

ReLondon

COVID-19 commercial waste adaptation

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Assessment of the future impact of COVID-19 on commercial waste in London

A study predicting the impact of COVID-19, and associated government restrictions and interventions, on commercial waste volumes and composition in London.

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Content was informed through various interviews with representatives from the following organisations:

- London boroughs of Bexley, Hackney, Lambeth, Hillingdon, Tower Hamlets and Islington
- Private waste contractors: Paper Round (BPR Group), Suez and Veolia

ReLondon

We are a partnership of the Mayor of London and the London boroughs to improve waste and resource management and transform the city into a leading low carbon circular economy.

¹ Chrissy Batty, Orlaith O'Byrne and Peter Jones

² Sarah Craddock and Antony Buchan

Table of contents

Executive summary	4
1. Background	9
2. Impacts to date	11
2.1. Local authority interviews	11
2.2. Private waste contractor interviews	14
3. The months ahead	15
3.1. Future impacts.....	15
3.2. Long-term trends	18
4. Sectoral recovery patterns	21
4.1. 'Other services'.....	22
4.2. Accommodation and food services.....	23
4.3. Arts and entertainment (other services).....	24
4.4. Non-essential, instore retail (retail and wholesale).....	25
4.5. Food retail (retail and wholesale)	27
4.6. Online retail (retail and wholesale).....	27
4.7. Food and drinks manufacturing	28
5. Impact on commercial waste arisings	29
5.1. Baselineing.....	29
5.2. Modelling results.....	31
6. Conclusions	34
7. Appendices	36
7.1. Appendix 1.....	36
7.2. Appendix 2.....	37
7.3. Appendix 3.....	38

Executive summary

This report presents evidence of the immediate impact on the commercial waste sector in London, in terms of volume and composition, of measures implemented as a result of COVID-19. It then makes informed predictions on the implications of the government's recovery road map³ for the commercial waste sector.

Commissioned by ReLondon, and compiled by Eunomia Research & Consulting Ltd, this report is an update to the impact report published by ReLondon in October 2020⁴. All references and findings are correct at the time of report completion (25th March 2021). COVID-19, and the response to it, has led to an ever-changing situation. This report incorporates as many restrictions and interventions as possible at the time of writing, however subsequent changes may alter the impact on commercial waste.

The report summarises the predicted ongoing impact that the vaccine programme, the government's recovery roadmap, and Budget 2021 are anticipated to have in regard to different business sectors and business sizes. This information is used to estimate how businesses in different parts of the capital may be affected and give insight into business types that may be more resilient to the negative economic impacts of COVID-19.

This report aims to help local authorities in London to understand the longer-term impact of COVID-19 on commercial waste tonnages and composition within their boroughs, as such findings are tailored for local authorities. It is also aimed at regional and central government to support the development of wider economic recovery strategies.

COVID-19 impacts to date

Both local authorities and private waste contractors (PWCs) reported that businesses appear to have been more resilient to the third national lockdown than the first two, adapting their operations to enable them to remain open within government guidelines. Despite this, commercial waste volumes were lower in 2020/21 compared to 2019/20, with food and paper/card services being particularly impacted.

London local authorities have reported their commercial waste volumes dropped between 35% and 50% throughout 2020/21 compared to 2019/20. However, PWCs, when comparing quarter four of 2020/21 to pre-COVID-19 commercial waste volumes, reported their tonnages had fallen by less, dropping by between 11% and 35%. Despite this disparity in changes to tonnages, both local authorities and PWCs were worst impacted in areas where they service large amounts of office-based customers, as well as businesses who rely on trade from office workers – primarily inner London boroughs.

Although waste tonnages have fallen, local authorities have seen customer contract numbers remain stable when comparing February 2021 to pre-COVID-19 levels. Where businesses have closed down these contracts have been lost, but they have been replaced by new business being won from PWCs who have been less able to service the changing needs of their customers during this period. Local authorities have taken individual approaches to handling

³ <https://www.gov.uk/government/publications/covid-19-response-spring-2021/covid-19-response-spring-2021-summary>

⁴ <https://relondon.gov.uk/resources/report-adapting-commercial-waste-services-to-covid-19>

customer service changes, contracts, and invoicing and payment terms during COVID-19. Across London, local authorities are continuing to adapt their services and are offering flexibility to meet the needs of their customers.

The months ahead

This report assumes that the government's road map (outlined in section 3.1.1), published on 22nd February 2021, will be realised. The roadmap depends largely on the vaccine programme continuing as planned. There are several other factors that could also impact on business recovery:

- Availability of government financial support
- New COVID-19 variants
- Uptake of the vaccine
- Consumer behaviour
- Home working patterns
- Unemployment rates

Sectoral recovery patterns

The impact of COVID-19 on businesses varies by sector. Some business sectors such as online retail, digital entertainment and essential retail have performed much better than others such as office property, accommodation and food services, and non-essential retail. Overall, businesses have been more resilient to the third national lockdown than to the first two. A summary of the predicted recovery for each sector is below.

'Other services' ⁵	Many businesses in this sector can re-open from 12th April 2021 but with restrictions in place until June 2021. Businesses will be operating at limited capacity, or may decide it is not worth re-opening until all restrictions are lifted.
Accommodation and food services	Recovery for hospitality establishments will be weather dependent when they are permitted to open for outdoor service from 12th April 2021. Businesses that have less outdoor space may experience a slower recovery, potentially impacting inner London businesses more than those in outer London. Business activity will increase further in May 2021 when limited indoor dining is permitted, and again in June 2021 when all restrictions are lifted. Accommodation opening between April 2021 and May 2021 will likely still see lower than normal occupancy levels due to continued restrictions on international travel, in turn impacting on the wider hospitality industry.

⁵ 'Other services' include businesses such as nail bars, hairdressers, estate agents, banking and insurance services, and computer and I.T services.

Arts and entertainment	These businesses will be unable to operate at full capacity until June 2021, and for many it will not be commercially viable to operate at a limited capacity when permitted to do so from 17th May. The West End arts and culture sector is predicted to remain 10% smaller in 2024 than it was in 2019 without further government support ⁶ , the impact of which would be felt by businesses that rely on trade from arts and entertainment customers.
Non-essential, instore retail	This sector is unlikely to recover to pre-COVID-19 levels, as many large brands have gone into administration or closed their physical stores.
Food retail	During lockdowns growth has been seen across all business sizes within this sector. However, it is expected that food retail sales will fall by 1.6% ⁷ , returning to pre-COVID-19 levels, once the hospitality sector re-opens and consumers are able to eat out more.
Online retail	As restrictions from the third lockdown are eased, it is predicted that there will be a fall in the percentage share of online sales as a proportion of total retail sales. Despite this drop, online sales will still account for a larger share of total retail sales when compared to 2019.
Food and drinks manufacturing	Overall this sector has been mostly unaffected, however recovery will vary depending on the business type. Those that provide food for offices are likely to recover at a slower rate than those who provide food for retail.

Impact on commercial waste arisings

A baseline, using existing data estimates, has been developed to estimate the total commercial waste arisings in each borough⁸ for 2019/20. To produce a commercial waste forecast for 2021/22, future sector-specific and borough-specific COVID-19 impact factors have been applied to this baseline. There are limitations to the data set that informs the baseline, and several assumptions have been made around business numbers by sector. As such, all results should be taken as indicative rather than as precise.

The model applies a waste reduction factor based on economic predictions for each sector. Changes to composition have been provided as commentary, rather than modelled, as data on impacts of specific waste streams is not available.

⁶ https://www.london.gov.uk/sites/default/files/caz_economic_future_emerging_findings_update15022021.pdf

⁷ Centre for Retail Research (Jan 2021): <https://www.retailresearch.org/retail-forecast.html>

⁸ This refers to total commercial waste tonnage produced within a borough, not commercial waste that is collected by the local authority.

Commercial waste volumes in London are expected to be lower for all business sectors and waste types in 2021/22 than they were in 2019/20, with a predicted drop in total commercial waste tonnage of 14%. The largest tonnage decrease is expected in the 'accommodation and food services' sector which will see a drop of 119,000 tonnes, a reduction of 22%. By waste type, food will see the largest fall in tonnage of 202,246 tonnes, a 19% decrease, followed by paper/cardboard at 133,697 tonnes, an 11% decrease.

Figure I shows that most outer London boroughs will see less of an impact on commercial waste arisings than inner London ones. With the exception of Camden, all inner London boroughs will see commercial waste tonnages drop by more than 11%.

Figure I: Reduction in total commercial waste arisings by London borough, 2019/20 to 2021/22 (percentage change)



Conclusions

The research and analysis presented within this report uses the best available data to provide reasoned estimates of the impact COVID-19 will have on total commercial waste arisings across London. Local authorities in London will need to interpret the findings and apply them to their own commercial waste portfolios.

It is likely that commercial waste arisings for London will increase by 23% in 2021/22 when compared to 2020/21. However, they will remain lower than pre-COVID-19 levels, falling by 14% when compared to 2019/20. Tonnage drops range from 7% to 23% across the boroughs,

with inner London boroughs being at the higher end of this range due to the large number of businesses within them that are office based or dependent on commuters for trade. Even though commercial waste growth for London is predicted for 2021/22, it will be slow as many businesses will be unable to operate at full capacity until 21st June 2021.

Overall businesses have been more resilient to the third lockdown than the first two, finding ways to operate within government guidelines. The 'accommodation and food services' sector has adapted by some businesses moving to takeaway services, yet it has still been one of the most affected by COVID-19. All sectors could see a downturn if there is a substantial increase in unemployment, as is currently predicted⁹.

Sector impacts are likely to lead to changes in commercial waste composition about which several observations can be made:

- A substantial decrease in food and glass arisings in areas of high business concentration is due to a decline in activity in the hospitality and food sector;
- Cardboard volumes have fallen from non-essential, in-store retail businesses. However, this has been offset to some extent by increased cardboard in the essential retail sector;
- Commercial waste portfolios that service a large number of offices, bars and restaurants will see significant changes to commercial waste volumes, with paper, food and glass expected to have the largest reductions in volume; and
- Volumes of PPE will increase across all sectors, although this will have minimal impact on overall commercial waste tonnages due to the low weight in comparison to other waste types.

Even though both local authorities and PWCs have faced similar difficulties throughout COVID-19, local authorities have been in a strong position to mitigate these by, for example, redirecting surplus commercial waste resources to address increased demand for household waste collections. Local authorities have continued to offer flexible services to meet the needs of their customers since the first lockdown in March 2020, allowing them to not only retain existing customers but win new customers as well.

⁹ Economic and Fiscal Outlook: <https://obr.uk/>

I. Background

This report is an update to 'COVID-19 commercial waste adaptation: Assessment of the future impact of COVID-19 on commercial waste in London'¹⁰, published by ReLondon in October 2020.

The COVID-19 pandemic has had a profound impact on many businesses in London. Bars and restaurants have had to close; offices have stood empty; and people have moved many of their purchases online. The aim of the 2020 report was to help local authorities understand the extent to which COVID-19 would have a longer-term impact on total commercial waste tonnages arising in each borough and commercial waste composition.

