

Greater London Authority (GLA)

The economic future of the Central Activities Zone (CAZ)

Phase 2 Report

Scenario development, model findings and policy
recommendations

March 2021



Photo credit: Giacomo Magnani

Executive summary

Introduction

- This research looks at the future of London’s Central Activities Zone (CAZ), to assess the impact of both the COVID-19 global pandemic and Brexit on the area in the medium (2-5 years) and long term (5-10 years).
- Our [Phase 1 report](#) (Arup, 2021), which included office use trends in the CAZ, the CAZ ecosystem and the interaction of the CAZ with the rest of London and the UK was produced in January 2021.
- This is our Phase 2 report, which builds three scenarios to test the scale of the economic impact on the CAZ over the medium and long-term, and provides suggested policy responses.

There are significant numbers of jobs at risk in the medium to long term

- The absence of office workers and visitors in central London puts jobs in retail, food and beverage, and entertainment (including arts and culture), at significant risk in the medium to long term.
- We tested the impact across three scenarios.

Scenario 1: Bounce-back to a new normal

- In this scenario, we have assumed a strong economy driven by emerging office based sectors (including lab enabled offices), and a broad continuation of pre-COVID-19 trends, such that office-worker visits to the CAZ bounce back quickly after the pandemic and plateau at around four-fifths of 2019 levels. Inbound tourism returns to 2019 levels by 2026. London’s population continues to grow in line with GLA central projections.
- In this scenario 114,000 jobs in face-to-face sectors would be at risk across London in 2023, relative to a ‘No COVID-19’ scenario, due to lower attendance rates and lower tourist footfall, even with a strong economic backdrop. Over time, the opportunity from

a higher population in the CAZ and across London mitigates the losses, with the potential for additional jobs to be generated by 2031.

Scenario 2: Widespread home working and reinvention

- Our second scenario assumes a strong economy, driven by emerging office based sectors, and that home working remains the norm for those who are typically based in offices, with in-person attendance rates at two-fifths of 2019 levels. Although some social distancing conventions remain, inbound tourism returns to 2019 levels by 2027. This provides a greater opportunity to reinvent the CAZ, with a greater increase in the residential population, and reinforced attractiveness to visitors.

	2023						2031					
	CAZ		Rest of London		Total London		CAZ		Rest of London		Total London	
	Diff to 2019	Diff to no COVID	Diff to 2019	Diff to no COVID	Diff to 2019	Diff to no COVID	Diff to 2019	Diff to no COVID	Diff to 2019	Diff to no COVID	Diff to 2019	Diff to no COVID
No COVID-19	18	-	29	-	47	-	59	-	88	-	147	-
Bounce-back to a new normal	-75	-93	8	-21	-67	-114	69	10	103	15	172	25
Widespread home working	-89	-107	17	-12	-72	-119	12	-47	116	28	128	-19
Significant headwinds	-97	-115	-14	-43	-111	-158	-27	-86	26	-62	-1	-148

Jobs in demand and at risk in London’s face-to-face sectors by scenario and location (000s FTEs)

(+ve indicates job demand, -ve indicates jobs at risk)

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- Under this scenario, the emerging sectors drive recovery, but the dispersed working and slow return of tourists means that 119,000 face-to-face jobs would be at risk across London in 2023, relative to a ‘No COVID-19’ scenario. This potential loss is mitigated by the opportunities gained in face-to-face industries closer to office workers’ home locations. By 2031, the high population and economic growth in this scenario means that the overall jobs at risk across London is similar to the ‘No COVID-19’ scenario.

Scenario 3: Severe headwinds

- Our ‘severe headwinds’ scenario assumes more measured growth, in line with the GLA’s slower economic recovery scenario, and that tourism only returns to 2019 levels by 2031. Office worker attendance rates are two-fifths of 2019 levels, and London’s resident population stagnates at 2019 levels as the city becomes less attractive as a place to live and work.
- In this scenario there are projected to be 158,000 face-to-face jobs at risk across London in 2023, driven by the continued low footfall from workers and visitors. A decade after COVID-19, in 2031, the overall number of face-to-face jobs at risk across London is still 148,000 higher than in the ‘No COVID-19’ scenario, with the bulk of these located in the CAZ.

The CAZ ecosystem is already likely to be scarred

- If we include jobs in non face-to-face sectors, the number of FTEs based in the CAZ is expected to be less than half of the expected ‘No COVID-19’ level throughout the 2020s in both the ‘widespread home working and reinvention’ and ‘significant headwinds’ scenarios.
- The jobs at risk from the lack of footfall are in the food and beverage, retail, and entertainment sectors. Cleaners, catering and security staff who support office buildings are additionally at risk.
- These sectors are more likely to employ young people, those with fewer qualifications, and those that have migrated from other countries to London. The fallout landing on the shoulders of these groups is often the case with slowdowns and recessions, but this one is worse, given the direct impacts on the face-to-face industries.
- Our [Phase 1 report](#) emphasised the importance of the face-to-face industries to the overall economic ecosystem of the CAZ, whereby the leisure offer contributes significantly to choices made by employers and individuals to invest in central London, and to the UK’s soft power abroad, perhaps more so than any other factor.

- Losses in these industries can create a vicious cycle of failure, whereby a deterioration in the quality of the offer leads to even lower footfall and spending. The ecosystem of the CAZ is already likely to be scarred as a result of the events of 2020 and 2021, and will need remedial attention, particularly in the hospitality, leisure, and arts and culture industries.
- Some spending lost from the CAZ may be redirected in outlets closer to home working locations, which offers some mitigation to retail, food and beverage, and entertainment in the rest of London, and elsewhere. However this increase in the rest of London may not completely make up for the loss of spending in the CAZ, and in our modelled scenarios, there was a net loss overall. It is therefore essential for both the CAZ and for London, and indeed the financial recovery of the rest of the UK, that footfall in central London is increased.

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The CAZ has significant strengths to build on

- The CAZ's strengths provide a basis for recovery from the challenges of COVID-19 and Brexit, and to meet the other drivers of the 2020s, such as climate change and digitalisation.
- Other key strengths include London's diversity, the city's world-leading emerging sectors, the green economy, arts and cultural assets, the significant amount of green space and green roofs, the best student experience and opportunities, and the sheer range of career options open to those of all skills and background, across all industries.
- Nevertheless, the seriousness of the situation is unprecedented, and significant interventions by many parties are required to mitigate the impacts in the short to medium term, and to ensure the CAZ emerges from this crisis stronger than before in the medium to long term.

Significant interventions are required

- Actions in the next two years are required to get the capital on the right path to recovery, building on the work and recommendations of the existing Mayoral recovery programmes. Other actions which are equally important to a sustainable recovery, but may be taken in the medium to long term (2 – 10 years hence, to 2031).

Actions to take in the next two years

1. Provide immediate support to re-ignite the CAZ ecosystem, and to bring people back

1.1 Act immediately to support industries which rely on face-to-face interaction, especially those in arts and culture, including the delivery of the 'Roadmap to the safe and full reopening of London's economy' and the Recovery Board's 'Grand Challenge' (Appendix D).

1.2 Understand the extent of the non-health impacts of COVID-19 across London's diverse population and implement targeted support plans.

1.3 Emphasise the benefits of coming into central London through strong marketing campaigns.

1.4 Maintain the quality and frequency of London's important public transport network, including a longer-term funding arrangement for TfL.

1.5 Reduce the marginal costs of a sustainable visit to the CAZ, through keeping fares low, and deploying part time season tickets on the national rail network.

New green public realm in Paris

The strategy to improve the quality of urban life in Paris, a city visually much less green than London, is multi-pronged. Many existing greenspaces are having additional trees planted in them to create cooler spots to shelter in summer, including an urban forest that is planned for outside the Hôtel de Ville.

There are also more ambitious projects, with plans for the Champs-Élysées to be part pedestrianised (in a more ambitious plan than that for London's Oxford Street), with more tree planting, additional green spaces and urban lounges by the end of the 2020s.



Proposed tree planting by the Gare de Lyon in Paris

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Actions to take in the medium- to long-term (2-10 years)

2. Develop the CAZ as a model of a sustainable, healthy and green urban centre, with a thriving arts, culture, entertainment and hospitality offer

2.1 Deliver a step-change improvement in inclusive and accessible public realm and urban experience with a level of ambition beyond those of previous plans, including new places that bring people closer to nature, provide space for families, recreational facilities close to workplaces and residential locations, active spaces and play.

2.2 Provide more pedestrianisation, an ambitious new active travel network, and better cycle parking and change facilities.

2.3 Increase the CAZ's role in hosting arts, culture and festivals with increased funding for grassroots arts and culture that reflects the diversity of London.

3. Be agile, embrace experimentation, encourage temporary solutions and continue to move with the fast pace of change

3.1 Generate excitement, provide reasons to visit and maintain vibrancy by making temporary solutions the norm.

3.2 Promote collaborative spaces through agile public sector regulation, policy and initiatives which help bring forward space suited to joint working and

collaboration.

3.3 Embrace the flexibility in timings offered by new ways of working to spread footfall around the clock, reducing crowds at certain times, and to make the CAZ more attractive for people after 6pm.

3.4 Create greater polycentricity in London by identifying the local centres that may be impacted most, and which could increase levels of office buildings and shared co-working spaces outside of the CAZ.

4. Strengthen the CAZ's growth sectors and provide the world's best environment for collaboration and innovation

4.1 Encourage growth in the emerging sectors, including across technology and life sciences as the bedrock of London's future growth. This includes providing marketing, space, skills, and incentives to encourage growth.

4.2 Provide support for green shoots, innovation, entrepreneurship and re-skilling of Londoners.

5. Take steps to increase the population of the CAZ

5.1 Grow the number of central London residents through positive strategic and local planning (though not through low quality accommodation or by compromising strategic functions), focussed on Opportunity Areas and re-purposing brownfield sites.

5.2 Increase the mixture of housing stock in the CAZ,

to encourage more genuinely affordable housing and homes suited to a wider range of people.

6. Create a shared vision, work in partnership and apply strong leadership

6.1 Create a long term vision for the CAZ.

6.2 The GLA needs to take the strategic leadership on the future of the CAZ, working with relevant boroughs and other stakeholders.

6.3 Join with other cities to make the case for investment in central areas to government.

6.4 Gather data on the fast moving situation, and apply a course correction if necessary.

Interventions could help save jobs

- Based on an illustrative 20% point increase in visitor numbers and office worker visits that might result from implementing policy recommendations, in the 'widespread homeworking and reinvention' scenario 42,000 face-to-face jobs would no longer be at risk in the CAZ in 2023. By 2031, this number would rise to 92,000 face-to-face jobs no longer at risk in the CAZ.
- Note that this calculation is illustrative only and we have not modelled the impact of our suggested policy interventions on footfall.

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A vision for the CAZ

An ambitious vision for the future of the CAZ to 2030, and 2050 should be delivered by the end of 2021.

This vision should build on the findings from this report, including putting London's strengths, its people, the environment and the transition to net zero at the centre:

- Specific plans to develop the CAZ as a destination for world-leading arts, culture, entertainment and hospitality, that also take account of residents, workers and visitors.
- A centrepiece of this should be higher quality and diverse public realm, more green and natural spaces, leading to an improved urban experience, higher levels of sustainability, stronger climate change resilience, and a better offer for residents, workers and visitors.
- An even more sustainable CAZ that builds on the quantity and quality of urban living, delivers on active travel opportunities, supports a transformation to sustainable deliveries and servicing, and encourages a recovery in the most sustainable sectors.
- A thriving arts and culture sector at the centre of the vision, better reflecting the diversity of London, and

better serving those accessing the CAZ from 6pm to 6am, within a re-ignited CAZ ecosystem.

- A diverse, people-friendly CAZ, that is a better place to call home, with approaches to liveability, wellbeing, culture, with the human experience at its heart, and from the perspective of all Londoners, making the most of the capital's role as a diverse city.
- An exciting, ever-changing CAZ, with a greater number of temporary solutions, so that the number of pop-ups and meanwhile uses increases dramatically, and so that the CAZ offer keeps changing, remains a talking point, and drives FOMO (Fear Of Missing Out).
- An economic strategy that encourages growth in the emerging sectors that will drive future prosperity, including tech, creative industries, and life sciences, through creation of space – including lab-enabled offices – provision of skills, and other incentives.
- An inclusive and equitable CAZ, with opportunities and improved life chances for all Londoners, that, as far as possible, provides a greater mixture of housing stock, and complements other centres in London, with a redefined relationship in the light of the new ways of working, post-pandemic.

- A higher CAZ residential population, to offer more sustainable lifestyles, resilience, increased vibrancy and 'stewardship' of the CAZ's resources for others, and bringing London more into line with its global rivals.
- A re-emphasis on the CAZ as London's and the UK's global city centre. Marketing of the CAZ as a place to meet and collaborate, with a range of spaces, offers and digital infrastructure to attract people and business.

We suggest that the vision should be ambitious, clear and compelling, and as such, requires strong political leadership and direction by the Mayor.

It should build upon the progress already made by the London Recovery Programme missions, and either folded into that brief, or led by a new CAZ taskforce.

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Glossary of terms

BEIS	Department for Business, Energy and Industrial Strategy	LSOA	Lower Super Output Area
BRES	Business Register and Employment Survey	LTN	Low traffic neighbourhood
CAZ	Central Activities Zone	Mph	Miles per hour
DfT	Department for Transport	MSOA	Middle Super Output Area
Emerging office-based jobs	Media, architecture and creative, IT and communications, science, marketing	NIoD	Northern Isle of Dogs
EU	European Union	NO2	Nitrogen Dioxide
F2F	Face-to-face industry; industries which rely on in-person interactions	OECD	Organisation for Economic Co-operation and Development
F&B	Food and beverage industry	Office-based jobs	Media, architecture and creative, IT and communications, science, marketing, finance, legal, real estate, headquarters and management
FDI	Foreign Direct Investment	ONS	Office for National Statistics
FT	The Financial Times	p.a.	Per annum
FTE	Full-time equivalent	TfL	Transport for London
GDP	Gross Domestic Product	Traditional office-based jobs	Finance, legal, real estate, headquarters and management
GLA	Greater London Authority	ULEZ	Ultra Low Emission Zone
GVA	Gross Value Added		

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I. Introduction

Foreword

Tony Travers, London School of Economics

The future home working behaviour of office workers will have a bearing on the economy, and on the physical appearance of London

As we begin to take tentative steps out of the third national lockdown, we can reflect on the anniversary of near-full time home working for many of London's office workers. Many of these individuals will not have set foot in their place of work, or indeed in central London, since March 2020. And many may never do so again. Now, meeting a client or supplier, and even attending a job interview virtually is the norm, and returning to face-to-face working seems somewhat novel. Behavioural scientists often advise that it takes six weeks to form new, long lasting habits, after a year, one might expect home working to be firmly entrenched.

However there are signs of a potential gradual return to the office. Last summer UK employers were extremely open and adaptable to continued flexible working. By July 2021, they might not be quite so laissez-faire, with a mixture of trust and productivity at the forefront of employers minds. Some employers have come forward and expressed their will to get their people back to the office. At the same time, many employees will have suffered mental health impacts as a result of a winter in virtual isolation from both friends and colleagues. For many, including a majority of those that responded to the surveys we refer to in this report, a balance between home and office-based working appears to be emerging as the optimum.

In this report we model scenarios to take account of the

March 2021

uncertainty of future home working. We outline how footfall from office workers has had a significant impact on the hospitality, entertainment and arts and culture industries in their location, undermining the functioning of the CAZ economic ecosystem. We also assume that the shift in retail habits, accelerated during the pandemic, are structural and do not fully reverse.

For the period since last spring, central London's loss, has, to a certain extent, been outer London's (and the wider region's) gain, as office-based employees are more likely to spend their leisure and retail time, and money, closer to where they currently work. A partial return to the CAZ will have an impact on the businesses that survive and thrive in different parts of London, and in due course, on the offer that the capital makes to tourists and visitors.

A full, or near full return could see a resurgent CAZ pick up almost where it left off, with a greater number of individuals making slightly fewer trips, potentially leading to higher spend overall. But it is in the scenarios with widespread home working that a substantial change and reinvention of the CAZ is likely. In this version of the future we may have employers having to work very hard to entice their employees back to the office. We may also have the CAZ suffering initially, and then responding to the lower office worker footfall by evolving the leisure offer, and growing its residential population over time.

All of this would have an impact on London's built environment and streetscape, as well as its economic, social and environmental outcomes. There would, of course, be opportunities for new companies to move into central London or start up there.

The CAZ must reinvent itself if it is going to adapt to the losses and changes caused by COVID-19 and new ways of working and to avoid a 'vicious cycle' of decline setting in. But there are opportunities too and harnessing the positives from these future scenarios is key. As we said in the introduction to our Phase 1 Report, each of these outcomes represents a chance to re-assess the functionality and performance of the CAZ. At this major crossroads for the CAZ, for London, and for society, a vision for the future is necessary, so that we deal with some of the older problems, as well as the challenges of tomorrow, and so that when the CAZ does recover, it will work better for everyone. Policy-makers at all level have choices to make.



Tony Travers

Director

London School of Economics

Introduction

Aims of the study

Our scope and phases of work

The report researches the future of the Central Activities Zone (CAZ), to assess the impact of both the COVID-19 global pandemic and Brexit on the CAZ in the medium term (2 – 5 years) and long term (5 – 10 years). The CAZ operates alongside the rest of the capital and therefore the study also examines the relationship this impact will have on London as a whole.

Arup, Gerald Eve and the London School of Economics were appointed by the Greater London Authority (GLA) to carry out the work in two stages.

- Phase 1, was a baseline review of the CAZ with a particular emphasis on office use trends in the CAZ; interdependencies within the CAZ ecosystem; and, the interaction of the CAZ with the rest of London and the UK. Our phase 1 report (Arup, 2021) was published on 1 February 2021.
- Phase 2, covered in this report, builds three scenarios which test the scale of the economic impact on the CAZ over the medium and long-term. We look at the impact of these scenarios on the CAZ and the rest of London across a range of economic indicators including place based GVA and employment across sectors.

We provide policy recommendations and strategy

implications to support a sustainable recovery for both the CAZ, and London in each scenario, with the two time periods in mind:

- Medium-term (2 – 5 years, i.e. from 2023-2026).
- Long-term (5 – 10 years, i.e. from 2026-2031).

Although the focus of our modelling is beyond the immediate recovery phase from COVID-19, some of our recommendations are for immediate action, as well as some to be taken in the medium and longer term.

Our assumptions on COVID-19

This work has been produced during a hugely uncertain period. Both phases of this work were carried out during the period between December 2020 and March 2021, a time in which significant public health, economic and political decisions were being made, including:

- A Brexit deal was announced, though it did not cover financial services.
- A new Hong Kong migrant visa was made public.
- The UK left one national lockdown to enter (and begin taking steps out of) another.
- New strains of the COVID-19 virus spread rapidly (and in some cases, receded).
- The UK vaccination programme began to be rolled

out, and to take effect.

The reader should bear this volatility in mind when studying this work.

Our work assumes that the health emergency as a result of the pandemic has concluded within two years but, that some cultural and behavioural legacies may endure, including a fear of further pandemics, or new strains, that social distancing conventions may remain, and that there is not a further significant macro-economic shock.

As far as possible, we also assume that the medium to long-term government response is yet to be determined (that is, we do not assume a particular set of policy responses in the work). Additionally, the modelling, including the GLA macroeconomic scenarios which have fed into this work, was conducted prior to the March 2021 budget.

Our study area

As with the Phase 1 report, the analysis compares the CAZ, an area defined using boundaries based on the London Plan (GLA, 2021c), to other parts of London, and the city overall. We also interrogate differences between three areas we have defined within the CAZ: West End, City and the East and Riparian South. For more information on our study areas, see Appendix E.

II. Three future scenarios

Three future scenarios

Scenario development process

Our approach

We have developed scenarios of possible economic futures that address the impact of Brexit, of COVID-19, and of home working, and other factors for the CAZ and for the rest of London.

Why scenarios?

Scenarios provide a hypothetical illustration of plausible futures which help decision makers to frame their strategic thinking, and to test and refine options. The unique uncertainty at this time, on issues as diverse as the economy, future home working patterns, population and migration and, future tourism trends, are all incredibly important drivers in the performance and success of the CAZ and London. The scenario planning in this report allows us to tell a story around this breadth of possible futures, and for the GLA to plan policy responses accordingly. Rather than asking what will happen, scenarios focus us on what could happen, enabling plans for not just the predictable, but also the unexpected.

Scenarios are plausible descriptions of how the future may develop, based on a coherent set of assumptions about key relationships and driving forces. Here it is key to consider that, the further we look into the future, the greater the range of possibilities and uncertainties.

Adopting a scenario based approach to assess future outcomes is a well-established way of dealing with the high uncertainty around the major factors affecting the capital in the next few years.

This helps the CAZ, and London, identify areas for competitive advantage, plan policy responses, build an understanding of how key trends interact, and what the various pathways into the future may look like.

Our scenarios are used to identify both negative impacts and emerging opportunities for the CAZ and lead to a suite of policy recommendations, which include implications for business, transport, arts and culture, place, and community.

Scenario development process

Our focus is beyond the immediate recovery phase from COVID-19, and up to the end of the next decade, to include:

- Medium-term (2 - 5 years, i.e. from 2023-2026).
- Long-term (5 – 10 years, i.e. from 2026-2031).

Our guiding principles in the scenario development process have been as follows:

- As far as possible, to have the scenarios relate to external factors, that is, things that are ‘done to’

London and the CAZ, rather than those that are within the control of the Mayor and other decision-makers.

- To have the scenarios as plausible outcomes, with a reasonable probability of occurrence, not at the boundaries of possibility, and for the scenarios to be broadly consistent with the findings of our Phase 1 report.
- At the same time, to give a reasonably wide range of futures that are distinct from one-another.
- To frame the scenarios so that they investigate two of the key questions in our commission: estimating the economic impact of a permanent shift to home working on behalf of office-based workers, and the extent to which any loss in spend and footfall in the CAZ is mitigated by increased activity in other areas of London.
- To be useful and to help drive policy recommendations, and
- To build on the scenario planning work already undertaken by TfL (see p.86 Appendix C).

Three future scenarios

Scenario development process

Trends common across all scenarios

There are some elements of change that offer a higher level of certainty which, following our analysis of trends, we feel confident enough to be common to all three scenarios. These may be established government policy or law, long term trends that have been relatively unimpacted, or even accelerated by COVID-19, or because they follow rules of logic. These include:

- An assumption that the timescales for removal of the winter 2020/2021 lockdown measures, as outlined by the Prime Minister on 22 February 2021 (HM Government, 2021), are broadly adhered to, and that international travel restrictions are lifted and inbound international tourism begins to recover during 2021 and 2022. We assume no further pandemics, but fear of a future pandemic varies according to each scenario.
- A ‘flight to quality’ in office space, as identified in our Phase 1 report (Arup, 2021).
- A move to online retail over time. The British Retail Consortium (2019) and Retail Economics (2019) both suggest an decrease in the share of in-person retail in future, with significant transfer online, with a pre-pandemic projection of over 50% of retail by value being internet-based by 2030. Together, these trends mean that much of the property becoming

vacant in the CAZ in the next 10 years will be lower grade office accommodation, or retail space.

