COVID-19

Local authority travel and transport data

Weekly digest

TRANSPORT TECHNOLOGY FORUM

ITS United Kingdom

ITS UK Project of the Year Award 2020 Winner

Week Commencing

16th November 2020

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 is able to 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 the Transport Technology Forum 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.

Highlights summary

The following provides a high-level summary of the key findings within the data:

Traffic Flow

- For the week commencing 9th November, overall daily traffic flows are 27% below baseline, a decrease of 9% compared to the previous week (Figure 1). Since implementation of the second national lockdown on Thursday 5th November, traffic levels have remained stable at approximately 26% below baseline levels on weekdays, while on Saturdays and Sundays, traffic is consistent at 32% and 37% below the baseline respectively.
- This change can also be seen in Figure 3, where overall traffic levels surge briefly before lockdown before decreasing to consistent weekday and weekend levels.
- Figure 4.1 shows that weekday traffic levels have progressively decreased over the last 3 weeks and are well below baseline levels. However, traffic levels are overall still much higher than levels seen during the first lockdown in April. At the weekend (Figure 4.2), traffic levels are also proportionately decreased throughout the day when compared to the previous 2 weeks.
- Figure 5.1 shows that weekday car volumes have remained at 25% below baseline levels since the start of the second national lockdown on 5 November. Weekend car volumes dropped to 26% below baseline, while HGV/LGV traffic was slightly below baseline (Figure 5.2).
- Figure 8 presents the change in hourly average weekday traffic flows for the Local Highway Authorities of Birmingham, Derbyshire, Hampshire, Suffolk, York and Leicestershire. Each LHA has exhibited a gradual decrease in overall traffic volumes since the beginning of the second national lockdown, however, the most significant change for the week commencing 9th November is seen in Birmingham which has exhibited a decrease during the PM peak.
- Figure 11 compares Thursdays around the first and second national lockdowns. It shows that while traffic has decreased nationally during the second lockdown, it is not as significant as the first lockdown, especially during the AM peak which is still on par with baseline levels.

Cycling

- For the week commencing 9th November, overall cycling volumes are below baseline levels by 15% (Figure 2) and saw the most significant decrease over the weekend due to wet weather.
- On weekdays (Figure 10.1), cycling levels are on par with levels in previous weeks and remain below baseline levels. During the interpeak, cycling has decreased compared to the previous week, but remain above the baseline.
- On the weekend (Figure 10.2), cycling levels are below baseline levels and remain on par with previous weeks during the AM and PM peak period, while a slight increase can be seen during the interpeak.

Figure 1 – Overall daily traffic flow change compared to baseline (1-7 Feb 2020)

Week	1. Monday	2. Tuesday	3. Wednesday	4. Thursday	5. Friday	6. Saturday	7. Sunday	Total
09/11/2020	-26.71%	-25.96%	-25.27%	-24.62%	-25.62%	-32.52%	-37.01%	**-26.87%**
02/11/2020	-5.43%	-4.25%	2.81%	-27.33%	-25.53%	-32.77%	-37.18%	**-17.87%**
26/10/2020	-11.13%	-14.51%	-10.04%	-14.06%	-9.43%	-13.48%	-8.39%	**-11.35%**
19/10/2020	-11.72%	-11.29%	-11.96%	-15.33%	-14.72%	-13.06%	-14.26%	**-12.94%**
12/10/2020	-8.21%	-10.30%	-6.64%	-9.32%	-8.01%	-7.43%	-10.28%	**-8.58%**
05/10/2020	-9.05%	-10.85%	-10.53%	-12.88%	-10.26%	-10.62%	-12.48%	**-10.62%**
28/09/2020	-9.78%	-10.67%	-9.61%	-7.53%	-9.87%	-14.66%	-15.56%	**-10.34%**

Figure 1: Key dashboard figures showing change in average daily traffic volumes compared to the baseline (first week of February 2020)

Figure 2 – Overall daily cycling change compared to baseline (1-7 Feb 2020)

Week	1. Monday	2. Tuesday	3. Wednesday	4. Thursday	5. Friday	6. Saturday	7. Sunday	Total
09/11/2020	-8.43%	-14.83%	-25.48%	-8.44%	-6.88%	-36.66%	-7.96%	**-15.11%**
02/11/2020	-16.88%	-19.35%	-8.11%	-17.17%	11.11%	48.65%	7.35%	**-2.27%**
26/10/2020	-4.55%	-33.90%	-33.01%	-41.18%	-20.05%	-11.96%	-15.18%	**-26.83%**
19/10/2020	0.00%	2.48%	-39.13%	-1.52%	-4.17%	-26.60%	-7.81%	**-11.43%**
12/10/2020	-11.42%	-7.63%	0.00%	10.84%	0.00%	33.97%	34.38%	**7.32%**
05/10/2020	4.35%	-3.35%	14.13%	6.33%	7.11%	30.36%	92.54%	**14.81%**
28/09/2020	29.70%	25.68%	-15.40%	20.42%	-32.56%	-36.39%	-26.79%	**-3.03%**

Figure 2: Key dashboard figures showing change in average daily cycle volumes compared to the baseline (first week of February 2020)