At the time of the publication of the original report in October 2020, COVID-19 cases were low, and the direction of travel appeared to be towards a gradual reopening of the parts of the economy worst affected by the pandemic. Since then, there have been further waves of COVID-19 and associated restrictions, as outlined in Figure 2, resulting in further disruption to business. However, the roll out of the vaccination programme is now well underway, which means that a new recovery trajectory is now able to be projected.

Figure 2: London lockdown restrictions timeline

Date	Measure
26 th March 2020	Implementation of first national lockdown in the UK
June 2020	Phased national reopening of schools, retail and relaxing of social distancing
July – August 2020	Phased national reopening of hospitality and indoor entertainment
22 nd September 2020	Additional national restrictions announced, taking effect 24 th –28 th September, including a ban on social gatherings of more than 6 people and a 10pm curfew for hospitality sector businesses
14 th October 2020	Three-tier system introduced, with London placed in tier 2, restricting different households from mixing indoors
5 th November 2020	A second national lockdown comes into effect
2 nd December 2020	The second national lockdown ends and London is placed in tier 2 within a new, stricter three-tier system
16 th December 2020	London is moved into tier 3
20 th December 2020	London is moved into a new tier 4 of restrictions, with much the same effect as the second national lockdown in November
6 th January 2021	A third national lockdown is implemented, with similar restrictions to March 2020
22 nd February 2021	Four-step roadmap out of lockdown restrictions announced

This updated report revisits the 2020 report to take account of the latest information including the vaccine programme, the government's recovery roadmap¹¹ from the third lockdown, and Budget 2021, which was presented to Parliament on 3rd March. This report summarises what is currently anticipated regarding differential impacts on various types and sizes of businesses. It uses this information to estimate how waste arisings in each borough

¹⁰ <https://relondon.gov.uk/resources/report-adapting-commercial-waste-services-to-covid-19>

¹¹ <https://www.gov.uk/government/publications/covid-19-response-spring-2021/covid-19-response-spring-2021-summary>

may be affected and gives insight into business types that may be more or less resilient to the negative economic impacts of COVID-19. Relevant factors are likely to include the profile of:

- Micro, small, medium and large businesses within a borough;
- The sectors of business represented within each borough (e.g. office-based businesses, food service businesses, retailers), and the extent to which they are likely to be affected by changes in working patterns; and
- The different patterns of impact on inner and outer London boroughs.

Commercial waste is an important area for local government to understand. For local authorities that collect commercial waste, it offers the rare opportunity to derive an income that can help to cut overall waste collection costs and gain better value for money from an authority's waste collection staff and assets.

COVID-19 has had a profound impact on the pattern of business activity and therefore commercial waste arisings. The effects of COVID-19 have been felt particularly in areas of high business concentration, of which London is certainly one, and this in turn has significantly reduced revenue from commercial waste collections. In the coming months, London local authorities will be looking for opportunities for growth in revenue from commercial waste collections to offset potential increased costs of operation that may have resulted from COVID-19, such as collecting higher volumes of household waste brought about by more people working from home. The aim of this updated report is to provide local authorities with a basis on which to plan their commercial waste resources, improve collection efficiency and reduce costs, as well as to identify possible opportunities for growth. This report will also help to inform central and regional government in developing their wider economic recovery strategies.

The report draws upon a range of economic data and projections, alongside commercial waste and business population data, to map out the longer-term impacts of COVID-19. The study is based on the assumption that the government's current vaccination programme milestones are achieved, and the government is able to follow their recovery roadmap published on 22nd February 2021, both of which are summarised in section 3.1.1 (Government road map). It also assumes that London continues to experience relatively low levels of COVID-19 infections. However, there is a risk that, if new and emerging variants of the virus prove resistant to the available vaccines, infection rates may rise again, resulting in delays to the recovery roadmap or the reinstatement of restrictions.

It is important to acknowledge the limitations of commercial waste data. Local figures can only be estimated using national data, which is itself heavily dependent on estimates. The data presented in this report draw on Defra waste data and surveys¹², national compositional data from WRAP¹³ and Office of National Statistics (ONS) data from the business register and employment survey (BRES)¹⁴, which gives details of business types at a high level of geographical resolution. Despite these limitations, this study represents the best current state of knowledge regarding the impact of COVID-19 on commercial waste in London.

¹² Jacobs (2010) Commercial and Industrial Waste Survey 2009 Final Report, Report for DEFRA, December 2010

¹³ Wrap (2020) National Municipal Waste Composition, England 2017

¹⁴ <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/methodologies/businessregisterandemploymentsurveybres>

2. Impacts to date

To understand how commercial waste requirements may change in the coming months information has been gathered reflecting the position at the time of writing this report. Because there is no published data on commercial waste covering 2020/21, the best source of information on impacts was waste collectors. To this end, interviews were conducted with several London local authorities and private waste contractors (PWCs) to investigate their perceptions of impacts.

2.1. Local authority interviews

Six London local authorities¹⁵ were interviewed for this project. Local authorities that provided information estimated that their commercial waste tonnage and income from commercial waste in 2020/21 was between 35% and 50%¹⁶ lower than in 2019/20. The local authorities that are seeing the slowest recovery are those with a large number of office-based businesses in their portfolio, and those with many businesses that rely on trade from workers who commute.

“Our budget income for commercial waste in 2020/21 was £3.2 million, we are projecting it to be half of that at around £1.6 million.”

Although commercial tonnages remain lower than pre-COVID-19 levels, all authorities are reporting customer numbers in February 2021 to be very similar to those of pre-COVID-19 levels. However, some customers that have continued their contracts are requesting less frequent collections or have suspended collections whilst they have been temporarily closed. Many businesses that initially suspended collections during lockdown are gradually reinstating services as they begin trading again.

Local authorities have also gained new customers including some that were previously using PWCs who have been unable to provide an adequate service during the pandemic. Some PWCs have alienated customers by continuing to charge while not providing services; a few have sold off their operations and others are facing financial difficulties, suggesting that there may be further opportunities for local authorities to attract new customers in the future.

Local authorities have seen some customers cancelling contracts due to business closures. They have found that, in addition to offices, businesses that are least likely to be reinstating services are those whose activities are difficult to conduct in compliance with social

¹⁵ London boroughs of Bexley, Hackney, Lambeth, Hillingdon, Tower Hamlets and Islington were interviewed for this updated report. Bexley, Hackney and Islington were interviewed as part of both the original report and the updated report to determine how boroughs have been affected differently by the various lockdowns. Three additional boroughs were interviewed that were not included in the original report.

¹⁶ Tonnage figures are estimates as many local authorities co-collect commercial waste and household waste and therefore do not have exact commercial waste tonnages.

distancing requirements, or which rely on tourism, such as:

- Nail bars;
- Tanning shops;
- Small independent retailers;
- Small independent hospitality sector businesses; and
- Hotels.

Whilst PWCs elected to furlough staff or run operations at a loss, local authorities were able to redirect surplus commercial waste resources to address increased demand for household waste collections. In addition, some local authorities are gaining new customers through their direct marketing campaigns and cold calling potential new customers.

The local authorities interviewed reported a range of policies regarding invoicing which, through conversations with a wider range of boroughs, appears to be representative of the diverse of approach across London. The range of different approaches include:

- Continuing to invoice customers if they have not notified the local authority that they no longer require a collection;
- Cancelling invoices where businesses are not trading, even if they have not notified the local authority; and
- Being proactive in surveying their customers to establish whether they still require a service through contacting customers directly, whether via telephone or through collection crews.

One local authority, with the policy to cancel invoices even if the customer had not informed the council they no longer needed a collection, reported that a lack of resources prevented them from undertaking any monitoring activity. This was resulting in extra work for the commercial waste team in dealing with complaints and cancelling invoices, impacting further on their already stretched staff.

While contract cancellations may have been few, many customers have asked for less frequent collections. Local authorities are adapting services by changing invoice periods and offering flexible services whereby customers can request ad hoc collections when they are required, to accommodate the evolving needs of businesses.

All local authorities are reporting businesses in general have been more resilient to the third national lockdown than to the first two. Businesses have adapted to enable them to operate under government restrictions and in COVID-19 safe environments.

“Many of our customers are now offering click and collect retail or takeaway food and drink services which has allowed them to continue trading throughout the January lockdown.”

People are continuing to shop more locally to where they live, which has benefitted boroughs with a higher proportion of residential properties, but boroughs that rely heavily on custom from commuters are seeing a slower recovery in trading. Some businesses that were forced

to close at the beginning of the first national lockdown, such garden centres, have been permitted to remain open during the third lockdown.

According to the most recent ADEPT (The Association of Directors of Environment, Economy, Planning and Transport) survey¹⁷ of local authorities available at the time of writing (1st March 2021) all respondents said their commercial waste service was operating normally. This demonstrates less disruption is being caused by the third lockdown than was caused by the first. In the equivalent survey carried out towards the end of in August 2020, 26% of respondents reported minor disruption to their commercial service (Figure 3). However, whilst more local authorities were reporting no impact on tonnages of commercial waste in the third lockdown compared to the first, a greater number were reporting significant decreases in tonnage: 51% claimed to have seen a decrease of between 20 and 100% in March 2021 (Figure 4).

Figure 3: ADEPT local authority waste survey – service disruption

Survey date	Operating normally	Minor disruption	Moderate disruption	Severe disruption	Service not available
3 rd August 2020	74%	26%	0%	0%	0%
1 st March 2021	100%	0%	0%	0%	0%

Figure 4: ADEPT local authority waste survey – changes in commercial waste arisings

Survey date	+100% increase	50 – 100% increase	20 – 50% increase	0 – 20% increase	No impact	0 – 20% decrease	20 – 50% decrease	50 – 100% decrease
3 rd August 2020	0%	0%	0%	0%	20%	55%	23%	2%
1 st March 2021	0%	0%	0%	0%	33%	16%	47%	4%

During interviews conducted for this report, some local authorities reported that they were experiencing significantly more staff absences due to sickness and self-isolation during January and February 2021 than in the first two lockdowns.

All local authorities interviewed were reporting a reduced demand for food waste collections due to pubs and restaurants being closed or due to them operating with a limited and/or takeaway only service. Paper tonnages are also significantly reduced, mainly due to the reduced occupancy or closure of offices. Local authorities reported the drop in commercial waste arisings was consistent across both dry mixed recycling and refuse collections.

¹⁷ <https://www.adeptnet.org.uk/system/files/documents/ADEPT%20Waste%20Survey%2019%20WC%20010321.pdf>

2.2. Private waste contractor interviews

PWCs¹⁸ were interviewed to seek their perspective on how they have been affected by COVID-19. Interviewees reported that, in quarter four of the 2020/21 financial year, they were collecting commercial waste tonnages between 11% and 35% of pre-COVID-19 levels.