- Further growth in appetite for hospitality and leisure, which have been growing significantly (the extent of growth may differ across scenarios). Nationwide, recreation and culture were the largest drivers in the increase in household spending between 2012 and 2019 (ONS, 2020), is now almost the single largest category of household expenditure, and is particularly important to Londoners (London and Partners, 2020a and 2020b).
- Increased digitisation over time (more time spent working and socialising online, often at home, over time), as new technology emerges.
- Increased pressure to accelerate action to tackle climate change, including achieving net zero by 2050 being part of UK law, and with many local authorities including the Mayor of London committed to reach that goal by 2030. Note that the Committee on Climate Change’s (CCC’s) pathways to achieving net zero suggest that air travel volume is limited to no more than a 60% increase on 2005 levels by 2050 (CCC, 2019) and assume significant aircraft fuel efficiencies.
- Food and beverage spend by office-based employees follows working location, as per the footfall and spending trends cited in our Phase 1 report. Retail and hospitality spend also broadly follows working

location, but office workers ‘save up’ some of this spend for the days that they visit the CAZ, so that the impact of lower footfall on the central area is mitigated somewhat. Hospitality and retail spend that does not take place in the CAZ is spent closer to the home location, online, or is ‘lost’. We have also tested a scenario where all food and beverage, retail and entertainment spend is fully transferred from the CAZ to the working location, pro-rated to the number of days (in Appendix A).

- The average age of office workers and other visitors to the CAZ is likely to decrease, as older employees are less likely to return more often than younger ones (YouGov, 2020; Hassell, 2020), and
- London’s labour market capture increases as the number of days spent working from home increases, as identified in our Phase 1 report and JLL (2020). The Elizabeth line opens 2022, and HS2 opens from 2029, creating opportunities for greater longer distance commuting, particularly from the west and the Midlands.

Trends that differ across scenarios

Our scenarios differ in terms of their assumptions to a number of key variables including the economy, office worker behaviour, London’s population and the return on tourism. On the following pages we explore each of these variables in more detail.

Three future scenarios

Assumptions on the economy

Employment and GVA projections

Our scenarios use the GLA’s economic scenarios for London (2021g), broadly extrapolating their 2021-23 growth rates to give a projection until 2031, taking account for Brexit and COVID-19.

The GLA have three scenarios for future economic growth:

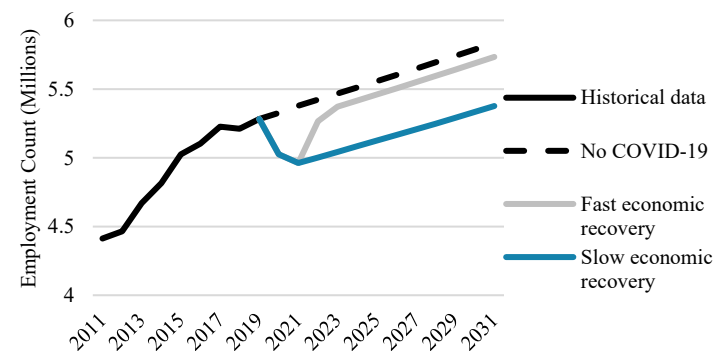
- **Fast economic recovery.** London’s economy returns to its pre-COVID-19 trend growth (rate and level) by 2023. No medium-term or long-term economic scarring.
- **Gradual return to economic growth.** London’s economy returns to its pre-COVID-19 trend growth rate eventually, but only in the long-term (after 5+ years) as there is a degree of economic scarring in the medium term.
- **Slow economic recovery.** Persistent economic scarring means that in the long-term the economy will see a slow recovery to a diminished trend growth trajectory by 2030.

Our analysis uses the ‘gradual return to economic growth’ scenario’s GVA and GVA/job for our most optimistic scenarios, but matches them with the ‘fast economic recovery’ scenario’s employment to provide a balanced scenario which assumes that London’s economy reaches the No

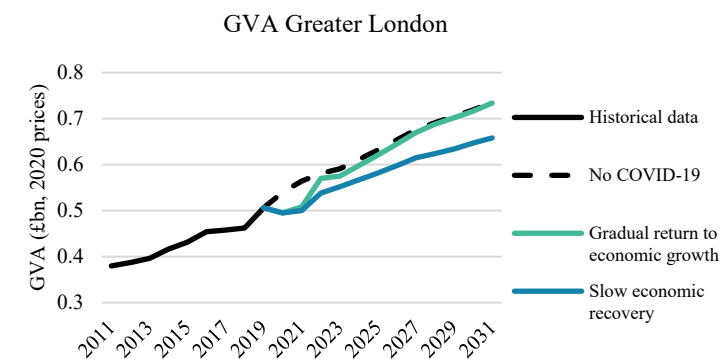
COVID-19 trend by 2031. Our less optimistic scenario uses the GLA’s ‘slow economic recovery’ scenario’s employment and matches it with a slightly modified version of the same GLA scenario which is in line with the National Institute of Economic and Social Research’s worst-case medium-run projection (NIESR, 2021).

The gradual return to economic growth scenario, which assumes a successful vaccine roll-out, and a gradual return to normal, has GVA contribution declining by 7% in 2020, before rebounding to pre-COVID-19 levels by mid-2022. GVA and employment growth rebound by the mid-2020s with GVA growth slightly outpacing the previous No COVID-19 trend, so that this projection reaches around 100,000 fewer jobs than the No COVID-19 trend by 2031.

In the slow economic recovery scenario, London’s GVA contribution is expected to decline by 11% in 2020 and close to 300,000 jobs will be lost, and it is not expected to return to pre-COVID-19 levels until 2023, and remain below the No COVID-19 trend.



London Employment 2011-2031 (Source: ONS (2021) and GLA (2021g) and Arup)



London GVA 2011-2031 (Source: ONS (2021) and GLA (2021g) and Arup)

Three future scenarios

Assumptions on the economy

Stronger growth in arts, culture and hospitality

The GLA’s gradual return to growth scenario projects that the arts and culture, and hospitality industries experience positive growth again, after a significant gap during the pandemic.

Employment in arts, entertainment and recreation is expected to increase by 20% in the year 2022 and accommodation and food service activities are also projected to grow similarly, at an annual rate of 15%. An eventual return to pre-COVID-19 levels appears more likely in arts and culture and hospitality given their strong position before COVID-19, and the possibility of further government support for the former. The exact speed and pattern of growth will depend on footfall and underlying demand.

Construction industries are also expected to see double digit growth.

Challenges continuing for retail

For retail the outlook is less bullish, and the GLA’s forecast even shows a 2.2% yearly decrease for jobs in wholesale and retail trade in 2022.

This reflects traditional brick-and-mortar retailers struggling with competition from online shopping and changing consumer behaviour patterns. However, there remains an opportunity for retailers

to grow in local centres, and in more diverse, specialist areas.

Emerging professional services are expected to drive the office recovery

The GLA anticipates the fastest growing office-based sectors within the CAZ will be the tech-and science-based industries, which are expected to grow at 5.1% and 6.2% in 2022 respectively. Additionally, in the long run the green economy (clean tech, circular economy start ups, etc) is expected to increase its share.

These industries saw strong growth between 2015 and 2019, when the number of people working in the IT, consultancy and related activities within the CAZ alone soared from 58,000 to 75,000 within five years.

They fared well in 2020 and 2021 during COVID-19 lockdowns (GLA, 2021g), and are set to recover far more quickly than face-to-face industries.

Workforce jobs annual growth rate in 2022	
Sector	%
Agriculture, forestry and fishing	1.0
Mining and quarrying	-4.3
Manufacturing	-1.0
Electricity, gas, steam and air-conditioning supply	1.2
Water supply; sewerage and waste management	-2.4
Construction	10.8
Wholesale and retail trade; repair of motor vehicles	-2.2
Transportation and storage	-1.1
Accommodation and food service activities	15.3
Information and communication	5.1
Financial and insurance activities	1.6
Real estate activities	5.2
Professional, scientific and technical activities	6.2
Administrative and support service activities	5.6
Public administration and defence; compulsory social security	2.3
Education	1.0
Human health and social work activities	2.0
Arts, entertainment and recreation	20.1
Other service activities	5.7
Activities of households	3.1

Workforce jobs annual growth rate in 2022 for the GLA’s gradual return to economic growth scenario, selected highlighting (Source: GLA 2021g)

Three future scenarios

Assumptions on the economy

London's Opportunity Areas, major developments and the CAZ

Opportunity Areas are those designated by the GLA for significant development; both housing and commercial use. Many of these areas contain major developments that are within, or close to the CAZ's boundaries, including:

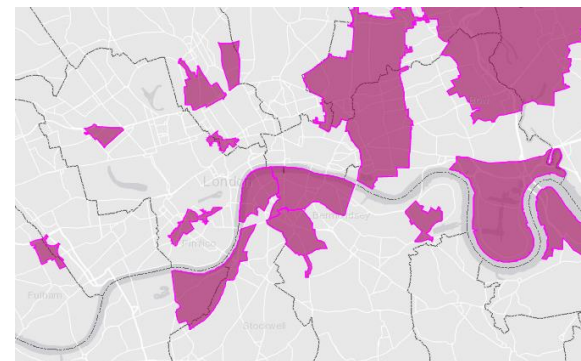
- The City fringe and Tech City
- Isle of Dogs
- Bankside, Borough and London Bridge
- Waterloo
- Elephant and Castle
- Vauxhall, Nine Elms and Battersea
- Victoria
- Tottenham Court Road
- Paddington
- Euston, and
- Kings Cross and St Pancras.

Opportunity Areas are characterised by having significant development capacity to accommodate new homes, commercial development and infrastructure, linked to existing and planned improvements in public transport connectivity and capacity.

Many of the Areas located within or adjacent to the CAZ are well established and are classified as 'underway' or 'maturing' in the London Plan, reflecting that planned development is expected to be completed over the short to medium term. Together these Areas will provide over 85,000 new homes and 270,000 new jobs (GLA, 2021c).

46,300 houses
193,100 jobs

are expected to be developed in the Opportunity Areas within and bordering the core CAZ (NiOD futures are additional).
Source: GLA (2021e)



A significant portion of the CAZ, particularly in the City, NiOD and Riparian South, is given over to Opportunity Areas (Source: GLA, 2021e)

Three future scenarios

Assumptions on office worker behaviour

The future extent of home working

The popularity of full-time home working plateaued before COVID-19, but the forced experiment of the lockdowns and social distancing restrictions has led to the adoption of new working conventions, a greater understanding on behalf of some employers, complementary technologies and broader social acceptance of these practices. This is likely to be the longest-term impact of the crisis

Nevertheless, our Phase 1 report identified that this likelihood to remain at home, or come into the office, varied significantly among individuals and employers, according to a number of factors:

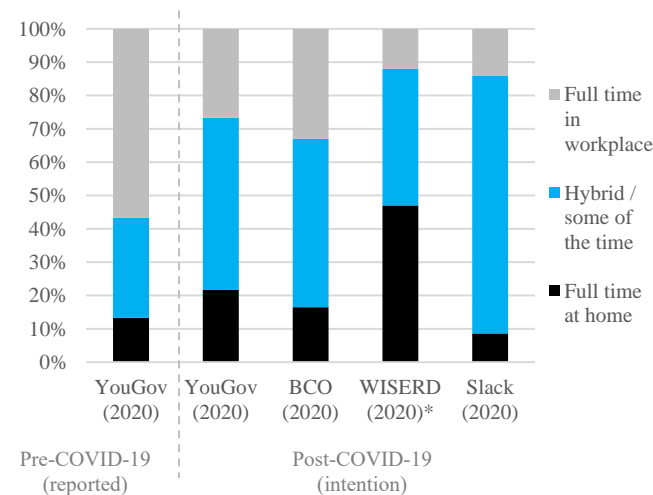
- Depending on industry, certain office-based sectors and tasks are performed more efficiently at home. Others thrive on human contact and co-creation. Self-contained and skilled routine work is more likely to be successful in working from home (Choudhury et al, 2019) than parts of the economy which are based on non-routine cognitive work.
- There is some evidence that younger and older employees, and men, are more likely to wish to return to the office, than the middle grades, and women (YouGov, 2020, Hassell, 2020).
- Social distancing rules and conventions may remain, and along with them, the fear of (or the occurrence of) another pandemic, and the potential

reluctance to travel on public transport as a result. As a busy place, extremely well served by sustainable transport, this risks impacting the CAZ more than many cities.

- Behavioural factors including cultural norms, the fear of missing out (of office life, and also of CAZ-based arts, culture and leisure opportunities), the potential for drifting back over time, seasonality, and a human fondness for being at home on days of the week closest to the weekends (Arup, 2021).
- The quality of the supplementary offer (working life, social contact, hospitality, retail, arts and culture) in the CAZ versus the home location.
- Supply-side actors such as pressure from employers to return, or conversely, employers downsizing office accommodation to save costs. There may also be policy on behalf of governments (which may particularly impact public sector white collar workers).
- Trust and culture between employees and employers, particularly when productivity is perceived to be at risk.

Overall there is a great deal of uncertainty about the likelihood of continued widespread home working. Many employers appear to have put off decisions on office size until after the pandemic (Arup, 2021), with more home working likely post-pandemic. Most

employees appear to favour a hybrid option, as shown in the chart. As few surveys ask for the number of days per week, and many do not ask for pre-pandemic behaviour, making assumptions on exact number of days in the office, is challenging, although simple calculations suggest the range of possible futures is significant, with a concentration of estimates between two and four fifths of 2019 levels.



Pre-pandemic and post-pandemic working locations
 YouGov survey based on a cross-section of London workers. Other surveys based on UK office workers, or those that were home working during the pandemic. * In the WISERD results 'full time at home' includes working from home "often or all of the time".

Three future scenarios

Assumptions on office worker behaviour

Experience from Australia and New Zealand

Australia and New Zealand have had significantly fewer COVID-19 deaths than the United Kingdom, and with the exception of some local lockdown restrictions, have been relaxing COVID-19 restrictions for several months. Both countries were under more severe restrictions, including mandatory working from home, for long periods in 2020. As such Australian and New Zealand cities represent case studies for office worker behaviour in London, post-COVID-19.

In the first two weeks of February 2021, Auckland's public transport system carried 63% of the volume of the equivalent period the previous year. In January the figure was 61%, and in December the figure was, at 82%, driven by increased travel over the Christmas period, remarkably close to the normal volume (Auckland Transport, 2021).

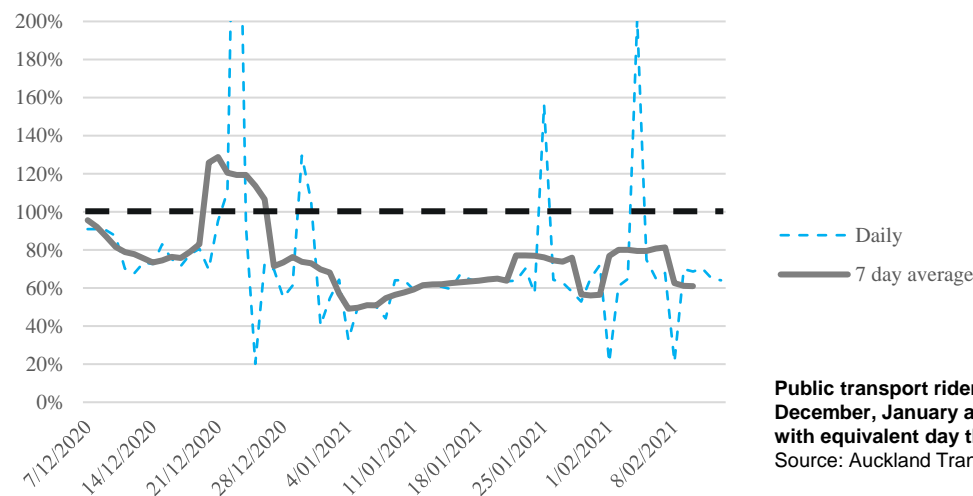
In Sydney the transport network was reportedly carrying 60% of its normal volume in mid-February (Sydney Morning Herald, 2021), with increases of approximately 3% week-on-week (TfNSW, 2021). This is broadly consistent with anecdotal evidence given to us of a normal 3-4 day in-office post-pandemic working week in both countries.

Whilst this is encouraging, care should be taken when applying this directly to the London context.

- Travel-to-work distances are longer in London, and

as we showed in our Phase 1 report, this and other factors meant that London office workers lagged behind their overseas counterparts in returning to their desks in summer 2020.

- Londoners have spent a greater period working from home, and under other COVID-19 restrictions, and have therefore had more time to form habits.
- The pandemic is still in progress in both Auckland and Sydney, with some restrictions are still in place, the level of public transport use is still increasing.



Public transport ridership in Auckland in December, January and February, compared with equivalent day the previous year
 Source: Auckland Transport (2021)

Three future scenarios

Assumptions on residential population

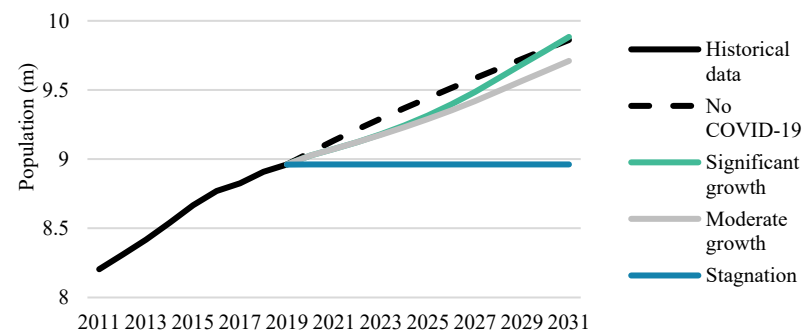
The population of London was at an all time high before the pandemic. Despite reports of recent mass out-migration particularly by EU workers, and opportunities for in-migration, particularly from Hong Kong, London’s population continues to be substantially governed by birth and death rates. The GLA expects growth to continue in the long run, albeit at a slightly slower rate than in previous decades. We take the GLA’s housing-led projections as the No COVID-19 baseline.

Our scenarios use the GLA’s significant and moderate residential growth scenarios and add a stagnation projection, which assumes that both the CAZ’s and London’s populations remain at 2019 levels in the period to 2031. In this scenario, the difference between birth and death rates, and continuing inflow of new residents is counterweighted by workers leaving London as remote working and fewer work opportunities make the city less attractive. Note that the stagnation scenario is outside of the low range of the GLA’s projections.

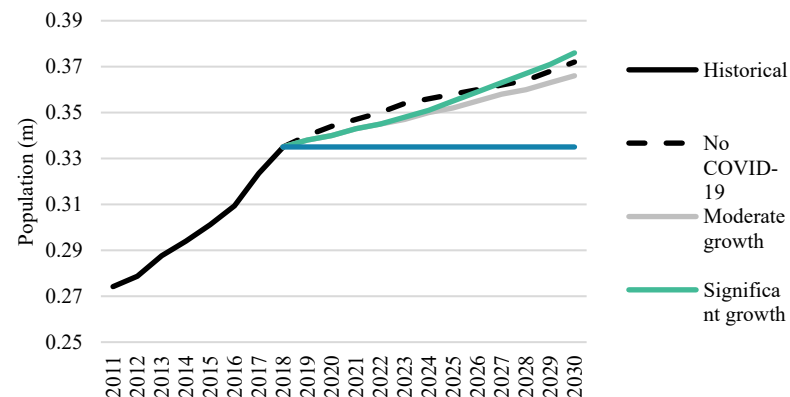
‘Significant growth’, the most optimistic GLA projection, has London’s population returning, and

then exceeding pre-COVID-19 levels, to surpass the No COVID-19 trend by 2030. The CAZ grows even more significantly and surpasses the No COVID-19 trend by 2027.

‘Moderate growth’ assumes that population broadly follows the pre-COVID-19 rate, from a lower base, meaning that it is consistently below the No COVID-19 trend.



London population, 2011-2031 (Source: GLA (2020d) Population and Household Projections)



CAZ population (Source: GLA (2020d) Population and Household Projections)

Three future scenarios

Assumptions on tourism

The impact of tourism on footfall and spend in the CAZ is significant. GLA (2020a) suggested that the impact of lost spend from the absence of tourists in 2020 was some £10.9bn, over five times higher than impact from the absence of office workers, at £1.9bn.

As well as having a high impact, the future of tourism, when it will return, and at what rate, appears to be getting more uncertain. The UK government removed all travel corridors in mid-January 2021, and at the time of writing, requires all international passengers to quarantine. Hotel quarantine was introduced from certain countries in mid-February. Many other countries now require testing, or quarantine themselves, which adds cost, risk and unpleasantness to an overseas trip. The recent suggestions by UK government is that the restrictions may be in place for some time (see for example LBC, 2021). Even if domestic travel is allowed, it is possible that an aversion to large cities such as London may persist after COVID-19. This is supported by London seeing only 20% occupancy over the summer of 2020 after restrictions were lifted compared to 90% a year earlier (ONS, 2021).

The global economic recovery will also play a part here, and if other countries around the world face

similar economic challenges caused by the pandemic, disposable incomes may be lower, and foreign leisure travel less likely. Furthermore, the impact of Brexit may also hinder the return of European visitors, who may be less inclined to visit the UK given new travel requirements.

It can be helpful to separate tourists into a number of different categories. Office workers that remain after work to enjoy the leisure facilities are not treated as tourists in this report.

- Day visitors, mostly from London and the south east.
- Overnight domestic visitors.
- Overnight international visitors.
- Business travellers.

Of these, we suggested in our Phase 1 report (Arup, 2021) that day, domestic, and short-haul international visitors were likely to return first, and that the future for business travel was less buoyant than leisure travel. Potentially, there is a secondary impact if the virus remains a threat, which is a reduced casualisation of international travel, whereby (long haul trips) are planned longer in advance, and the length of stay and spend increases. The average age of a tourist may also

reduce if fears of a future pandemic remain.

We noted in our previous report that Tourism Economics advised (in autumn 2020) that in the medium-term London will continue its lead as the most popular city destination in Europe, and by 2025 will be comfortably exceeding its 2019 numbers of visitors.

We did note previously that these projections may be threatened through a continuation of travel restrictions, fear of a future pandemic, or of future strains. As a result of the most recent restrictions, and the continued spread of the virus, we are now including a more downbeat projection for tourism's recovery within our scenarios, with recovery to 2019 levels by around the middle of the decade, or later, depending on the scenario.



Scenario 1: Bounce-back to a new normal

Description

Summary

In the ‘bounce-back to new normal’ scenario, white-collar workers, and their employers, are keen to return to offices once the pandemic is over. There remains some increase in home working over and above 2019 levels, to help with work-life balance, but the norm is to spend the majority of the working week at the office. The strong economy facilitates growth across much of the service sector.

The result is slightly less frequent visits by white-collar workers, which allows some employers to free up a small amount of office space. This is re-occupied by new and expanding enterprises stepping in. The result is only a small impact on footfall and vibrancy, and in time, an overall strengthening of London’s role as a global city.

Economy

- Positive economic climate aligned with the GLA’s gradual return to economic growth projection.
- Lower fears of a future pandemic, and social distancing habits erode over time.
- An overall strengthening of London’s role as a global city.

Office worker behaviour

- Slightly less frequent visits by white-collar workers, with office attendance rates at four-fifths of 2019 levels.
- Increased CAZ labour market capture as slightly longer commutes become more palatable if done less frequently.
- New tenants stepping into the vacated workplaces, still attracted to the CAZ offer and professional networking opportunities.
- Retail and leisure spending focused on CAZ, with very little increased spending close to home locations.
- The CAZ remains a place for face-to-face interaction, with strong collaboration across sectors and disciplines, maintaining London’s reputation as a hub for innovation and cross-pollination of ideas.

Tourism

- Restrictions on international travel remain in the short term.
- Some hesitancy by domestic tourists to visit cities as a result of residual public health fears.

- Inbound tourism (i.e. all visitor trips to the CAZ) to return to 2019 pre-pandemic levels by 2025/6.

Population

- London’s population will continue to grow, in line with the GLA’s central upper total population forecast.
- Some out-migration of workers (especially those from the EU), but in-migration too, attracted by new types of visa, such as the one announced in early 2021 for Hong Kong residents.
- Inner London’s growth is accelerated, though the CAZ and outer London grow at almost the same pace as pre-pandemic rates.



Scenario 1: Bounce-back to a new normal

Implications

Transport

- A continued focus on radial, peak, journeys. A similar set of opportunities and threats associated with the last decade: overcrowding on some routes, congestion, pollution, poor air quality, and competition for surface road space.
- The peak of demand may still be almost as ‘peaky’ as previously, but overall revenue to TfL may be lower due to slightly lower commuting, and slow return of tourism.

