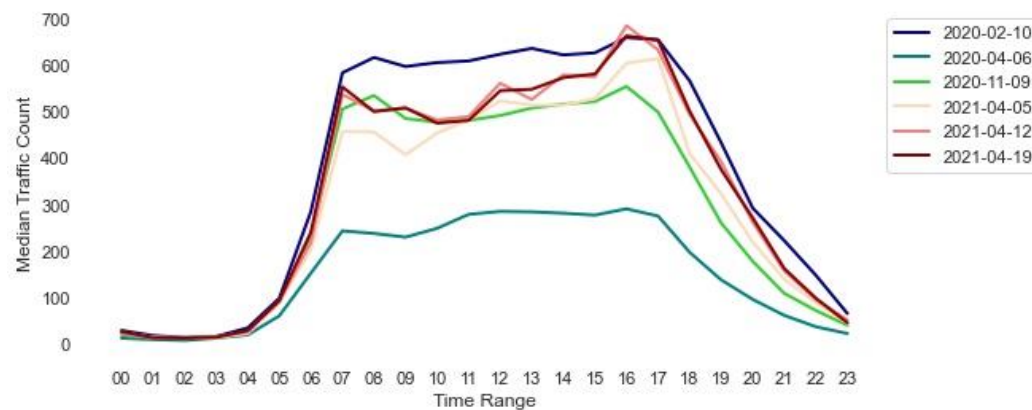
Traffic levels in Derbyshire now exceed the pre-pandemic baseline for the interpeak period. The AM peak is less pronounced, while the PM peak is more defined.

5.2.3. HAMPSHIRE



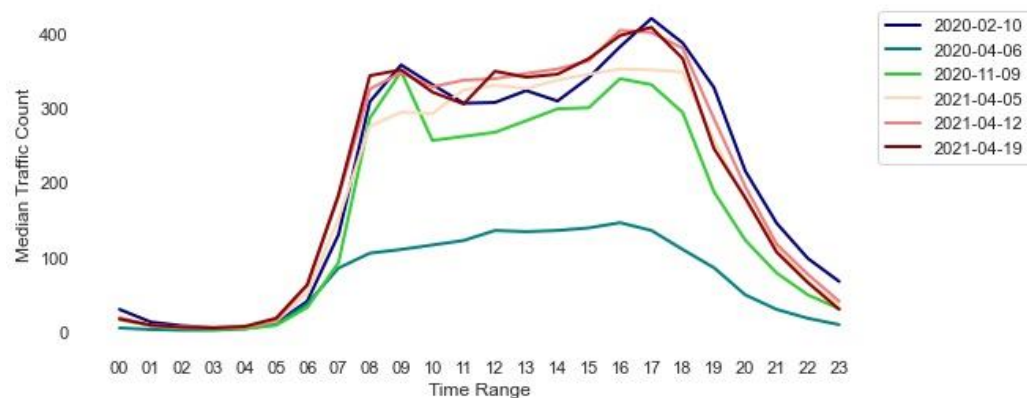
Traffic levels in Hampshire exceed those seen during the second national lockdown. There is a noticeable peak in traffic around 18:00 PM.

5.2.4. SUFFOLK



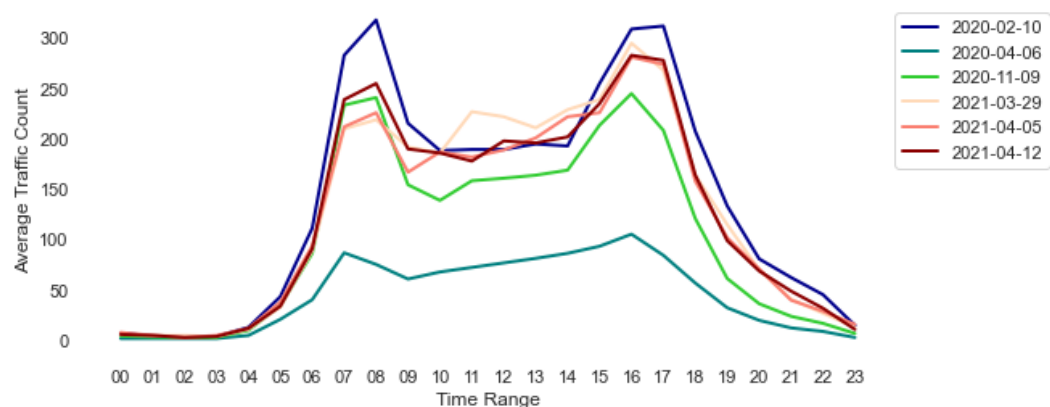
Traffic levels in Suffolk are marginally exceeding those seen during the second national lockdown. The PM peak becomes more pronounced and increases above the pre-pandemic baseline around 18:00 PM.

5.2.5. CITY OF YORK



Traffic levels in the City of York increase above the pre-pandemic baseline. The AM peak is more pronounced compared to the previous weeks.

5.2.6. LEICESTERSHIRE (EXCEPT LEICESTER CITY)



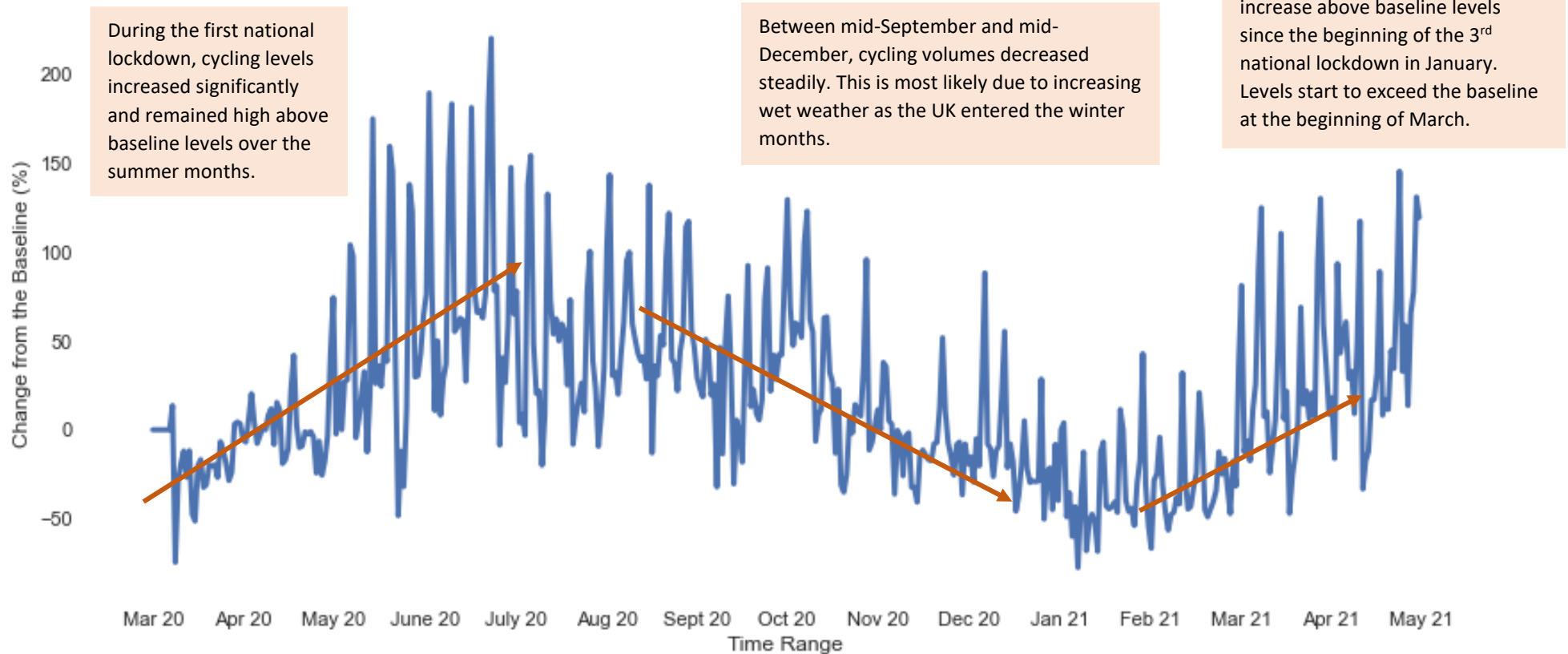
Traffic levels in Leicestershire follow a similar pattern to those seen during the previous week. The AM peak is pronounced and the interpeak traffic increases.