The pattern of activity was similar to that reported by local authority interviewees. The lowest tonnages were reported in central locations where offices and hotels were producing almost no waste. The biggest drop in tonnage was reported by a contractor collecting mainly in Westminster, where closed offices, retailers, and hospitality businesses meant very little waste was generated. Higher commercial waste tonnages were reported in less central, more residential boroughs such as Camden and Islington. This suggests a higher footfall and more essential businesses remaining open and trading.

Also mirroring reports from local authorities, PWCs have noticed certain businesses being more resilient to the third lockdown, with bars, restaurants, and coffee shops being able to provide takeaway food and drinks, and offices having more robust health and safety protocols in place, allowing some to remain open, albeit at a lower occupancy than usual.

Due to less strictly defined criteria for who is classed as a 'critical worker', more children were able to attend school during the third lockdown. Government figures showed that in the third lockdown around five times more pupils were attending state primary and secondary schools than in the first lockdown¹⁹, which allowed more employees to remain in the workplace. This resulted in a less significant drop in waste from businesses in the third lockdown.

PWCs and local authorities both reported that the efficiency of commercial waste rounds has been detrimentally affected due to broadly pre-COVID-19 levels of resources being required to collect significantly less waste.

To help businesses adapt to restricted trading, PWCs, like local authorities, have been offering ad hoc, flexible services as and when customers need a commercial waste collection. This is now becoming an expectation and some customers are not requesting to return to regular collections. This revised service expectation may make services less profitable in the future and may adversely affect waste collectors that are less able to offer flexibility.

In general, PWCs are expecting an immediate rise in waste levels from hospitality and entertainment businesses when they are permitted to re-open from 12th April 2021. The waste received from offices is expected to increase more gradually, perhaps never reaching 100% of pre-COVID-19 levels due to changes in working patterns. One PWC stated that they expected to see a permanent drop in total commercial waste tonnages of around 15%. PWCs also reported that, with the closure of flagship shops in central London, they are anticipating reduced waste levels from retail customers, and expect that by October 2021 waste arisings will plateau below pre-COVID-19 levels.

¹⁸ Paper Round (BPR Group), Veolia and SUEZ

¹⁹ <https://explore-education-statistics.service.gov.uk/find-statistics/attendance-in-education-and-early-years-settings-during-the-coronavirus-covid-19-outbreak/2021-week-3>

3. The months ahead

For the purposes of this report, it is assumed that the government’s roadmap out of lockdown²⁰, published on 22nd February 2021, will be realised. This road map depends heavily on the vaccine programme continuing as planned, on vaccines being effective in driving down case numbers and deaths²¹, and on no new variants of the virus creating unforeseen impacts.

To help predict commercial waste arisings in London over the coming months, possible scenarios for the recovery of key sectors in London have been projected, based on the predictions of economists.

3.1. Future impacts

3.1.1. Government road map

Figure 5 sets out the planned roadmap for recovery in the UK if infection rates remain low and the vaccine programme targets are met. The uncertainties around these assumptions are discussed in section 3.1.3 (New COVID-19 variants) and section 3.1.4 (Uptake of the vaccine).

Figure 5: Government road map for recovery, March – July 2021

Date	Measure	Potential impact
Before 8th March	Those aged 70 and over, and the clinically extremely vulnerable, will have received protection from their first dose of the vaccine.	
8 th March	Schools, colleges and practical Higher Education courses open.	There is a possibility of a spike in cases, especially among young people who have not been vaccinated. This could mean a delay to subsequent lifting of restrictions. Mitigations for this include: regular testing of staff, twice-weekly testing of secondary school and college pupils (on-site then home testing), and face coverings recommended inside unless 2m social distancing maintained.
8 th March	Wraparound childcare ²² resumes.	Enables more parents/carers to go back into their place of work which would see an increase in activity at business premises.
29 th March	Outdoor sport and leisure facilities open.	Enables some sports, amusement and recreational activities to return to near normal activity.
2 nd – 5 th April	Easter weekend.	
12 th April	Indoor leisure centres and gyms, libraries and community centres, personal care premises, and non-essential retail open. Outdoor attractions and hospitality open.	Enables some sections of the indoor economy and more outdoor settings to reopen, restoring jobs and livelihoods. The accommodation and food services sector has been one of the hardest hit by COVID-19. Gross value added (GVA) output ²³ fell by 91% in April 2020 and by 89% in May 2020, compared to pre-COVID-19 levels. The November 2020 restrictions also hit the hospitality sector hard, with GVA falling to 65% below its pre-COVID-19 level.

²⁰ <https://www.gov.uk/government/publications/covid-19-response-spring-2021/covid-19-response-spring-2021-summary>

²¹ COVID-19 deaths and hospital admissions are falling at a faster rate for over-80s than under-80s, suggesting the vaccine is starting to push numbers down (<https://coronavirus.data.gov.uk/>)

²² Care provided by schools outside of normal school hours

²³ A measure of the value of goods and services produced in a given industry

		This sector has also had large parts of its workforce on furlough ²⁴ . Between 25 th January and 7 th February 2021, 62% of businesses in accommodation and food services had paused trading.
12 th April	Self-contained accommodation opens. Domestic overnight stays are allowed (household only).	An increase in domestic tourism and business trips could mean increased revenue for outdoor attractions, hospitality, and hotels.
15 th April	Those aged 50 and over, and other at-risk groups, will have received protection from their first dose of the vaccine.	
17 th May	Indoor entertainment, attractions and hospitality open. Remaining outdoor entertainment, including performances resume.	GVA output in the arts, entertainment and recreation sector, as a whole compared to February 2020, fell by 46% in April 2020, and to 33% in November 2020. Since March 2020, output has not risen above 77% of pre-COVID-19 levels. The sector as a whole has also had a high take-up of the furlough scheme, with 455,000 furloughed at peak in spring 2020, and 293,000 furloughed at the end of November 2020. Between 25 th January and 7 th February, 44% of businesses in the arts, entertainment and recreation sector have paused trading. Reopening these sectors will allow these businesses to recover revenues and bring back employees.
17 th May	Remaining accommodation opens. Domestic overnight stays allowed.	Further increase in domestic tourism and business trips.
17 th May	International travel (subject to review).	International travel and tourism are an important part of London's economy, supporting jobs in hospitality, retail and arts and entertainment attractions.
Mid-May	Those aged 70 and over, and the clinically extremely vulnerable, will have received protection from their second dose of the vaccine.	
2 nd June	All legal limits on social contact removed.	Nightclubs and larger events open, meaning increased revenue for these sectors. An expected return to office working will bring business activity back to the city but at a lower level than pre-COVID-19.
July	Those aged 50 and over, and other at-risk groups, will have received protection from their second dose of the vaccine.	

3.1.2. Government support

The recent Budget announcement included new funds and extensions to the broad measures in place to support businesses during the pandemic. The furlough scheme was extended to September 2021²⁵. This means furlough will extend past the expected lifting of all restrictions in June 2021, giving businesses a chance to recover revenues over the summer. Schemes that have been introduced or extended to help businesses cope with the impact of the pandemic during lockdown, and in reopening, include:

- Cash grants for businesses affected by forced closures due to lockdown;
- Restart Grants for hospitality, accommodation, leisure, personal care and gym businesses;

²⁴ In the first wave 1.6 million jobs were furloughed; at the end of November 2020 1.1 million jobs were furloughed.

²⁵ 80% of wages will be paid until July, when it drops to 70%, with a further 10% drop in August

-
- Funding for major spectator sports, museums and other cultural organisations to return to business;
 - Several low-interest loan schemes including the Bounce Back Loan Scheme for SMEs and Coronavirus Large Business Interruption Loan Scheme (CLBILS) for larger businesses, and the Future Fund; and
 - Business rates holiday in England extended by three months.

Whilst businesses can benefit from this emergency support in the short to medium-term to recover from the immediate effects of the pandemic, the Budget also announced a rise in corporation tax from 19% to 25% for businesses making profits over £250,000. This will come into effect in 2023 and may have a negative effect on businesses in the longer-term. However, it should be borne in mind that this returns corporation tax to its level a decade ago, and economists differ in their views on whether the cut then brought about any significant increase in business activity.

3.1.3. New COVID-19 variants

There is a concern that current COVID-19 vaccines could offer reduced protection against newer strains of the virus, including those first detected in the UK, South Africa and Brazil. Current research on whether existing vaccines can protect against new variants has produced mixed results²⁶; however, it is reported that alterations can be made to existing vaccines to improve their effectiveness against new variants and new guidance suggests these tweaked vaccines can be fast-tracked into production²⁷.

Nevertheless, new variants are a threat to the government's timetable for easing lockdown and could force businesses to remain closed for longer. The fear of importing cases, and introducing new variants of concern from abroad, could also delay the return of international travel and thus impact tourism in the UK.

New variants may also lead to other countries closing borders, and therefore more UK residents may take holidays in the UK, supporting the domestic accommodation and hospitality sector.

3.1.4. Uptake of the vaccine

The government predicted that uptake of the vaccine would be around 75% based on previous vaccination programmes, but these expectations have so far been surpassed, with over 90% of over-75s and care-home residents receiving their first dose²⁸. There is, however, variation in the uptake of the vaccine depending on geography, ethnicity, and rankings of deprivation²⁹. London has the lowest number of over-70s that have received their first dose, at 85%³⁰. Barriers to vaccine uptake include low confidence in the vaccine, access issues and socio-demographic context, and lack of endorsement.

²⁶ <https://www.ft.com/content/16a2bea8-457e-4d7d-9f5b-15b3lddd89c0>;
<https://www.bmj.com/content/372/bmj.n597>

²⁷ <https://www.bbc.co.uk/news/health-56274293>

²⁸ <https://www.gov.uk/government/publications/covid-19-vaccination-uptake-plan/uk-covid-19-vaccine-uptake-plan>

²⁹ <https://opensafely.org/research/2021/covid-vaccine-coverage/>

³⁰ *ibid.*

High vaccine uptake is vital to the success of the of the vaccine programme. A lower uptake could result in further outbreaks, delaying easing of the lockdown and the government’s road map.