Business

- A broadly positive business climate overall. The CAZ continues to be the ‘command and control’ centre of the UK economy.
- Challenges associated with Brexit, and recovery from the pandemic, including tightening of public resources and associated spending.
- A continued reduction of in-store retailing, with some businesses closing and some high street retailers closing less viable stores.

Place, people and culture

- The Mayor will continue to embed principles of Good Growth to tackle the challenges identified in

the 2021 London Plan (GLA, 2021c), which include:

- High levels of population growth putting pressure on land, housing, infrastructure and the environment.
 - This growth in population not being matched by the growth in the quantity, and type, of homes, especially a lack of intermediate housing in the CAZ.
 - Rents and house prices increasing to levels which have priced many people out of the housing market.
 - Entrenched inequality amongst some of the most deprived neighbourhoods in England.
- Issues with the quality of the public realm in the CAZ, especially given competition for tourism and investment from other global cities.
 - The continuation of some tension between CAZ residents and visitors in relation to issues such as noise pollution and increasing congestion.
 - Continued development leading to some instances of economic displacement, for example expansion of office-based worker activity outside of the CAZ, coinciding with a reduction in office-based worker

activity in the CAZ.

- Competition from other global cities on the arts and culture offer.



Scenario 2: Widespread home working and reinvention

Description

In the ‘widespread home working and reinvention’ scenario, remote working for much of the week among office-based workers will persist after the pandemic. A combination of lifestyle choices, new working habits formed during the COVID-19 period, the potential for reduced costs among employers, and new enterprises choosing not to have an office at all will mean that the majority of the working week is spent at home. Remote video conferencing remains the norm for everyday meetings and conferences.

A small number of workers, who are building new skills, developing their career, or who have challenging working circumstances at home, prefer to visit the CAZ every day. Others only work in the CAZ every so often, in order to stay in contact with colleagues, for significant meetings, or when they have an evening engagement in the city centre. These workers sometimes choose to work in an informal office, or café, close to their home location, to give them a change in their surroundings.

The result is a much lower number of office workers in central London overall, and a partial transfer of economic activity to, or close to, workers’ home locations. This leads to an immediate decrease in demand for food and beverage, entertainment and hospitality in the CAZ, but this is mitigated by a strong tourist presence, and by workers ‘saving up’ some spend for their visit to the CAZ.

Lower demand for office floorspace leads to a reduction in competition for space for new offices in the CAZ, which allows for more meanwhile uses in the short term, and a higher CAZ residential population in the longer term.

Economy

- A positive economic climate aligned with the GLA’s gradual return to economic growth projection.
- New, emerging enterprises and innovation stepping in to vacated office buildings, taking advantage of lower property prices.
- Much wider CAZ labour market capture as longer commutes are more palatable if they are done less frequently.
- Some fears of future pandemic, but social distancing erodes over time.

Office worker behaviour

- Widespread white-collar home working (and close-to-home working) remains, with office worker attendance rates at two-fifths of 2019 levels. Much lower number of office workers in the CAZ as a result.
- Food and beverage spend significantly increases in home (and close-to-home) locations. Some retail and entertainment spending transfers to home

locations.

- Lower CAZ footfall and spending overall, but impact on CAZ is mitigated by ‘saving up’ of some spend on retail and entertainment for days spent in central London.

Tourism

- Some restrictions on international travel remain in the short term. Inbound tourism (i.e. all visitor trips to the CAZ) back to 2019 levels by 2026/7.
- Less crowding mean that London remains an attractive place to visit, and to live.
- CAZ offer suffers immediately but reinvented in parts, so that it becomes increasingly attractive as destination for world-leading arts, culture, entertainment and hospitality.

Population

- Population continues to grow albeit at a significantly slower rate compared with the last 10 years, in line with the low variant of the GLA population projection.
- In the longer term, less competition for space from workplaces leads to an increase in the CAZ’s residential population.



Scenario 2: Widespread home working and reinvention

Implications

Transport

- Significantly lower transport system demand overall. Peak time, and radial routes see the largest falls in demand. Growth in popularity of orbital routes, and in turn, may result in higher cycling, but also higher car usage outside of the CAZ, increasing congestion, impacting outer London bus journey times and threatening a green recovery.
- Potentially, a lower active mode share overall, driven by the increased relative popularity of orbital routes, and those outside of the CAZ.
- Nevertheless, increased short distance travel creates opportunities to embed greater active travel.

Business

- A broadly positive business climate overall. Fewer important decisions taken in CAZ, but it continues to be the location for many national and global head offices.
- Challenges associated with Brexit, and recovery from the pandemic.
- Workspaces may change to being almost entirely collaborative spaces for interaction. Significant downsizing in company office space.
- With targeted intervention to promote cross-sector

collaboration, and flexible use of spaces, the CAZ can remain a place for face-to-face interactions and networking to promote innovation.

- Without active stewardship and governance, CAZ arts and culture, retail, hospitality and entertainment offer could suffer badly through lack of footfall, which might otherwise turn into a vicious circle.

Place, people and culture

- Opportunities for retail, hospitality and entertainment in the rest of London and elsewhere.
- The type of users shift towards tourists, residents and leisure visitors, with few office workers, contrary to the pre-COVID-19 patterns where the office workers dominated more. Over time, the CAZ offer evolves to accommodate this, and it becomes more of a destination for world-leading arts, culture, entertainment and hospitality. Less competition from office space leads to opportunities for changes of use.
- Opportunity to use vacant spaces to test new flexible and meanwhile uses.
- Significant opportunities to improve the quality of public realm in the CAZ.
- Some housing affordability challenges eased as more residential areas are created. Lack of

affordable housing in the CAZ is eased somewhat but new homes still required to address the historic under supply.

- The continuation of some tension between CAZ residents and visitors in relation to issues such as noise pollution and increasing congestion.
- Continued development leading to some instances of economic displacement, for example expansion of office-based worker activity outside of the CAZ, coinciding with a reduction in office-based worker activity in the CAZ.
- The opportunity for a reinvention of the CAZ post-pandemic, and for culture to be more reflective of London's population.



Scenario 3: Significant headwinds

Description

In the ‘significant headwinds’ scenario there is a further slowing of the economy post-Brexit, post-pandemic. As in the ‘widespread home working and reinvention’ scenario, a combination of lifestyle choices and formation of new working habits between 2020 and 2021, the potential for reduced costs among employers, and new enterprises choosing not to have an office at all will mean that the majority of the working week is spent at home. Online video conferencing remains the norm for everyday meetings and conferences. Significantly fewer white-collar workers visit the CAZ, and the low number of new jobs that are created are able to be carried out remotely.

Inbound tourism (i.e. all visitor trips to the CAZ) is much slower to return to pre-pandemic levels. As such, the arts, culture, hospitality, and entertainment industries suffer, the overall quality of offer is reduced, and so footfall reduces further. There is little stewardship of the CAZ, and thus whilst traditional industries suffer, there is little reinvention or renewal. Commercial rents reduce, but with a few exceptions, there is little appetite for new players to take their place. There is therefore a slight ‘hollowing out’ of the central area.

Economy

- Poorer economic outlook. London’s economy remains below the GLA’s slow economic recovery projection, and broadly in line with the more pessimistic UK projections (HM Treasury, 2021a).
- Significant fear of a further pandemic and social distancing conventions remain to a certain extent.

Office worker behaviour

- Widespread white-collar home working (and close-to-home working) remains, with office worker attendance rates at two-fifths of 2019 levels. Much lower number of office workers in the CAZ as a result of home working and lower number of white-collar jobs overall.
- Much wider CAZ labour market capture. But growing popularity of ‘digital nomads’ who can ‘work from anywhere’ London becomes less attractive as a place to be based. London is no longer a global innovation hub as innovation becomes more virtual and disperse.
- Fewer visits and lower spending means that CAZ hospitality, retail and arts and culture offer reduces, which in-turn reduces the number of visits.

Tourism

- Prolonged travel restrictions and aversion to large cities (and over time, a decrease in the offer) lead to slower recovery of tourism, which only returns to 2019 levels by 2031.
- Ultimately this scenario could lead to a degradation of London’s reputation internationally.

Place, people and culture

- Increased domestic and international out-migration from London as people search for space.
- Lower in-migration as a result of fewer economic opportunities.
- Population stagnates at 2019 levels.



Scenario 3: Significant headwinds

Implications

Transport

- Significantly lower transport system demand overall.
- Peak time, and radial routes see the most significant falls in demand, but potentially some decrease in demand for orbital routes as well. Potentially higher car usage outside of the CAZ, increasing congestion, impacting outer London bus journey times and threatening a green recovery.
- Lower traffic volumes could prove beneficial for environmental outcomes and reduce levels of pollution.

Business

- Challenging economic climate. Significant challenges associated with Brexit, and recovery from the pandemic.
- Significant downsizing in company office space driven by lower numbers of employees, and less frequent visits by those employees that remain.
- CAZ arts and culture, retail, hospitality and entertainment offer suffers through lower consumer spending, and significant lack of footfall.
- Economic climate means that there are constraints

on availability of government subsidy for arts and culture, meaning that the quality of offer is reduced still further.

Place, people and culture

- Slower economic recovery means higher competition for government funding for public realm improvements.
- Fewer opportunities for retail, hospitality and entertainment in the rest of London and elsewhere.
- Tourists slower to return, and so there are lower levels of spending and less demand for arts, culture, entertainment and hospitality activities.
- CAZ is slower to reinvent and loses out to global competitors.
- Opportunities for lower-cost meanwhile uses.
- Some housing affordability challenges eased. Opportunities for some to locate in the CAZ, or close by, who were previously priced out.
- Partial reversal of gentrification in some areas.
- Significant opportunities for grassroots / bottom-up / do-it-yourself culture.

III. The impacts on London's economy

The impacts on London's economy

Our model

We have built a partial equilibrium model that builds on the inputs on the wider economic and demographic factors described in the previous chapter, and assesses the spatial impact of further jobs placed at risk, or created, in London's face-to-face sectors (food and beverage, retail and entertainment), caused by lower office worker footfall, changes to tourist visits, population and economic outlook. Others, including cleaners, catering and security staff who support office buildings are also at risk, but are not included in this model. Our assumptions around employment does not account for any technological advances or automation.

Based on this, we can then estimate the knock-on impact on employment and place-based GVA, if we assume that all the jobs placed at risk are lost.

The model allows us to distinguish between different areas of London, so that we can investigate the benefits to residential locations, and how they might compare with the detrimental impacts on the CAZ, from long term home working.

A further description and map of the model functionality can be found in Appendix B.



Miltiadis Fragkidis via UnSplash

The impacts on London's economy

London's emerging growth sectors

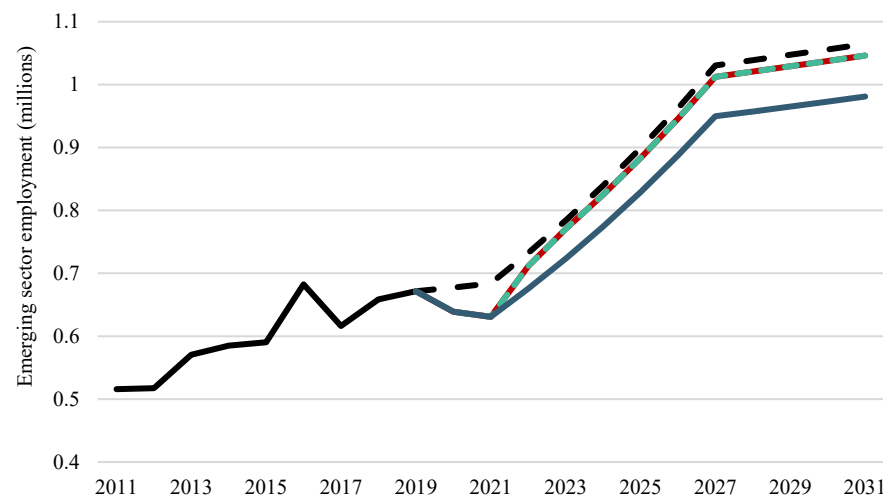
London's emerging office based sectors, including those working in lab-enabled offices, are expected to drive growth going forward.

In 2019 there were 0.7m emerging office sector jobs across London, 0.4m of which were based in the CAZ, making emerging office-based jobs comprise some 18% of total CAZ jobs. The share of emerging sector jobs is expected to grow over time.

Emerging high-value-added sectors are expected to lead the economic recovery of the CAZ in future, with the most dynamic growth in the 'bounce back to a new normal' and 'widespread home working and reinvention' scenarios.

Although this growth will be focussed in the CAZ, there are opportunities for London as a whole. In both 'bounce back to a new normal' and 'widespread home working and reinvention' scenarios, the growth in these sectors is still strong, totalling just over 1m emerging office based jobs across London by 2031, only slightly fewer than the 'No COVID-19' scenario.

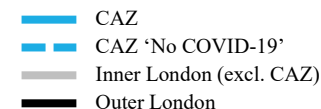
However, due to the poorer economic outlook in the 'significant headwinds' scenario, the number of jobs in these sectors is expected to be just under 1 million by 2031, around 0.1 million less than in the 'No COVID-19' scenario.



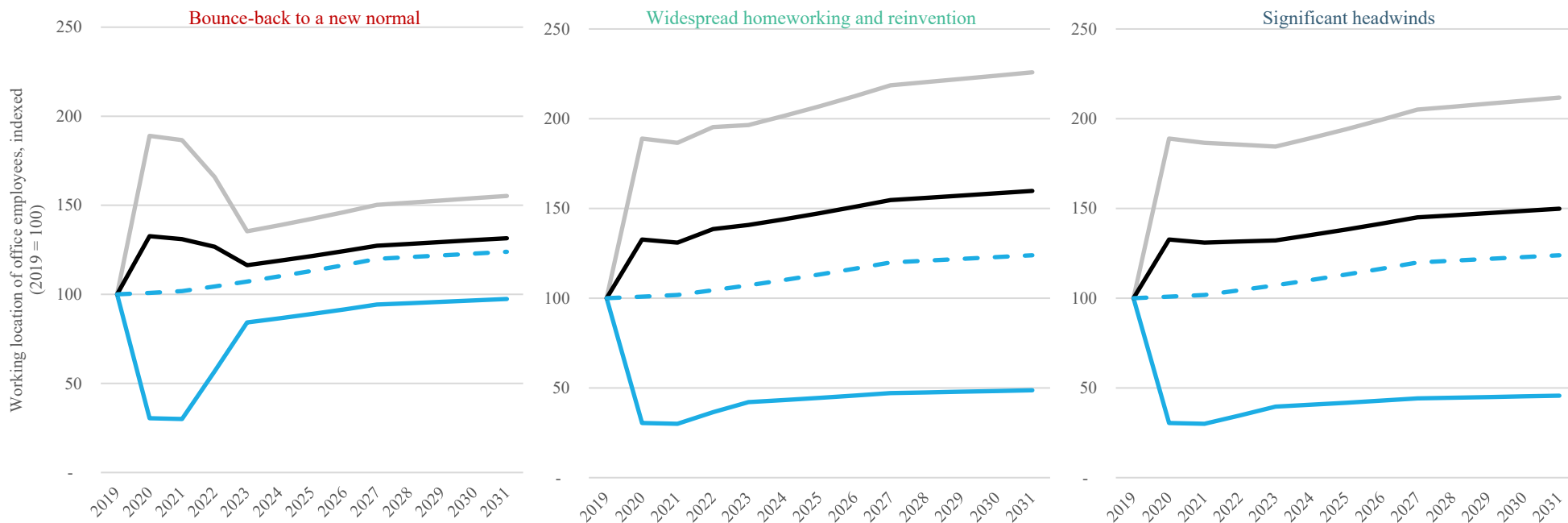
Emerging sector employment in London by scenarios (2011 to 2031) Arup analysis based on GLA (2021g)

- Historical
- - - No COVID-19
- - - Bounce back to a new normal
- - - Widespread home working and reinvention
- Significant headwinds

The impacts on London's economy



The working location of office employees



Working location of office employees in each scenario, indexed (2019 = 100) (Arup analysis, note that the focus of our analysis is from 2023-2031, 2021-23 provided for illustration only)

These charts show the estimated change in the time that office workers spend in the CAZ, inner and outer London, relative to 2019 levels, and accounting for the different levels of home working in each scenario.

In all scenarios, office worker time spent in the CAZ is lower than the 'No COVID-19' scenario.

March 2021

Time spent in the CAZ is highest in 'bounce back to a new normal', with each worker spending four-fifths of their time there, relative to 2019 levels. Because of the growth in numbers of office jobs overall, this figure becomes broadly equivalent to 2019 levels by 2031.

Under the 'widespread home working and reinvention'

and 'significant headwinds' scenarios, office workers are present in the CAZ at two-fifths of 2019 levels, which means that by 2031, even with growth, overall office worker footfall is just below half of 2019 levels. This means that in these scenarios the balance between workers and visitors will tip in favour of the latter.

The impacts on London's economy

The working location of office employees

In all scenarios, office worker footfall remains much higher in the rest of London when compared with the CAZ. This is particularly evident in Inner London, where footfall is modelled to be more than twice that of 2019 levels by 2031 in both the 'widespread home working and reinvention' and 'significant headwinds' scenarios. This is because Inner London is gaining over half of the 'redistributed' office-based workers from the CAZ. This is borne out by mobility activity insights from the O2 People Count database (GLA, 2020c).

Working location of office workers, indexed (2019 = 100)	2023				2031			
	CAZ 'no COVID-19'	CAZ	Inner London (excl CAZ)	Outer London	CAZ 'no COVID-19'	CAZ	Inner London (excl CAZ)	Outer London
Bounce-back to a new normal	107	84	135	116	124	97	155	132
Widespread home working	107	42	196	141	124	49	226	160
Significant headwinds	107	40	184	132	124	46	212	150

Working location of office employees in each scenario, indexed (2019 = 100) (Arup analysis)

The impacts on London's economy

A significant number of job are at risk in the medium to long term

A reduction in office worker footfall puts a significant number of retail, food and beverage, and entertainment (including arts and culture) jobs at risk. This is exacerbated in all three scenarios by decreased levels of visitor spend. As non-worker visitors spend more, on average, than office workers, assumptions on tourism (which includes those on shopping trips) has a large impact on the total number of jobs at risk. Population is also a key driver. Outside of the CAZ, higher footfall may lead to opportunities for job creation.

Significant numbers of jobs at risk in 2023

Even in the 'bounce back to a new normal' scenario, 93,000 jobs in the CAZ are at risk in 2023, relative to no-COVID. This is a time by which the wider economy would be considered to have recovered. There would be only minor opportunities for job creation in the rest of London, meaning that the overall number at risk is 114,000.

In the 'widespread home working' scenario, the absence of office workers and slower tourist growth means that the number of CAZ jobs at risk is 107,000 in 2023. Here there are slightly more opportunities in the rest of London, which mitigates the impact, and so the overall number at risk is 119,000. The 'significant headwinds' scenario leads to a greater number of jobs at risk in both the CAZ and in the rest of London. In this scenario the CAZ at risk numbers alone amount to 115,000 in 2023,

with a total figure of 158,000 at risk across London.

By 2031, as the economy recovers and visitor numbers grow, the number of jobs at risk declines in all scenarios. In each of these, the greatest opportunity for jobs demand in the face-to-face sectors is in the areas outside of the CAZ, closer to workers home locations.

The importance of population growth

By 2031, the population in the CAZ and the rest of London in the 'bounce back to a new normal' and 'significant headwinds' scenarios, exceeds that in the 'No COVID-19' scenario. This begins to drive growth in demand for jobs, which in the 'bounce back to a new normal' scenario exceeds the 'No COVID-19' scenario by 25,000 by 2031.

But the 'significant headwinds' scenario makes for a stark comparison. A decade after COVID, the overall number of jobs at risk in across London is 148,000 higher than in the 'No COVID-19' scenario in 2031, with the bulk of these located in the CAZ.

In all scenarios the bulk of the jobs at risk are concentrated in the West End because of its dependence on visitor spend, particularly retail, although the City and the East also suffers significantly. The impact is less severe in the Riparian South. For a more in-depth breakdown, see Appendix A.

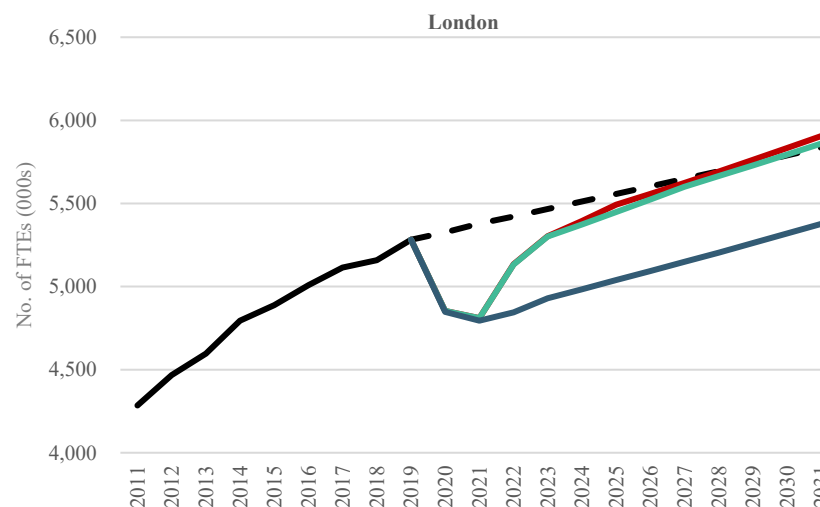
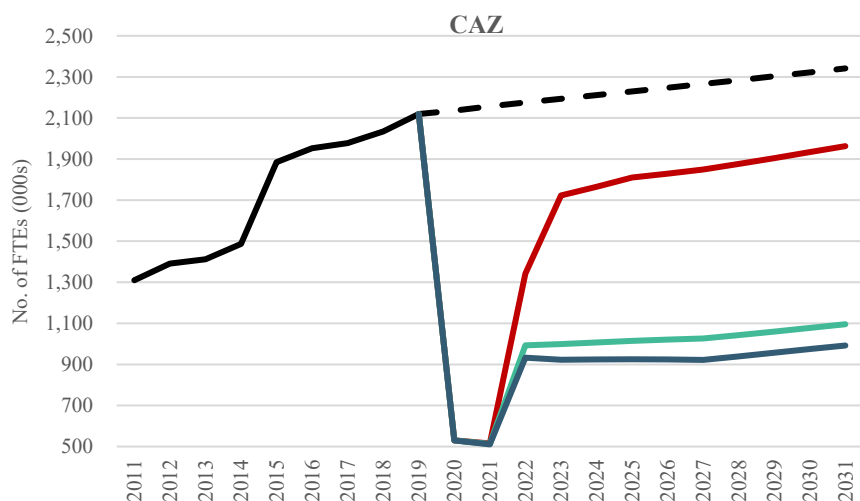
	2023						2031					
	CAZ		Rest of London		Total London		CAZ		Rest of London		Total London	
	Diff to 2019	Diff to no COVID	Diff to 2019	Diff to no COVID	Diff to 2019	Diff to no COVID	Diff to 2019	Diff to no COVID	Diff to 2019	Diff to no COVID	Diff to 2019	Diff to no COVID
No COVID-19	18	-	29	-	47	-	59	-	88	-	147	-
Bounce-back to a new normal	-75	-93	8	-21	-67	-114	69	10	103	15	172	25
Widespread home working	-89	-107	17	-12	-72	-119	12	-47	116	28	128	-19
Significant headwinds	-97	-115	-14	-43	-111	-158	-27	-86	26	-62	-1	-148

Jobs in demand and at risk in London's face-to-face sectors by scenario and location (000s FTEs) (Arup analysis)
(+ve indicates job demand, -ve indicates jobs at risk)

The impacts on London's economy

- Historical
- No COVID-19
- Bounce back to a new normal
- Widespread home working and reinvention
- Significant headwinds

CAZ employment, net of jobs at risk or in demand, is expected to be much lower than a 'No COVID-19' scenario



Employment net of jobs at risk or in demand (GLA (2021g) and Arup analysis; note that the focus of our analysis is from 2023-2031, 2021-23 provided for illustration only)

These charts illustrate the number of FTE jobs located in the CAZ, and the total for London in each scenario, if we assume that all of the jobs placed at risk are lost, and those in demand are created. It includes all sectors, not just those that are face-to-face, and also reflects different numbers of jobs in the underlying economic forecasts. As before, we have pro-rated office worker employment according to time spent at home, or in the office.