Updated data for Leicestershire, Derbyshire and Hampshire could not be fetched for the w/c 19th of April. Historical data is presented for comparison.

1. CHANGE IN AVERAGE DAILY CYCLING FLOW

Compared to baseline (%)

Improved weather conditions have seen increased cycling levels in March 2021.



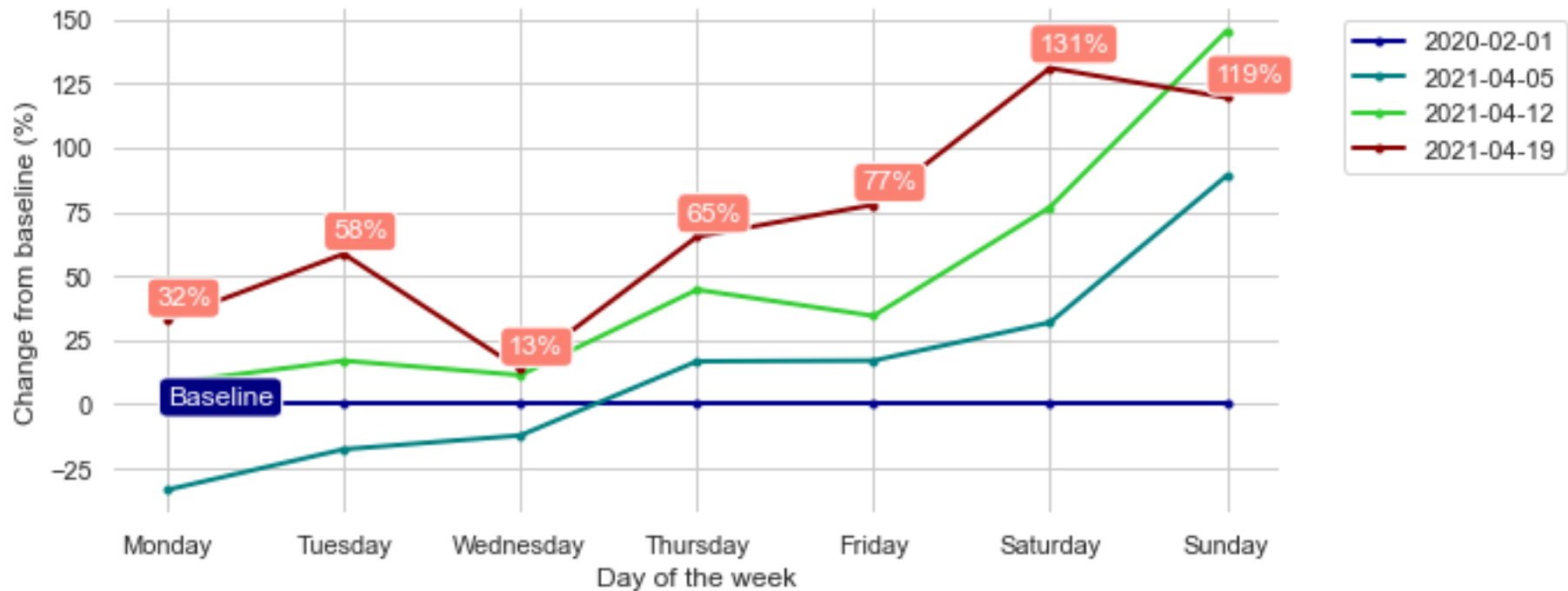
Change in average daily cycling volumes since 1st of March across all sources compared to the baseline (the first week of February 2020)

2. CHANGE IN AVERAGE DAILY CYCLING BY DAY OF WEEK

Compared to baseline (%)

Cycling levels are marginally higher compared to the previous weeks.

Weekend cycling levels are higher compared to weekday cycling levels.