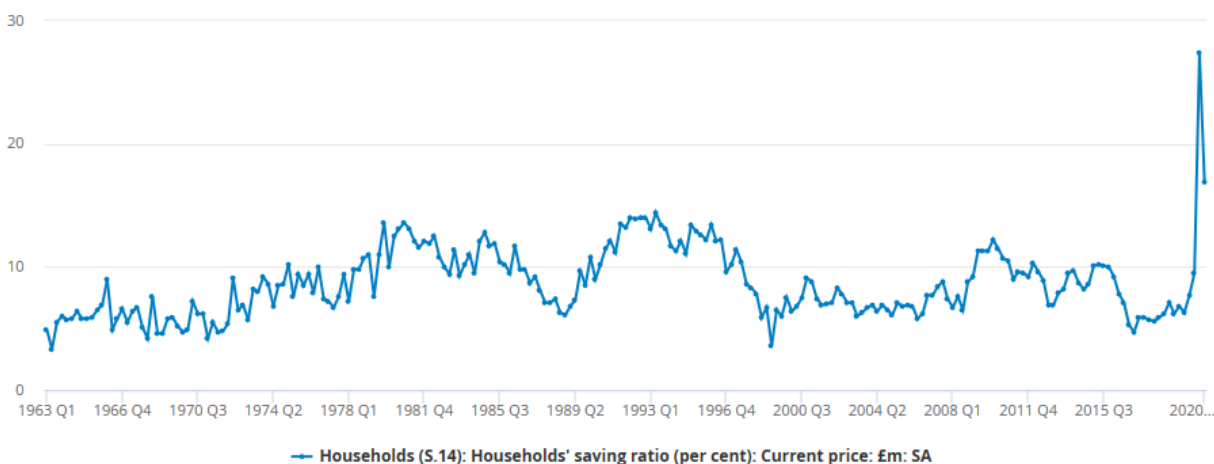
3.2. Long-term trends

COVID-19 has served to accelerate existing trends, compressing years of change into a few months, with these changes perhaps being maintained in the long-term. Online retail and working from home has risen gradually over the past decade, but surged during lockdowns. The duration of lockdown restrictions, and the unexpected benefits that have materialised, suggest that many of the new trends in local shopping, home working, and online services and retail will persist beyond the pandemic.

3.2.1. Consumer behaviour

It is likely that, if infection rates remain low as restrictions are lifted, the public will quickly feel safe to visit such places as hospitality, entertainment venues and shops. The popularity of the Eat Out to Help Out scheme at the end of the first lockdown in 2020 is indicative of a willingness to ‘get back to normal’. The Bank of England’s chief economist, Andy Haldane, describes the economy as being like “a coiled spring”. Many UK households have significantly improved their finances after being forced to stay at home by the pandemic, with the household saving ratio soaring to an all-time high of 29.1% in the second quarter of 2020, according to the ONS³¹.

Figure 6: ONS UK households saving ratio³²



³¹ <https://www.ons.gov.uk/economy/grossdomesticproductgdp/timeseries/dgd8/ukea>

³² Office for National Statistics, Households (S.14): Households' saving ratio (per cent): Current price: £m: SA <https://www.ons.gov.uk/economy/grossdomesticproductgdp/timeseries/dgd8/ukea>

For some, these improved finances along with the removal of all restrictions that have been placed on consumers over the last year, could mean significant growth for many sectors in the coming months and into next year. Particular beneficiaries may be:

- Food and hospitality;
- Experiential retail³³;
- Travel and tourism;
- Arts and entertainment;
- Leisure; and
- 'Other services'³⁴.

3.2.2. Home working patterns

There is a large amount of evidence that levels of home working will remain above pre-COVID-19 levels. Major technology companies, such as Twitter and Facebook, say they are open to their staff working from home permanently. The CEO of Barclays said that putting 7,000 people in the office might be a thing of the past. Employees are coming to realise remote working is not only possible but, in some cases, preferable. Such a shift could have profound implications for London, as central London alone is home to almost a quarter of all office space in England and Wales³⁵. Increased home working will result in the decentralisation of commerce and of the hospitality sector.

It is likely that many employers will expect hybrid ways of working to become commonplace post-COVID-19. According to a recent poll by recruiter Robert Half, 89% of firms expect hybrid working, with staff split between home and office, to become permanent after the pandemic³⁶. 40% of employers said they expect more than half their workforce to work regularly from home (compared to just 15% pre-COVID-19) and 23% said that employees working from home all the time would be the norm (compared to 8% before)³⁷. Further examples of changes to home working include:

- BP has told office-based staff to work from home 40% of the time³⁸. BP staff occupy two large office spaces in London, one in St James Square, Westminster (500 staff) and one in Canary Wharf, Tower Hamlets (6 floors of the 20 Canada Square building).
- HSBC revealed it was taking advantage of the booming popularity of home working by cutting its office space by 40%.
- Lloyds announced it would slash its own office footprint by a fifth.

³³ A type of retail whereby customers coming into a physical retail space are offered experiences beyond the traditional ones such as interactive art, live music, cafés and lounges.

³⁴ 'Other services' include businesses such as nail bars, hairdressers, estate agents, banking and insurance services, and computer and I.T services.

³⁵ <https://www.statista.com/statistics/529826/office-real-estate-prime-rent-central-london-england-united-kingdom/>

³⁶ <https://www.roberthalf.co.uk/advice/industry-insights/current-labour-market-trends-uk>

³⁷ <https://www.cipd.co.uk/news-views/changing-work-views/future-work/thought-pieces/covid-19-change-work>

³⁸ <https://www.bbc.co.uk/news/business-56319623>

However, in contrast, Goldman Sachs (based in the City of London) is an example of a business that is planning to have all staff back to working in the office as soon as possible³⁹. This shows we will not know the full extent of the long-term changes to home working until the office sector is allowed to fully reopen.

3.2.3. Unemployment

Despite the introduction of the furlough scheme, redundancies are rising at the fastest rate on record. The Treasury's independent economics forecaster, the Office for Budget Responsibility (OBR), expects unemployment to hit 2.6 million towards the end of 2021, following the winding down of the furlough scheme in September 2021⁴⁰.

According to the Resolution Foundation, around 4.5 million jobs have been furloughed during the third lockdown⁴¹. They found that 8% of workers currently employed either expect to lose their jobs in the next three months, or have been told they would be made redundant. This figure rises to 21% amongst those who have been furloughed for at least six months of the pandemic. If these expectations are realised, and people are not able to find new jobs quickly, it would likely be reflected in a reduction in overall commercial activity and in the volume of waste generated – both directly, due to businesses employing fewer staff, and indirectly, because people will have less buying power.

3.2.4. Other long-term trends

Other COVID-19 related long-term trends that may have an impact of commercial waste arisings and composition are:

- Online education and home working, which will move commercial waste into the household waste stream, in particular paper and food waste;
- Increased cardboard waste, both at home and in business premises, due to businesses changing delivery methods and moving to an “Amazon” style delivery service; and
- Increased hygiene and PPE as businesses continue hygiene practices established during COVID-19.

There are numerous other trends that are outside the scope of this study that may also affect commercial waste tonnages. These include the emerging effects of Brexit on UK exports, which may affect production in some sectors⁴², and indications of a decline in population (particularly affecting London), which may lead to a decline in demand and reduced business activity⁴³.

³⁹ <https://www.theguardian.com/business/2021/feb/25/goldman-sachs-boss-wants-bankers-back-to-their-desks-asap>

⁴⁰ Economic and Fiscal Outlook: <https://obr.uk/>

⁴¹ (2021) Resolution Foundation: Long COVID in the labour market – The impact on the labour market of COVID-19 a year into the crisis, and how to secure a strong recovery

⁴² E.g. the Food and Drink Federation's UK-EU Food and Drink Trade Snapshot January 2021: <https://www.fdf.org.uk/globalassets/resources/publications/uk-eu-food-and-drink-trade-snapshot-jan-2021.pdf>

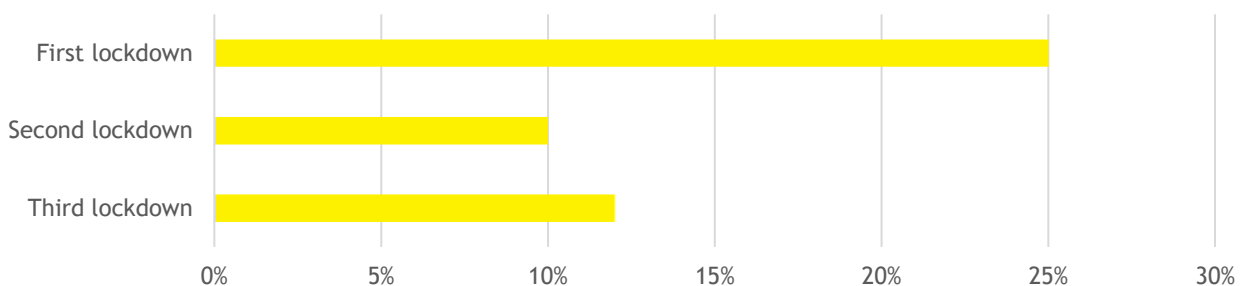
⁴³ Economic Statistics Centre of Excellence – Estimating the UK population during the pandemic, January 2021: <https://www.escoe.ac.uk/estimating-the-uk-population-during-the-pandemic/>

4. Sectoral recovery patterns

The impact on business has been very varied across sectors and business types. Lockdown restrictions have caused a ‘K-shaped’ impact⁴⁴, in which sectors like pharmaceuticals, online retail, essential retail, tech manufacturing, home goods, and digital entertainment have performed well. Meanwhile some high street retailers, office property, travel, entertainment, and accommodation and food services have suffered.

Many businesses have become more resilient to lockdown restrictions and have adapted their processes and procedures to cope with the most recent lockdown, for example through introducing click and collect retail options and providing takeaway food and drink services. Figure 7 shows the percentage of businesses closing or pausing trading was significantly lower in the third lockdown than during the first.

Figure 7: Percentage of businesses closing or pausing trading at the start of each lockdown across all sectors⁴⁵



The SME Confidence Report surveyed 3,700 SME owners across the UK to measure the impact of COVID-19 on them. It found that, in London, the pandemic will cost SMEs, on average, £17,074 each in lost work, earnings and loan repayments. This is more than £5,000 higher than the national average found by the survey, which was £11,779⁴⁶.

Forecasts by the OBR in March 2021 said the UK economy was likely to grow by 4% in 2021, slower than a forecast of 5.5% made in November 2020⁴⁷.

The discussion of business sectors below follows the sector categories used by Defra in its waste statistics, which have in turn been used in the commercial waste modelling. The modelling categories are given in brackets and the SIC codes included in each modelling category are shown in Appendix I.

⁴⁴ A K-shaped recovery is a post-recession scenario in which some segments of the economy begin to climb back upward while others continue to suffer. Shown on a line graph, the output of the two sectors would roughly resemble the two diverging diagonal lines of the letter "K".