Figure 3 – Overall daily average traffic flow change from baseline

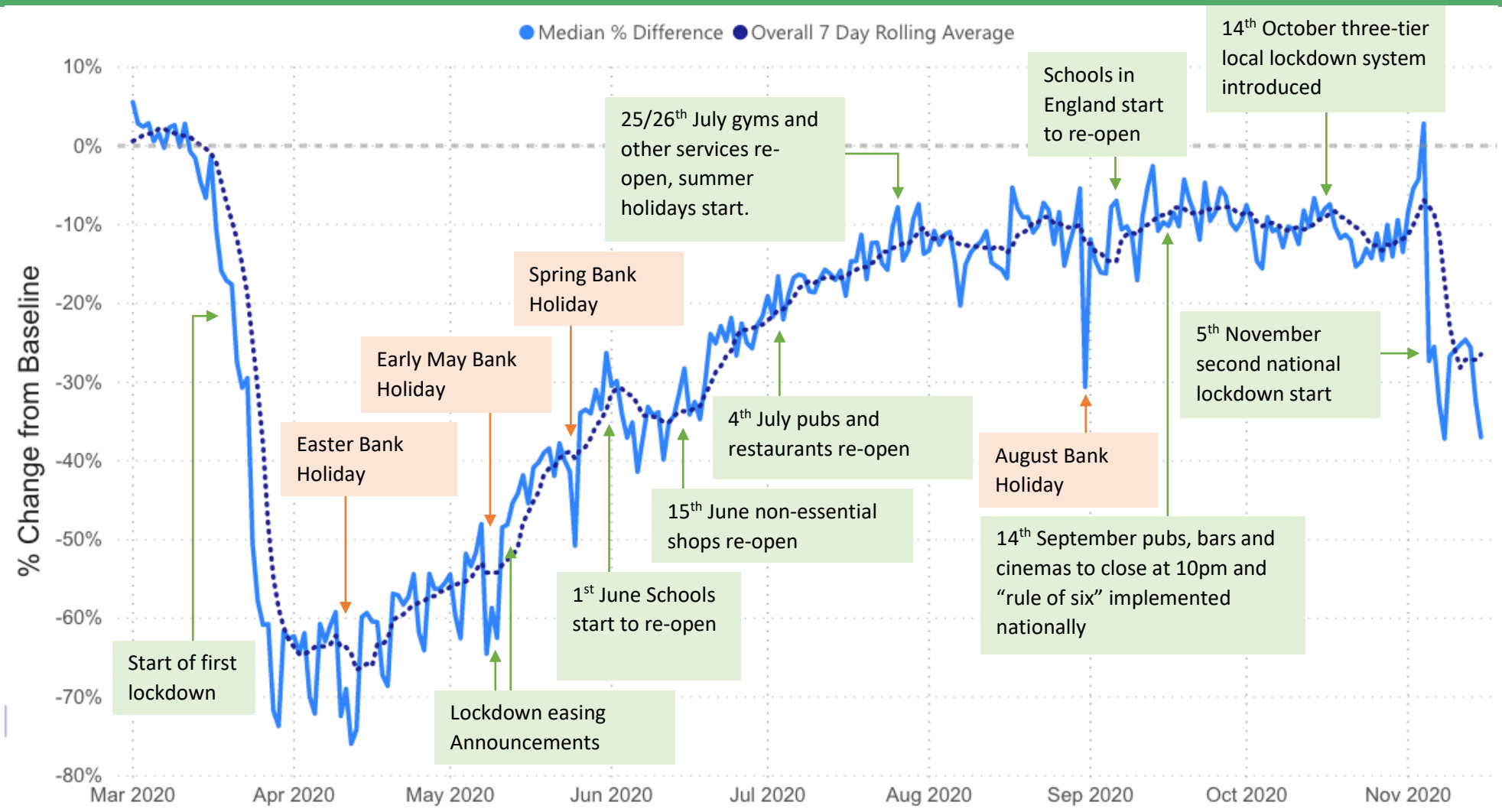


Figure 3: Change in overall daily average traffic volumes since 01st March across all sources compared to the baseline (first week of February 2020)

Figure 4.1 – Overall comparison of average hourly weekday traffic by week

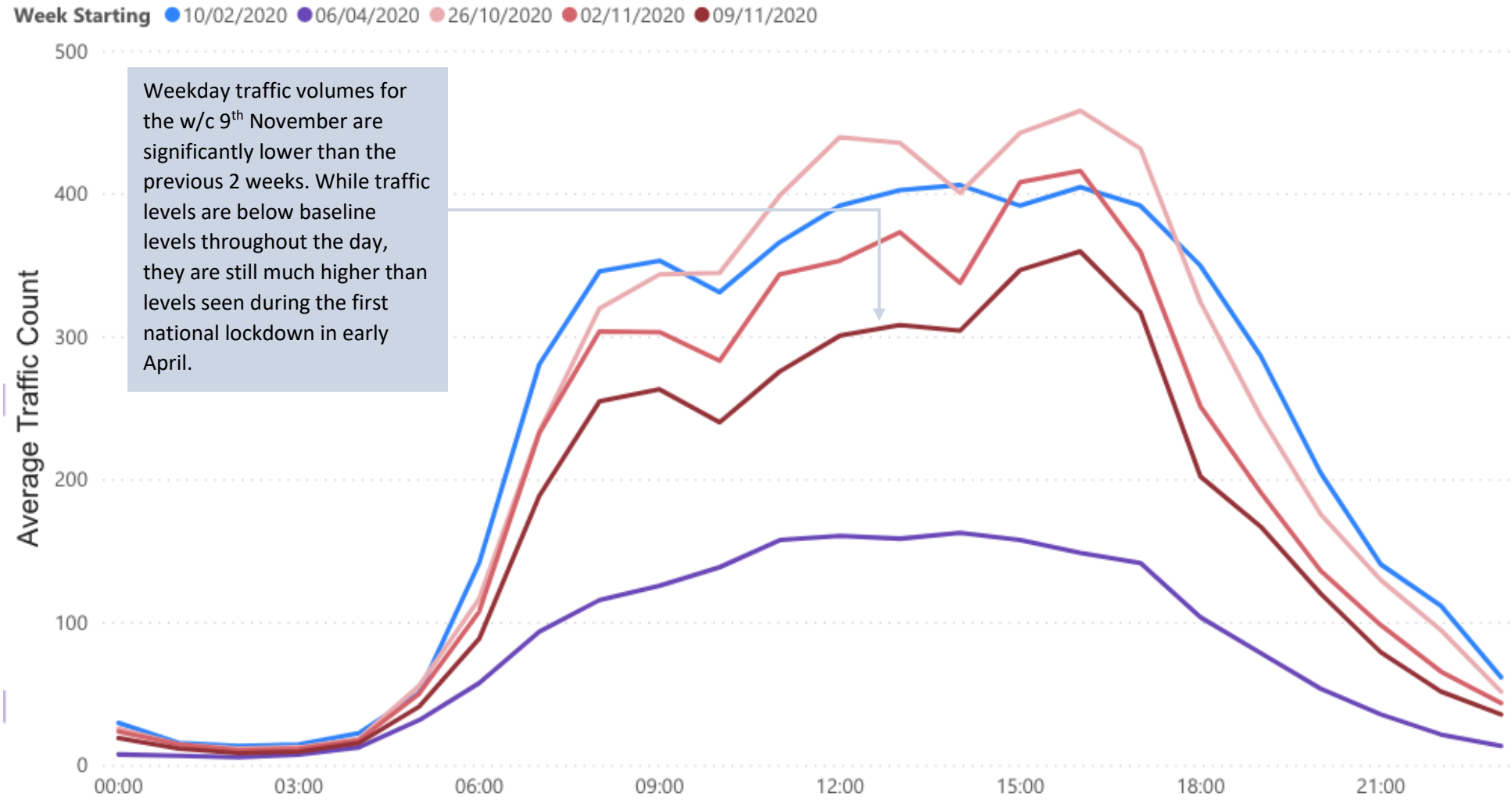


Figure 4.1: Weekday traffic volumes compared to pre-lockdown (10/02/20) and early lockdown (06/04/20) across all datasets. Note- this may not reflect the patterns observed in Figures 1 and 3 as the hourly average is calculated at sensor level, not Local Highway Authority (LHA) level.