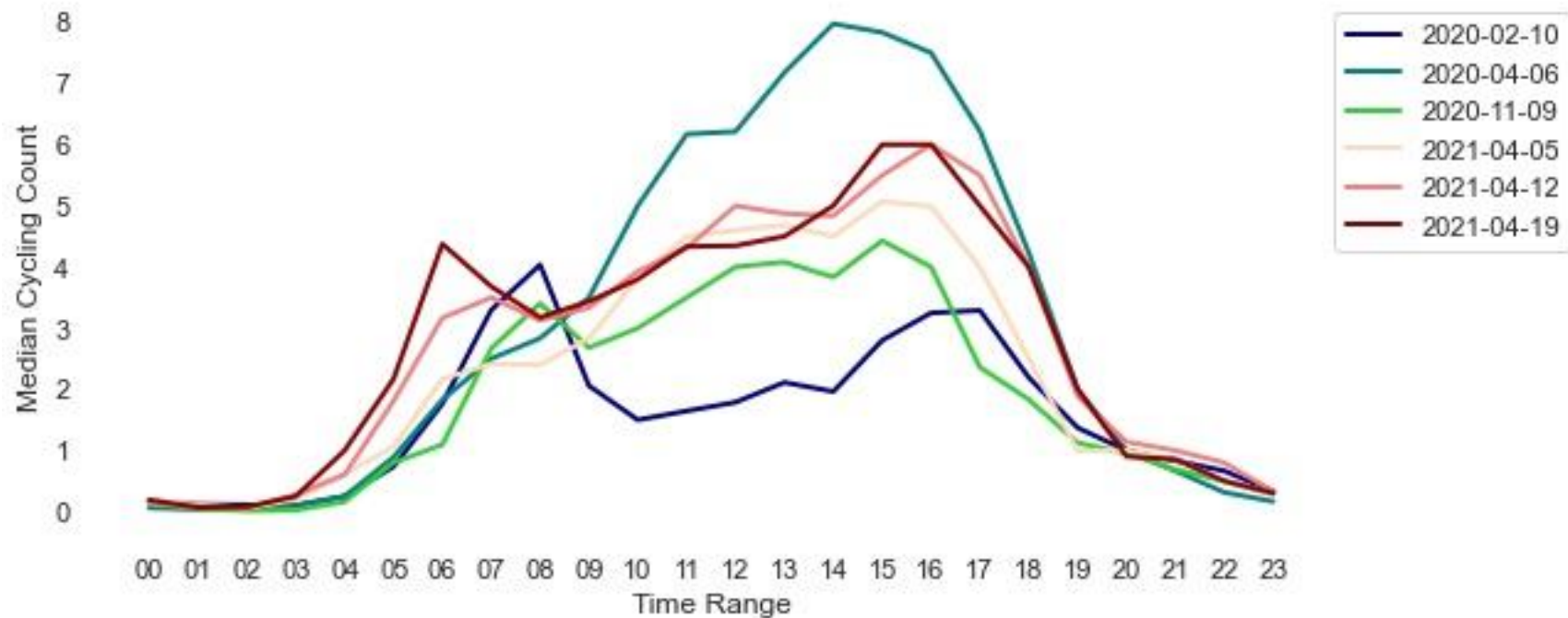


Average day of week traffic volumes compared to the baseline week (01/02/2020), and the 3 most recent weeks.

8.1 MEDIAN WEEKDAY CYCLING BY HOUR OF DAY

Hourly counts

The AM peak is becoming more pronounced compared to the previous weeks.

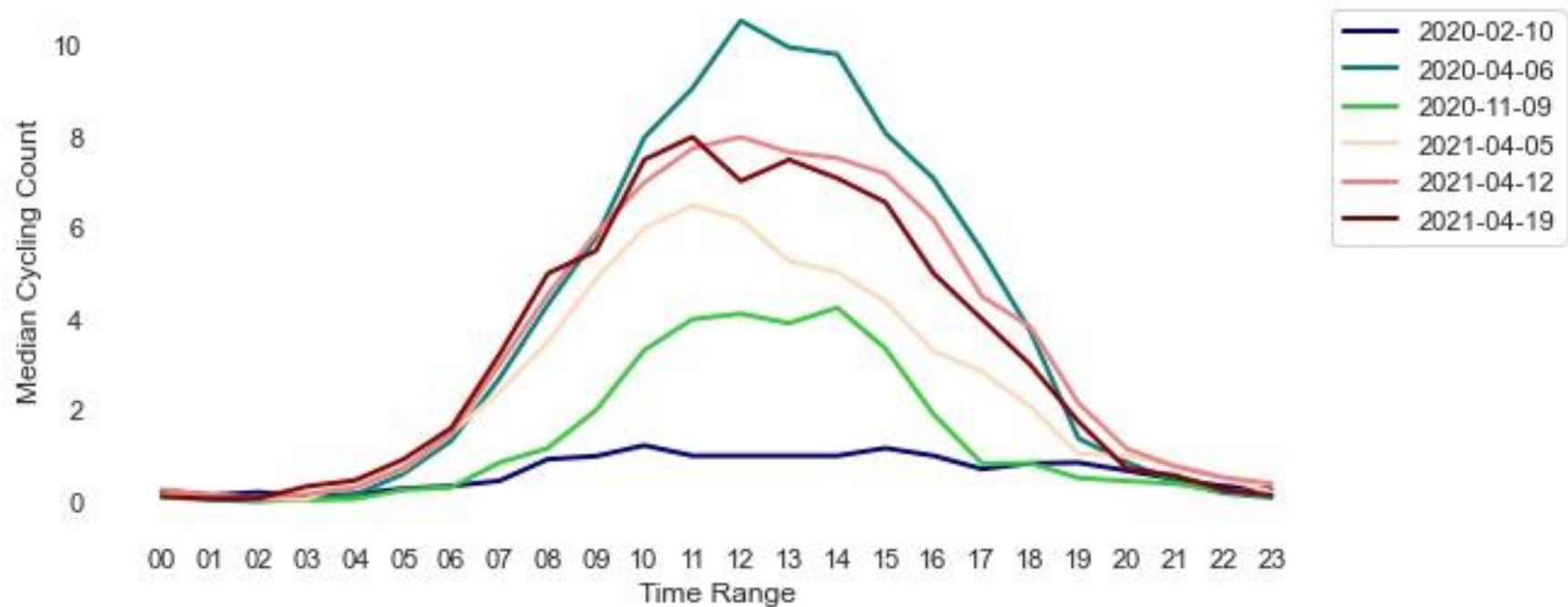


Weekday cycling volumes compared to a pre-pandemic week (10/02/20) and early lockdown (06/04/20) across all datasets. This graph uses the median cycling count for each hour of each weekday, as well as the median across all weekdays. This is different to what has been published in previous reports (before 15 March 2021), which made use of the sum of cycling counts for each hour of each weekday, and the average across all weekdays.