⁴⁵ Office for Budget Responsibility (2021) Economic and Fiscal Outlook

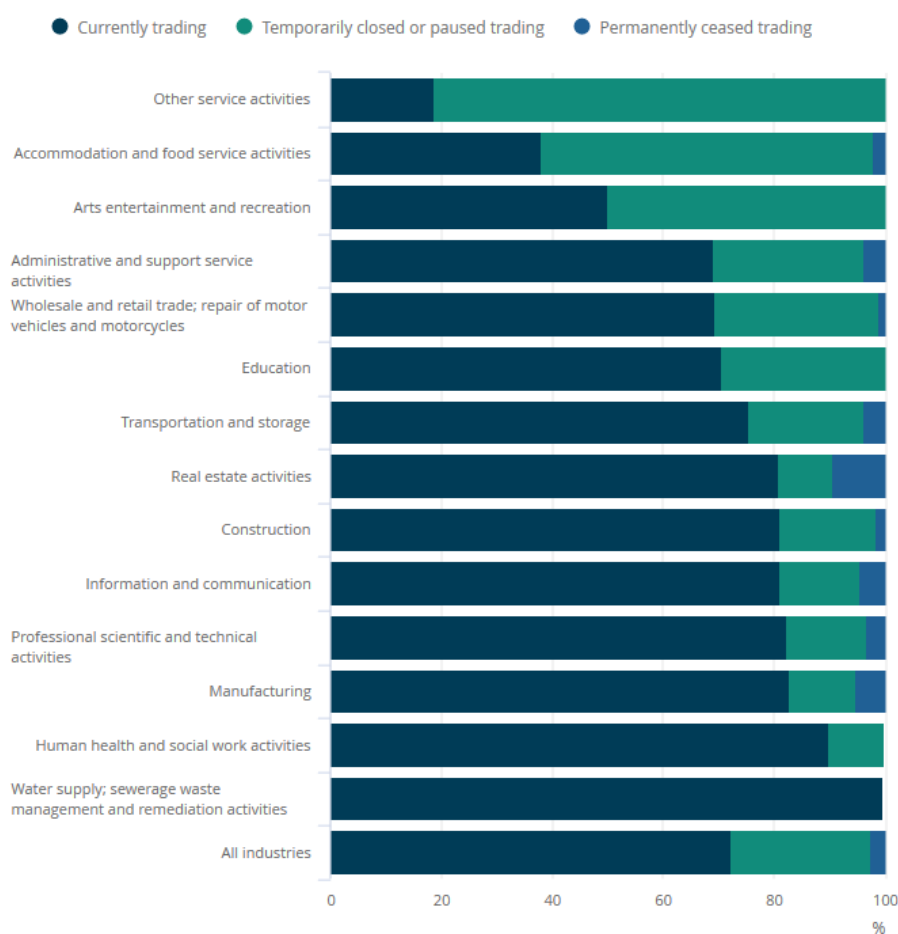
⁴⁶ <https://www.simplybusiness.co.uk/about-us/press-releases/sme-confidence-report/>

⁴⁷ Office for Budget Responsibility (2021) Economic and Fiscal Outlook

4.1. 'Other services'

'Other services' has been one of the worst affected sectors of the economy. It includes many office-based businesses such as consultancy services and various smaller independent businesses including beauty salons, nail bars and hairdressers. These 'other services' businesses will make up a large part of a local authorities' customer base. Around 81% of 'other services' businesses, more than in any other sector, had temporarily closed or paused trading in mid-February 2021, as many have not been permitted to operate throughout full lockdown.

Figure 8: Trading status of all businesses in the UK broken down by industry, 8th – 21st February 2021⁴⁸



The government's recovery roadmap will allow many 'other services' businesses to open from 12th April 2021. Businesses such as hairdressers, estate agents and gyms will be permitted to operate indoors, but with social distancing measures in place. These restrictions will delay recovery, as businesses will not be able to operate at full capacity until restrictions are further lifted in June 2021. Some businesses may choose to remain closed if operating with social distancing measures means they will not be commercially viable.

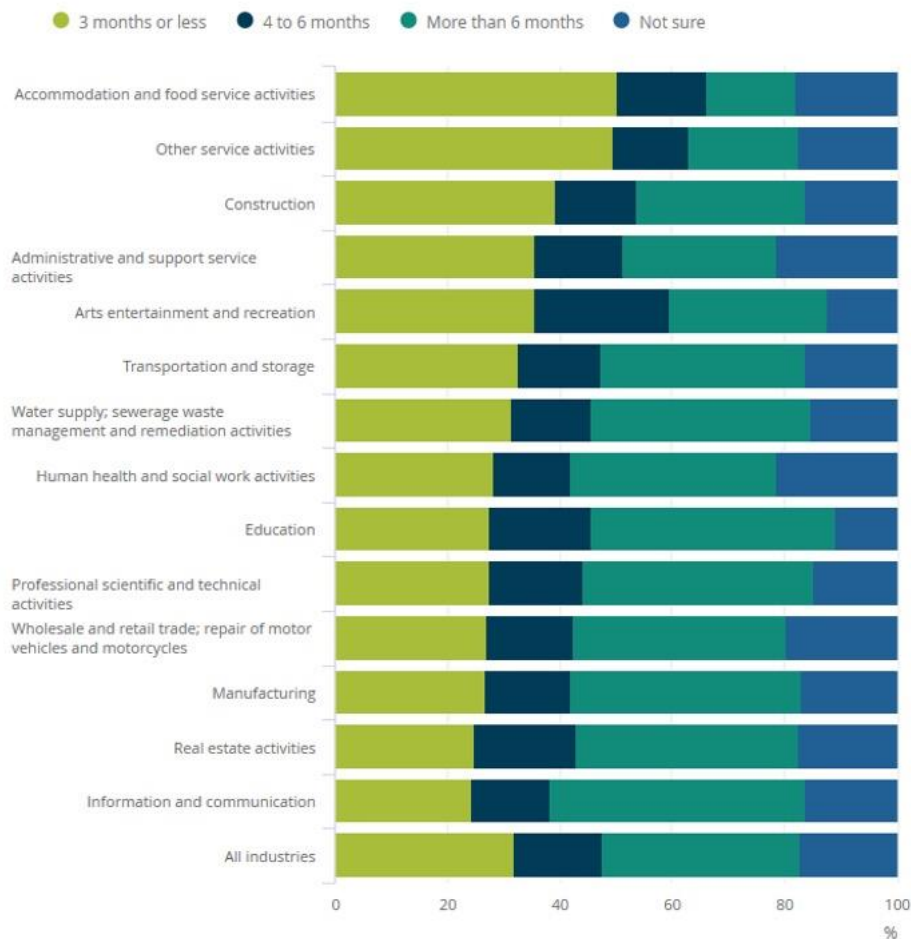
⁴⁸ <https://www.ons.gov.uk/businessindustryandtrade/business/businessservices/bulletins/businessrightsandimpactontheukeconomy/latest>

4.2. Accommodation and food services

The ‘accommodation and food services’ sector has seen a negative impact throughout the pandemic. More than half of workers in this sector were on furlough in early February 2021⁴⁹. This will have an impact on commercial waste arisings collected by local authorities as they have reported that restaurants and small hotels make up a large part of their commercial customer base.

50% of businesses in this sector stated they have three months or fewer of cash reserves remaining, a higher proportion than in any other sector, suggesting that they are in a financially vulnerable situation and that some may fail when furlough ends.

Figure 9: Cash reserves of businesses not permanently closed, by industry, 8th – 21st February 2021⁵⁰



⁴⁹ <https://www.ons.gov.uk/businessindustryandtrade/business/businessservices/bulletins/businessinsightsandimpactontheukeconomy/latest>

⁵⁰ *ibid.*

The government's recovery roadmap plans for restaurants and pub gardens to be permitted to open from 12th April 2021, to serve customers sitting outdoors. Trade will be very dependent on the weather and amount of space available to offer outside drinking and dining. Businesses in inner London boroughs may have limited outside space compared to outer London boroughs. These restrictions will delay recovery, as businesses will not be able to operate at full capacity. If the roadmap is realised, activity will increase again in May 2021, when indoor, but socially distanced, hospitality will be permitted, and again in June 2021, when all social distancing measures will be removed.

Self-contained accommodation will be permitted to open from 12th April 2021, with other accommodation such as hotels and bed and breakfasts being able to open from 17th May 2021. However, as self-contained accommodation will not be allowed to reopen until after the Easter school holidays, businesses will not recoup lost income during this typically busy period. Indoor and outdoor entertainment and attractions will not be permitted to open until 17th May 2021 and, since international travel is likely to still be restricted, accommodation opening from 12th April 2021 may see much lower levels of occupancy than would normally be the case for this time of year.

Hotel occupancy rates in 2021 are forecast to be 55% across the UK, and they could take four years to return to pre-COVID-19 levels⁵¹. As well as affecting hotels themselves, this could have a knock-on effect on the wider hospitality industry. London hotels are heavily dependent on business trips, meetings, and events, which may decline as remote working and webinars have become more established practice. International travel, both for business and tourism, will be well below pre-COVID-19 levels in 2021. However, there may be an increase in bookings from UK residents where international travel is restricted, but only when entertainment venues and tourist attractions are permitted to open on 17th May 2021.

For businesses that do begin to trade, there will be a reduction in the capacity for customers due to social distancing measures until restrictions are fully lifted, which is planned for June 2021. However, there may be an increase in waste arisings per customer due to the disposal of PPE, additional cleaning waste and single use waste such as disposable cups and paper menus.

4.3. Arts and entertainment (other services)

The 'arts and entertainment' sector has seen a substantial negative impact throughout the pandemic and is unlikely to see a full recovery until all social distancing measures are removed. This is because, for many businesses, operating at reduced capacity is not commercially viable. Entertainment and leisure venues will be allowed to open from 17th May 2021 but will not be able to operate at full capacity until all restrictions are removed, which is currently scheduled for 21st June 2021.

⁵¹ <https://www.pwc.co.uk/industries/hospitality-leisure/insights/uk-hotels-forecast.html>

While some arts and entertainment venues have received government grants and avoided closing down, many have gone out of business. Although it is likely that efforts will be made to reopen many, these may not be successful in all cases.

The 'arts and entertainment' sector had 59% of its workforce on furlough, which is higher than any other sector. Figure 8 shows that the arts and entertainment sector had around 50% of businesses closing or pausing trading between 8th and 21st February 2021.

Predictions made by Arup in their report on the economic future of London's Central Activity Zone (CAZ), state that even under a return to normality scenario, without government assistance the West End arts and culture sector would be 10% smaller in 2024 than in 2019⁵². The West End accounts for almost one-third of London's cultural economy, and the economic impacts of such a reduction would expand beyond the industry itself. It would negatively impact the businesses relying on trade from arts and culture venue customers, as well as the arts industry's supply chains; and spending by arts and culture employees would also reduce.

According to PwC's latest Global Entertainment & Media (E&M)⁵³ Outlook 2020-2024, 2020 saw a 6.7% fall in UK E&M revenue compared to 2019; however, PwC is predicting that the sector will bounce back strongly throughout 2021, achieving 6.72% revenue growth. Across the five-year period, it is forecast overall revenue growth will run at a 2.83% compound annual growth rate to be worth £79.8bn by 2024⁵⁴.

4.4. Non-essential, instore retail (retail and wholesale)

Retail stores classed as non-essential by government have understandably been hard-hit by restrictions. Some businesses, such as garden centres, that were not allowed to continue trading in the first lockdown have been allowed to open during the third lockdown.

It is unlikely that the 'non-essential, in-store retail' sector will recover to pre-COVID-19 levels as many large retailers, including well-known brands such as the Arcadia Group, Bensons and Debenhams, have permanently closed all of their stores. Many others have gone into administration, closed some stores, or announced substantial job cuts.

Sales data from the first and second lockdown has shown that recovery was rapid when restrictions eased (Figure 10), but it was unable to reach pre-COVID-19 levels before subsequent lockdowns were enforced.