Figure 4.2 – Overall comparison of average hourly weekend traffic by week

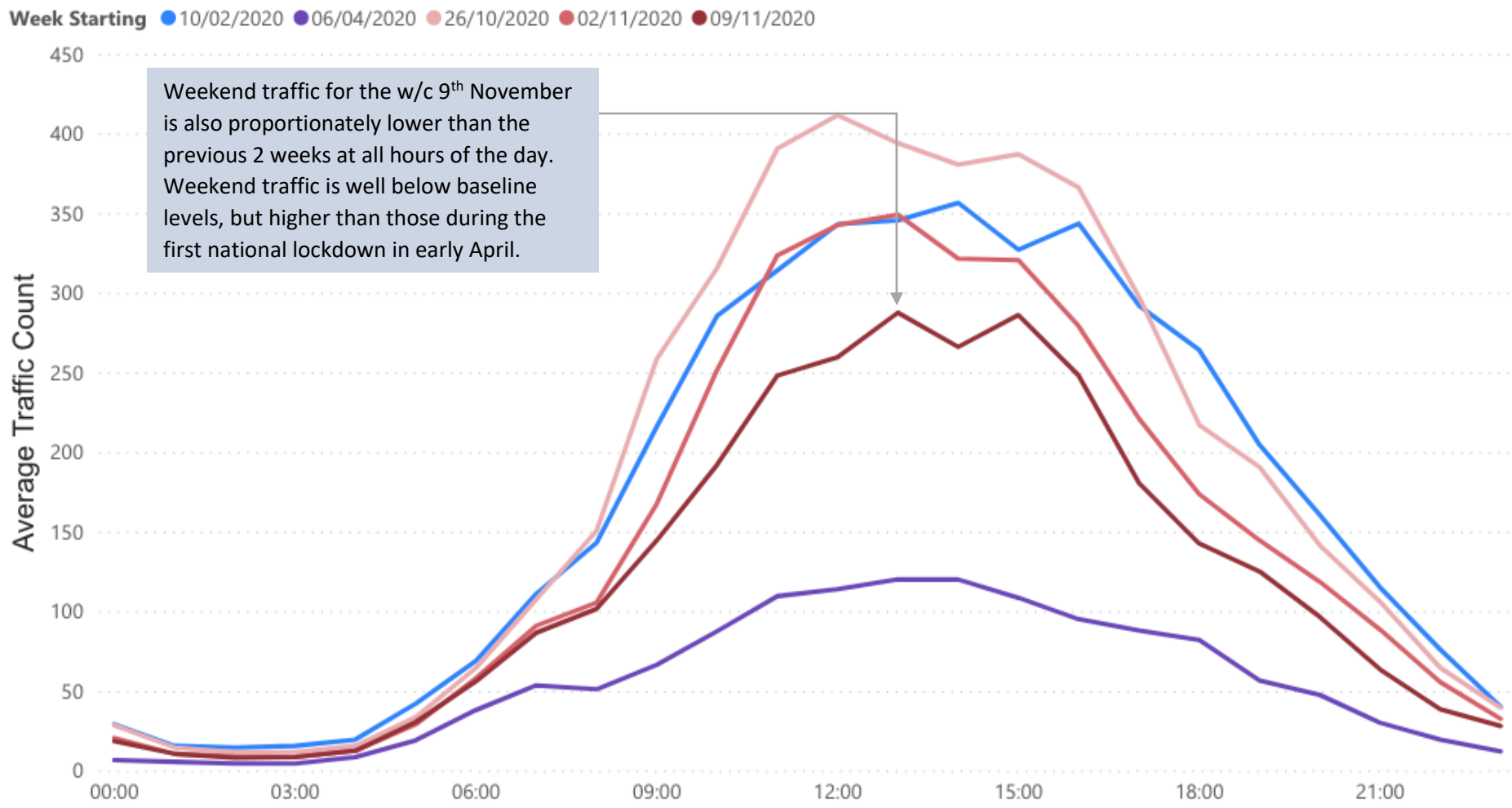


Figure 4.2: Weekend traffic volumes compared to pre-lockdown (10/02/20) and early lockdown (06/04/20) across all datasets