8.2 MEDIAN WEEKEND CYCLING BY HOUR OF DAY

Hourly counts

Weekend cycling follows a similar pattern to the previous two weeks



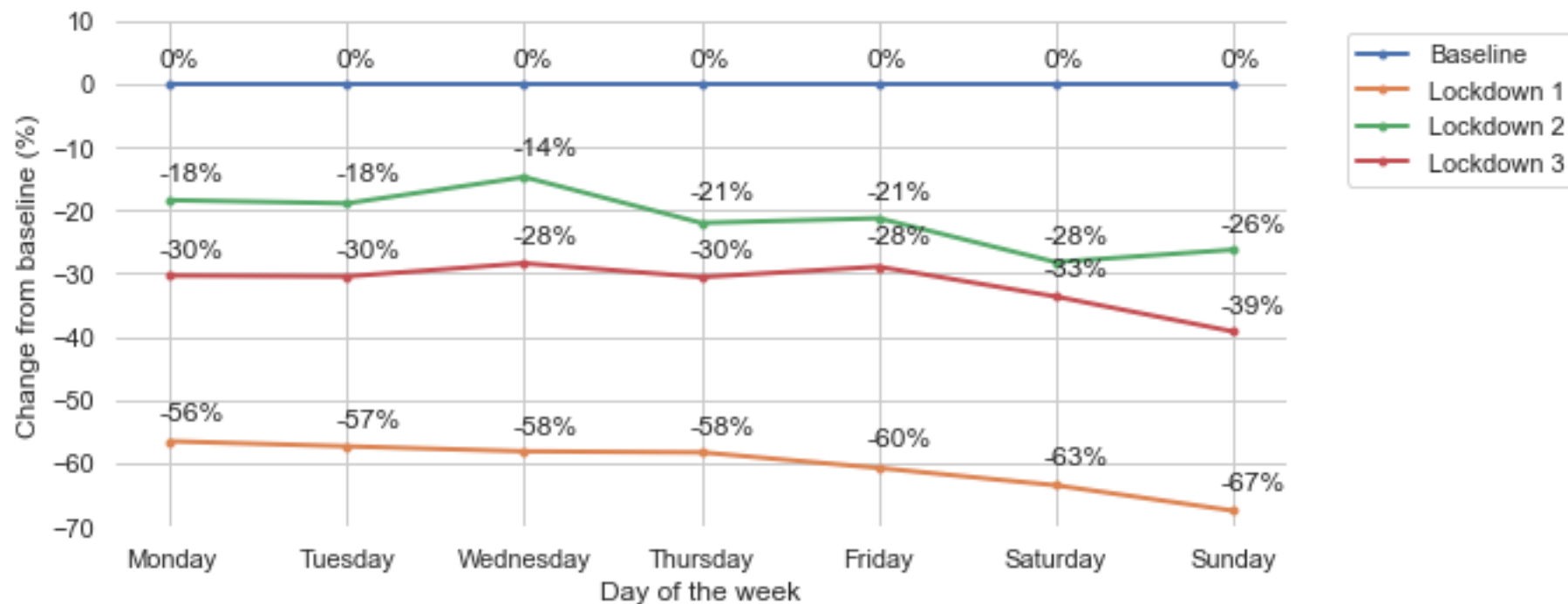
Weekend cycling volumes compared to a pre-pandemic week (10/02/20) and early lockdown (06/04/20) across all datasets. This graph uses the median cycling count for each hour of each weekend day, as well as the median across all weekend days. This is different to what has been published in previous reports (before 15 March 2021), which made use of the sum of cycling counts for each hour of each weekend day, and the average across all weekend days.

9. LOCKDOWN CHANGE IN AVERAGE DAILY TRAFFIC BY DAY OF WEEK

Compared to baseline (%)

Lockdown 3 averages are situated between Lockdown 1 and Lockdown 2.

The average levels of traffic closely approach those seen during lockdown 2.



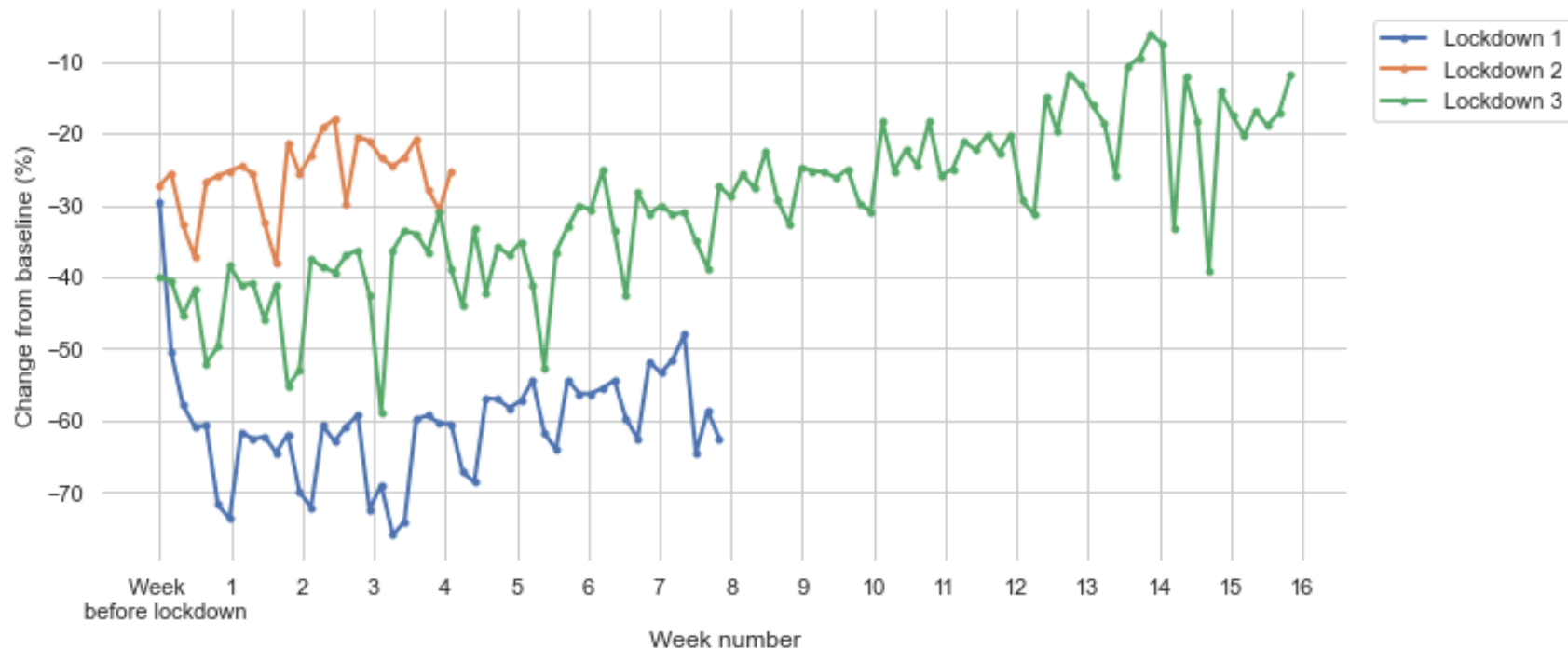
Comparing the average weekday median percentage change from the baseline for the first, second and third national lockdowns. It should be noted that at the time of writing, the third national lockdown was still ongoing and therefore only data between 05/01/21 and 24/04/21 has been included for lockdown 3.

10. LOCKDOWN PERCENTAGE CHANGE FROM BASELINE

Compared to baseline (%)

Lockdown 2 saw a surge in traffic immediately before the start of restrictions.

Lockdown 3 levels, while initially in between Lockdown 1 and 2 levels, are now approaching the baseline.