⁵² https://www.london.gov.uk/sites/default/files/caz_economic_future_emerging_findings_update15022021.pdf

⁵³ The Office for Budget Responsibility defines 'arts, entertainment and recreation' as all performing arts, creative arts, writers, museums, galleries, sports and other visitor attractions such as zoos and theme parks. PwC additionally includes advertising and publishing industries in its 'entertainment and media' definition.

⁵⁴ <https://www.pwc.co.uk/press-room/press-releases/UK-entertainment-and-media-industry-to-recover-by-2021-as-covid-19-stalls-growth-this-year.html>

Figure 10: Percentage volume of UK clothing store sales, December 2018 – December 2020⁵⁵



Some retailers with unsold seasonal stock in their stores may have to write this off and buy in new products which could temporarily increase waste volumes⁵⁶. Others may limit their risk by focusing on simply selling off old stock, which would reduce deliveries and therefore reduce cardboard waste⁵⁷.

Figures from the Centre for Retail Research (Figure 11) show a decrease of 12.4% in in-store, non-food sales in 2020 and a predicted increase of 15.1% in 2021 when shops reopen after Easter. The net effect of this would be a small increase in trade in 2021 compared with 2019.

Figure 11: Actual and forecast of UK retail sales growth (online and physical stores)⁵⁸

Year	Food sales	In-store, non-food sales	Online sales
2019	+2.4%	+1.3%	+10.7%
2020	+5.4%	-12.4%	+30.2%
2021	-1.6%	+15.1	-9.1%

⁵⁵ Office for National Statistics, Retail sales, Great Britain: December 2020

<https://www.ons.gov.uk/businessindustryandtrade/retailindustry/bulletins/retailsales/december2020>

⁵⁶ <https://www.retailgazette.co.uk/blog/2021/02/clothing-retailers-cut-orders-as-unsold-stock-from-2020-mounts/>

⁵⁷ <https://www.retailgazette.co.uk/blog/2021/03/john-lewis-to-lower-prices-ahead-of-reopening/>

⁵⁸ Centre for Retail Research (Jan 2021): <https://www.retailresearch.org/retail-forecast.html>

4.5. Food retail (retail and wholesale)

The 'food retail' sector has experienced a positive impact throughout the pandemic. Food store sales reached new high levels at the beginning of the first lockdown as stockpiling caused an increase in spending on "household goods and food and drink". With bar and restaurant closures, consumers spent more time, and prepared more meals, in their homes. Following this peak, sales fell back but remained at a level higher than pre-COVID-19.

When hospitality is able to open again the Centre for Retail Research expects food retail sales to fall by 1.6%⁵⁹ to return to pre-COVID-19 levels as consumers start to eat out more.

Growth has been seen across all business sizes. Small independent shops are benefiting as shoppers are choosing to shop more locally and avoid public transport. This trend seems likely to be maintained while social distancing measures remain and perhaps into the longer term if people's working patterns or shopping habits change.

The majority of commercial waste from food retail businesses comes from bulk deliveries. It is therefore likely that cardboard volumes from these premises would rise significantly; however, in major stores this material tends to be backhauled rather than being collected by commercial waste operators.

4.6. Online retail (retail and wholesale)

With non-food stores opening after Easter, and in-store food shopping becoming easier, the Centre for Retail Research expects a drop in online sales, in line with what was seen in 2020 after the first and second lockdowns ended. Internet sales rose to 32.8% in May 2020, but had dropped to 26.3% by September⁶⁰. Figure 12 shows the share of online retail as a percentage of total retail. As lockdown restrictions are eased the Centre for Retail Research is forecasting a drop in the overall percentage share of online sales as a proportion of total retail sales; however, the level remains higher than pre-COVID-19 levels.

Figure 12: Actual and forecast percentage of online share of retail sales⁶¹

Year	Online share of retail
2019	19.1%
2020	29.8%
2021	27.1%

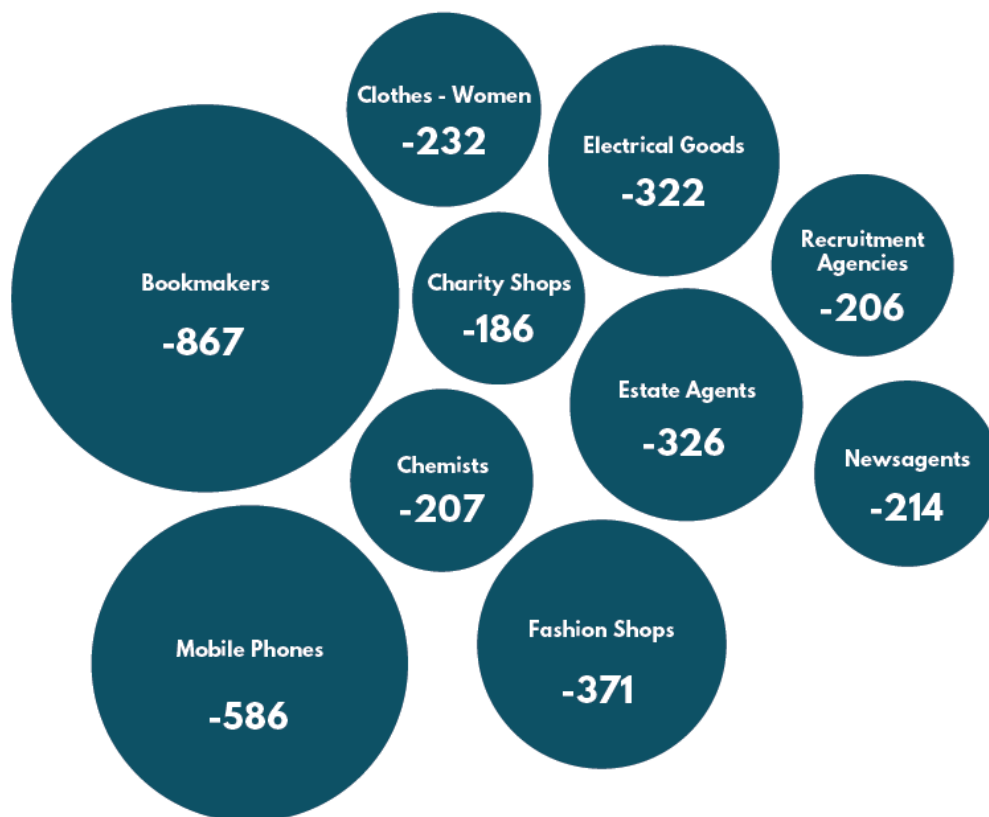
Migration to online spending is not a new trend, but the pandemic has accelerated it. Data from the Local Data Company shows that in the first half of 2020, seven of the top ten declining retail categories (measured by the drop in physical retail units) are also categories in which there is an increased online offering, such as in fashion, gambling and electricals.

⁵⁹ Centre for Retail Research (Jan 2021): <https://www.retailresearch.org/retail-forecast.html>

⁶⁰ *ibid.*

⁶¹ *ibid.*

Figure 13: Top 10 declining retail categories across GB by net change in physical units⁶²



4.7. Food and drinks manufacturing

The food and drinks manufacturing sector saw a slight decline at the beginning of the first lockdown but has recovered well to around pre-COVID-19 levels. It is likely the levels of waste arising from these businesses will increase, as business activity is largely unaffected, but will produce increased waste from PPE, hygiene and cleaning products.

There was a fall of 11.2% in the alcoholic beverages and soft drinks production sector during December 2020 when compared to December 2019, which reflects the continued downturn in demand from the hospitality sector due to the restrictions in place in the UK at the time. This followed a significant decline during November 2020 because of the closure of hospitality across England⁶³.

While the sector as a whole may be broadly unaffected, there could be differential impacts on particular businesses. Companies that prepare food for office lunches, or to supply in canteens, may find their business is slow to recover; while those preparing food for sale in supermarkets or local stores may see their business grow.

⁶² Local Data Company (2020), GB Retail and Leisure Market Analysis, H1 2020, November 2020

⁶³ <https://www.ons.gov.uk/economy/grossdomesticproductgdp/articles/coronavirusandtheimpactonoutputintheuconomy/december2020#production-industries>

5. Impact on commercial waste arisings

5.1. Baseline

The modelling undertaken for this study develops estimates of the impact of COVID-19 on total commercial waste arising in London – waste that is similar to the types of waste that are generated by households, and of the type that local authorities' commercial waste services will typically collect. The model estimates total commercial waste arising in London, not just that which is collected by local authorities.

There is limited data on commercial waste generation. To understand the likely impacts of COVID-19 on commercial waste, we used a previously developed technique to produce borough-by-borough estimates of normal levels of arisings and waste compositions. These national estimates draw on Defra waste data and surveys⁶⁴, national compositional data from WRAP⁶⁵ and ONS data from the BRES survey⁶⁶, which gives details of business types at a high level of geographical resolution. This method for estimating total commercial waste arisings will not be applicable to 2020/21 (after the impact of COVID-19) as it is based on pre-COVID-19 arisings and compositions. Therefore, the baseline year for this modelling will be 2019/20.

The baseline provides a starting point from which the impact on waste arisings due to changes in business activity can be quantified. Future sector-specific and borough-specific COVID-19 impact factors have been applied to this baseline to produce a commercial waste forecast for London for 2021/22.

5.1.1. Baseline limitations and assumptions

While the method used in this study is reasonable and consistent with what little data is available, it has limitations.

One limitation of this approach is the vast majority of businesses are microbusinesses, even amongst those registered for VAT and/or PAYE. A substantial share of microbusinesses do not occupy their own, discrete commercial premises. Therefore, ONS UK Business Counts data tends to overstate the actual number of businesses so far as “locations that manage their own waste” is concerned.

The UK Business Counts data shows around 523,000 local units or “workplaces” in London in 2019, of which around 394,000 (75%) are reported to have 0-4 employees.

Many such businesses, which are likely to include personal service companies, will not have business premises at all, but will be run from home or will operate primarily on the premises of clients (for example small building firms, mobile hairdressers, self-employed professional services providers). This means that the number of premises from which waste needs to be

⁶⁴ Jacobs (2010) *Commercial and Industrial Waste Survey 2009 Final Report*, Report for DEFRA, December 2010

⁶⁵ Wrap (2020) *National Municipal Waste Composition, England 2017*

⁶⁶ <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetype/methodologies/businessregisterandemploymentsurveybres>

collected will be substantially lower than the BEIS data suggests. For this reason, all businesses with 0–4 employees (which in any case produce very small amounts of waste per site), regardless of their sector, have been removed from the baseline model. They produce insignificant amounts of waste in relation to London’s total commercial waste volumes and would therefore disproportionately affect the modelling results.

In addition, BEIS’s longitudinal survey of SMEs⁶⁷ suggests in 2018, 25% of SMEs were operating from home and therefore a reduction of 25% has been applied to waste arisings from SMEs with 5–9 employees.

Many small businesses occupy premises such as serviced offices, shared working spaces, shared workshops or shopping centres where the landlord consolidates the waste from all of the individual companies into a single set of bins⁶⁸. The number of businesses reported in our modelling will therefore likely exceed the number of premises that are available as potential customers for commercial waste collectors.