In the 'bounce back to a new normal' scenario overall CAZ employment levels are not anticipated to rebound to 2019 levels, nor catch up with the 'No COVID-19' scenario, even though the gap narrows with time. By 2031, CAZ employment levels are expected to be just below 2019 levels, and remain significantly behind a 'No COVID-19' scenario.

In 'widespread home working and reinvention' and 'significant headwinds' scenarios, the magnitude of the impact on jobs runs deeper, in which less than half the number of CAZ 'No COVID-19' jobs would be operational in 2023 and 2031.

The impacts on London's economy

- Historical
- No COVID-19
- Bounce back to a new normal
- Widespread home working and reinvention
- Significant headwinds

Across London, there are opportunities for higher employment, particularly in the long term

However, across London, demand growth, population growth and dispersed working drives significant opportunities for additional jobs in the long term. By 2031, the number of jobs, net of those at risk or in demand exceeds the 'No COVID-19' levels, at just under 6m workplace jobs in both the 'bounce back to a new normal' and 'widespread home working and reinvention' scenarios.

In the 'significant headwinds' scenario employment levels still lag behind the 'No COVID-19' levels, and only return to 2019 levels in 2031.

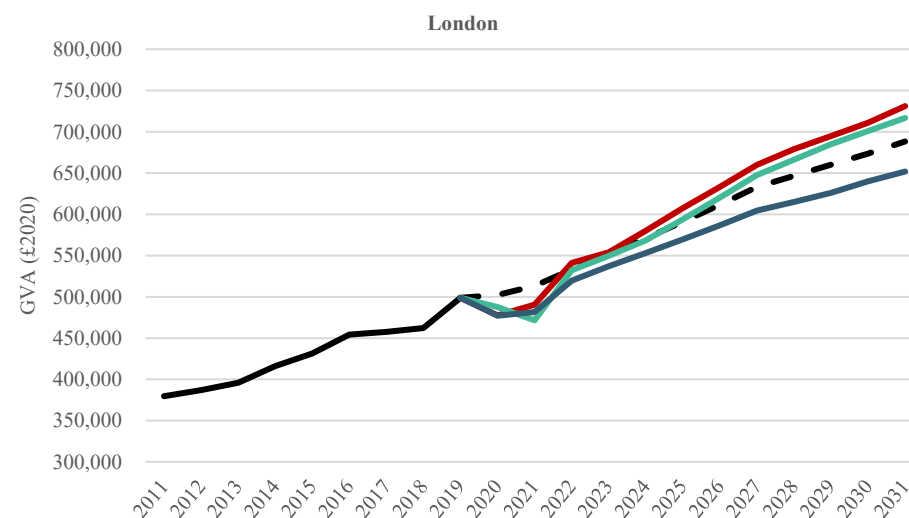
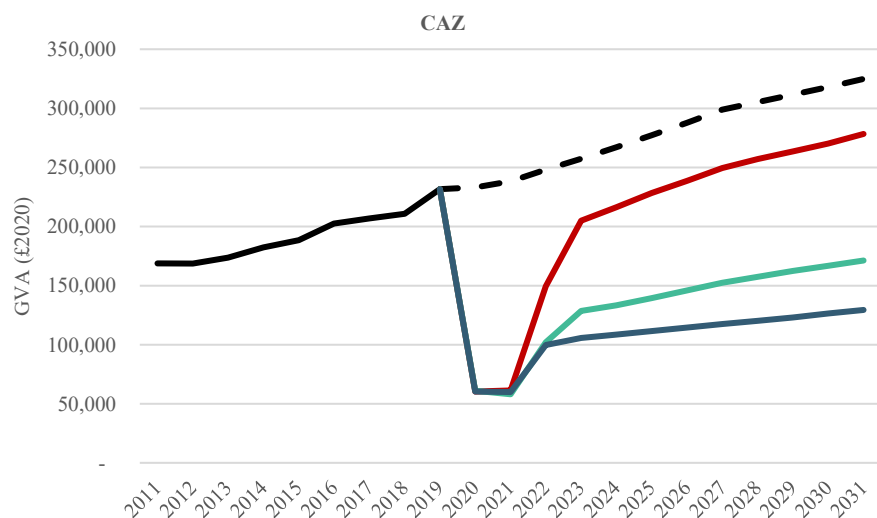
	2023				2031			
	CAZ		London		CAZ		London	
	Diff to 2019	Diff to no COVID	Diff to 2019	Diff to no COVID	Diff to 2019	Diff to no COVID	Diff to 2019	Diff to no COVID
No COVID-19	2,192	-	5,466	-	2,338	-	5,833	-
Bounce-back to a new normal	1,726	-466 -21%	5,306	-160 -3%	1,966	-372 -16%	5,906	73 1%
Widespread home working	1,000	-1,192 -54%	5,302	-164 -3%	1,097	-1,241 -53%	5,864	31 1%
Significant headwinds	924	-1,268 -58%	4,932	-534 -10%	991	-1,347 -58%	5,378	-455 -8%

Employment net of jobs at risk or in demand (000s FTEs, GLA (2021g) and Arup analysis)

The impacts on London's economy

- Historical
- - - No COVID-19
- Bounce back to a new normal
- Widespread homeworking and reinvention
- Significant headwinds

GVA may be re-distributed from the CAZ to other areas of London



Locally produced GVA by scenarios and area (GLA (2021g) and Arup analysis; note that the focus of our analysis is from 2023-2031, 2021-23 provided for illustration only)

Locally produced GVA estimates for the 'No COVID-19' baseline scenario and the three scenarios assume that all those jobs at risk are lost, and those in demand are created, taking account of the balance of working location between the CAZ.

The results from all scenarios suggest that place based GVA will be lower in the CAZ than would have been the case in a 'No COVID-19' scenario. In the 'bounce-

back to a new normal' scenario place-based GVA in the CAZ reaches some £279bn in 2031, 14% lower than in a 'no COVID' scenario (2020 prices).

CAZ GVA is much lower in both the 'widespread home working and reinvention' and 'significant headwinds' scenarios, at £171bn and £129bn in 2031, less than half of the 'no-COVID scenario', and significantly lower than even the 2019 levels.

The impacts on London's economy

- Historical
- No COVID-19
- Bounce back to a new normal
- Widespread homeworking and reinvention
- Significant headwinds

GVA may be re-distributed from the CAZ to other areas of London

Nevertheless, all scenarios include opportunities for the rest of London. By 2031, place based GVA outside of the CAZ is enough, in the 'bounce back' and 'widespread home working' scenarios, to overtake the 'No COVID-19' scenario, and exceed £700bn. This is driven by population growth in both the CAZ and the rest of London, and by growth in the emerging office sectors. In the 'significant headwinds scenario, however, London GVA at £652bn in 2031, is still 5% behind the 'no-COVID' scenario.

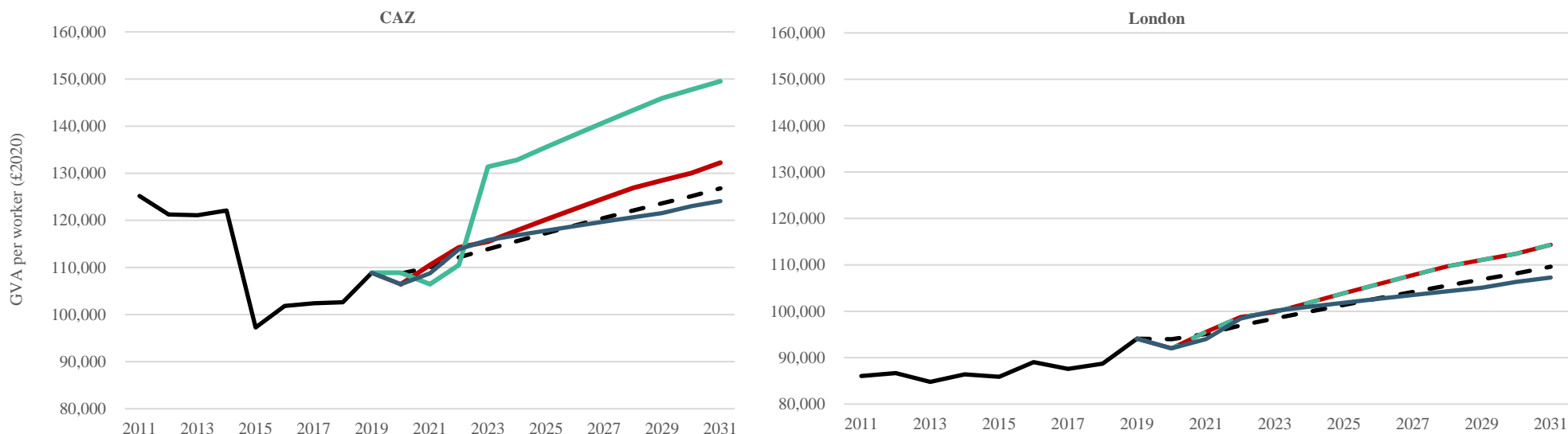
	2023				2031			
	CAZ		London		CAZ		London	
	GVA	Diff to no COVID	GVA	Diff to no COVID	GVA	Diff to no COVID	GVA	Diff to no COVID
No COVID-19	257,300	-	551,600	-	324,900	-	688,300	-
Bounce-back to a new normal	205,000	-52,300 -20%	553,900	2,300 0.4%	278,500	-46,400 -14%	731,200	42,900 6%
Widespread home working	128,600	-128,700 -50%	549,600	-2,000 -0.4%	171,200	-153,700 -47%	716,700	28,400 4%
Significant headwinds	105,700	-151,600 -59%	537,100	-14,500 -2.6%	129,400	-195,500 -60%	651,900	-36,400 -5%

Locally produced GVA by scenarios and area (GLA (2021g) and Arup analysis, £m, 2020 real prices)

The impacts on London's economy

- Historical
- - - No COVID-19
- Bounce back to a new normal
- Widespread homeworking and reinvention
- Significant headwinds

GVA per worker may increase in the CAZ, due to the growth in emerging office jobs, and jobs at risk in lower value sectors



GVA per worker by scenarios and area (GLA (2021g) and Arup analysis); note that the substantial difference in GVA per worker between 2014 and 2015 is due to the change in the method employment data is collected by ONS; note that the focus of our analysis is from 2023-2031, 2021-23 provided for illustration only)

The CAZ is already one of the most productive parts of the world, although GVA per worker has been decreasing in the last few years, due to the CAZ's success in creating jobs in lower value sectors (as explored in our Phase 1 report, Arup 2021). Significant re-sizing of these sectors, together with growth in high value emerging office based sectors, as in our scenarios, are expected to lead to an increase in GVA per worker.

In both the 'bounce back to a new normal' and 'widespread homeworking and reinvention' scenarios, GVA per worker increases both above the 'No COVID-19' trend, and beyond that seen previously, to £132,000 and £150,000 respectively. The highest value is in the 'widespread home working' scenario because of the more significant number of face-to-face jobs at risk in the CAZ.

The 'significant headwinds' scenario has a lower GVA per worker, held back by more sluggish economic growth in the emerging office based sectors, staying just below the 'No COVID-19' trend to 2031.

The impacts on London's economy

- Historical
- No COVID-19
- Bounce back to a new normal
- Widespread homeworking and reinvention
- Significant headwinds

GVA per worker may increase in the CAZ, due to the growth in emerging office jobs, and jobs at risk in lower value sectors

The London GVA per worker is the same for the three scenarios in 2023 to reconcile to the GLA's initial projections (GLA, 2021g).

However by 2031, in both the 'bounce back to a new normal' and 'widespread home working and reinvention' London-wide scenarios GVA per worker exceeds that of the 'No COVID-19' scenario by around 4%. This is due to high value emerging office sectors driving the recovery, and through the loss of jobs in lower value sectors.

However in 'significant headwinds', GVA per worker is 3% lower than the 'No COVID-19' scenario in 2031 at just £107,000 GVA per worker due to the slow recovery of high value sectors outweighing potential the job losses in lower value sectors.

	2023				2031			
	CAZ		London		CAZ		London	
	GVA / worker	Diff to no COVID	GVA / worker	Diff to no COVID	GVA / worker	Diff to no COVID	GVA / worker	Diff to no COVID
No COVID-19	114,000	N/A	98,000	N/A	127,000	N/A	110,000	N/A
Bounce-back to a new normal	115,000	1,000 1%	100,000	2,000 2%	132,000	5,000 4%	114,000	4,000 4%
Widespread home working	131,000	17,000 15%	100,000	2,000 2%	150,000	23,000 18%	114,000	4,000 4%
Significant headwinds	116,000	2,000 2%	100,000	2,000 2%	124,000	-3,000 -2%	107,000	-3,000 -3%

GVA per worker by scenarios and area (£ per worker, 2020 prices; GLA (2021g) and Arup analysis)

The impacts on London's economy

There is a wide range of estimates for future office floorspace demand in the CAZ

We have carried out an illustrative estimate of the potential range of office floorspace that may be required in the CAZ in future, relative to 2019 levels. It should be noted that it is challenging to forecast future office floorspace demand in the current context for a number of reasons:

- The volatility in economic forecasts and overall demand from employers.
- The yet-to-be-determined employee preferences for the number of days working from home or in the office.
- The potential growth in floorspace per desk, caused by social distancing legacies, a 'flight to quality', employer preferences, and new use of space to promote collaboration.
- The question of whether employee attendance will be evenly distributed throughout the week, or will be concentrated on certain days (such as Tuesdays – Thursdays).
- The ability of employers to manage employee attendance, through internal systems such as hotdesking or assigning certain days to certain teams.

For our calculations, we have looked at two extremes of office usage to the forecasts in our three scenarios: one where we assume that all workers use the office on

the same days of the week (so that employers fail, completely, to marshal attendance) and another where visits are absolutely evenly spread across the week (so that employers are completely successful in marshalling attendance). We used our scenarios to estimate overall demand from employers, and assumed that the floorspace per desk would remain the same.

By 2031, these calculations produced large ranges:

- At the lowest end, a 50% reduction in office space demand compared with 2019 levels.
- At the upper end, a more than 20% increase compared to 2019 levels.

In all scenarios, the range included a level of demand around the 2019 levels. That is, whatever scenario occurs, and even with office workers attending the CAZ for only two-fifths of the pre-pandemic level, there is a chance that demand for office space matches previous levels in future. In the 'bounce back to a new normal' scenario, demand would stay at broadly 2019 levels.

Of course, these results should be treated with extreme caution. Our Phase 1 report (Arup, 2021) highlighted that much of this is still to be determined. Employers, and their buildings, will now need to work harder to draw people back to the office, and to attract and retain talent. The office must offer something better than

one's home, and must be worth the commute. This is especially the case as home office environments are improved by workers themselves, with some investing in office chairs, computer screens and better lighting.

Furthermore, the emerging office sectors that were expanding most quickly before COVID-19, were those that arguably place highest value on in-person contact, and so we may see a churn in terms of the types of tenants. More menial tasks in other white collar sectors may be more likely to be performed effectively from home. Linked to this is the evidence that high quality offices are still in demand. This 'flight to quality' is also partly reflective of a growing awareness that offices must support and enhance people's wellbeing, with mental health, and workplace loneliness rising up the agenda.

IV. Conclusions and recommendations for action

Conclusions and recommendations for action

Conclusions

These conclusions should be read alongside those from our Phase 1 report (Arup, 2021).

The CAZ ecosystem is already likely to be scarred

COVID-19 has been incredibly damaging and requires urgent action. There was a loss of almost a quarter of a million workplace jobs in London between March 2020 and the end of 2020, the highest fall in the UK. Footfall and spend in the CAZ have been hit harder than anywhere else in the UK (Arup, 2021) and, judging from the experience in summer 2020, may be slow to pick up after government restrictions have been lifted.

Losses in face-to-face industries can create a vicious cycle of failure, whereby a deterioration in the quality of the offer leads to even lower footfall and spending. The ecosystem of the CAZ is already likely to be scarred as a result of the events of 2020 and 2021, and will need remedial attention, particularly in the hospitality, leisure, and arts and culture industries. The financial sector, concentrated in the City and NIOD is uniquely exposed to both Brexit and the issues around working from home. This has meant that job losses and GVA are mostly concentrated in the West End, the City and NIOD, and will, in practice, mean that bespoke, place-based strategies will be required.

Despite this, there are some universal trends. The flight

to quality in office space, and the continuing rise in online shopping habits mean that much of the property becoming vacant in the CAZ in the next 10 years will be lower grade office accommodation or retail space.

The economic fallout is expected to land on the shoulders of the young, least qualified, and migrants

The jobs at risk from the pandemic are in the food and beverage, retail, hospitality and entertainment sectors. Cleaners, hospitality and security staff who support office buildings are additionally at risk.

These sectors are more likely to employ young people, those with fewer qualifications, and those that have migrated from other countries to London (Resolution Foundation, 2020). The fallout landing on the shoulders of these groups is often the case with slowdowns and recessions, however this one is worse. The pandemic has meant that certain sectors have been impacted by lockdown restrictions more than others, many of which are dominant in the CAZ.

The success of the CAZ, and of London, depends on footfall

Our [Phase 1 report](#) emphasised the importance of the face-to-face industries to the overall economic ecosystem of the CAZ, whereby the leisure offer contributes significantly to choices made by employers and individuals to invest in central London, and to the

UK's soft power abroad, perhaps more so than any other factor.

Some spending lost from the CAZ may be made up for in outlets closer to home working locations, which offers some mitigation to retail, food and beverage, and entertainment in the rest of London, and elsewhere. However this increase in the rest of London may not completely make up for the loss of spending in the CAZ, and in our modelled scenarios, there was a net loss overall. It is therefore essential for both CAZ and for London, and indeed the financial recovery of the rest of the UK, that footfall in central London is increased.

London has an opportunity to build on its strengths

Our Phase 1 report (Arup, 2021) outlined many of the strengths of the CAZ, and London, as it arrives at this crossroads, that provide a basis for recovery from the challenges of COVID-19 and Brexit, and to meet the other impacts of the 2020s, such as climate change and digitalisation including:

- London's diversity, unrivalled in the world, in terms of the backgrounds of its inhabitants, the skills of its workers, and the richness of the experience of those visiting, or building their careers.

Conclusions and recommendations for action

Conclusions

- London's economic strengths in life sciences, tech, green finance/economy, and creative industries (the likely growth sectors post-COVID-19, that benefit from agglomeration and collaboration), building on the more traditional office-based sectors.
- More sustainable lifestyles. City (and particularly city centre) living is more environmentally friendly. Almost all of London's growth industries are low carbon. London has improving air quality and congestion. London is a world leader in action to tackle climate change and air quality, and its low carbon and environmental goods and services sector has grown significantly in the previous five years.
- London's functioning, high quality, affordable, (mostly) electrified or low-carbon public transport system that is capable of bringing in people efficiently over very long distances, and London's airport system offering connectivity to the world.
- London is the "world's coolest city" (Rough Guides, 2020), with arts and culture assets that are under significant threat, but when thriving, are the best in the world.
- London's status as a National Park City, its significant amount of green space and green roofs within the central area and suburbs, a much larger proportion than in New York or Paris, which is

more important than ever in a post-COVID world.

- The best student city in the world (QS Top Universities, 2019), with universities collaborating with the private sector, and the highest performing schools system in the UK (Sunday Times, 2019).
- The sheer range of career options open to those of all skills, background, and across all industries.
- The CAZ's Opportunity Areas present significant opportunities to deliver significant spatial and economic policy.

These are real strengths to build on, and mean that the CAZ is well-placed to deal with the other challenges of the 2020s, such as climate change and digitalisation. But equally these elements are substantially threatened by COVID-19, and with it, the overall CAZ ecosystem.

But there are significant areas for improvement, which will be even more important post-COVID

At the same time, there are areas where the CAZ is at risk of falling behind benchmarks set by expectations or experience in other global cities:

- The CAZ has pockets of high quality public realm in the CAZ (e.g. the area around Kings Cross, Horse Guards Parade), but there are opportunities to be much more ambitious, with large schemes, so that it becomes more attractive, greener, and a more

interesting place for residents, workers and visitors. There is a need to generate public confidence and trust in the safety of shared spaces and systems as a key variable on the scenarios will play out.

- There has been good progress on improving facilities for London's walking and cycling, but it remains a small proportion of travel into the CAZ, despite the potential, given the key inner London market.
- As highlighted in our Phase 1 report (Arup, 2021), the CAZ has relatively low levels of residential population, and a polarisation of housing stock.
- The opportunities for even greater collaboration between the different components of the CAZ ecosystem, and an opportunity to make the CAZ the collaboration centre of the UK.
- The unintended consequences of the uptick in digitalised platforms in the CAZ and in Greater London more generally, both in terms of space use on high streets and industrial centres (new logistics and fulfilment centres, delivery systems, dark kitchens, as illustrated in our Phase 1 report) and the externalities associated (new sources of congestion, pavement crowding, and job insecurity).

Conclusions and recommendations for action

Policy recommendations to set the CAZ off on the right foot towards economic recovery

Based on these conclusions, this section will outline some key policies and actions that the GLA, with their collaborators, could take to mitigate challenges or enhance recovery prospects.

Whilst our study is based on a 2-5 year, and 5-10 year time period, our analysis, stakeholder engagement and focus groups dictates that urgent action is needed. Thus, there are a series of more immediate actions that have been proposed to support the other actions which can be enacted in the medium to longer term.

The recommendations in our report are designed to complement, rather than repeat, the London Recovery Programme and the 'Roadmap to the safe and full reopening of London's economy' (GLA, 2020b and GLA, 2021). Whilst our work focusses on the medium to long term, and the roadmap focusses on calendar year 2021, there are, naturally, some overlaps. For completeness we include a copy of the latest roadmap and an overview of London's Recovery Programme, and the Recovery Board's 'Grand Challenge' and 'Nine Missions' in Appendix D.

Key themes

We suggest action based around six key themes:

1. Provide immediate support to re-ignite the CAZ ecosystem, and to bring people back.
2. Develop the CAZ as a model of a sustainable, healthy and green urban centre, with a thriving arts, culture, entertainment and hospitality offer.
3. Be agile, encourage temporary solutions and continue to move with the fast pace of change.
4. Strengthen the CAZ's growth sectors and provide the world's best environment for collaboration and innovation.
5. Take steps to increase the population of the CAZ.
6. Create a shared vision, work in partnership and apply strong leadership.

Conclusions and recommendations for action

Immediate actions to take in the next two years

1. Provide immediate support to re-ignite the CAZ ecosystem, and to bring people back

1.1 Act immediately to support industries which rely on face-to-face interaction, especially those in arts and culture

The entire CAZ ecosystem is under threat because of the risk to London's thriving arts, culture, entertainment and hospitality industries. Losses in these sectors not only lead to a reduction in jobs and GVA, but can lead to the collapse of other sectors, and with them, London's place as a global city, the economic well-being of the CAZ and beyond.

It is essential that when workers and visitors are ready to return to the CAZ, an ecosystem of the quality of the previous one is ready to greet them. Our analysis provides renewed strategic justification for the work already being undertaken by the GLA and others in this area on immediate support for hospitality, arts and culture, entertainment and the 24-hour economy, including, among others:

- Continuation of the rent enforcement moratorium.
- The extension of the business rates holiday and VAT relief.
- Funding for measures to enable businesses to COVID-proof their premises.