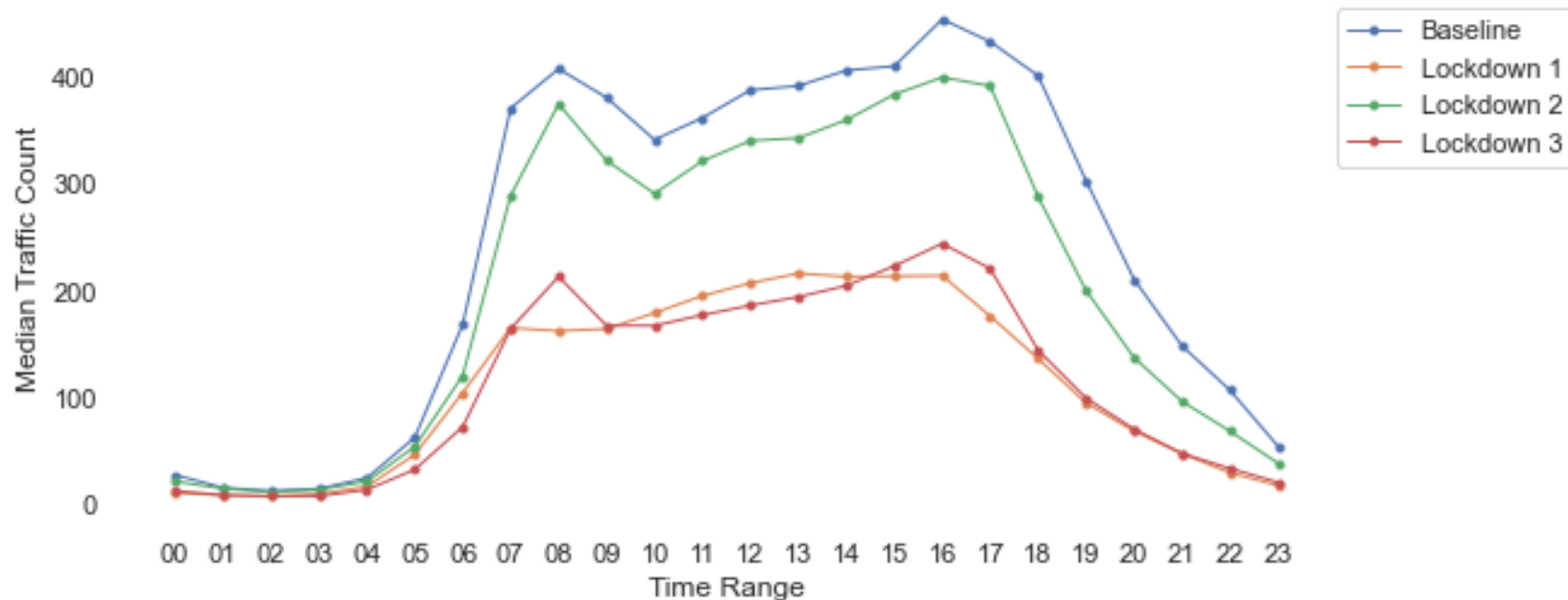


Comparing the median percentage change from the baseline for the first, second and third national lockdowns. It should be noted that at the time of writing, the third national lockdown was still ongoing and therefore only data between 05/01/21 and 25/04/21 has been included for lockdown 3.

11. LOCKDOWN MEDIAN WEEKDAY TRAFFIC BY HOUR OF DAY

Hourly Counts

Lockdown 3 has clearly distinguishable AM and PM peaks, as opposed to lockdown 1, which appears neutral to the traditional peaks.



Comparing the average weekday traffic count by hour of the day for the first, second and third national lockdowns. It should be noted that at the time of writing, the third national lockdown was still ongoing and therefore only data between 05/01/21 and 25/04/21 has been included for lockdown 3.

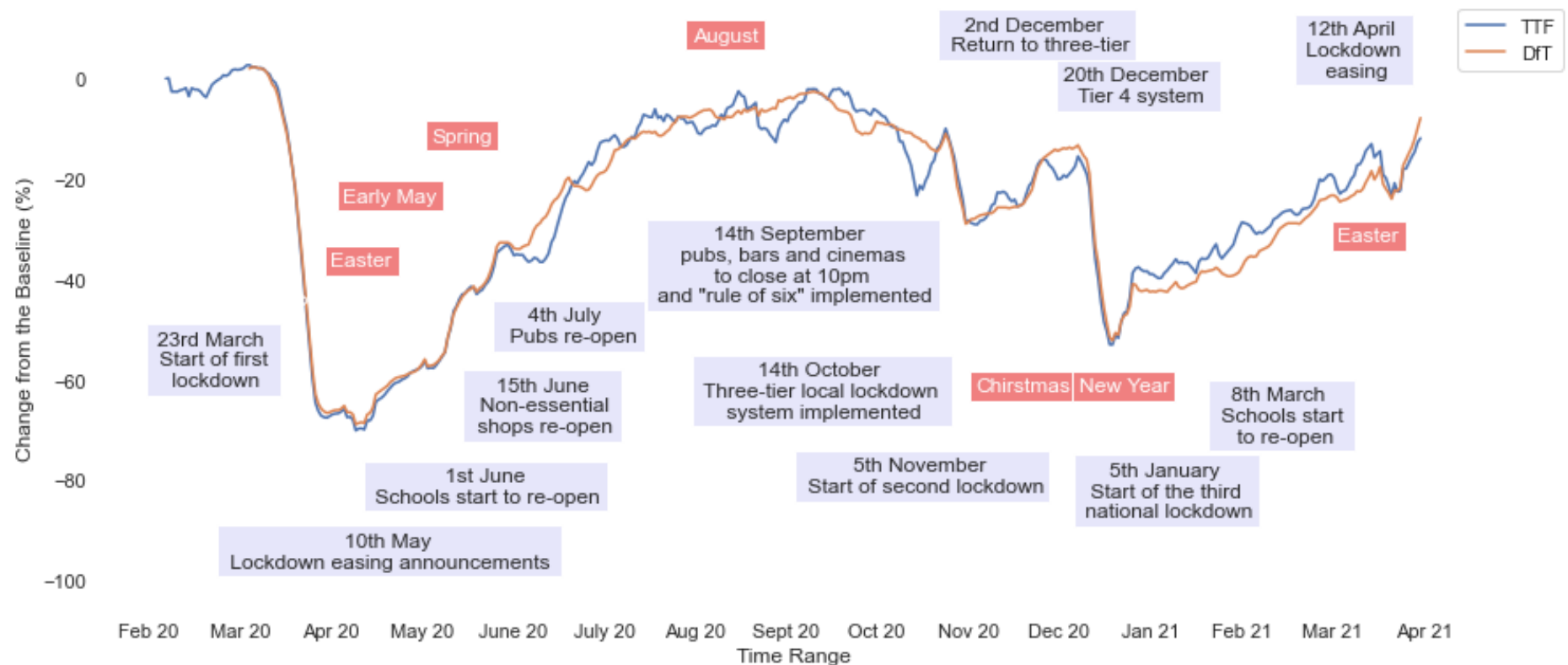
TTF and DfT Data Comparison

The following graphs present data from two data sources: TTF Local Authority Data Insights (TTF) and DfT Covid-19 Daily Mode Statistics (DfT). The latter and its data methodology can be found [here](#). The data is displayed for all dates between 1/02/2020 and 18/04/2021, where it is available.