Further limitations include:

- Reliance on Defra’s UK Statistics on Waste for England-wide data on total commercial and industrial waste arisings for different sectors.
 - Defra has made substantial adjustments to its methodology, and the resulting totals, in recent years.
 - Commercial waste that is co-collected alongside household waste is only an estimate.
 - The Defra data reports a range of specialist wastes such as industrial sludges that do not form part of the municipal waste stream, and streams such as metals, only some of which will be municipal waste. Assumptions are therefore used to adjust the data to remove non-municipal waste.
 - The Defra data categorises a great deal of waste as “household like” or “mixed”, necessitating assumptions being used to estimate its composition.
- Reliance on Defra survey data that is nearly a decade old for estimates of the proportion of waste arising from businesses of different sizes.

As a result of these limitations and assumptions, the results produced by this method should be taken as indicative, rather than as a precise estimate of tonnages.

5.1.2. Forecast model limitations and assumptions

The forecast produces an estimate of 2021/22 commercial waste arisings in London by applying waste adjustment factors to the baseline, based on sectoral economic predictions. The model assumes there is no significant change to the composition of waste in each sector. Instead, it applies a waste reduction factor (based on sectoral economic predictions) to all waste types arising within a sector. Although we have provided commentary on possible changes in composition, no data exists to apply specific impacts to individual waste streams.

⁶⁷ Department for Business, Energy & Industrial Strategy (2019) Longitudinal Small Business Survey: SME Employers (Businesses with 1–249 Employees) – UK, 2018, May 2019, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/803645/LSBS_2018_employers.pdf

⁶⁸ The Instant Group (2018) UK Market Summary – The Evolution of Flexible Workspace, 2018, <https://www.theinstantgroup.com/media/1914/uk-market-summary-2018.pdf>

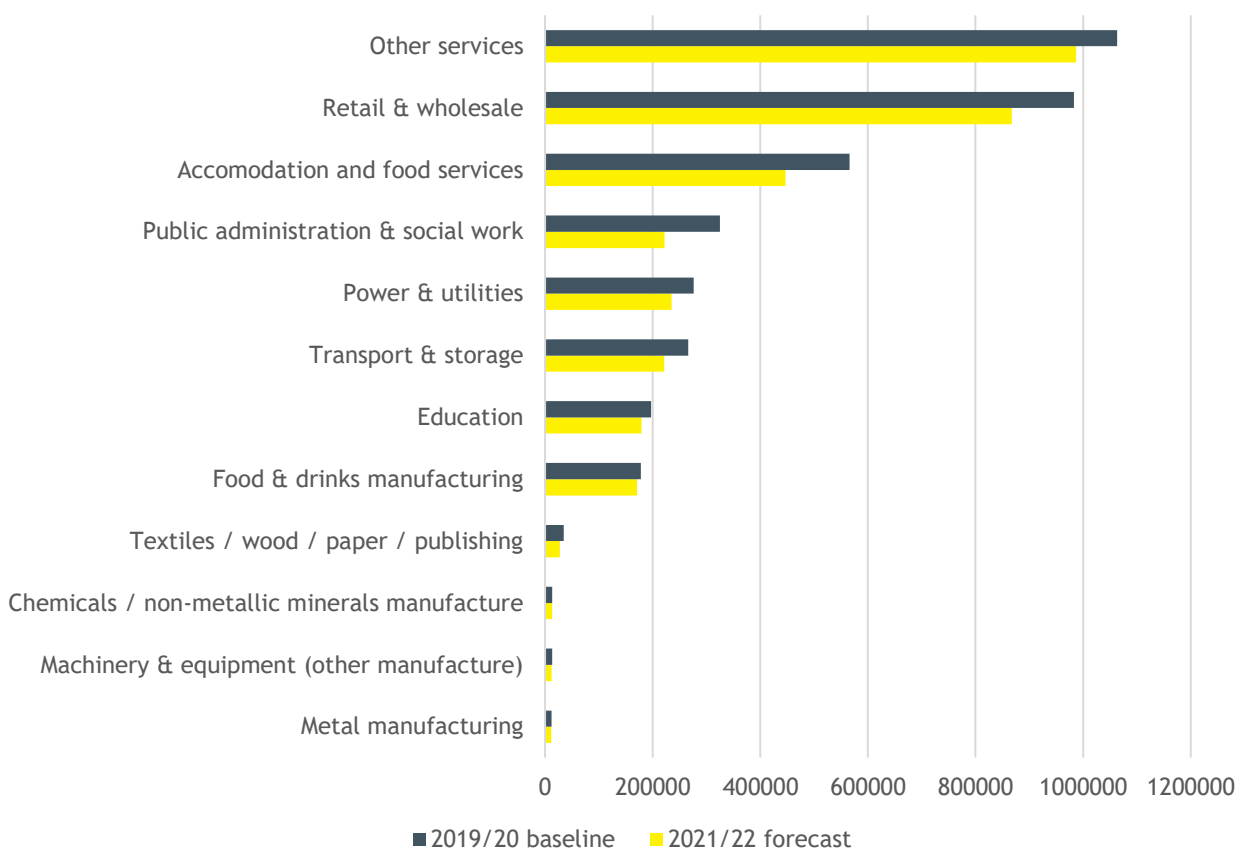
The model also assumes the impact of change in economic activity is linear to the impact on waste arisings. The model does not, therefore, account specifically for any increases in waste or changing waste streams (such as PPE, increased disposables, and additional cleaning wastes) although these wastes are unlikely to be very substantial in terms of weight in comparison with other waste streams.

5.2. Modelling results

The following modelling results show a summary of the reduction in commercial waste arisings for London, by material and sector, from the baseline year (2019/20) to the forecast year (2021/22). For 2020/21 modelling results please see the original report 'COVID-19 commercial waste adaptation: Assessment of the future impact of COVID-19 on commercial waste in London'⁶⁹, published by ReLondon in October 2020.

The projected impact for individual boroughs, showing baseline tonnages, forecast tonnages, and composition broken down by sector and business size, can be found in Appendix 3. Figure 14 shows the baseline and projected commercial waste arisings for each sector. The greatest decrease by tonnage is forecast to be in the 'accommodation and food services' sector with a drop of around 119,000 tonnes, a 22% decrease. The biggest reduction by proportion will be in the 'public administration & social work' sector, which is estimated to shrink by one third.

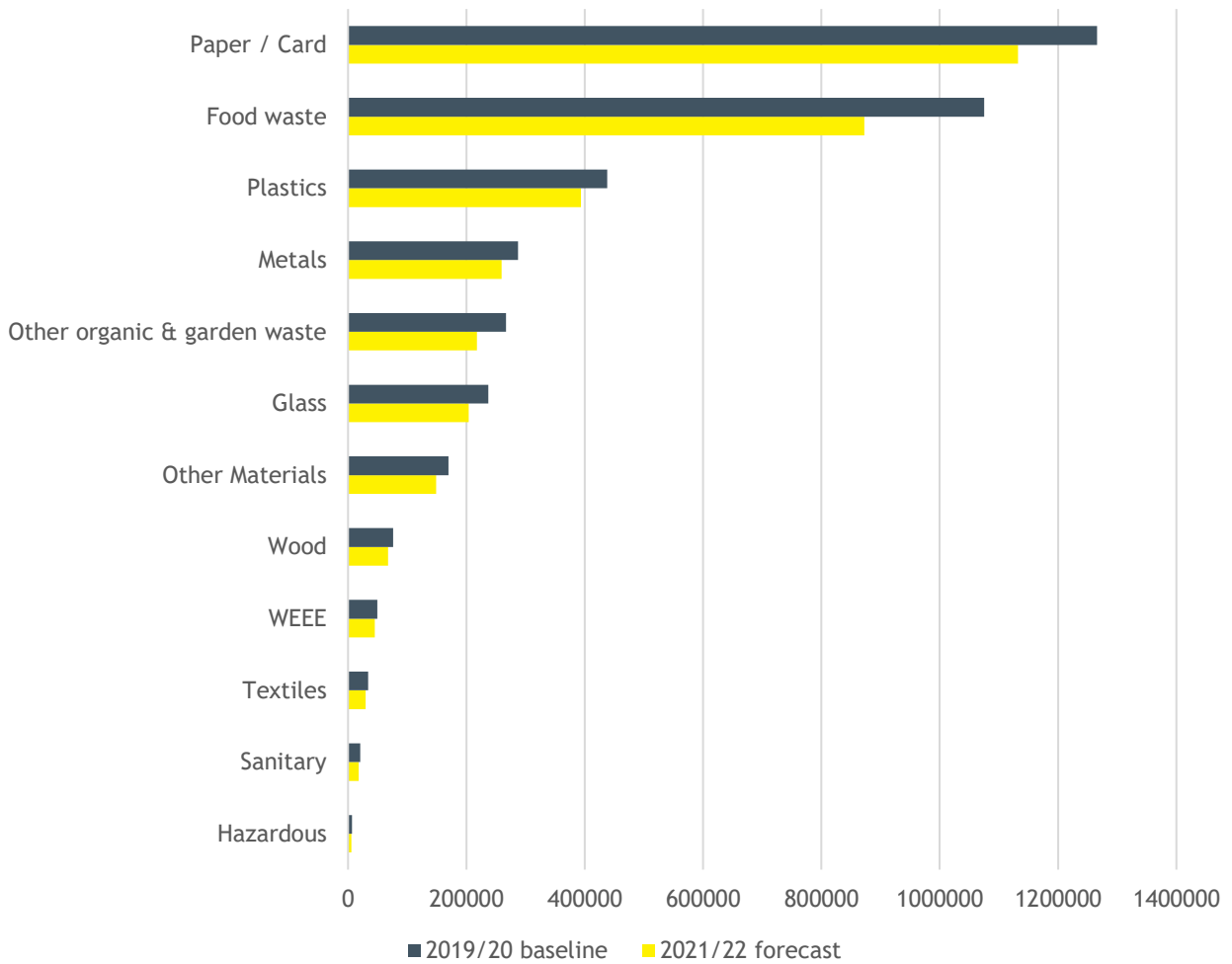
Figure 14: Estimated annual commercial waste arisings in London by sector, 2019/20 and 2021/22 (tonnes)



⁶⁹ <https://relondon.gov.uk/resources/report-adapting-commercial-waste-services-to-covid-19>

Figure 15 shows a decrease in arisings for all waste types from the baseline year of 2019/20 to the forecast year of 2021/22. The estimate indicates that the biggest reductions in arisings will be in food waste at around 19% (202,246 tonnes) and paper/cardboard at around 11% (133,697 tonnes)⁷⁰.

Figure 15: Estimated overall commercial waste arisings in London by waste type, 2019/20 and 2021/22 (tonnes)⁷¹



⁷⁰ Figure 15 details the composition of materials combined across all commercial waste collection streams and not as segregated services, e.g. paper / card may be found in dry mixed recycling collections, residual collections or segregated paper and card collections.

⁷¹ The 'other organic & garden waste' category is mainly arising from the food and drink manufacturing sector e.g. plant based waste generated during food manufacturing.