Figure 5.1 – Overall weekday change in traffic flows by vehicle class

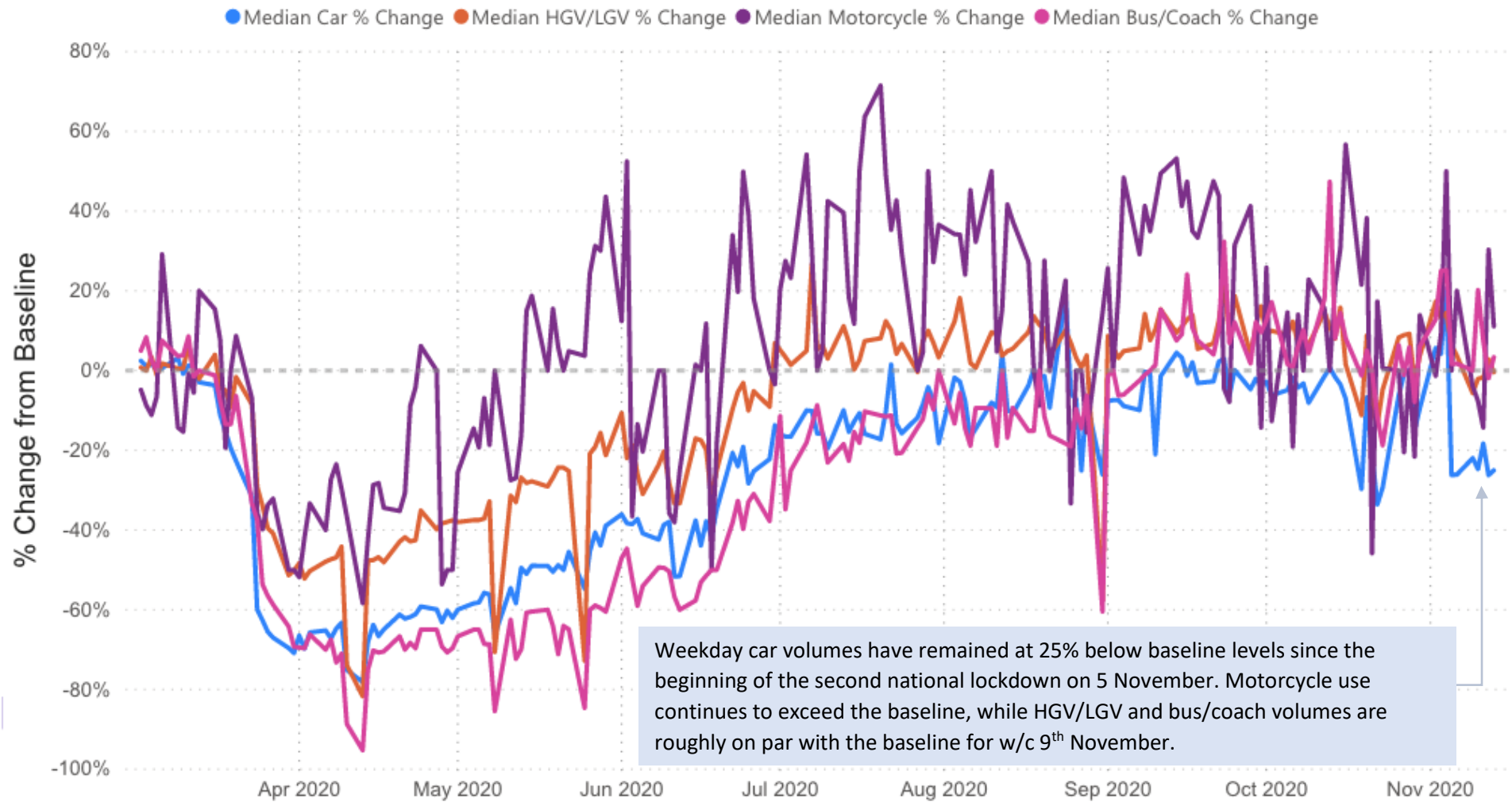


Figure 5.1: Change in average vehicle trips by vehicles class where available in the source dataset (note this data is measured at sensor level so sources with large numbers of sensors will have a greater contribution to the average)

Figure 5.2 – Overall weekend change in traffic flows by vehicle class

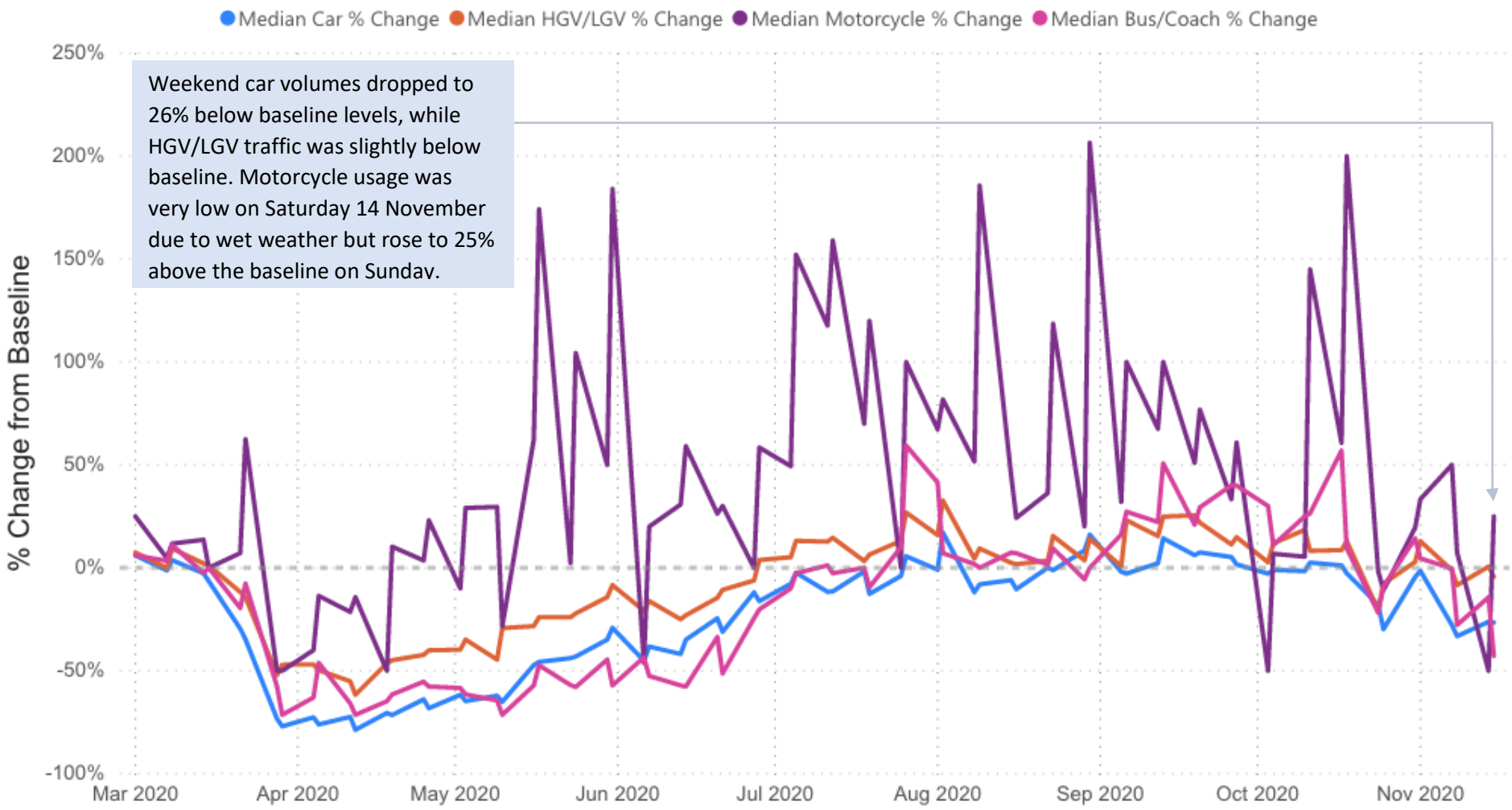
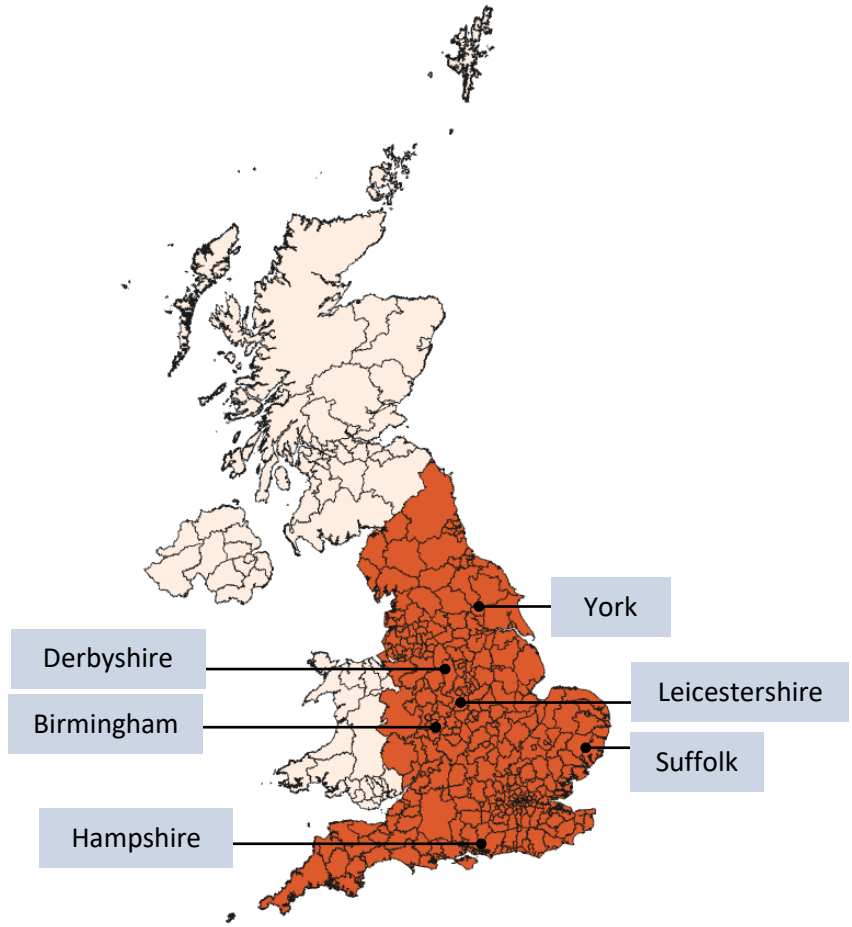