12.7-DAY MOVING AVERAGE OF CHANGE IN AVERAGE DAILY TRAFFIC FLOW

Compared to baseline (%)

Traffic levels increase overall as the lockdown restrictions are lifted.

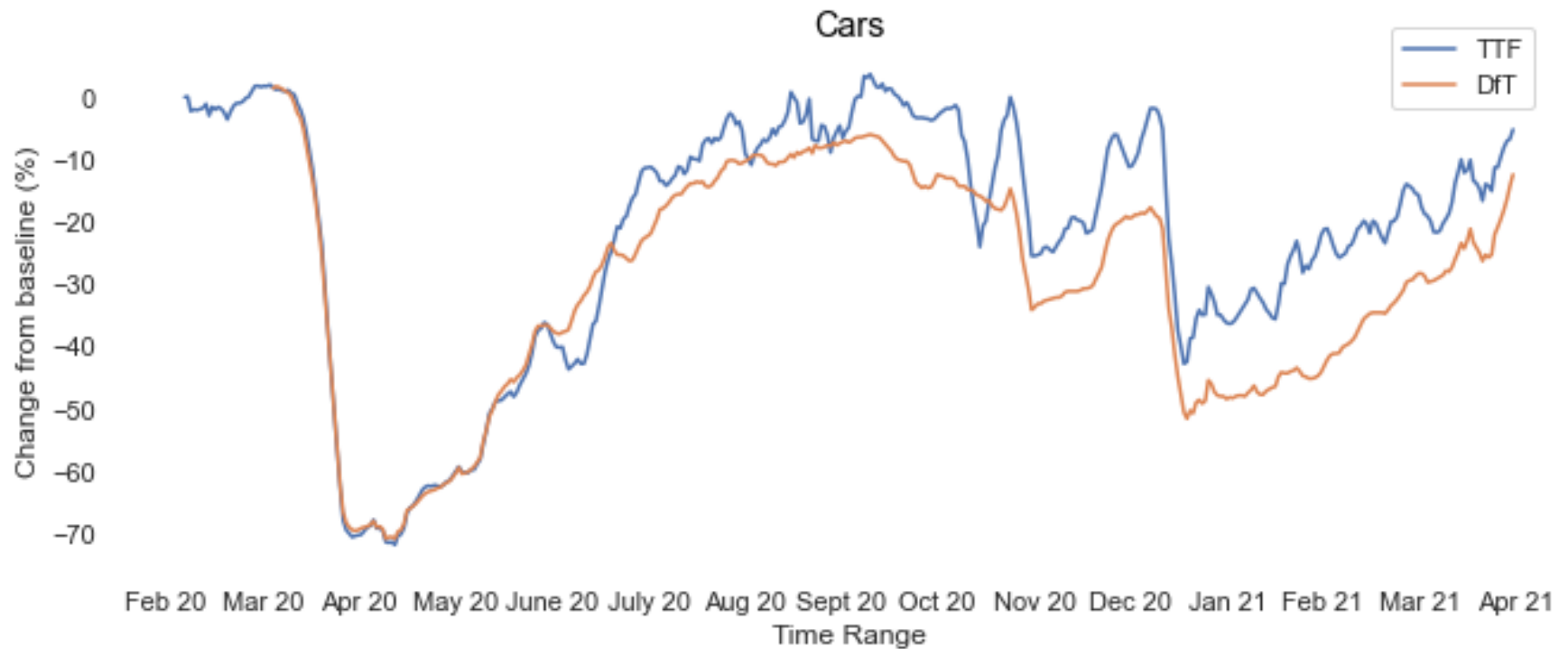


Both datasets have the same baseline of the first week of February 2020.

13. 7-DAY MOVING AVERAGE OF CHANGE IN AVERAGE WEEKDAY TRAFFIC FLOW BY MODE - CARS

Compared to baseline (%)

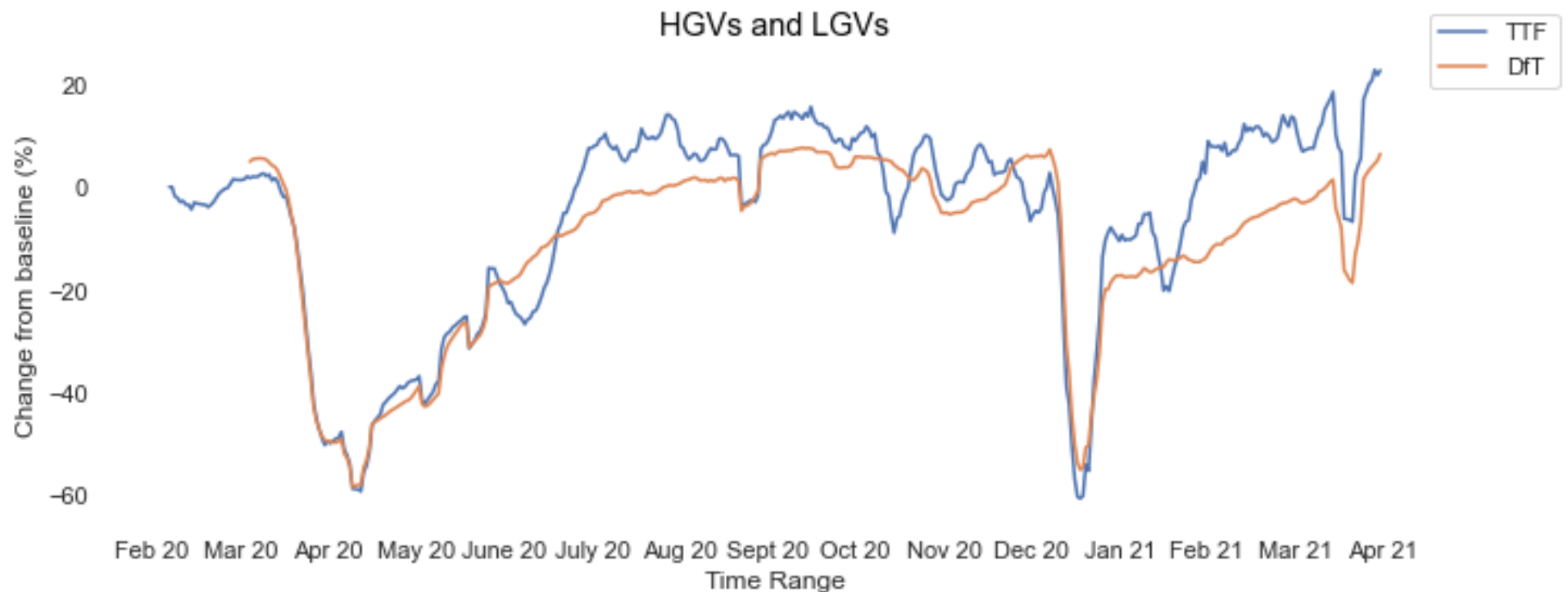
Increased car traffic levels in recent weeks.