- Continuing calls for a reversal of the policy of ending the tax-free shopping scheme.
- Advocating for vaccine passports or other means of ensuring safe international travel.
- Work with the insurance industry to influence how quickly, and robustly, international tourism may return.

More detail on this immediate support can be found in the Roadmap to the safe and full reopening of London's economy (Appendix D).

We recommend that the GLA go further in protecting some critical retail or hospitality facilities, the loss of which may damage London's cultural heritage or diversity (e.g. continue to safeguard LGBTQ+ night venues). This would build on the Culture at Risk (GLA, 2021) work that is already underway:

- Explore how to apply the Culture at Risk model could be expanded to support shops that are critical to London's cultural heritage.
- Ultimately, purchasing of the freehold, or assistance to others, including community groups and local authorities, that may wish to purchase the freehold of at risk venues and retail outlets, under the Assets of Community Value regulations (2012).

Semaest: Municipal assistance for shops in Paris

Semaest is a municipal company in Paris that aims to protect and revitalise local commerce and shops. The organisation aims to regenerate areas that are affected by significant volumes of commercial vacancies, and protect and support existing key businesses, with a particular focus on the creative industries. The company does this through purchasing and curating retail spaces that are at risk of loss, and through redeveloping areas that have suffered. It runs two 'tester' pop up shops with a rotating tenancy, which allows entrepreneurs the opportunity to test an activity, concept or a product in real conditions before entering into a long term lease. Semaest also offers consultancy services to both local authorities and private developers, and training for traders and craftspeople (Semaest, 2021).

Conclusions and recommendations for action

Immediate actions to take in the next two years

1. Provide immediate support to re-ignite the CAZ ecosystem, and to bring people back (cont.)

1.2 Understand the extent of the impact across the CAZ user groups

The pandemic has hit those in lower paid industries, hardest, which is more often the young, less well-off Londoners, women, and migrants. We recommend:

- That the GLA carry out a robust equalities assessment of the impact of the secondary (non-health related) impacts of COVID-19 on London's diverse population, and provide specific recommendations as to how these impacts might be mitigated, and how the diversity of the CAZ can be preserved and enhanced through (for example) a re-skilling programme (see p.57).
- This should include investigating the impact of the closure (or threatened closure) of specialist venues, shops, attractions, and clusters that cater for London's diverse population, and importantly, how these might be mitigated or reversed.

1.3 Emphasise the benefits of coming into central London

Beyond the immediate Recovery Plans for encouraging people back this summer, the Mayor, the GLA and other agencies have a significant role to play in encouraging CAZ footfall in the medium to longer term, including:

- The Mayor should lead a strong campaign and a develop a compelling narrative to attract workers back to London, based around the benefits of agglomeration for innovation and productivity, and the CAZ's identity as a place for collaboration.
- The Mayor should engage with large employers, whose policies on offices will have the biggest single impact on the wider jobs base. The GLA should continue to provide opportunities for collaboration and innovation in their own offices to encourage employees to return to the office.
- The Mayor, alongside London and Partners and other tourism and accommodation associations, should also encourage visitors to use the CAZ for leisure purposes, once it is safe to do so (and building on the Mayor's Roadmap – see Appendix D).
- This action should be undertaken alongside other

stakeholders and can be targeted separately towards different user groups: leisure visitors and domestic tourists (the early returners); international tourists and foreign students.

1.4 Maintain the quality of London's important public transport network

London depends heavily (more so than many other global cities) on bringing people over long distances into the centre by mechanised public transport means.

- It is essential for the future of the CAZ that the quality and frequency of the public transport network is maintained, in order to deliver people to their place of work or leisure, and to deliver the footfall that the face-to-face industries depend on. A deterioration in the public transport offer is a risk to the overall CAZ ecosystem.
- As part of this, night services should be retained to ensure continued provision for key workers and those who work between 6pm and 6am.
- The GLA should lobby the Department for Transport (DfT) and HM Treasury to agree a longer-term funding arrangement for TfL, beyond the current 3-month deal.

Conclusions and recommendations for action

Immediate actions to take in the next two years

1. Provide immediate support to re-ignite the CAZ ecosystem, and to bring people back (cont.)

1.5 Reduce the marginal costs of a sustainable visit to the CAZ

London's public transport system is already very sustainable, and steps have been taken to make it more affordable in recent years. There are opportunities to encourage sustainable travel to the CAZ. Many of the following solutions could be trialled before being made permanent:

- Maintain the affordability of the transport system, particularly bus services for lower paid workers from other parts of London to the CAZ.
- Better fit the public transport ticketing product around less frequent commuting, and reduce the marginal costs of travel to the CAZ. The TfL ticketing system is already flexible, but the Department for Transport should work with the rail operators to develop part-time national rail season tickets. In due course this may also include using the TfL fares system to further incentivise additional marginal travel to the CAZ, potentially through further discounts in evenings and at weekends for those that have used the system during the week.
- Encourage electrification of the road network through stepping up work with Local Authorities on charge points and other infrastructure.
- For leisure visitors and domestic tourists, call on the Department for Culture, Media and Sport (DCMS) and others to create incentives such as vouchers for restaurants as cultural attractions as used in New South Wales' Dine and Discover campaign (NSW government, 2020).

Conclusions and recommendations for action

Actions to take in the medium-to long-term (2-10 years)

2. Develop the CAZ as a model of a sustainable, healthy and green urban centre, with a thriving arts, culture, entertainment and hospitality offer

2.1 Deliver a step-change improvement in inclusive and accessible public realm and urban experience

As the CAZ moves away from being a place to work and shop, towards more of a destination for world-leading arts, culture, entertainment and hospitality, and a centre of the transformation economy, new visitor groups are expected to have different priorities. These will include needs for improved and diverse local public realm, which should have green space at its heart, as set out in the Commission for Diversity in Public Realm and the London Public Charter.

London is already a green city, as well as a National Park City, and there are opportunities to build on these strengths at the neighbourhood level, so that it is on the doorstep of workplaces and residences. This requires ambition that is a step-change beyond previous plans, with the human experience at its heart, and based on the perspective of all Londoners, making the most of the capital's role as a diverse city. The Opportunity Areas of Vauxhall, Battersea and Nine Elms, City Fringe / Tech City, Kings Cross, Euston, Paddington, and the areas around the NIoD and Riparian South offer an opportunity for new public realm, and we

suggest that this is an area where a further push is needed to retro-fit improved public realm into

streets, squares and built environment.

New green public realm in Paris

The strategy to improve the quality of urban life in Paris, a city visually much less green than London, is multi-pronged.

In 2019 and 2020, several small new parks opened in the city, mostly on areas previously covered by tarmac, and covering a total area of 8 hectares. Many existing greenspaces are having additional trees planted in them to create cooler spots to shelter in summer, including an urban forest that is planned for outside the Hôtel de Ville. There are also more ambitious projects, with plans for the Champs-Élysées, to be part pedestrianised (in a more ambitious plan than Oxford Street), with more tree planting, additional green spaces and urban lounges, by the end of the 2020s.

Part of Mayor Anne Hidalgo's approach, has been to provide funding, which has been substantially justified by climate change adaptation, particularly in the light of Paris's notoriously hot and stuffy summers. This has been given an extra nudge by the hosting of the 2024 Olympics. But regulation has been part of this as well: since 2015 Paris has operated a 'greening permit'

scheme whereby individuals and community groups can apply for a licence to transform public space that is not maintained as greenspace into community gardens.



Proposed tree planting by the Hotel de Ville (above) and Gare de Lyon (below) in Paris

Conclusions and recommendations for action

Actions to take in the medium-to long-term (2-10 years)

2. Develop the CAZ as a model of a sustainable, healthy and green urban centre, with a thriving arts, culture, entertainment and hospitality offer (cont.)

Actions should also be aligned with London's Recovery Green New Deal Mission (GLA, 2021b) and include:

- Allocate funding from the Green New Deal Fund for new places that bring people closer to nature, provide space for families, recreational facilities close to workplaces and residential locations, and in doing so improve mental health, community cohesion, and London's attractiveness as a place to live and work.
- Create a separate Mayors Fund for CAZ active spaces and play, including (temporary) adventure play areas for children, and interactive trails for adults that encourage active lifestyles.
- Short term, we suggest that the GLA work with BIDs and Local Authorities to promote pop-up green spaces and pivot existing use of space to support active collaboration both within and across sectors to support London's continued role as a global innovation hub.

- Longer term, work with boroughs, landowners and key stakeholders to develop plans and funding strategies for key places like the Strand and Aldwych, and Marble Arch, and ensure that the natural environment is embedded in those plans. We suggest that there is justification for supporting more ambitious plans, such as the re-dedication of some of London's major roads (Regent Street, Kingsway, Holborn), and re-allocation of car parking within the CAZ. These plans should be on the same scale as the Champs Elysees in Paris, and, years earlier, the Cheonggyecheon linear park that replaced a major highway in Seoul.
- Continue to prioritise environmental improvement across the city. Work with local authorities and building owners to maximise opportunities to use the natural world to green the built environment and make the CAZ more climate resilient. This includes maximising opportunities to increase green roofs in the CAZ (GLA and EFB, 2019).

A playground for all: the Playline, Billund, Denmark



The Playline is a waymarked trail of play areas through the major tourist sites of Billund, Denmark. The Playline was developed through the Scandinavian principle of co-creation, with children working alongside qualified designers to determine the types of facilities that would be included, and the activities to be staged, as part of Billund's aim to be the Capital of Children.

The Playline manages to straddle the space between being a resource for visitors, for residents, and for older members of the community. It is predominantly a fixed asset, complemented by temporary pop up play equipment. At its centre is Frirum, a temporary urban space that is intended for meanwhile uses, such as outdoor teaching space, exhibition space, and community events. The Playline also provides the basis of a series of free cultural events and activities for families and for all members of the community.

Conclusions and recommendations for action

Actions to take in the medium- to long-term (2-10 years)

2. Develop the CAZ as a model of a sustainable, healthy and green urban centre, with a thriving arts, culture, entertainment and hospitality offer (cont.)

2.2 More pedestrianisation, an ambitious new active travel network, and better cycle parking and change facilities

We recommend an ambitious upgrading of the walk and cycle network by the GLA, TfL, local authorities and other stakeholders, including central government, employers and landowners. Paris announced similar plans in 2020, with 60% of the 300m Euros in funding for the RER Velo project provided by the mayoral authority, and 40% by local authorities. Many on-street car parking spaces have been removed, and from 2024 diesel cars will be banned in Paris.

There are huge opportunities to embed active travel post-COVID-19 in the CAZ, including support and funding for pedestrianisation, part pedestrianisation and shared use of certain centres, with space for green spaces, outdoor dining and events, such as the plans for the Camden Highline and Charing Cross Road area.

- Waymarked walking and running routes on the major flows between the CAZ and inner London.
- New dedicated cycle routes, particularly on 'last mile' journey within the CAZ from major rail

stations and transport nodes.

- Investment in green walking and running routes on routes with better air quality.
- Cycle parking, change and shower facilities at work and leisure destinations. We recommend that the GLA and TfL work with local authorities and other stakeholders, including employers, landowners and central government to make funding available for workplaces and leisure destinations, and work with walking and cycling organisations to launch a 'walking and cycling friendly destination' accreditation scheme for those organisations that do provide secure parking and changing facilities. This also might include rates savings opportunities for landlords who re-purpose redundant retail and ground/basement space toward improved quality commuter amenities.
- The seasonality of walking and cycling could be improved through special arrangements being in place in winter. In Rotterdam, for example, light timings are changed in inclement weather, and regular clearing and gritting of bike paths in winter could help to ensure that cyclists feel safe and prioritised.
- Remove vehicles entirely from some areas of the CAZ to create large 'car-free' areas, and consider bans on high polluting vehicles from others. Review

the congestion charges to prevent a car led recovery and to ensure that traffic levels are kept low.

- As part of the Mayor's Transport Strategy, work with local authorities to part-fund and implement a central Zero Emission Zone (ZEZ) by 2025. Work with logistics companies and businesses to transform logistics and servicing in the CAZ, which might include freight consolidation centres, more electric vehicle (EV) charge points, and funding of cargo bike schemes. Engage with major employers to look towards banning or re-phasing office deliveries.

Reducing lorry movements through West End Waste collection consolidation

TfL, Westminster, NVEC and Arup worked together aimed to reduce the number of vehicle movements in the West End by consolidating waste collection. At the start of the trial there were 47 different waste disposal companies operating on Bond Street alone. The exercise resulted in a 67 per cent reduction in waste left on the street during inappropriate hours, a reduction in waste vehicle movements from 144 to nine per day and a 76 per cent reduction in carbon dioxide equivalent (CO₂e) and nitrogen oxides (NO_x) (TfL, 2020).

Conclusions and recommendations for action

Actions to take in the medium- to long-term (2-10 years)

2. Develop the CAZ as a model of a sustainable, healthy and green urban centre, with a thriving arts, culture, entertainment and hospitality offer (cont.)

2.3 Increase the CAZ's role in hosting arts, culture and festivals

Arts, culture, festivals and events provide a reason to return to the CAZ or remain after work, and can promote a Fear of Missing Out (FOMO) among other potential visitors. We recommend that:

- The GLA promotes a thriving arts and culture sector, with increased funding for grassroots arts and culture that reflects the diversity of London, and continue to use GLA spaces in the CAZ, such as Trafalgar Square, to showcase it.
- The GLA places particular emphasis on arts and culture festivals that serve the 6pm to 6am economy.
- The GLA step up support and international publicity for existing major events, such as Pride, the New Year's Day parade, and the Notting Hill Carnival, and others.
- The GLA and London and Partners identify potential future international events or conventions

that the city could host. DCMS should bid for international events, such as the potential joint UK and Ireland 2030 World Cup bid. It is important to have a pipeline of international events in the coming decades as international tourism returns to previous levels, and as other global cities welcome major events such as the Olympics and the World Cup in the 2020s.

- The GLA support increased promotion of the more regular, local level showcase events that keep London on the global stage, such as the Lumiere Festival, Open House, Frieze London and London Fashion Week.

Fete de la Musique, Paris

For 40 years, the fête de la musique has taken over the streets of Paris for one day and evening, with countless free events featuring classical music, guitar bands, DJs, drummers and other local musicians performing in the open air. The festival has hundreds of stages, and is a major showcase for grassroots artists, and a chance for residents and tourists to celebrate and wader through the city. Many streets are closed, and the Paris mayor funds discounted fares on travelcards, and some rail lines run all night.

Conclusions and recommendations for action

Actions to take in the medium-to long-term (2-10 years)

3. Be agile, embrace experimentation, encourage temporary solutions and continue to move with the fast pace of change

3.1 Generate excitement and maintain vibrancy by making temporary solutions the norm

Meanwhile and temporary solutions create excitement and publicity for an area, as outlined in the GLA's recent research report 'Meanwhile Use London' (Arup and GLA, 2020). A constantly changing offer generates new reasons to visit the CAZ for those that have not been in town for a while, as well as potentially making use of space vacated.

People residing in Inner London make up the largest proportion of CAZ workers and visitors, and are likely to be the first to return. They may represent an even larger proportion of CAZ visitors going forward. These regular visitors require constantly changing space.

We suggest that the GLA should:

- Establish a Mayor's Fund for meanwhile uses, festivals, temporary changes in public realm to animate and draw footfall to key parts of the CAZ, and building on the High Streets Challenge Fund.
- Support Local Authorities in adopting pragmatic,

non-risk averse approach to approving temporary events, animation and public realm interventions that can provide reasons to visit.

- Work with local planning authorities and BIDs to enable even more temporary pilot schemes to be introduced to test new ways to live in and move around the CAZ. Note that current trends suggests that much of the relinquished space may be lower grade office stock, or retail space. Carefully monitor their impact (both positive and negative) to allow new ideas to come forward that might otherwise have been unattractive to investors.
- Work with BIDs, retailers, Local Authorities and the hospitality sectors to explore temporary and experimental ways to make street spaces more enjoyable across different seasons, especially in winter, and in environmentally friendly ways.

Meanwhile uses: Camden Collective

Camden Collective is a registered charity offering free hot-desk workspace and subsidised offices for creative start-ups in the heart of Camden Town. They take on temporary leases of empty buildings and vacant sites providing positive economic and social benefits for the local area.

Since 2009, Camden Collective has occupied 18 spaces and has introduced various projects, such as: pop-up shops, free courses, accelerators, commissioning public realm projects, free events, and the Camden Create Festival.

The provision of affordable workspace boosts local business opportunities, creates jobs and provides skills across the wider local community. Income from monthly user service charge contributes to the running costs of the project and any renovations needed to maintain the hub.

This re-uses redundant space and creates a collaborative environment where interaction and knowledge-sharing between businesses is encouraged to support start-ups and social capital is created and supported (Arup and GLA, 2020).

Conclusions and recommendations for action

Actions to take in the medium- to long-term (2-10 years)

3. Be agile, embrace experimentation, encourage temporary solutions and continue to move with the fast pace of change (cont.)

3.2 Promote collaborative spaces through agile public sector regulation, policy and initiatives

As working and leisure patterns become more flexible, and the pace of evolution quickens, public sector regulations, policy and initiatives, including the planning system, must be responsive to these changes. We recommend that the GLA should:

- Encourage the development of office and commercial spaces which facilitate collaboration, joint working, face-to-face contact, making particular use of the potential of the CAZ's Opportunity Areas of Vauxhall, Battersea and Nine Elms, City Fringe / Tech City, Kings Cross, Euston, Paddington, and the areas around the NIoD and Riparian South.
- Highlight to developers and landowners the opportunities to re-purpose newly vacant office space for creative purposes, in order to improve the diversity and vibrancy of the CAZ. Boroughs that have a Creative Enterprise Zone (CEZ) can elect to augment the London Plan CEZ Policy by introducing a geographic or sector specific business rates exemption or reduction to further encourage this re-purposing.
- Call on government to review the introduction of new regulations regarding the licensing of pavement dining. Based on findings and with appropriate public engagement and consultation with licensing authorities, seek to make the new system permanent.
- Work with Local Authorities, landowners and trade associations to explore how the licensing system and leases can be better aligned with recent changes to the planning system following the introduction of the E Use Class, which provides more flexibility around how spaces within buildings can be used (e.g. co-working spaces in hotels or restaurants, or offices being used as cafés or restaurants). Areas to be explored should include hours of operation, leases limiting the range of permissible activities, other safety and environmental health issues. If appropriate, advice should be prepared to ensure a consistent approach is adopted across London.
- Work with Local Authorities to identify public sector owned assets that could be used to support the recovery of the night time economy. This could include locating vacant premises and council owned assets could also be used to support night time recovery, including nesting of night time activities in daytime spaces; pop-up activity for the community, including young people after 6pm; and use of parks, streets and squares in the evening.

Repurposing space for arts and culture: The New Diorama Theatre at Regents Place

Regent's Place is a 13 acre mixed use, business and retail campus near Euston and part of the Knowledge Quarter. Part of the development included a trading floor, which became vacant following a change of tenant priorities. British Land, the developer, offered the space to the New Diorama Theatre as an atrium and rehearsal area. This space sat alongside corporate office space, and close to residential areas, bringing together many parts of London life that might have otherwise remained separate.

Through New Diorama's sub-leases and granting of free space to community groups – including a charity which brings together young and old local residents, up-and-coming writers, deaf theatre specialists, and disabled groups – other users could also rub shoulders with the tenants at Regents Place, contributing to the diverse atmosphere. The story came full circle when the disused corporate space was able to fulfil its original potential: as the backdrop to a play set on a city trading floor (British Land, 2017).

Conclusions and recommendations for action

Actions to take in the medium- to long-term (2-10 years)

3. Be agile, embrace experimentation, encourage temporary solutions and continue to move with the fast pace of change (cont.)

- Engage with investors and landowners to understand how low grade stock (which might become available through a trend towards commercial floorspace consolidation by businesses and a flight to quality) could become more attractive, or could be repurposed for meanwhile uses. This might include grants or relief for refurbishment costs or if required, the introduction of Article 4 Directions to limit the ability for change of use to higher value uses such as residential.

3.3 Embrace the flexibility in timings offered by new ways of working

In the future, greater flexibility of working hours may also lead to changes in timings. We recommend that the GLA should embrace this by:

- Commissioning a new study to see how strengthening London's 24-hr economy could help to spread footfall around the clock, reducing crowds at certain times, and make the CAZ more attractive for people to remain (or to visit) after 6pm. This could include public realm, travel, safety and crime, employees, the late night levy, and servicing of

buildings. The study should supporting the delivery of new 6pm to 6am strategies across the CAZ.

- Trialling new activities and innovative schemes to boost the high street after 6pm (as seen in the Walthamstow Night Time Enterprise Zone, for example).
- Working with retailers, Local Authorities, resident groups, BIDs and trade associations to extend opening hours for shops, hospitality, community and cultural venues throughout the week, including relaxation of Sunday trading hours. This may need to be supported by indirect infrastructure that supports this type of working such as out of hours access to healthcare and childcare.

3.4 A new role for the CAZ creates an opportunity for a polycentric London

A new role for the CAZ, and an increase in more home working, coupled with greater flexibility in timings creates an opportunity for a genuinely polycentric London. We recommend that the GLA should:

- Work with Local Authorities to identify the local centres in Inner and Outer London that may benefit and suffer most from increased home working, and provide support in helping those High Streets evolve in response to consumer tastes post-pandemic, as identified in our Phase 1 report.

- Work with Local Authorities to identify areas in Outer London which could accommodate new office and/or shared co-working spaces. This could include through refurbishment of existing (vacant) premises and/or engaging with developers and workspace providers to understand how these sites might be brought forward.
- Where capacity for new employment space has been identified, ensure the area has sufficient infrastructure to support increased travel. This may require smaller scale public or active travel links which are orbitally focussed rather than more fixed public transport routes which are radial in nature.
- Continue to work with local authorities, landowners, TfL and Network Rail to ensure new development proposals and any associated infrastructure improvements are co-ordinated and support the strategic functions of the CAZ.

Conclusions and recommendations for action

Actions to take in the medium- to long-term (2-10 years)

4. Strengthen the CAZ's growth sectors and provide the world's best environment for collaboration and innovation

4.1 Encourage growth in the emerging sectors, including tech and science

London has a reputation as a global innovation hub, and has a world class system of interaction between the public and private sectors. The emerging office sectors of tech, science, media, architecture and creative, and communications and marketing were the fastest growing before the pandemic, and are well-placed to drive the recovery. These sectors can require complex and high specification offices and lab space, which can therefore take much longer to build (or retrofit) than a traditional office, for which forward planning is strongly recommended.

It is imperative that London's successful existing system of life sciences and technology sectors, leading universities and research institutes is promoted to support economic recovery, encourage further growth, and builds on past successes such as MedCity to drive the next generation of industries. This includes elements of providing marketing, space, skills, and incentives to encourage growth.

- Increase marketing. The GLA should market London as an innovation destination, and work with developers and London and Partners to jointly sell

London as a location to invest in and grow.

- Increase support for space. Work with Local Authorities, office providers and developers to ensure there is sufficient and appropriate commercial floorspace for strong and emerging sectors such as the life sciences and tech to flourish. This could include working closely with developers to identify how the GLA can help the right space come to market. It could include re-purposing buildings and sites from the public sector estate, or use of planning policy to provide start-up and grow-on space, and lab space, and driving planning policy in the Opportunity Areas of Vauxhall, Battersea and Nine Elms, City Fringe / Tech City, Kings Cross, Euston, Paddington, and the areas around the NIoD and Riparian South.
- Continue to back the growth of existing innovation districts such as Knowledge Quarter or Tech City, and support the growth of new ones around major universities and hospitals. Greater affordability might reduce the need for new businesses to move outside of the CAZ, and keep key clusters geographically concentrated. A key part of this is the provision of collaboration space to bring different, cross-sector parts of the CAZ ecosystem together.