Figure 5.2: Change in average vehicle trips by vehicles class where available in the source dataset (note this data is measured at sensor level so sources with large numbers of sensors will have a greater contribution to the average)

Figure 6 – Map of national lockdown and focus areas in England (updated 10/11/20)

In this section of the report, we examine 5 local areas: Birmingham, Derbyshire, Hampshire, Leicestershire, Suffolk and York. They provide a good geographic spread of areas for comparison.



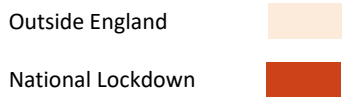


Figure 6: Tiered local COVID-19 restrictions in England. Data has been provided by:

- *Birmingham City Council (tier 1>2 14/20/20)*
- *City of York Council (tier 1>2 17/10/20)*
- *Suffolk County Council (tier 1)*
- *Hampshire County Council (tier 1)*
- *Derbyshire County Council (tier 1>2 31/10/20)*
- *Leicestershire County Council (tier 1 – excludes city of Leicester)*

https://www.gov.uk/guidance/local-covid-alert-levels-what-you-need-to-know/

Figure 7 – Change in daily average weekday traffic flow across a sample of Local Highway Authorities

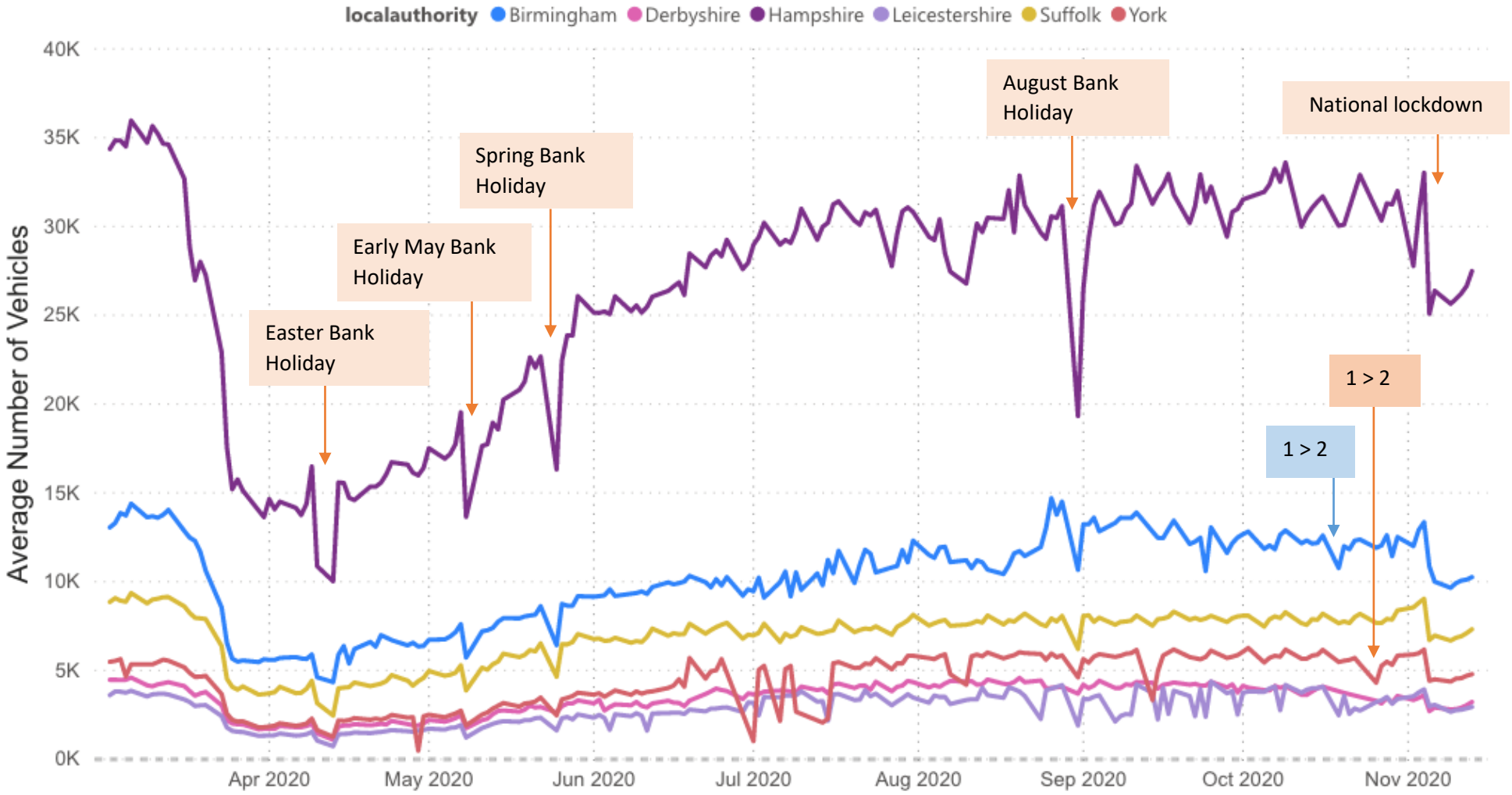


Figure 7: Change in daily average weekday traffic volumes for a selection of local authorities since 01st March compared to the baseline (first week of February 2020).