14. 7-DAY MOVING AVERAGE OF CHANGE IN AVERAGE WEEKDAY TRAFFIC FLOW BY MODE - HGVs and LGVs

Compared to baseline (%)

HGVs and LGVs traffic levels returned to baseline in recent weeks.

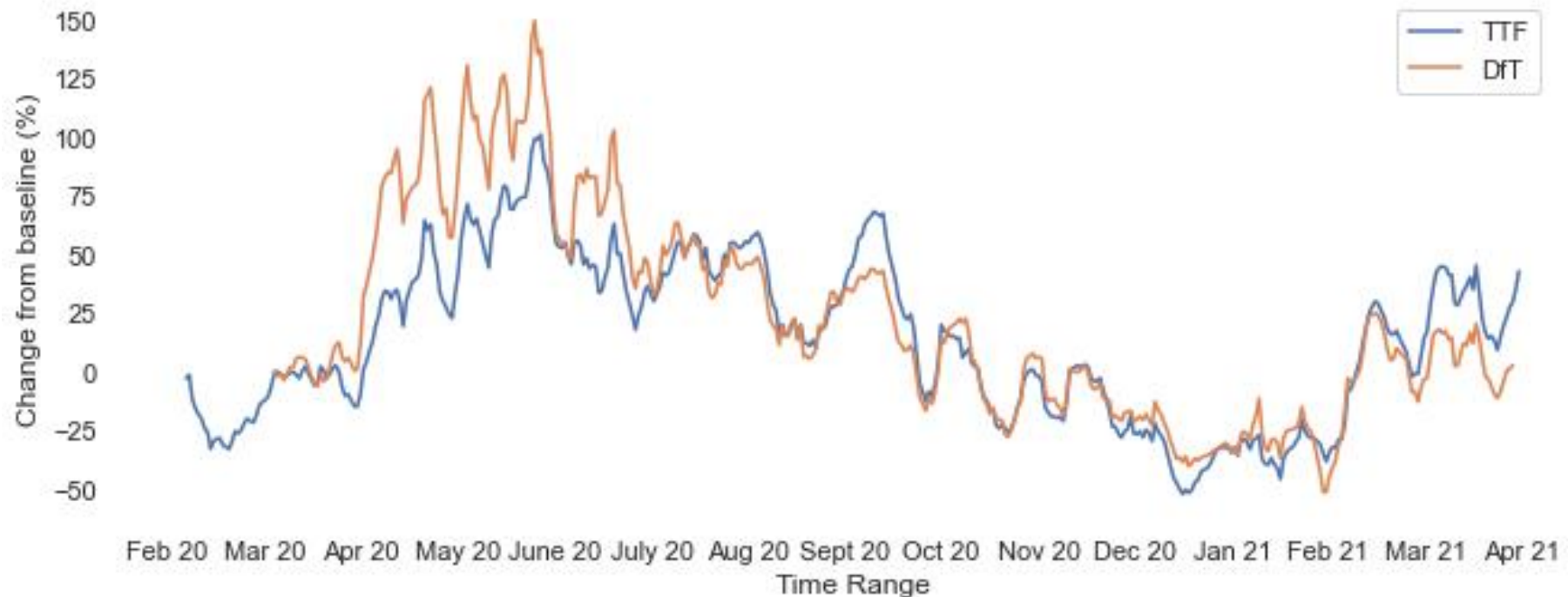


For comparison purposes, it has been assumed that numbers of HGVs and LGVs are similar at all times.

15. 7- DAY MOVING AVERAGE OF CHANGE IN AVERAGE DAILY CYCLING FLOW

Compared to baseline (%)

Improved weather conditions have seen increased cycling levels in April 2021.



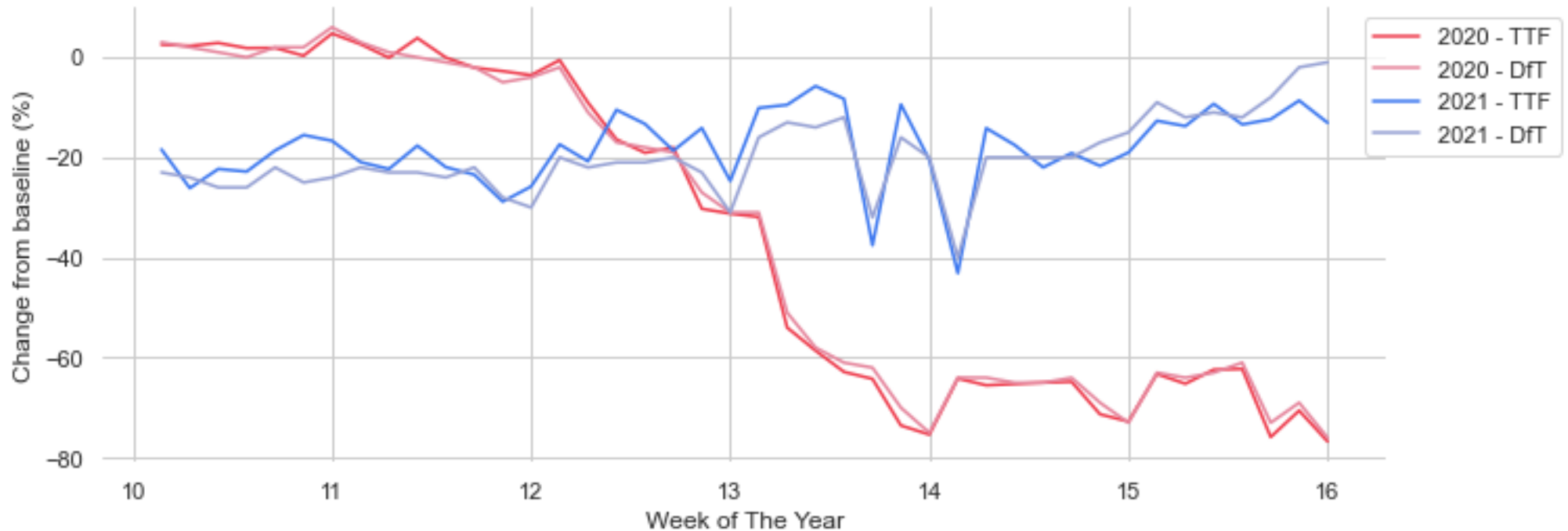
To enable direct comparison between the two datasets, TTF's data has been normalised and new baseline of the first week of March 2020 has been calculated, which is the same for DfT data.