- Increase (financial) incentives and assist with affordability. Visibly scale up support for key growth sectors in growth areas such as tech, and life sciences. This could include a knowledge quarter enterprise zone with capital allowances, business rate relief, rent subsidies or others, and call for the abolition of VAT on collaboration spaces. Expand the range of accelerator programmes for other start-ups and scale-ups.
- Increase support for networks, ecosystems and a collaborative city offering to encourage innovation collaboration and spillovers. London is a world leading city for working across sectors and industries. The GLA should support the development of business forums, bringing together entrepreneurs / start-ups and scale-ups, corporates, angel investors, universities and other research-led bodies, and the public sector.
- The GLA should sponsor a series of collaboration events, hackathons and festivals to support peer to peer collaboration and knowledge sharing across sectors. The connectivity and reputation of the CAZ means it is uniquely placed to host these events.
- Encourage non-London universities, including both UK-based and international universities, to invest in campus space in the CAZ.

Conclusions and recommendations for action

Actions to take in the medium- to long-term (2-10 years)

4. Strengthen the CAZ's growth sectors and provide the world's best environment for collaboration and innovation (cont.)

- Harness London's spirit of innovation. Scale-up the Mayor of London's Civic Innovation Challenge through the creation of a London-wide challenge platform to complement the mission orientated approach to London's recovery challenges.
- Target support of high-value new and existing businesses in the green economy. The clean-tech sector and circular economies in particular represents a significant opportunity for London, given the strength of its innovation pipeline and its overlap with the drive for green jobs and skills.
- Identify what's next, and what has to be done to encourage the growth story from the mid 2020s: building on potential post-COVID-19 investments in life sciences and the NHS, research, business, and public sector strengths. These could include health innovation, fin-tech, law-tech, immersive tech, clean-tech, creative industries, media, smart mobility, 5/6G, big data, and drug discovery. The GLA should plan for how emerging technologies arising from this are scaled across the city effectively, creating better foundations for new markets and investigating long term finance models in partnership with tech companies and investment

banks. The GLA should work with organisations in the sector to understand what planning policies, infrastructure, skills and incentives are needed to encourage businesses in these sectors to locate and grow in the CAZ, and engage with the UK government's replacement for its industrial strategy (HM Treasury, 2021b).

- Work with Local Authorities and communication network operators to better use public sector property to support mobile infrastructure and the future deployment of 5G within the CAZ. Not only does a strong mobile network enable businesses to work more effectively, they also power mobile payments and sensors for sensors for traffic and environmental monitoring.

4.2 Support for green shoots and for re-skilling

Many of those that will be out of work as a result of the pandemic will be the innovators and entrepreneurs of tomorrow. These green shoots may require additional support and encouragement because of the fear of business interruption from a future pandemic. Furthermore, skills needs are likely to change in the CAZ as new industries grow, and because of a likelihood of more people working remotely going forward.

It must also be recognised that children who are 11 now will be 21 in our long-term scenario. Taking a

long-term approach to skills development now will support a change in life chances in the long run. We recommend that the GLA take steps to address the skills needs of disadvantaged and low income Londoners working, living and studying in the CAZ, including making the most of the Mayor's devolved responsibility for adult education, and build on the 'Helping Londoners into Good Work' recovery mission (GLA, 2020b) as follows:

- Ensure the Mayor's skills strategy targets the needs of CAZ-based businesses, which will allow them to thrive in the future. This would include how businesses in the CAZ will be addressing skills needs through investment in workforce development.
- Re-skilling of those people who have been most impacted by job losses as a result of the pandemic, potentially including embedding digital skills, building on the existing digital skills entitlement.
- Develop an inclusive entrepreneurship programme to encourage more people from under-represented groups of London neighbourhoods to start businesses, building on the Mayors Workforce Integration Network programme seeking to improve pathways for underrepresented groups in the workplace.

Conclusions and recommendations for action

Actions to take in the medium- to long-term (2-10 years)

4. Strengthen the CAZ's growth sectors and provide the world's best environment for collaboration and innovation (cont.)

- A reduced demand for commercial space across the CAZ may bring rents down, which could allow businesses who could not previously afford the CAZ to move in. Working with Local Authorities, the GLA could provide support to new SMEs that may wish to locate in newly vacant spaces in the CAZ, which might include providing contacts to share space, or support through rates relief or mentoring programmes.
- Investigate whether a form of future government-run pandemic insurance or loan guarantees could be established for those seeking loans for business investment in sectors at high risk of a future pandemic, such as hospitality, food and beverage, entertainment or culture. Potentially this could be expanded to other high-risk areas such as climate change.

5. Take steps to increase the population of the CAZ

5.1 Grow the number of central London residents

Residents offer a backbone of demand for local arts, culture, hospitality, retail, entertainment and 24hr industries. They offer a stewardship role, and are able to access the CAZ facilities by sustainable and active modes. To increase the residential population of the CAZ we recommend that the GLA should:

- Encourage, through positive strategic and local planning, additional growth that does not rely on low quality accommodation (such as that made more likely by a change in permitted development rights in allowing easier conversion from other uses to residential), and does not compromise strategic functions, nor limit future infrastructure projects such as Crossrail 2.
- Consider what resources and support Local Authorities may need to meet and go beyond the existing plans for residential development in the CAZ as set out in the 2021 London Plan (GLA, 2021c).
- Ensuring that development is targeted in certain areas of the CAZ that may have more capacity for population uplift, or at re-purposing brownfield sites that may be in less demand in future (such as car parks). This includes the Opportunity Areas of Vauxhall, Battersea and Nine Elms, City Fringe /

Tech City, Kings Cross, Euston, Paddington, and the areas around the NIoD and Riparian South.

5.2 Increase the mixture of housing stock in the CAZ

There are also opportunities to address the polarisation of existing housing stock in the CAZ through:

- Working with Local Authorities to deliver a mix of housing types and tenures, including apartments, intermediate housing, genuinely affordable housing, build-to-rent and new forms of housing (e.g. co-living), and more family-friendly spaces, with a focus on those that will be more likely base themselves in the CAZ for much of the time (and not as a second home), including families, older people, and students.
- This would have to be coupled with provision of other family-orientated infrastructure, for example additional schools, early years provision, and (as mentioned earlier) green space and play facilities.
- Considering new housing in the CAZ suitable for older people who would benefit from close proximity to shops and services, and providing housing adaptable for people at different points in their life course.
- Working with the CAZ's universities on their student recruitment, housing, and teaching practices and encourage collaboration across these bodies such that sufficient accommodation is provided.

Conclusions and recommendations for action

Immediate actions to take in the next two years

6. Create a shared vision, work in partnership and apply strong leadership.

6.1 Create a long term vision for the CAZ

The CAZ is at a crossroads, comparable to that which awaited economists and planners in 1945. Like the post-war plans that shaped London over the following decades, there is an opportunity for reinvention and meeting the challenges of tomorrow such as climate change and increased digitalisation, whilst also addressing some of the more longstanding problems. An ambitious vision for the future of the CAZ to 2030, and 2050 should be delivered by the end of 2021.

This vision should build on the findings from this report, including putting London's strengths, its people, the environment and the transition to net zero at the centre:

- Specific plans to develop the CAZ as a destination for world-leading arts, culture, entertainment and hospitality, that also take account of residents, workers and visitors.
- A centrepiece of this should be higher quality and diverse public realm, more green and natural spaces, leading to an improved urban experience, higher levels of sustainability, stronger climate change resilience, and a better offer for residents,

workers and visitors.

- An even more sustainable CAZ that builds on the quantity and quality of urban living, delivers on active travel opportunities, supports a transformation to sustainable deliveries and servicing, and encourages a recovery in the most sustainable sectors.
- A thriving arts and culture sector at the centre of the vision, better reflecting the diversity of London, and better serving those accessing the CAZ from 6pm to 6am, within a re-ignited CAZ ecosystem.
- A diverse, people-friendly CAZ, that is a better place to call home, with approaches to liveability, wellbeing, culture, with the human experience at its heart, and from the perspective of all Londoners, making the most of the capital's role as a diverse city.
- An exciting, ever-changing CAZ, with a greater number of temporary solutions, so that the number of pop-ups and meanwhile uses increases dramatically, and so that the CAZ offer keeps changing, remains a talking point, and drives FOMO (Fear Of Missing Out).
- An economic strategy that encourages growth in the emerging sectors that will drive future prosperity,

including tech, creative industries, and life sciences, through creation of space – including lab-enabled offices – provision of skills, and other incentives.

- An inclusive and equitable CAZ, with opportunities and improved life chances for all Londoners, that, as far as possible, provides a greater mixture of housing stock, and complements other centres in London, with a redefined relationship in the light of the new ways of working, post-pandemic.
- A higher CAZ residential population, to offer more sustainable lifestyles, resilience, increased vibrancy and 'stewardship' of the CAZ's resources for others, and bringing London more into line with its global rivals.
- A re-emphasis on the CAZ as London's and the UK's global city centre. Marketing of the CAZ as a place to meet and collaborate, with a range of spaces, offers and digital infrastructure to attract people and business.

We suggest that the vision should be ambitious, clear and compelling, and as such, requires strong political leadership and direction by the Mayor.

It should build upon the progress already made by the London Recovery Programme missions, and either folded into that brief, or led by a new CAZ taskforce.

Conclusions and recommendations for action

Actions to take in the medium- to long-term (2-10 years)

6. Create a shared vision, work in partnership and apply strong leadership (cont.)

6.2 Deliver in partnership

- The GLA needs to take the strategic leadership on the future of the CAZ, convening and working with the relevant boroughs and others, including cross-sector and cross-boundary boards (with trade associations, BIDs, Local Authorities, universities, charities, and the private sector).
- In setting the vision the GLA should engage with diverse audiences including younger people, those from minority ethnic backgrounds, LGBTQ+ Londoners, disabled Londoners and visitors and others from outside the CAZ.

6.3 Join with other cities to make the case for investment

The post pandemic political climate creates a unique opportunity to collaborate with other cities and to cement London's as a part of a wider ecosystem of urban areas in the UK, and across the world, each of which are suffering in similar way. We suggest that the GLA should join with others to:

- Continue to make the case for UK cities at all levels of government and ensure that central government commits sufficient resources towards cities, with their existing agglomeration ecosystems, to drive

the UK's recovery over the coming years.

- Within this, ensure that the unique asset of the CAZ as the UK's global city centre, shop window and generator of significant tax revenues is not lost. This might include influencing the forthcoming government-led business rates revaluation such that it does not impact unfairly on London, and can be used as a tool for high street regeneration, and ensuring that less well of areas of London do not miss out on the levelling up opportunities.
- Explore how models such as Enterprise Zones or tax increment financing schemes could be used to stimulate activity in specific parts of the CAZ.
- Put additional pressure on HM Treasury to agree to city deals for city centres, including the CAZ. This would provide a split in resources between the GLA and HM Treasury of any increase in taxes generated within the CAZ, building on the work of the London Finance Commission. In London's case, this would be with the GLA taking the strategic lead and working with the relevant boroughs on the delivery.

The New York City Recovery for All plan

In January 2021, Mayor Bill de Blasio launched New York City's Recovery for All plan (NYC Mayor, 2021). Like London's Recovery Board, this plan covers the next 12 months as well as looking to the long term to the end of the decade, championing an equitable recovery for all New Yorkers. It includes:

- A plan for fighting inequality post-pandemic, including racial justice and combating homelessness, and for economic recovery, the latter including marketing campaigns, assistance to businesses and a jobs creation scheme for New Yorkers.
- Specific emphasis on the growing life science sector, and the designation of LifeSci Avenue, and government support for 3m sq ft of additional life sciences innovation space, and 100 new startup companies, and better links between New York's businesses and universities.
- An undertaking to fight the digital divide, through improving broadband and 5G connectivity.
- New bike lanes on New York City's major bridges, new boulevards, and improved public realm.
- New mixed use space in more than 30 of the neighbourhoods hit hardest by COVID-19, to bridge a gap between public space and business use. These include pedestrian plazas or new amenities like greenmarkets and night markets.

Conclusions and recommendations for action

Actions to take in the medium- to long-term (2-10 years)

6. Create a shared vision, work in partnership and apply strong leadership (cont.)

- Signal London's appetite for global collaboration through working with other global cities on joint challenges facing their respective central business districts.
- Set out a clear case for the devolution of innovation funding to cities to support London as a global innovation hub and centre for face-to-face cross sector collaboration.

6.4 Gather data on the fast moving situation

The situation is moving quickly, and it makes sense for work to be updated more frequently than normal, and for a course correction to be applied if necessary. We recommend that the GLA should:

- Continue to collect data, assess trends, and monitor impacts of actions and policies across the CAZ. The London Data Partnership provides a good base to build from.
- Build on and continue to carry out regular surveys of employee and employer intentions post-pandemic to closely monitor office and employee behaviour.
- Work with the Estates, institutional investors, property companies and REITs to understand the

liquidity of their stock within London. Understand the key financial challenges associated to change and consider ways of providing incentives to financially support the evolution of their models to stimulate activity.

- The use of data will help decision makers to understand what interventions are working, and more importantly which are not. Ensure that findings are fed-back into an evolution of these

policy recommendations, in the light of the vision for the CAZ. The ability to act quickly, supported by up-to-date information, will be crucial for the recovery of the CAZ.

- Continue to benchmark footfall, transport use, retail and hospitality spend and other factors against other post-pandemic cities, including Sydney and Auckland, and (in due course) New York and Paris.



Photo credit: Giacomo Magnani

Conclusions and recommendations for action

Policy interventions may save jobs

We have used our economic model to test an illustrative 20% points increase in CAZ visitor and office worker numbers that might result from implementing these policy recommendations. This figure was chosen for illustration purposes only and we have not modelled the overall increase in footfall that may result from the interventions.

We used the ‘widespread home working and reinvention’ scenario as the base for this calculation.

In 2023, the 20% point uplift in both visitor numbers and office worker visits could reduce the number of CAZ face-to-face jobs at risk by almost a half, removing almost 42,000 FTEs from the ‘at risk’ category. Nevertheless some 11,000 face-to-face jobs would remain at risk.

If the 20% point increase is carried forward to 2031, there may be demand for an additional 92,000 jobs in face-to-face industries when compared with the base ‘widespread home working and reinvention’ scenario.

The positive impact on employment also has a knock-on effect on locally produced GVA in the CAZ.

	2023					2031				
	No COVID-19 scenario	Widespread home working scenario	20% points uplift	Difference (absolute)	Difference (%)	No COVID-19 scenario	Widespread home working scenario	20% points uplift	Difference (absolute)	Difference (%)
No. jobs at risk ('000s FTEs)	18	-89	-47	42	47%	59	11	103	92	802%
Employment net of jobs at risk, ('000s FTEs)	2,192	1,000	1,397	397	40%	2,338	1,097	1,595	498	45%
Locally produced GVA (work location based, £m)	257	129	184	55	43%	325	171	251	80	46%

Number of jobs at risk, employment net of jobs at risk, relative to a ‘No COVID-19 scenario’, and locally produced GVA in CAZ in the ‘widespread home working’ scenario, and a sensitivity test based on a 20% point increase in footfall (Arup analysis)

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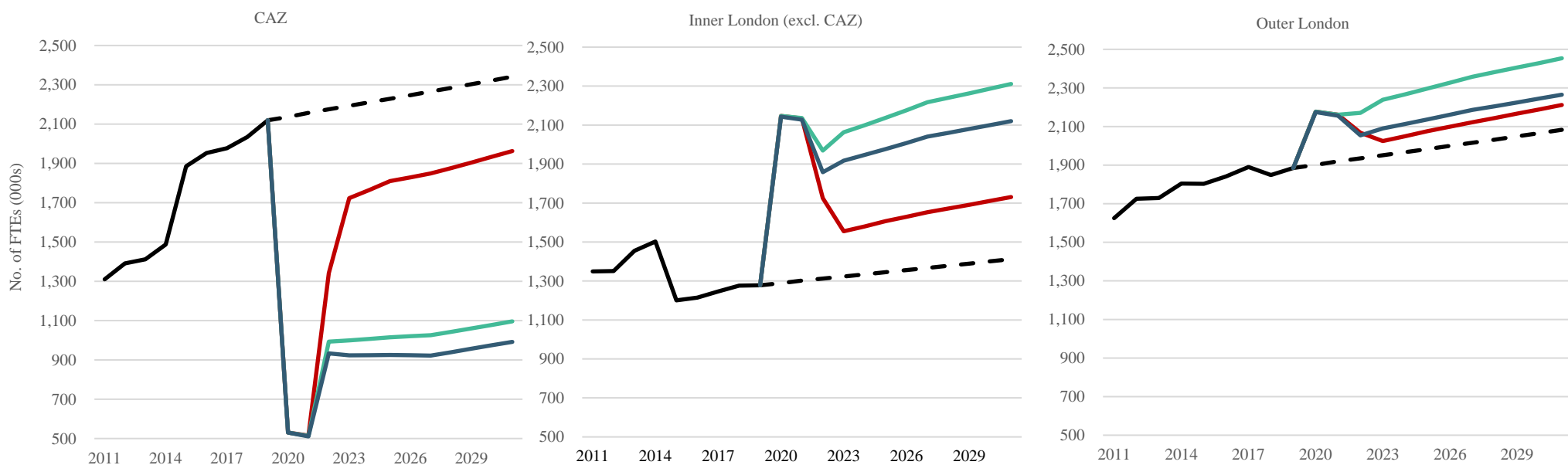
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Appendix A: Detailed modelling findings and sensitivity tests

Employment by CAZ, inner and outer London

Employment (net of jobs at risk)



Total employment net of jobs at risk projections (based on GLA (2021g) and Arup modelling)

- Historical
- - - No COVID-19
- Bounce back to a new normal
- Widespread homeworking and reinvention
- Significant headwinds

Employment by CAZ, inner and outer London

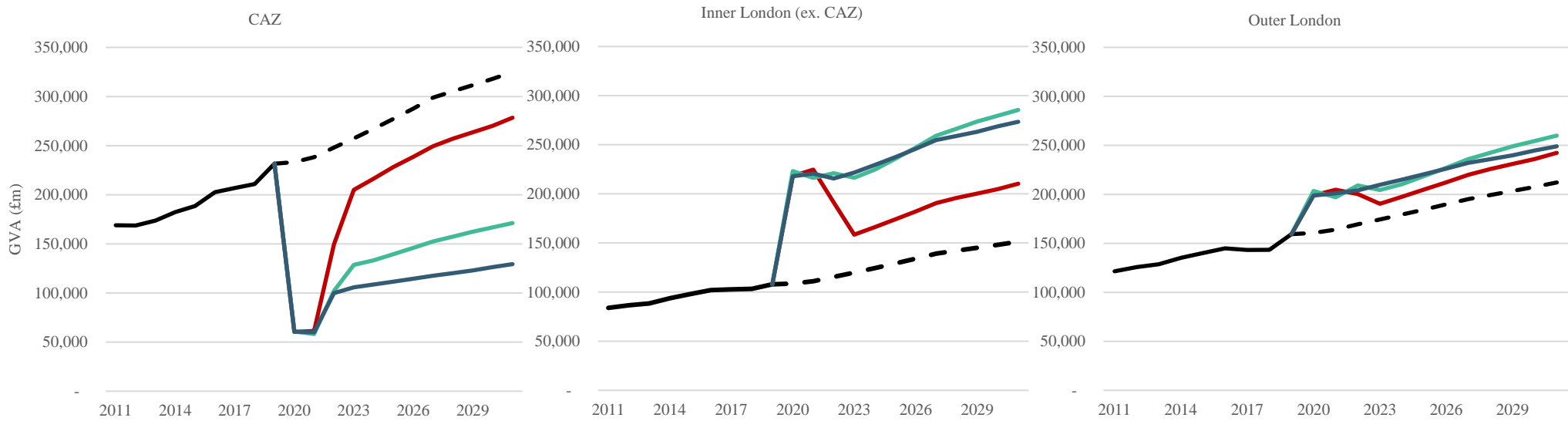
Employment (net of jobs at risk)

	2023						2031					
	CAZ		Inner London (exc. CAZ)		Outer London		CAZ		Inner London (exc. CAZ)		Outer London	
	No. of jobs (FTES, 000s)	Diff to no COVID (no. of jobs / % change)	No. of jobs (FTES, 000s)	Diff to no COVID (no. of jobs / % change)	No. of jobs (FTES, 000s)	Diff to no COVID (no. of jobs / % change)	No. of jobs (FTES, 000s)	Diff to no COVID (no. of jobs / % change)	No. of jobs (FTES, 000s)	Diff to no COVID (no. of jobs / % change)	No. of jobs (FTES, 000s)	Diff to no COVID (no. of jobs / % change)
No COVID-19	2,192		1,336		1,967		2,338	0	1,455		2,128	
Bounce-back to new normal	1,726	-484 -22%	1,556	220 16%	2,024	57 3%	1,966	-431 -18%	1,729	274 19%	2,211	83 4%
Widespread home working and reinvention	1,000	-1,210 -55%	2,063	727 54%	2,239	272 14%	1,097	-1,349 -56%	2,312	857 59%	2,455	327 15%
Significant headwinds	924	-1,286 -58%	1,917	581 43%	2,091	124 6%	991	-1,406 -59%	2,120	665 46%	2,267	139 7%

Total employment net of jobs at risk projections (FTE 000s) (GLA (2021g) and Arup analysis)

Locally produced GVA by CAZ, inner and outer London

Locally produced GVA



Locally produced GVA by scenarios and area (£m, 2020 real prices) (GLA (2021g) and Arup analysis)

- Historical
- - - No COVID-19
- Bounce back to a new normal
- Widespread homeworking and reinvention
- Significant headwinds

Locally produced GVA by CAZ, inner and outer London

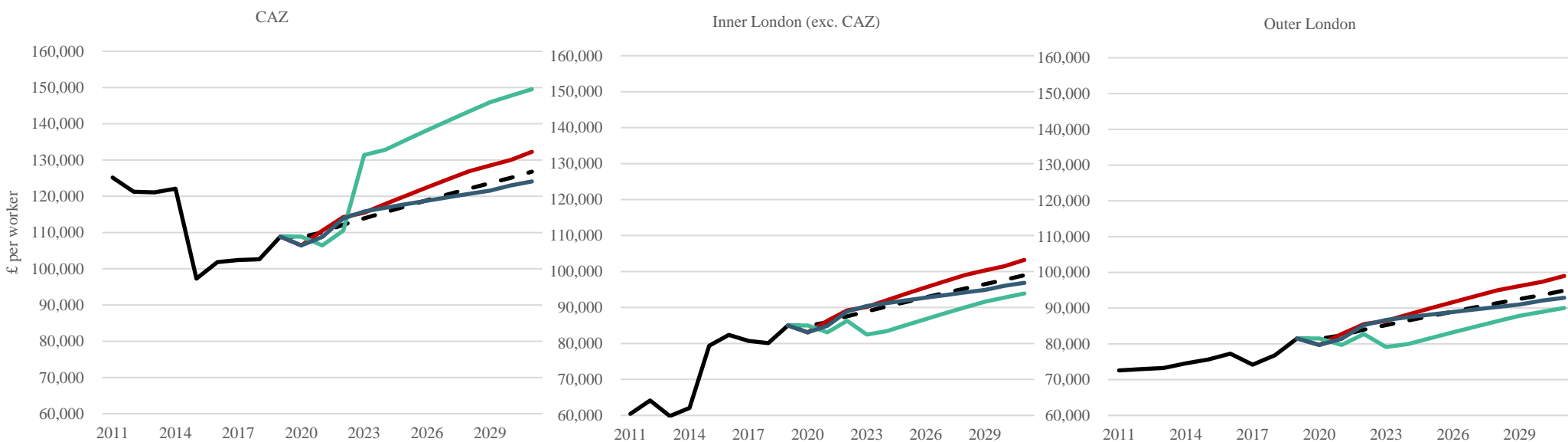
Locally produced GVA

	2023						2031					
	CAZ		Inner London (exc. CAZ)		Outer London		CAZ		Inner London (exc. CAZ)		Outer London	
	GVA (£bn)	Diff to no COVID (£bn / % change)	GVA (£bn)	Diff to no COVID (£m / % change)	GVA (£bn)	Diff to no COVID (£bn / % change)	GVA (£bn)	Diff to no COVID (£bn / % change)	GVA (£bn)	Diff to no COVID (£bn / % change)	GVA (£bn)	Diff to no COVID (£bn / % change)
No COVID-19	257,300		119,900		174,400		324,900		151,300		212,100	
Bounce-back	205,000	-52,300 -20%	158,500	38,600 32.2%	190,400	16,000 9.2%	278,500	-46,400 -14.3%	210,300	59,000 39.0%	242,400	30,300 14.3%
Widespread home working	128,600	-128,700 -50%	216,400	96,500 80.5%	204,500	30,100 17.3%	171,200	-153,700 -47.3%	285,500	134,200 88.7%	260,000	47,900 22.6%
Significant headwinds	105,700	-151,600 -59%	221,600	101,700 84.8%	209,700	35,300 20.2%	129,400	-195,500 -60.2%	273,400	122,100 80.7%	249,100	37,000 17.4%

Locally produced GVA by scenarios and area (£m, 2020 real prices) (GLA (2021g) and Arup analysis)

GVA per worker by CAZ, inner and outer London

GVA per worker



GVA per worker by scenarios and area (£ per worker, 2020 prices) (GLA (2021g) and Arup analysis)

- Historical
- - - No COVID-19
- Bounce back to a new normal
- Widespread homeworking and reinvention
- Significant headwinds

GVA per worker by CAZ, inner and outer London

GVA per worker

	2023						2031					
	CAZ		Inner London (exc. CAZ)		Outer London		CAZ		Inner London (exc. CAZ)		Outer London	
	GVA (£ per worker)	Difference to no COVID-19 (£ / % change)	GVA (£ per worker)	Difference to no COVID-19 (£ / % change)	GVA (£ per worker)	Difference to no COVID-19 (£ / % change)	GVA (£ per worker)	Difference to no COVID-19 (£ / % change)	GVA (£ per worker)	Difference to no COVID-19 (£ / % change)	GVA (£ per worker)	Difference to no COVID-19 (£ / % change)
No COVID-19	114,000		89,000		85,000		127,000		99,000		95,000	
Bounce-back to new normal	115,000	1,000 1%	90,000	1,000 1%	86,000	1,000 1%	132,000	5,000 4%	103,000	4,000 4%	99,000	4,000 4%
Widespread home working and reinvention	131,000	17,000 15%	82,000	-7,000 -8%	79,000	-6,000 -7%	150,000	23,000 18%	94,000	-5,000 -5%	90,000	-5,000 -5%
Significant headwinds	116,000	2,000 2%	90,000	1,000 1%	87,000	2,000 2%	124,000	-3,000 -2%	97,000	-2,000 -2%	93,000	-2,000 -2%

GVA per worker by scenarios and area (£ per worker, 2020 prices) (GLA (2021g) and Arup analysis)

Detailed modelling findings

Jobs at risk by sub area

In 2023, the number of jobs at risk is relatively similar across all scenarios, at just over 100,000 across the CAZ, equivalent to 1 in 5 jobs at risk (based on No COVID-19 scenario). Retail and other services account for over two-thirds of the at risk positions, driven by the drop in higher-spending visitors as well as the absence of office workers.