Figure 8 – Weekday traffic volumes for a selection of local authorities

Comparing pre-lockdown (10/02/20), with early lockdown (06/04/20) and recent weeks

Figure 8a: Birmingham

Figure 8b: Derbyshire

Figure 8c: Hampshire

Figure 8d: Suffolk

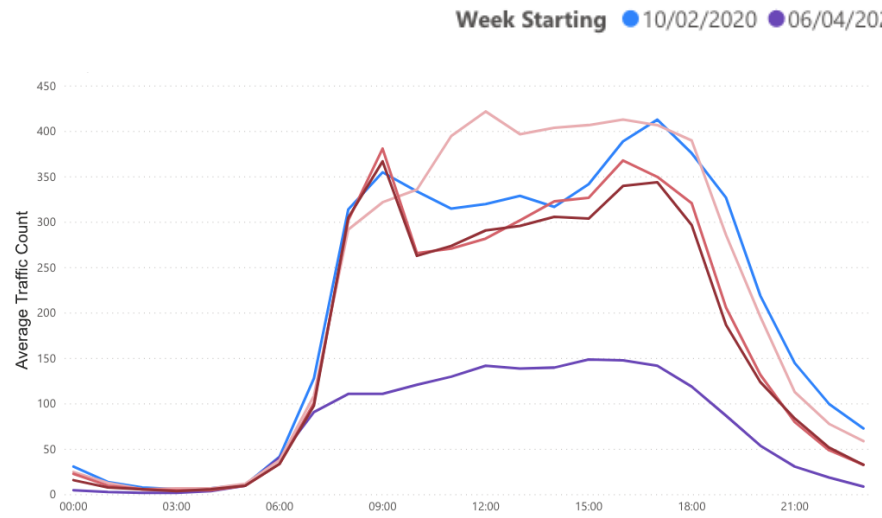


Figure 8e: City of York

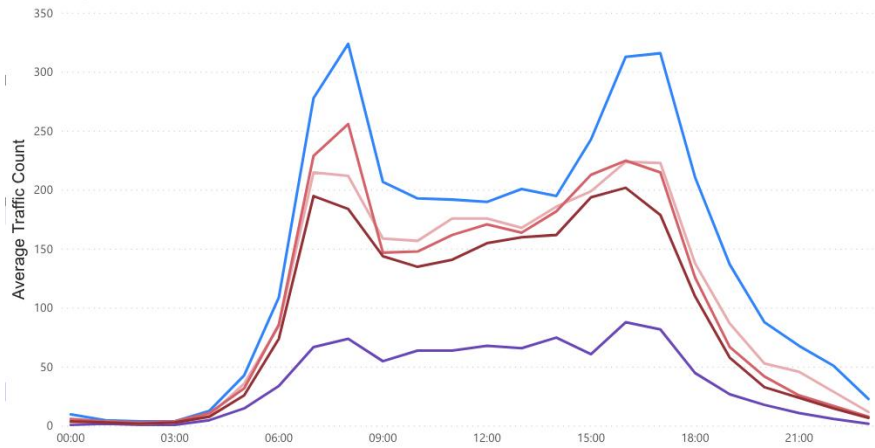


Figure 8f: Leicestershire (excluding Leicester)

Local Highway Authority analysis shows the differences between emerging traffic patterns across the country.

- In Birmingham (8a), weekday traffic levels for the week commencing 9th November have shown little change during the AM peak compared to previous weeks, but have shown significant decrease during the PM peak.
- In Derbyshire (8b), traffic levels are on par with levels during the week commencing 2 November and have remained below baseline levels at all hours of the day.
- In Hampshire (8c), traffic levels are also similar to the previous week's levels with a slight decrease around 15:00.
- In Suffolk (8d), traffic volumes are still below baseline levels during the interpeak and PM peak and are on par with the previous week's levels.
- In the City of York (8e), traffic flows were on par with baseline levels during the AM peak, but remained below the baseline during the interpeak and PM peak period, similarly to the previous week.
- In Leicestershire (8f), weekday traffic flows saw a slight decrease overall, especially during the AM and PM peaks when compared to the previous week. Levels remain below the baseline.

Figure 9 – Overall average daily cycling change from baseline

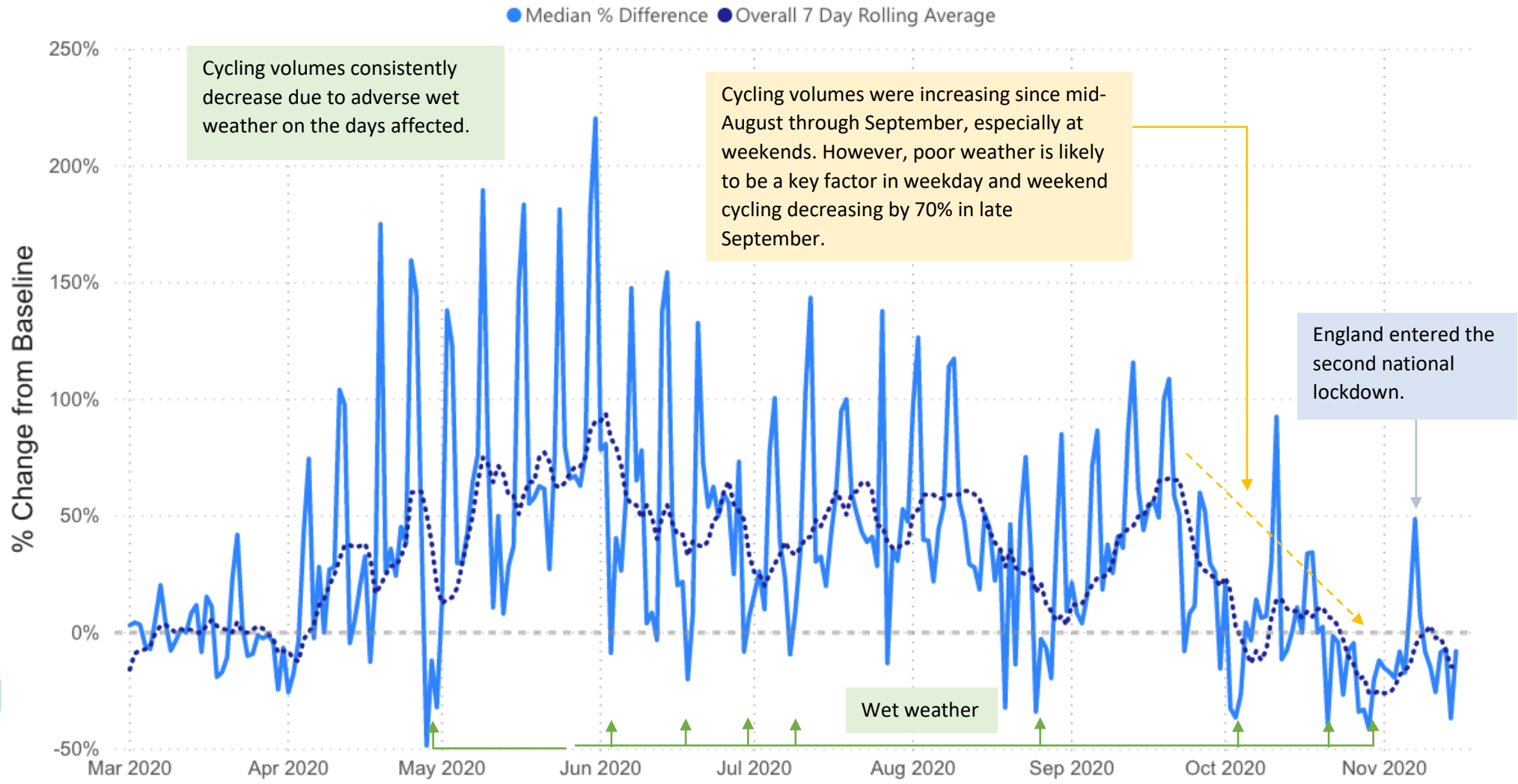


Figure 9: Change in average daily cycling volumes since 01st March (start of lockdown) across all sources compared to the baseline (first week of February 2020)