16. TRAFFIC COMPARISON FOR CORRESPONDING WEEKS OF THE YEAR BETWEEN 2020 and 2021

Compared to baseline (%)

Traffic levels increase in recent weeks.

The traffic changes are less pronounced compared to March 2020.



The comparison has been performed on 'week of the year' basis to ensure the same days of the week are compared against.

17. RAIL USAGE CHANGE IN AVERAGE DAILY FLOW – DfT data

Compared to baseline (%)

Increase in rail levels in recent weeks, comparable with summer 2020.



18. 7-DAY MOVING AVERAGE OF MODE USAGE – DfT DATA

Compared to baseline (%)

Similar trends of buses and rail usage are observed.



DATA METHOD

The following provides some detail behind how the data has been analysed:

- The baseline has been defined as the first week of February 2020 (1st February – 7th February) for the following reasons:
 - This is consistent with national reporting.
 - Not all data sources can provide baseline data from previous years.
 - The first week of February is considered a normal working week unaffected by poor weather and half term dates later in February.
- Each day of the week has its own baseline.
- Only those datasets for which data was available for the first week of February have been included in the baseline comparison outputs.
- Baseline comparisons at aggregated Local Highway Authority (LHA) level have only been calculated using traffic/cycling sensors that contributed to the baseline to reduce the impact of new sensors being added to data sources
- Average daily traffic volumes have been used to minimise the impact of individual sensors changing between active and inactive states.
- Averages have been calculated using the median (50th percentile) to reduce the impact of outliers.

Please note that each week not all datasets that contribute to our analysis are available when this report is produced. Therefore, as we add new datasets when they become available, enhance validation of those we've received and refine the underlying methodology, the overall values may change, however we expect the trends to remain the same.

COVID-19 Timeline

FEBRUARY 2020	
04/02/2020	China Advice – All UK citizens advised to leave China
MARCH 2020	
10/03/2020	Italy Air Travel – Majority of flights to and from Italy suspended
12/03/2020	7-day Isolation – 7-day self-isolation for individuals presenting symptoms
16/03/2020	Social Distancing – Households to self-isolate for 14-days if symptoms present. Work from home where possible. Avoid pubs, clubs, theatres etc. 12-week isolation for elderly and vulnerable (commencing end of week)
17/03/2020	UK Foreign Travel 1 – Foreign Secretary advises against all non-essential travel overseas
21/03/2020	Schools Closed – Schools to remain closed until further notice (exception for key workers)
23/03/2020	UK Lockdown – Guidance provided for essential travel only. All non-essential businesses required to close. Public events banned
23/03/2020	UK Foreign Travel 2 – Foreign Secretary advises all British travellers to return to the UK
28/03/2020	PM's Letter – Prime Minister issues guidance letter to all UK households
APRIL 2020	
16/04/2020	NPCC Guidance – NPCC issues guidance clarifying reasonable excuses for leaving home
MAY 2020	
10/05/2020	Those who cannot work from home are encouraged to return to work. Avoid public transport where possible and instead walk or cycle.
11/05/2020	Relaxation Document – The UK government publishes a 50-page document setting out further details of the phases for lifting the lockdown restrictions.
13/05/2020	Individuals can undertake unlimited exercise (and can travel to do so). Individuals can meet someone from another household providing it is on a one-to-one basis. All garden centres are allowed to open. House moves and viewings are now permitted.
18/05/2020	Rail Operators – Rail operators begin running more train services.
JUNE 2020	
01/06/2020	Schools re-open for some pupils. Groups of up to six people from different households allowed to meet outside
15/06/2020	All non-essential retailers and zoos in England reopened
19/06/2020	UK's COVID-19 Alert Level is lowered from Level 4 (severe risk, high transmission) to Level 3 (substantial risk, general circulation)

JULY 2020	
04/07/2020	Further relaxation of social distancing and reopening of pubs, restaurants, hotels and hairdressers on 4 th July
25/07/2020	Gyms and other indoor services reopen in England
AUGUST 2020	
21/08/2020	Driving tests are approved to go ahead
SEPTEMBER 2020	
01/09/2020	Large number of schools across England re-open for the autumn term
08/09/2020	All schools across England have re-opened
14/09/2020	Rule of six comes into effect to tackle coronavirus, where any social gatherings of more than six people will be against the law
OCTOBER 2020	
14/10/2020	Tiered level restrictions were implemented across different local areas in England. Liverpool placed on highest alert (Tier 3).
NOVEMBER 2020	
05/11/2020	England goes into second National Lockdown
DECEMBER 2020	
02/12/2020	Second national lockdown in England ends and three-tiered local restriction system is re-implemented.
20/12/2020	London and South East England enter Tier 4 restrictions.
JANUARY 2021	
05/01/2021	Third national lockdown in England commences.
MARCH 2021	
08/03/2021	All schools re-opened.
29/03/2021	Initial lockdown restrictions lifted, groups of 6 allowed to meet outside.
APRIL 2021	
12/04/2021	Lockdown restrictions eased, hairdressers, gyms and outdoor recreation venues are allowed to re-open.

Contact us

All authorities are encouraged to share best practice for inclusion in this report. Authorities not yet contributing but who still have data to share are encouraged to do so.

Please contact info@ttf.uk.net

Thank you to...

All local authorities and their consultancies and contractors who have shared data with the Transport Technology Forum to enable this report to be collated, and those in the wider industry who also provided data directly. The TTF, which is sponsored by the Department for Transport and Innovate UK is grateful to ITS (UK) and its members for their swift support in recruiting Local Authorities to participate.

The 'Understanding Travel Patterns during COVID-19' project has been awarded the [ITS UK - Project of the Year Award 2020](#) which would not have been possible without all of your support. The judges were impressed that this project demonstrated how the industry can come together, and underlined how the TTF can coordinate a collaborative front with Local Authorities and commercial data suppliers to collect, process and visualise over 16 million travel movements during the lockdown period and beyond.

This report provides regularly updated intelligence and findings from the Transport Technology Forum COVID-19 Local Authority Travel Data Project. This project is collecting and analysing traffic and travel data from local highway authorities across England to present a national picture of travel patterns and behaviour, and local authority responses to the COVID-19 crisis.