By 2031, as the economy recovers, the number of jobs at risk declines from 2023 levels in all scenarios but remains significant: 78,000 jobs at risk in ‘bounce back to a new normal’, 87,000 in ‘widespread homeworking and reinvention’ and 110,000 jobs in the ‘significant headwinds’ scenario. The bulk of the jobs at risk are concentrated in the West End because of the high initial concentration of face-to-face jobs based there, and because of its dependence on retail and on visitor spend, although the City and the East also suffers significantly. The impact is less severe in the Riparian South.

Despite a significant drop in worker footfall in the CAZ under the ‘widespread home working and reinvention’ scenario, the knock-on effect on jobs at risk is notably similar to that seen in the ‘bounce-back to a new normal’ and ‘significant headwinds’ scenarios. Both our modelling and findings from the GLA’s study “Lost worker vs. tourism expenditure in the CAZ during the COVID-19 pandemic” (GLA (2020a)) suggests that the change in tourism footfall has a disproportionately higher impact on expenditure in the CAZ. That is to say, these businesses rely more on tourists than workers for revenue.

Although we anticipate a significant number of jobs at risk, there are opportunities for the rest of London, concentrated in retail, food and beverage, and entertainment.

		2023				2031			
		No COVID-19	Bounce-back to a new normal	Widespread home working	Significant headwinds	No COVID-19	Bounce-back to a new normal	Widespread home working	Significant headwinds
CAZ	Retail and other services	388	-53	-64	-71	417	52	15	-14
	Food & Beverages	123	-14	-15	-15	133	7	-6	-11
	Entertainment	56	-8	-10	-11	60	10	3	-2
	Total	567	-75	-89	-97	610	69	12	-27
West End	Retail and other services	187	-26	-30	-33	201	26	9	-5
	Food & Beverages	75	-9	-9	-9	81	5	-3	-6
	Entertainment	39	-6	-7	-7	41	7	2	-1
	Total	301	-41	-46	-49	323	38	8	-12
City of London + NIOD	Retail and other services	154	-21	-27	-30	166	19	3	-8
	Food & Beverages	36	-4	-5	-5	39	1	-3	-4
	Entertainment	9	-1	-2	-2	10	1	0	-1
	Total	199	-26	-34	-37	215	21	0	-13
Riparian South	Retail and other services	47	-6	-7	-8	50	7	3	-1
	Food & Beverages	12	-1	-1	-1	13	1	0	-1
	Entertainment	8	-1	-1	-2	9	2	1	0
	Total	67	-8	-9	-11	72	10	4	-2

Jobs at risk by scenario and CAZ sub-areas, relative to ‘No COVID-19’ scenario (2023, 2031, 000s FTEs) (+ve indicates job demand, -ve indicates jobs at risk)

Detailed modelling findings

Employment and GVA impact by the CAZ sub-areas, net of jobs at risk

If we assume that all of the jobs at risk are lost, we can calculate the impact on locally produced GVA and total GVA.

By 2023 in the ‘bounce-back to new normal’ scenario total CAZ employment would reach 77% of the No COVID-19 baseline. Our model assumes that the percentage impact is the same across the three sub-geographies. The majority of the jobs at risk are anticipated in the West End and the City and the East. The CAZ’s locally produced GVA, that takes account of home working location, would reach 79% of the No COVID-19 baseline scenario, and total GVA (headquarter-based, where we assume that GVA is produced at the office or workplace of the employer) would reach 96% of the No COVID-19 level by 2031. At the same time, employment (that takes into account home working) would reach 78% of the No COVID-19 scenario as fewer office visits are not counterbalanced by large increases in overall employment growth.

By 2023, the ‘widespread homeworking and reinvention’ scenario has employment reaching almost half that of the No COVID-19 scenario. Again, the West End and the City and the East would account for the majority of job losses. Locally produced GVA in the CAZ, that takes account of home working, is estimated to drop to below half of the No COVID-19 levels, however total (HQ-based) GVA is estimated be just above No COVID-19 levels as GVA per job is assumed to increase substantially after the pandemic due to the rising share of emerging high-value added sectors.

In 2023, the ‘significant headwinds’ scenario shows employment reaching just 42% of the No COVID-19 scenario. Locally produced GVA is estimated to drop down to 52% of No COVID-19 levels, with HQ-based GVA levels falling to 89% of No COVID-19 levels, as this scenario incurs the largest losses in CAZ employment which is not counterbalanced by rising GVA per job due to the stagnation of the area’s economy.

		2023				2031			
		No COVID-19	Bounce-back to a new normal	Widespread home working	Significant headwinds	No COVID-19	Bounce-back to a new normal	Widespread home working	Significant headwinds
Employment net of jobs at risk (000s FTEs)	West End	1,000	-212	-530	-565	1,067	-156	-542	-594
	City of London + NIOD	937	-202	-528	-558	1,000	-176	-561	-600
	Riparian South	255	-52	-134	-145	271	-40	-138	-153
	CAZ	2,192	-466	-1,192	-1,268	2,338	-372	-1,241	-1,347
Locally produced GVA (£bn, work location based)	West End	112	-23	-54	-65	142	-19	-64	-83
	City of London + NIOD	116	-24	-60	-70	146	-23	-73	-90
	Riparian South	29	-6	-14	-17	37	-5	-17	-22
	CAZ	257	-52	-129	-152	325	-46	-154	-196
Total GVA (£bn, HQ-based)	West End	112	-4	10	-12	142	8	28	-14
	City of London + NIOD	116	-2	11	-10	146	7	26	-14
	Riparian South	29	-1	3	-3	37	2	7	-4
	CAZ	257	-7	24	-25	325	17	61	-32

Employment net of jobs at risk and GVA contribution (locally produced and HQ-based) compared to ‘No COVID-19’ levels, by scenarios and CAZ sub-areas (2023 and 2031)

Detailed modelling findings

Impacts on the rest of London

The table shows the impact across the three scenarios compared to a ‘No COVID-19’ scenario.

- The jobs at risk are estimated based on the change in consumer expenditure generated relative to the ‘No COVID-19’ scenario.
- Employment net of jobs at risk is driven by office workers changing their workplaces, face-to-face economy jobs at risk, and also by changes in total employment based on the GLA’s employment scenarios.
- The difference between locally produced GVA and Total (HQ-based) GVA stems from the growing importance of office workers spending less time in the office (‘HQ’) compared to a ‘No COVID-19’ baseline.

In the ‘bounce-back to a new normal’ scenario, a relatively quick return of office workers to the CAZ means that across all outputs, this is the most favourable scenario for both the CAZ and the rest of London. This is due to our assumption that the time a CAZ worker spends outside of the CAZ is matched with the local GVA/job level, which is lower. By 2031, locally produced GVA is £55bn lower than the No-COVID-19 scenario in the CAZ; however, growth in Inner and Outer London balance this impact (£56bn and £27bn, respectively).

The ‘widespread home working and reinvention’ scenario assumes that much of the CAZ’s loss is picked by the rest of London with an increase of £130bn in locally produced GVA in Inner London and £45bn in Outer London. The combined impact of more homeworking and increased demand for face-to-face services results in 1.1 million FTE new jobs in the rest of London (835,000 in Inner London and 320,000 in Outer London)

The ‘significant headwinds’ scenario shows the CAZ’s loss is still the rest of London’s gain, but at a lower scale: the £153bn locally produced GVA loss leads to an increase of £119bn in Inner London and £34bn in Outer London.

	2023				2031			
	No COVID-19	Bounce-back to a new normal	Widespread home working	Significant headwinds	No COVID-19	Bounce-back to a new normal	Widespread home working	Significant headwinds
CAZ								
Jobs at risk ('000)	0	-75	-89	-97	0	69	12	-27
Employment net of jobs at risk ('000)	2,192	-466	-1,192	-1,268	2,338	-372	-1,241	-1,347
Locally produced GVA (work location based, £b in 2020)	248	-99	-146	-148	257	-52	-129	-152
Total GVA (HQ-based, £b in 2020)	248	-77	-85	-88	257	-7	24	-25
Inner London								
Jobs at risk ('000)	0	7	16	-4	0	59	73	21
Employment net of jobs at risk ('000)	1,322	234	741	595	1,412	317	900	708
Locally produced GVA (work location based, £b in 2020)	120	39	97	102	151	59	134	122
Total GVA (HQ-based, £b in 2020)	120	0	-11	-8	151	7	-8	-15
Outer London								
Jobs at risk ('000)	0	1	1	-10	0	44	43	5
Employment net of jobs at risk ('000)	1,952	72	287	139	2,083	128	372	184
Locally produced GVA (work location based, £b in 2020)	174	16	30	35	212	30	48	37
Total GVA (HQ-based, £b in 2020)	174	-1	-16	-12	212	8	-12	-21

Number of jobs at risk, employment net of jobs at risk, GVA contribution (locally produced and headquarter-based) compared to ‘No COVID-19’ levels by scenarios and London geographies (2023 and 2031)

Sensitivity test on spend and home location

Potential impacts of spend retention

In addition to measuring the impact of increased footfall and worker visits, we have tested a scenario where all food and beverage, retail, and entertainment spend is fully transferred from the CAZ to the working location on individual days, for the ‘Bounce back to new normal’ scenario.

The central scenario assumes that of those office workers who have shifted their working location from the CAZ to the rest of London, 50% of their expenditure is retained in London (‘local spend’), and 50% is ‘lost’ to either online shopping or/and savings. We have used our economic model to assess this impact, in an illustrative way. Our model allows us to increase local expenditure retention to 100% within Greater London, and investigate the impact on spending in food and beverage, hospitality, and entertainment (including arts and culture sectors).

This suggests that, under the ‘bounce-back to a new normal’ scenario, a 100% retention of expenditure on food and beverage, retail, and entertainment by office workers from 2023 until 2031 within London could positively impact both GVA and employment.

In 2023, if we assume 100% of expenditure transferred from the CAZ to the rest of London is retained, there will be an estimated reduction of up to 31% of jobs at risk in London (compared to the central scenario where we assume that 50% of spend is lost to savings or online retail). The positive impact on employment has a knock-on effect on locally produced GVA, in which an additional £1 billion GVA contribution is gained in London as a whole (compared to the central scenario).

			2023				2031			
			Central Scenario	Sensitivity Test: 100% spend retention	Difference	Difference %	Central Scenario	Sensitivity Test: 100% spend retention	Difference	Difference %
Scenario: Widespread homeworking										
No. of jobs at risk (FTEs, 000s)	CAZ	All sectors	-89	-89	0	0%	12	12	0	0%
	Rest of London	All sectors	17	39	22	129%	116	141	25	22%
	Greater London	All sectors	-72	-50	22	-31%	128	153	25	20%
Employment net of jobs at risk (FTEs, 000s)	CAZ	All sectors	1,000	1,000	0	0%	1,097	1,097	0	0%
	Rest of London	All sectors	4,302	4,324	22	1%	4,767	4,792	25	0.5%
	Greater London	All sectors	5,302	5,324	22	1%	5,864	5,889	25	0.4%
Locally produced GVA (work location based, £bn)	CAZ	All sectors	129	129	0	0%	171	171	0	0%
	Rest of London	All sectors	421	422	1.0	0.2%	546	547	1	0.3%
	Greater London	All sectors	550	551	1.0	0.2%	717	718	1	0.2%

Number of jobs at risk, employment net of jobs at risk and GVA contribution (locally produced) compared to ‘No COVID-19’ levels by scenarios and CAZ sub-areas (2023 and 2031) if 100% of office worker spend is retained inside London and not lost to online spending or savings

Appendix B: Model method

Model method

Model overview

Timescale	User groups	Geographies	Sectors	Inputs	Outputs
<ul style="list-style-type: none"> • Unit=year • 2020-2022: modelled only for illustrative purposes • 2023 – first year of modelling • 2031 – last year of modelling 	<ul style="list-style-type: none"> • Residents • Visitors • Workers <ul style="list-style-type: none"> ◦ Emerging office ◦ Traditional office ◦ Public sector 	<ul style="list-style-type: none"> • CAZ <ul style="list-style-type: none"> ◦ City of London and NIOD ◦ West End ◦ Riparian South • Inner London (excl. CAZ) • Outer London 	<ul style="list-style-type: none"> • Traditional office-based • Emerging office-based • Office-based public • Retail and other services • F&B • Entertainment • Other sectors 	<ul style="list-style-type: none"> • GLA economics inputs on London-wide employment and GVA/job • ONS inputs on historical population, employment, GVA and household expenditure • O2 People Count and Visit Britain inputs on visitors 	<ul style="list-style-type: none"> • Workplace-based employment • Local spend • Jobs at risk/demand for face-to-face sectors (Retail and other services, F&B, Entertainment) • Locally produced GVA • Headquarter-based GVA

Model method

Model structure

Three key projections form the basis of calculations in the model:

1. The GLA's economic forecasts on employment and GVA/job (GLA 2021g)
2. The GLA's population forecast on population (GLA 2020d)
3. Arup's internal visitor number projections based on VisitBritain's projection (VisitBritain 2021)

Local consumption is calculated by aggregating expenditure by office workers working in the area, visitors' spend in the area and the expenditure of residential population. This is undertaken using a separate spending profile for office workers, visitors and residents which provide average daily spend on 'retail and other services', 'food & beverages' and 'entertainment'. The model multiplies the number of office worker visits, visitors and residents by their spending profiles and adds them up to calculate total consumption for each geography.

face-to-face sector jobs at risk/demand are calculated by comparing the forecast year's consumption in the 'retail and other services', 'food & beverages' and 'entertainment' sectors to their 2019 levels. In the event there is lower sectoral spend in that particular year for

that scenario, the number of jobs equivalent to the percentage difference in sectoral spend are the jobs at risk of redundancy, as this shows that in that particular year there is not enough of local consumption to sustain those jobs. If local demand is higher than the 2019 level, we expect that there is a local demand for face-to-face sector jobs.

Our analysis mainly assumes the labour market is flexible and jobs at risk disappear, but also jobs at demand materialise without friction. Therefore, we add the jobs at risk/demand to the employment count for each year.

The model is compatible with the GLA's economic scenarios (GLA 2021g), incorporating their London level employment count as the basis for calculation, as well as keeping the mean London-level GVA/worker values at the same level as the GLA's scenarios. However, GVA/worker figures differ from each other across scenarios to reflect the different geographical pattern of growth envisaged in that scenario.

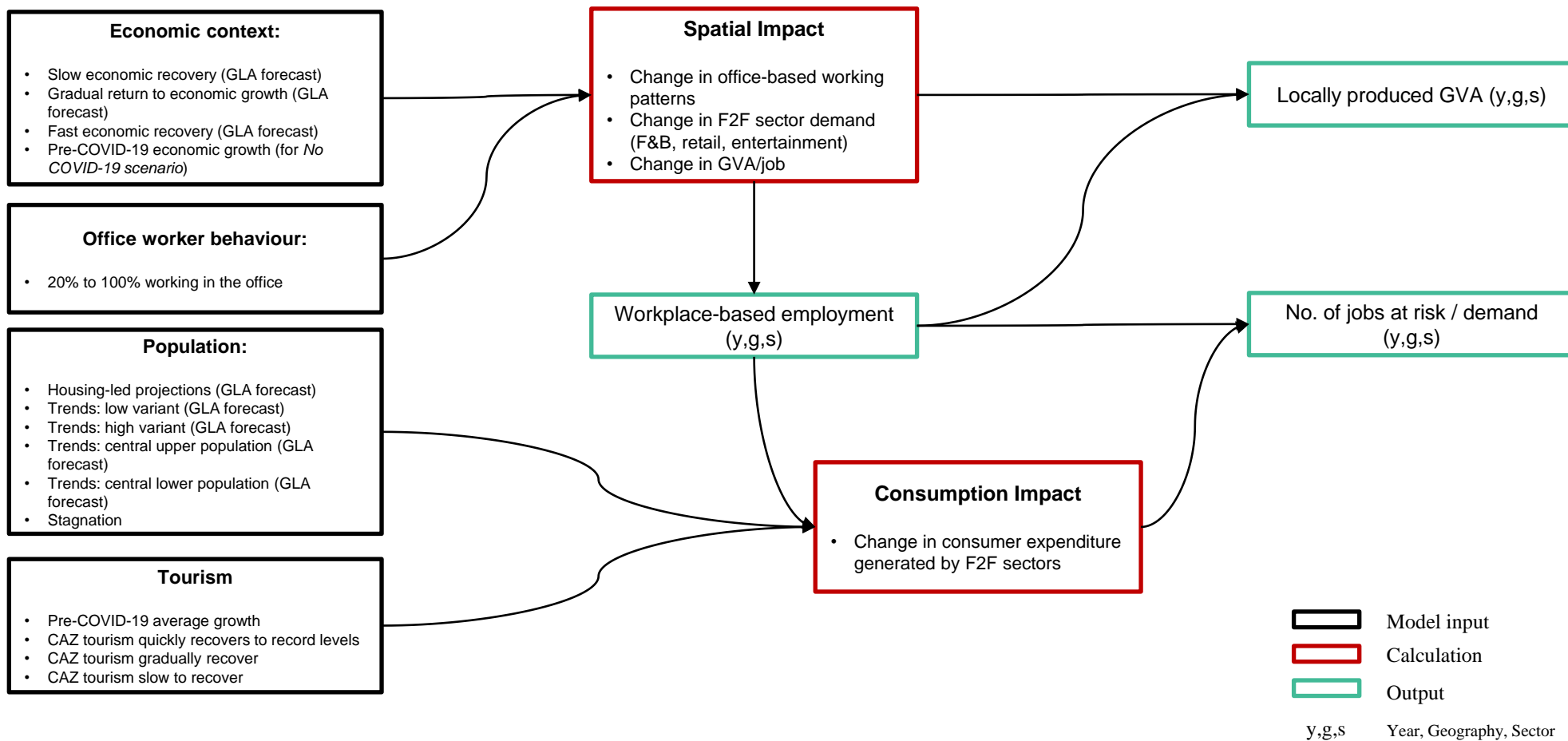
The model calculates two types of total GVA figures: 'locally produced GVA' and 'headquarter-based (HQ) GVA'. The difference between the two is how the model assumes the place of value creation: the 'locally produced GVA' assumes that the added value of an

office worker is created where they work. For example, if a worker spends 40% of their working time in the CAZ and 60% in Outer London, then 40% of their FTE-equivalent time is counted for the CAZ and 60% to Outer London. Moreover, we assume that their GVA/job also changes. In this example it means that time spent in the CAZ leads to higher GVA output than time spent in Outer London as local GVA/job levels are lower.

'HQ-based GVA' assumes that the value creation is incurred at the headquarter of the office worker's company. In the above example, in the event a company is registered and based in the CAZ, 100% of the office worker's time is counted in the CAZ.

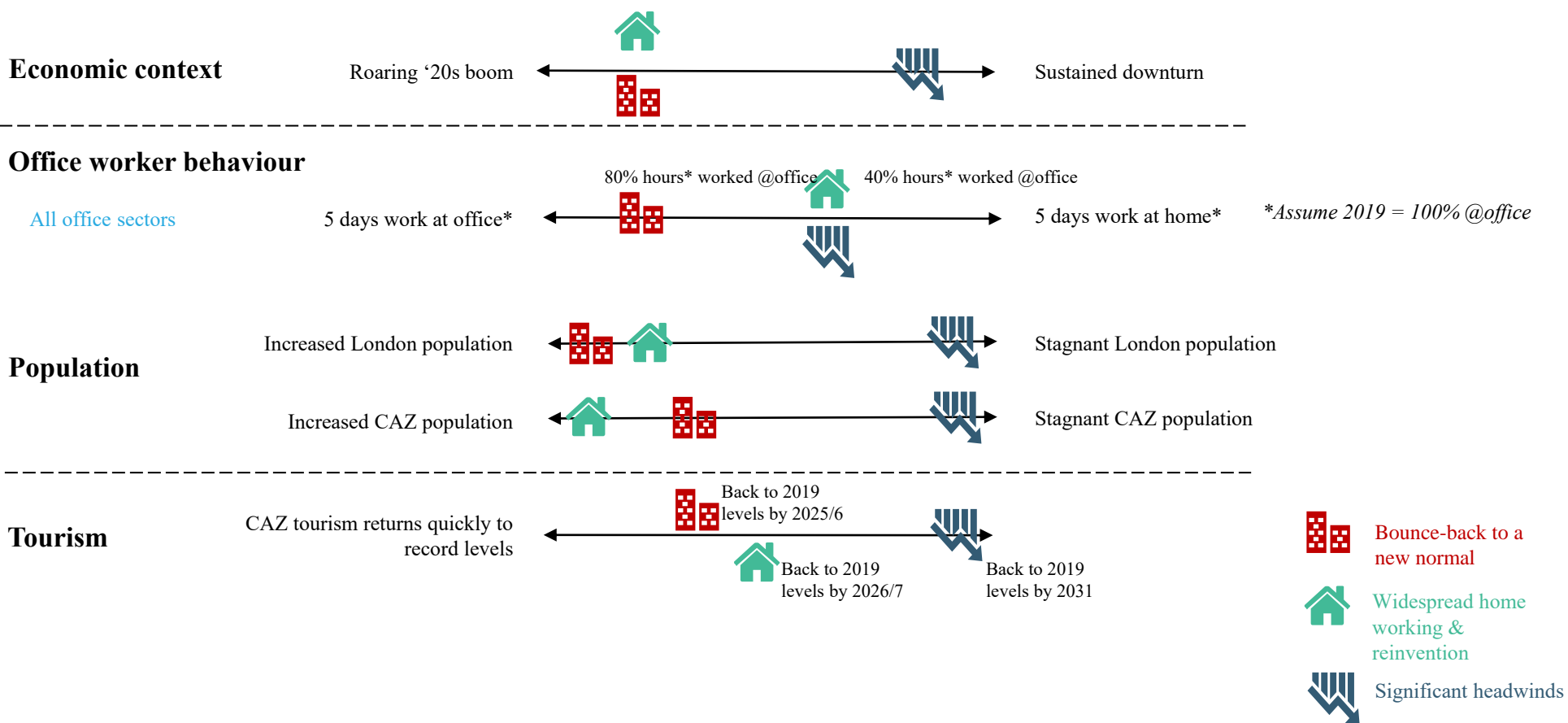
Model method

Model structure



Model method

Model input assumptions



Model method

Sector classification

The table shows the model’s sectoral classification based on SIC 2 codes. The model aims to highlight the impact of COVID-19 on office sectors, and on the face-to-face economy, and model changes within these two sectors.