Figure 10.1 – Overall weekday hourly cycling comparison by week

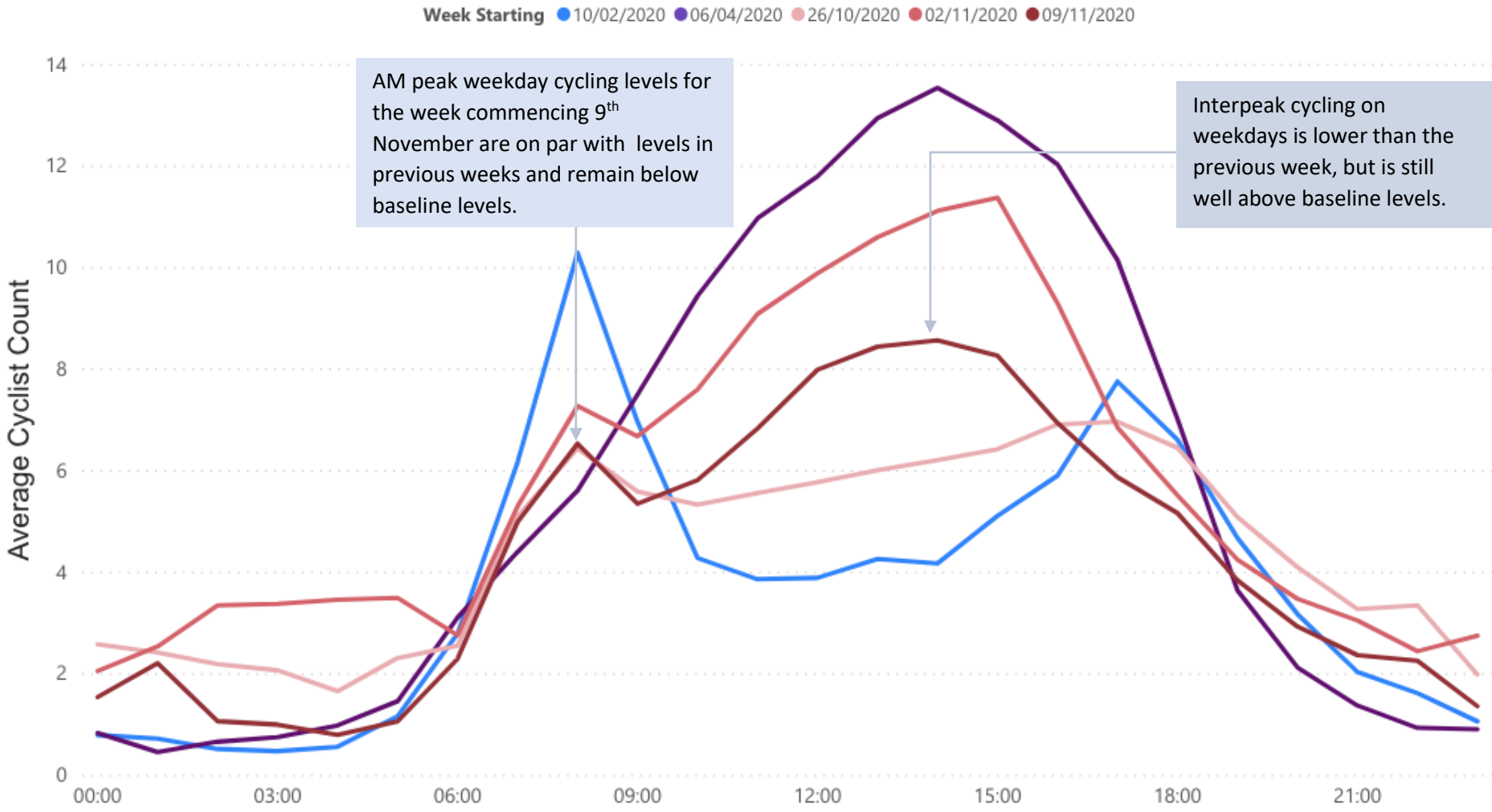


Figure 10.1: Change in average weekday (mean) hourly cycling volumes comparing pre-lockdown (10/02/20) with early lockdown (06/04/20) and the latest three weeks.