Figure 16 demonstrates that the modelling indicates the majority of outer London boroughs will see less of an impact on their commercial waste arisings than inner London boroughs. The top twelve largest decreases in arisings are forecast to take place in inner London boroughs; all but one of the top eighteen smallest increases are forecast to take place in outer London⁷². The decrease in arisings for outer London boroughs is between 7% and 14% and for inner London boroughs the range is between 12% and 23% with the exception of Camden which is projected to have a decrease of 8%. This relatively small decrease in Camden's commercial waste arisings, when compared to other inner London boroughs, is due to the high proportion of energy and utility companies in the borough which have been relatively unaffected by the impact of COVID-19.

The modelling forecasts the total reduction in commercial waste arisings in London, in 2021/22, to be 14% (533,362 tonnes) compared to 2019/20.

Figure 16: Reduction in total commercial waste arisings by London borough, 2019/20 to 2021/22 (percentage change)



⁷² Figures shown in figure 16 are for total commercial waste arisings in London, not just that which is collected by local authorities.

6. Conclusions

There are numerous challenges in producing estimates of commercial waste arisings, which are multiplied when attempting to assess the unprecedented impacts of the COVID-19 pandemic on businesses in London. However, the research and analysis presented in this report draws on the best available data to provide reasoned estimates of the impact COVID-19 will have on total commercial waste arisings in each London borough. Individual boroughs will, of course, need to interpret the findings and apply them to their own commercial waste portfolios.

If the government's recovery roadmap follows the milestones set out in Section 3.1.1 (Government road map) it is likely that commercial waste arisings will increase across the whole of London in 2021/22 when compared to 2020/21. However, commercial waste tonnages for London will remain lower than the pre-COVID-19 levels seen in 2019/20. This finding is aligned with the results of interviews with London local authorities, who reported their commercial waste arisings in 2020/21 typically to be around 25-35% lower when compared to 2019/20. PWCs also report that they are expecting commercial waste arisings to remain below pre-COVID-19 levels throughout 2021/22. It is further evidenced in the modelling for this report, which forecasts commercial waste volumes in London to be around 14% lower in 2021/22 compared to 2019/20.

Even though commercial waste levels are expected to rise in 2021/22, the growth is unlikely to be immediate as, during the first quarter, some government restrictions will remain. Social distancing measures are not planned to be removed until June 2021, and business activity will therefore still be limited in the first quarter of 2021. The Bank of England's chief economist, Andy Haldane, is expecting that once all restrictions are lifted there will be steep growth across all sectors. Consumers will be keen to spend savings built up during lockdown, which may lead to a high level of economic activity over the summer months. Overall, the modelling suggests that London will see commercial waste arisings increase by around 23% throughout 2021/22 in comparison to 2020/21.

Inner London local authorities, especially those to which people would normally commute for work, are likely to see the smallest increases in commercial waste arisings in 2021/22 compared to 2020/21, due to the continuing prevalence of home working, long-term trends of more online shopping, and people shopping more locally. Businesses frequented by commuters are likely to be the most affected, alongside the premises where they would formerly have worked. Therefore, the forecast recovery to pre-COVID-19 levels of commercial waste may prove slower for inner London boroughs.

As detailed in the report, some business sectors have been more affected by COVID-19 restrictions than others. The most affected sectors are:

- Accommodation and food services;
- 'Other services'⁷³; and
- Public administration and social work.

⁷³ 'Other services' include businesses such as nail bars, hairdressers, estate agents, banking and insurance services, and computer and I.T services.

These heavily affected sectors make up a large proportion of local authorities' commercial waste customer bases. Examples of sectors that have been more resilient to the negative impacts of COVID-19 are:

- Essential retail;
- Online retail and the associated logistics and storage sectors; and
- Food and drink manufacturing.

The evidence presented in this report suggests that businesses, including some in sectors that have been heavily affected by restrictions, have been able to be more resilient in the third lockdown, adapting their services to allow them to operate under government restrictions. Examples include offering click and collect retail, take away food and drink, or moving services online. However, some of these adaptations will have tended to reduce the volume of waste produced on the premises.

If predictions of substantial, if perhaps relatively short-term, increases in unemployment prove accurate, all sectors may see a further downturn in activity due to reduced consumption across the economy. Sectors such as non-essential in-store retail, and accommodation and food services, are likely to be the most affected in such a downturn.

While it is difficult to give accurate estimates of waste composition, or of the scale of likely changes, some observations can be made.

- The decline in activity in the hospitality and food sector is leading to a substantial decrease in food waste and glass arisings in areas of high business concentration.
- Reduced business activity in high-street, non-essential in-store retail are reducing arisings of cardboard, although this is offset to some degree by increased activity in the "essential" retail sector, especially in food sales.
- Paper, food and glass are expected to have the largest reductions in volumes. Local authorities that service a large number of pubs, bars, restaurants and offices should expect this waste stream to be significantly impacted; and
- Across all sectors the volume of PPE that will be disposed of is expected to increase, although there is unlikely to be a substantial increase in commercial waste tonnage due to the low weight of PPE in comparison to other waste types.

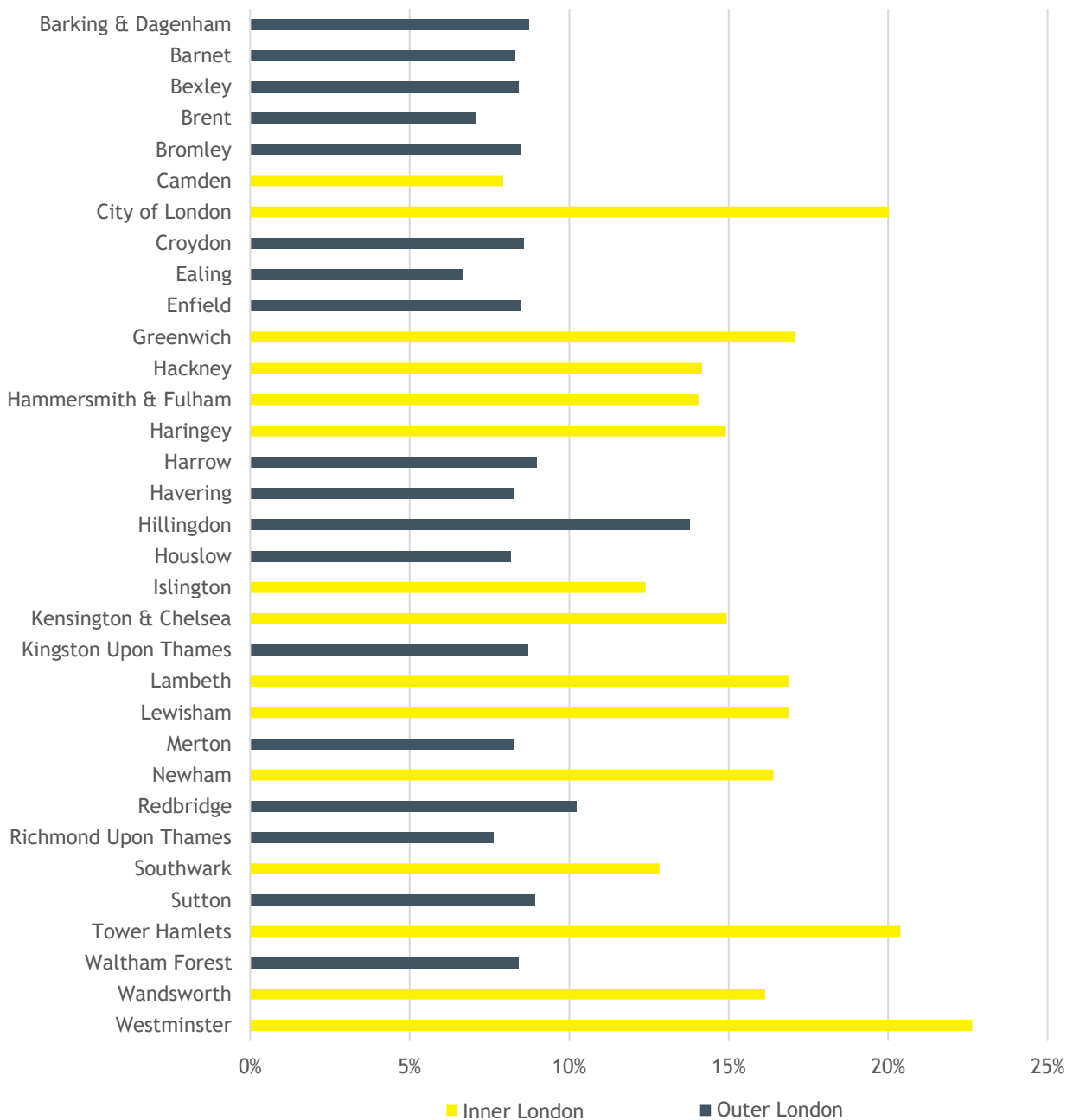
The difficulties that local authorities are facing are also being experienced by PWCs, some of which are not well placed to weather a long-term downturn in income. Local authorities are adapting by undertaking increased marketing, offering flexible arrangements to customers and many are well placed to capture more of the commercial waste market than they have had in the past, due to the difficulties faced by PWCs.

7. Appendices

7.1. Appendix I

London modelling – results summary

Figure I7: Reduction in total commercial waste arisings by London borough, 2019/20 to 2021/22 (percentage change)



7.2. Appendix 2

SIC code descriptions

Figure 18: SIC code descriptions included in modelling sector categories and sectoral recovery patterns in section 4 (Sectoral recovery patterns)

Modelling Sector Category	SIC Code Description	Sectors in section 4 of this report
Metal manufacturing	Manufacturing	n/a
Machinery & equipment (other manufacture)	Manufacturing	n/a
Chemicals / non-metallic minerals manufacture	Manufacturing	n/a
Textiles / wood / paper / publishing	Information and Communication	n/a
Food & drinks manufacturing	Manufacturing	Food & drink Manufacturing
Education	Education	n/a
Transport & storage	Transport and storage	Storage and logistics
Power & utilities	Electricity, gas, steam and air conditioning supply	n/a
Public administration & social work	Public administration and defence Compulsory social security	n/a
Accommodation and food services	Accommodation and food services	Accommodation & food services
Retail & wholesale	Wholesale and retail	Food Retail, non-essential in-store retail, online retail.
'Other services'	Other service activities Personal care services Finance and insurance activities Real estate activities Professional, scientific and technical activities Arts, entertainment & recreation Administrative and support service activities	Other Services, arts & leisure, office space

SIC code section categories can be found on Companies House Website⁷⁴.

⁷⁴ <http://resources.companieshouse.gov.uk/sic/>

7.3. Appendix 3

Borough modelling of commercial waste arisings by business type, size, and waste composition

Individual borough data sets have been redacted from this report due to data confidentiality.

Prepared by:

Sarah Craddock, Senior Advisor
sarah.craddock@relondon.gov.uk



relondon.gov.uk

69 Wilson Street, London, EC2A 2BB

ReLondon is the operating name of the London Waste and Recycling Board.