Figure 10.2 – Overall weekend hourly cycling comparison by week

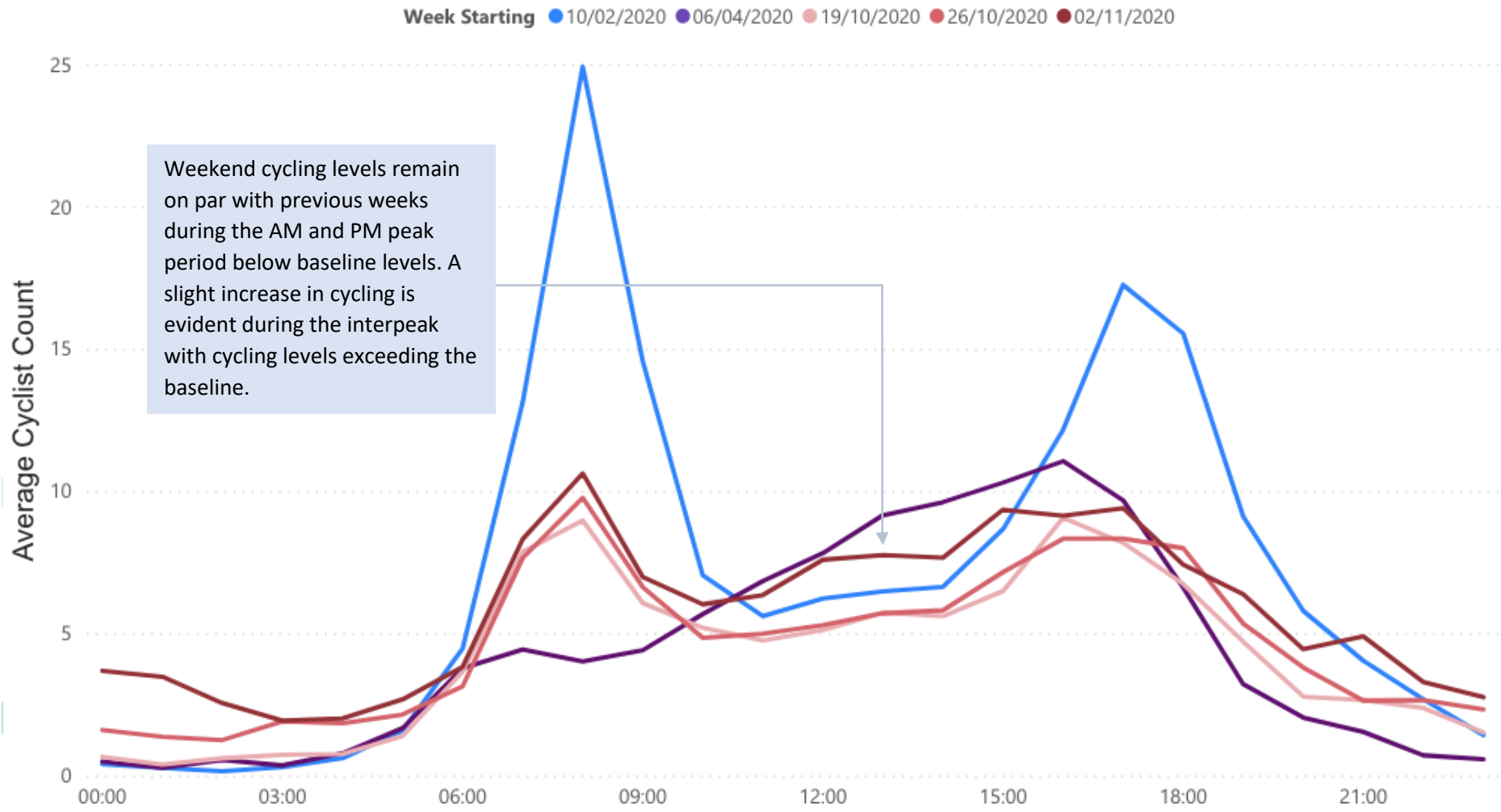


Figure 10.2: Change in average weekend (mean) hourly cycling volumes comparing pre-lockdown (10/02/20) with early lockdown (06/04/20), the latest week (12/10/20) and the latest three weeks.

Figure 11 – Comparing the first and second national lockdowns

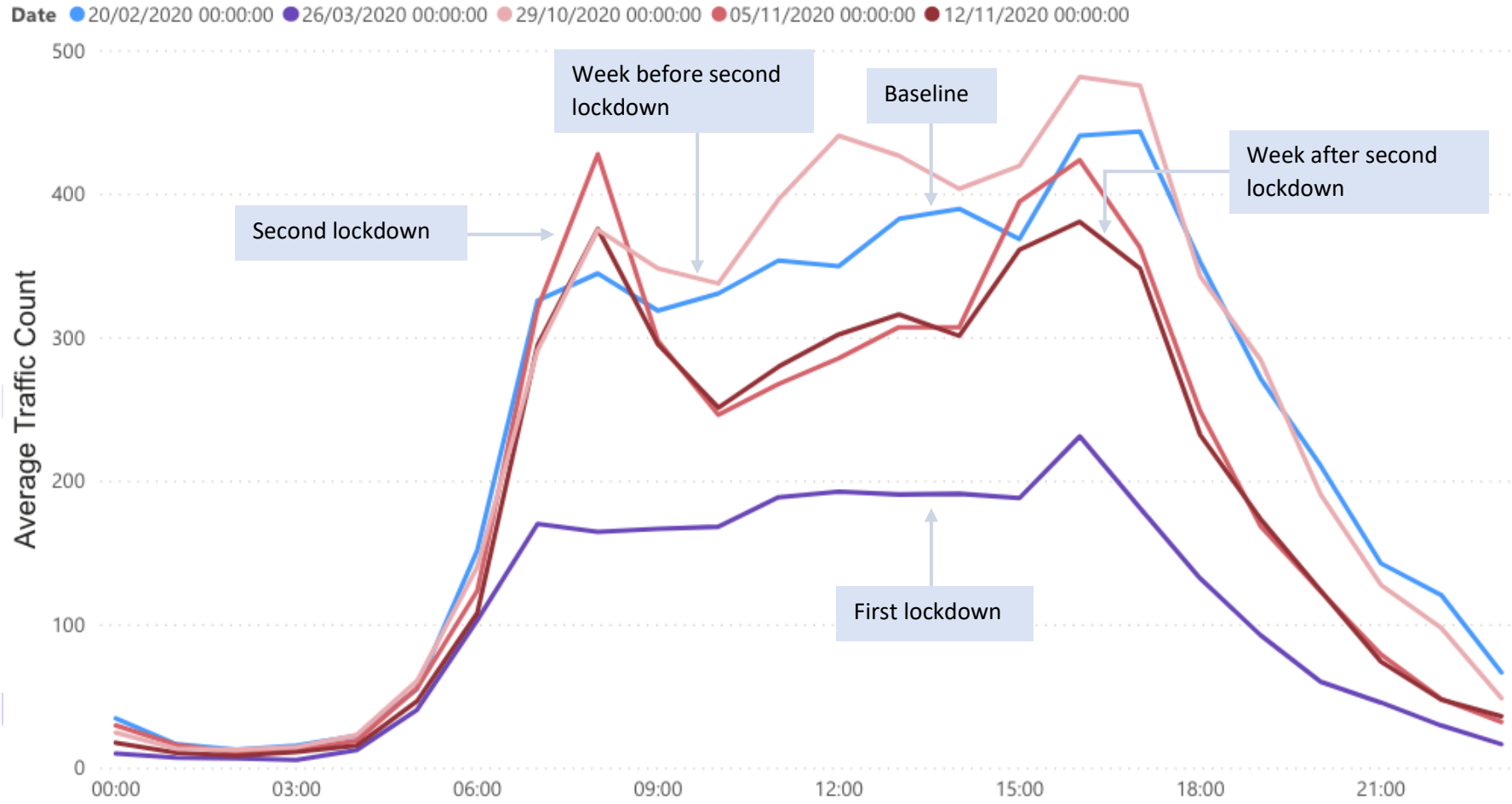


Figure 11: Hourly average traffic flows comparing the first day of the second national lockdown (5 November) to the previous Thursday (29 October), subsequent Thursday (12 November), first lockdown Thursday (26 March) and pre-lockdown Thursday (20 February).

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 (with the exception of Figures 10.1 & 10.2 which are a mean average)

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 4th 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	
05/10/2020	England goes into second National Lockdown

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.