The office sector consists of three broad categories:

- Emerging office-based jobs (scientific research, programming or publishing).
- Traditional office-based jobs (finance, legal or consultancy services).
- Public sector jobs (public administration, education or health).

The face-to-face sector is broken into three categories, all of which are connected mostly to in-person transactions:

- Retail and other ‘high-street activities’ like personal service activities, rental activities or veterinary activities.
- Food and beverage.
- Entertainment which includes arts and culture, gambling and sport activities.

Subsectors such as courier services or hotels are not included here.

The next slide provides background on which sectors are classified as ‘other’ in our model. Essentially all agriculture, mining, construction, manufacturing, utilities, transportation and other services belong there.

Project Classification	SIC 2 code	Project Classification	SIC 2 code	
Emerging office-based jobs	58: Publishing activities	Retail and other services	56: Food and beverage service activities	
	59: Motion picture, video and television programme production, sound recording and music publishing activities		47: Retail trade, except of motor vehicles and motorcycles	
	60: Programming and broadcasting activities		75: Veterinary activities	
	61: Telecommunications		77: Rental and leasing activities	
	62: Computer programming, consultancy and related activities		78: Employment activities	
	63: Information service activities		79: Travel agency, tour operator and other reservation service and related activities	
	71: Architectural and engineering activities; technical testing and analysis		80: Security and investigation activities	
	72: Scientific research and development		81: Services to buildings and landscape activities	
	73: Advertising and market research		82: Office administrative, office support and other business support activities	
	74: Other professional, scientific and technical activities		94: Activities of membership organisations	
Traditional office-based jobs	64: Financial service activities, except insurance and pension funding	Entertainment	95: Repair of computers and personal and household goods	
	65: Insurance, reinsurance and pension funding, except compulsory social security		96: Other personal service activities	
	66: Activities auxiliary to financial services and insurance activities		90: Creative, arts and entertainment activities	
	68: Real estate activities		91: Libraries, archives, museums and other cultural activities	
	69: Legal and accounting activities		92: Gambling and betting activities	
Public sector: administration, education, health and social services	70: Activities of head offices; management consultancy activities		93: Sports activities and amusement and recreation activities	
	84: Public administration and defence; compulsory social security			
	85: Education			
	86: Human health activities			
	87: Residential care activities			
	88: Social work activities without accommodation			

Model method

Sector classification

The sectors listed here have all been classified as ‘other’ for the purpose of this study.

SIC 2 code	SIC 2 code	SIC 2 code
01: Crop and animal production, hunting and related service activities	21: Manufacture of basic pharmaceutical products and pharmaceutical preparations	42: Civil engineering
02: Forestry and logging	22: Manufacture of rubber and plastic products	43: Specialised construction activities
03: Fishing and aquaculture	23: Manufacture of other non-metallic mineral products	45: Wholesale and retail trade and repair of motor vehicles and motorcycles
05: Mining of coal and lignite	24: Manufacture of basic metals	46: Wholesale trade, except of motor vehicles and motorcycles
06: Extraction of crude petroleum and natural gas	25: Manufacture of fabricated metal products, except machinery and equipment	49: Land transport and transport via pipelines
07: Mining of metal ores	26: Manufacture of computer, electronic and optical products	50: Water transport
08: Other mining and quarrying	27: Manufacture of electrical equipment	51: Air transport
09: Mining support service activities	28: Manufacture of machinery and equipment n.e.c.	52: Warehousing and support activities for transportation
10: Manufacture of food products	29: Manufacture of motor vehicles, trailers and semi-trailers	53: Postal and courier activities
11: Manufacture of beverages	30: Manufacture of other transport equipment	55: Accommodation
12: Manufacture of tobacco products	31: Manufacture of furniture	97: Activities of households as employers of domestic personnel
13: Manufacture of textiles	32: Other manufacturing	98: Undifferentiated goods- and services-producing activities of private households for own use
14: Manufacture of wearing apparel	33: Repair and installation of machinery and equipment	99: Activities of extraterritorial organisations and bodies
15: Manufacture of leather and related products	35: Electricity, gas, steam and air conditioning supply	
16: Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	36: Water collection, treatment and supply	
17: Manufacture of paper and paper products	37: Sewerage	
18: Printing and reproduction of recorded media	38: Waste collection, treatment and disposal activities; materials recovery	
19: Manufacture of coke and refined petroleum products	39: Remediation activities and other waste management services	
20: Manufacture of chemicals and chemical products	41: Construction of buildings	

Appendix C: Reconciliation with TfL scenarios

Reconciliation with TfL scenarios

During the process of developing the scenarios, this study team discussed alignment with the five TfL scenarios, and have made efforts to align where possible. There are some broad overlaps, but a few differences too:

- The ‘Significant headwinds’ scenario aligns perfectly with TfL’s ‘London fends for itself’ scenario.
- The ‘Widespread home working and reinvention’ scenario is a mixture of TfL’s ‘Remote revolution’ and ‘Low carbon localism’ scenarios as there is an emphasis on the emergence of remote working; however, Arup’s scenario envisages a CAZ that undergoes a transformation with more weight on consumption and return of international visitors.
- The ‘Bounce-back to a new normal’ scenario is a mix of TfL’s ‘A return to business as usual’ and ‘Agglomeration, agglomeration, agglomeration’ scenarios, as our scenario emphasises both the importance of the CAZ as the centre of the London ecosystem and also envisages a return to near-normal after the pandemic with no large transformative change in the economy of the CAZ and London as a whole.

It was decided that the scope, purposes and range of TfL’s scenarios are inherently different from this project’s; therefore, a partial alignment is sufficient.

The scenarios have a geographically different scope as TfL’s are for the whole of London as a single entity whereas Arup’s is for the CAZ, with attention paid to the rest of London.

Also, the purpose of the scenarios is different as TfL’s are to assess the impact on travel demand and planning, whereas Arup’s is to investigate the impact of changing office worker behaviour on the London economy.

The range of scenarios is also different as TfL produced five scenarios, which naturally include a wide range across a number of variables. At the same time, Arup were commissioned to look at three scenarios, which naturally reduces the overall range available for investigation.

Appendix D: Existing Mayoral recovery programmes

Roadmap to the safe and full reopening of London's economy

Introduction

The recommendations in our report are designed to complement, rather than repeat, the roadmap to the safe and full reopening of London's economy – the plan already developed by the Greater London Authority, the London COVID Business Forum, and the London Transition Board. Whilst our work focusses on the medium to long term, between 2023 and 2031, and the roadmap focusses on calendar year 2021 there are, naturally, some overlaps. For completeness we include a copy of the latest roadmap (on 1 March 2021) below.

The most up to date version can be found [here](#).

The roadmap

This roadmap sets out a three-phase approach to support London's economic recovery over the coming 12 months and during transition out of the Coronavirus pandemic once we emerge from the current national lockdown restrictions. Its aims are the safe and full reopening of London's economy, to rebuild consumer confidence and to enable our retail, hospitality, cultural, leisure and tourism sectors to get back to business. It seeks to put in place the building blocks for longer term recovery, so jobs are protected, London maintains its competitive global position and the harm done to many communities is minimised.

The paper, which will continue to be developed by the

London COVID Business Forum, sets out key actions for partners across London and actions for national government. It draws on engagement with businesses through the London Transition Board and elsewhere and proposes four overarching issues which are common across the phases. Due to the ever-evolving nature of the pandemic, this document is iterative and is subject to revision as circumstances change.

Overarching themes

There are four themes underpinning many of the points in the plan:

1. Communications: the need for a clear communications plan which builds public, consumer and business confidence, with a single London-wide message informed by engagement with business. Crucial to this is adequate notice from national government of changes to restrictions, recognising these may need to be reimposed as infections rates change.
2. Public health: the need for an effective test, trace and isolate system that quickly identifies those who are infected and gives confidence to those not infected to go about their lives. Work with business and boroughs on the rapid rollout of mass testing and any vaccination programmes with the

working age population. In addition, work with employers on keeping workplaces safe and supporting worker wellbeing.

3. Business support: ongoing business support that is broad enough in scope to ensure viable businesses can continue to operate and are well positioned to benefit from recovery.
4. Licensing, planning and enforcement: ensure that vacant units and the public realm can be used to support businesses, and that proportionate enforcement is backed up by timely guidance to councils and businesses.

Roadmap to the safe and full reopening of London's economy

Short term - coming out of lockdown/higher alert tiers

For London

- Urgent engagement with businesses on planning for escalation and de-escalation of restrictions.
- A clear and simple articulation of the risks and issues for London of the different scenarios for handling the pandemic and the impact on London's economy.
- Communicate to government the need for clear guidance on the approach and thresholds for tier-related decision making for London, as well as the importance of advance notice to enable businesses to plan.
- Clear communications and messaging relating to tier changes and improved coordination across London agencies for sharing these messages.
- A multi-agency plan on the use of public realm and outside space to facilitate alfresco dining and socially distanced shopping on London's high streets, with support from the High Streets Reopening Group coordinated by the GLA.
- Working with the NHS and boroughs, facilitate engagement with businesses on London-wide approaches to the rollout of vaccination programmes and effective rapid testing with clarity on what is wanted from business. Business needs a clear mechanism for engaging in the process.
- Support London's voluntary sector and explore the need to secure additional financial support through the London Community Response Fund, which will help community and voluntary organisations who have been badly affected by the impact of COVID-19.
- Continue to safeguard cultural infrastructure through the Culture at Risk office and expand the model to include support for safeguarding social and civic infrastructure.
- Support 'shop local' approaches and messaging whilst under higher levels of restrictions and encourage people to shop and dine in central London when public health guidance supports non-essential travel.
- Maintain visible town centre security, including policing, as funding and support from Business Improvement Districts for these services is cut as a result of financial pressures.
- Assistance to local businesses to recover, grow and innovate, including through the London Business Hub, Mayor's Pay it Forward London scheme, Back to Business Fund, Technology Adoption Service and similar action by Boroughs.
- Continue to create more space for people to safely walk, cycle, and other forms of active travel as part of TfL's Streetspace for London programme.
- Keep London's small business community informed on the latest restrictions and support available through the London Business Hub, and support London's creative and cultural industries through the Culture at Risk office.
- Alongside Westminster Council and others explore the upgrade of Oxford Street district, including Marble Arch and Oxford Circus schemes, including seeking to secure sustainable long-term funding for TfL to enable it to progress major schemes.
- Ensure local and national employment support schemes are coordinated and of high quality, overseen by a partnership between Department for Work and Pensions, London Councils and sub-regional partnerships in London.
- Target the Adult Education Budget and the £11m COVID-19 Response Fund at vulnerable Londoners and ensure flexible support is available to help unemployed Londoners get back to work.
- A plan for promoting London nationally and internationally over the New Year period in the absence of the usual seasonal activities and events.

Roadmap to the safe and full reopening of London's economy

Short term - coming out of lockdown/higher alert tiers.

For national government

- Statutory sick pay should be increased and government should provide support so workers receive full pay wherever possible.
- Face coverings should be mandatory in busy outdoor public spaces.
- Urgently reinstate the Job Retention Bonus, which many small businesses were relying upon to remain viable.
- No return to the hospitality curfew and removal of the requirement to bill for the Late Night Levy.
- Reverse the policy of ending the 'tax-free shopping' Retail Export Scheme.
- A data-led route map for managing the pandemic, avoiding rapid changes in restrictions and with greater transparency of decision-making.
- Extension of the business rates holiday and VAT relief.
- Effective and efficient rollout of rapid testing, ensuring closer partnership with regional and local authorities as well as adequate resources to deliver.
- Work with London government, VisitBritain and London & Partners to commence planning and allocate investment to communication and campaign activity focused on reactivating London's tourism.
- A plan to ensure businesses have access to affordable working capital in the longer term, recognising that many businesses have taken on large amounts of debt with repayments starting for some in March of this year.
- Provide further funding as part of the Additional Restrictions Grant allocation to recognise the needs of boroughs with low populations but with high numbers of businesses with the aim of ensuring a fair distribution of funding.
- Urgently review the self-employed support scheme to deal with the gaps in the scheme.
- Support trials of new safety measures for nightlife, culture and sporting events, so they can resume at higher audience capacity.
- Support for businesses to maintain and adapt ventilation systems to decrease potential airborne transmission of COVID-19.
- Expand grant funding provision to those small businesses that continue to be excluded.
- Support businesses unable to meet rent commitments due to the pandemic, by extending the current protections from business evictions ending in March 2021 and providing an aid package to help landlords and tenants whose viability is at risk.
- Additional resource provided nationally and locally for SME advice and support.
- Extra investment into employment support for people at risk of redundancy and vulnerable Londoners with complex needs.
- Fast-track the government's plan for setting up a single enforcement body, with the powers and resources needed to act as an effective defender of people's rights at work.
- Better funding of the enforcement system for health and safety violations, with proactive inspections and clear reporting routes, designed to meet the needs of workers during the pandemic.
- Issue guidance for employers on fair redundancy processes in the light of COVID-19, with reference to how to treat fairly those workers who have been furloughed or shielding.

Roadmap to the safe and full reopening of London's economy

Medium Term – Transition

For London

- A campaign and messaging, which builds consumer confidence, supports an 'as-safe-as-possible' return to the workplace and high street, and reassures Londoners and visitors that all possible measures are being taken to make the public transport system safe. Covering London, UK wide and International.
- Encourage business and Business Improvement Districts (BIDs) to deliver a programme of 'as-safe-as-possible' high-profile events to mark London's reactivation.
- Continue to publish real-time information showing COVID-19 status throughout London on London Datastore and support data sharing.
- Deliver a call-to-action to business to develop innovative technology solutions that enable Londoners to make informed decisions, personal risk assessments and possibly increase confidence.
- Ongoing financial support and advice to SMEs at both Borough and city-wide level, including a focus on mental health advice for business owners and staff.
- Deploy clear public health messages for employers on keeping workplaces safe and supporting worker wellbeing, including mental health.
- Support London's Private, Voluntary and Independent early years providers through the London Business Hub. Develop evidence-based recommendations on effective activities to increase parental demand, recognising that childcare and early years provision are crucial for London's social and economic recovery.
- Provide ongoing support for businesses to navigate the new rules for businesses and trade associated with the UK's exit from the EU that came into force in the UK on 1 January 2021.
- Put in place a plan to support London's freelancers who have been severely impacted by the pandemic, including a Freelancers taskforce that can develop policy options and advocacy to inform the response to the pandemic and recovery.
- As new testing methods come on stream, work with London's businesses to ensure the best possible take up and adoption. Explore the possibility of rapid testing at events and workplaces recognising the need for fairness and access based on need.
- Alongside MHCLG, continue to support infrastructure projects in London that will fuel local recovery, create jobs and support local businesses, such as Dagenham Film Studios and 3 Mills Studios in the Thames Estuary Production Corridor, the Good Growth Accelerator, and improving digital connectivity in outer London.
- Support small businesses in sectors hit the hardest to enable digitisation, adaptation and diversification. Help London's SMEs to thrive in the new 'normal' and adapt to the accelerated pace of change, such as through the Mayor's Back to Business fund and London Resilience Fund.
- Explore opportunities to enable local communities to deliver projects to support recovery.
- Further encourage low emission transport, including promoting the expansion of the cycling network, 'traffic free' days and safe walking in daylight and after dark.
- Put in place a programme of work through the London Recovery programme's High Streets mission to make best use of vacant units with the aim of avoiding empty and boarded up properties, particularly on high streets and in the CAZ. This could include the use of planning powers and encouraging 'meanwhile' use and pop-up spaces for the hospitality, creative and culture industries.

Roadmap to the safe and full reopening of London's economy

Medium Term – Transition

For national government

The safe reintroduction of international travel with a transparent and effective 'air bridge' system underpinned by a high-quality testing service.

Sector-specific support for the aviation industry and its supply chains with a Communities Fund to support communities disproportionately affected by the pandemic, such as those close to major transport hubs.

Provide a longer-term sustainable funding settlement for Transport for London. Devolve more control to London government over key taxes so it can meet more of the transport network's costs itself.

Alongside BEIS, explore advice and guidelines for the safe reopening of live performance venues and office spaces.

Sector-specific support for industries and areas hit hardest by the pandemic that will not recover quickly from relaxation of restrictions.

Review business support with the aim of ensuring the London Business Hub and borough advice services have the appropriate level of funding in place to meet the needs of local businesses.

Ensure that London gets a fair opportunity to access £220m UK Shared Prosperity Fund pilot funds in

2021/22 and the follow on £4bn Levelling Up fund, with assessment that recognises the full impact of the pandemic on London's sectors and local economies.

Roadmap to the safe and full reopening of London's economy

Long term – Into recovery

Our short-term recovery activity both supports and links to the grand challenge of the city's longer-term Recovery programme, led by the Recovery Board:

Restore confidence in the city, minimise the impact on London's most vulnerable communities and rebuild the city's economy and society.

For London

- Alongside promotional activity to maintain London's preeminent global position, communication and campaign activity focused on reactivating London's tourism industry and encouraging communication activity with partners across London hosting reactivation events. Alongside Government, see the return of major sporting events.
- An inclusive London that recognises the city's diversity and the need for a more equal society. A policy focus on supporting those hit hardest by the pandemic including BAME Londoners and other groups facing deep-rooted inequalities.
- Maximise London's environmental ambitions for the COP21 and to support economic recovery.
- Resources to enable an innovation-led recovery helping all businesses to benefit from future growth opportunities.
- Ensure London's future global competitiveness by understanding and preparing for the long-term impacts of the pandemic on the central London economy, including through commissioning new research to understand the emerging trends.
- Ensure the opening of the Elizabeth Line as soon as possible and at as low as possible cost, including by finalising the transition of Crossrail Ltd into TfL for the final stages of the project.
- Work with national government on a UK wide tourism campaign ensuring London's unique position and circumstances are recognised in its development.
- Implement the nine missions of the London wide Recovery programme:
 - A Green New Deal - Tackling the climate and ecological emergencies and improve air quality by doubling the size of London's green economy by 2030 to accelerate job creation for all.
 - A Robust Safety Net - By 2025, every Londoner is able to access the support they need to prevent financial hardship.
 - High Streets for All - Deliver enhanced public spaces and exciting new uses for underused high street buildings in every Borough by 2025, working with London's diverse communities.
- A New Deal for Young People - By 2024 all young people in need are entitled to a personal mentor and all young Londoners have access to quality local youth activities.
- Helping Londoners into Good Work - Support Londoners into good jobs with a focus on sectors key to London's recovery.
- Mental Health and Wellbeing - By 2025 London will have a quarter of a million wellbeing ambassadors, supporting Londoners where they live, work and play.
- Digital Access for All - Every Londoner to have access to good connectivity, basic digital skills and the device or support they need to be online by 2025.
- Healthy Food, Healthy Weight - By 2025 every Londoner lives in a healthy food neighbourhood.
- Building Strong Communities - By 2025, all Londoners will have access to a community hub ensuring they can volunteer, get support and build strong community networks.

Roadmap to the safe and full reopening of London's economy

Long term – Into recovery

For national government

- Fund investment opportunities to help promote an economic stimulus, including bringing forward existing plans, encouraging the private sector and utilities to take the same approach. This could include areas such as flood defences and green retrofitting of homes as well as specific London investment opportunities that will help drive recovery in other parts of the country.
- Play its role in completing a nationally significant piece of new infrastructure, Crossrail, both by finalising the funding agreement that is currently being negotiated and through any additional funding needed beyond that to ensure its success.
- A devolved multi-year, single funding settlement to:
 - support London's economic restructuring and recovery (be it from the anticipated UK Shared Prosperity Fund, the Local Growth Fund or other funding streams);
 - support integrated skills, work and education systems. New powers and a doubling of London's AEB budget so that we can help meet the growing demand of Londoners needing support to retrain.
- Business support reviewed and devolved to enable reactivation and response locally to the changing nature of the recovery.
- Government to ensure that any new investment for adult skills through the Lifetime Skills Guarantee is administered through London's devolved arrangements.

London Recovery Programme

Nine missions to achieve a Grand Challenge

In order to help London transition from the lockdown measures of 2020/21, and towards the longer-term recovery the Mayor of London, in partnership with London Councils, has used his convening power to bring together all the leaders of London's anchor institutions to form the London Recovery Board.

The London Recovery Board first met on 4th June 2020. The Board's remit is to plan and oversee the capital's wider long-term economic and social recovery, developing a strategy and call to action to reshape London as a fairer, more equal, greener and resilient city than it was before the crisis. The London Recovery Programme, overseen by the London Recovery Board, has identified:

A Grand Challenge to restore confidence in the city, minimise the impact on communities and build back better the city's economy and society.

Whilst the Roadmap (see previous pages) looks at the immediate response to the COVID-19 crisis, and suggests some longer-term actions, the Recovery Programme is focused just on the medium and longer term recovery and is still in development.

Nine bold missions have been identified to restore confidence in our city and make London greener, fairer and safer than ever before.

For more details on the missions, the work of the Recovery Programme, please visit:
<https://www.london.gov.uk/talk-london/recovery-COVID-19>



High Streets For All

Deliver enhanced public spaces and exciting new uses for underused high street buildings in every Borough by 2025, working with London's diverse communities.



A Green New Deal

Our goal is to tackle the climate and ecological emergencies and improve air quality by doubling the size of London's green economy by 2030 to accelerate job creation for all.



Building Strong Communities

By 2025 all Londoners will have access to a community hub ensuring they can volunteer, get support and build strong networks.



Mental Health & Wellbeing

By 2025 London will have a quarter of a million wellbeing ambassadors, supporting Londoners where they live, work and play.



Good Work For Londoners

Our goal is to support Londoners into good jobs with a focus on areas which are key to London's recovery, like creative, green and digital jobs.



Digital Access For All

Every Londoner to have access to good connectivity, basic digital skills and the device or support they need to be online by 2025.



A New Deal For Young People

By 2024 all young people in need are entitled to a personal mentor and all young Londoners have access to quality local youth activities.



Healthy Food, Healthy Weight

By 2025 every Londoner lives in a healthy food neighbourhood.



A Robust Safety Net

By 2025, every Londoner is able to access the support they need to prevent financial hardship.

Appendix E: Study areas

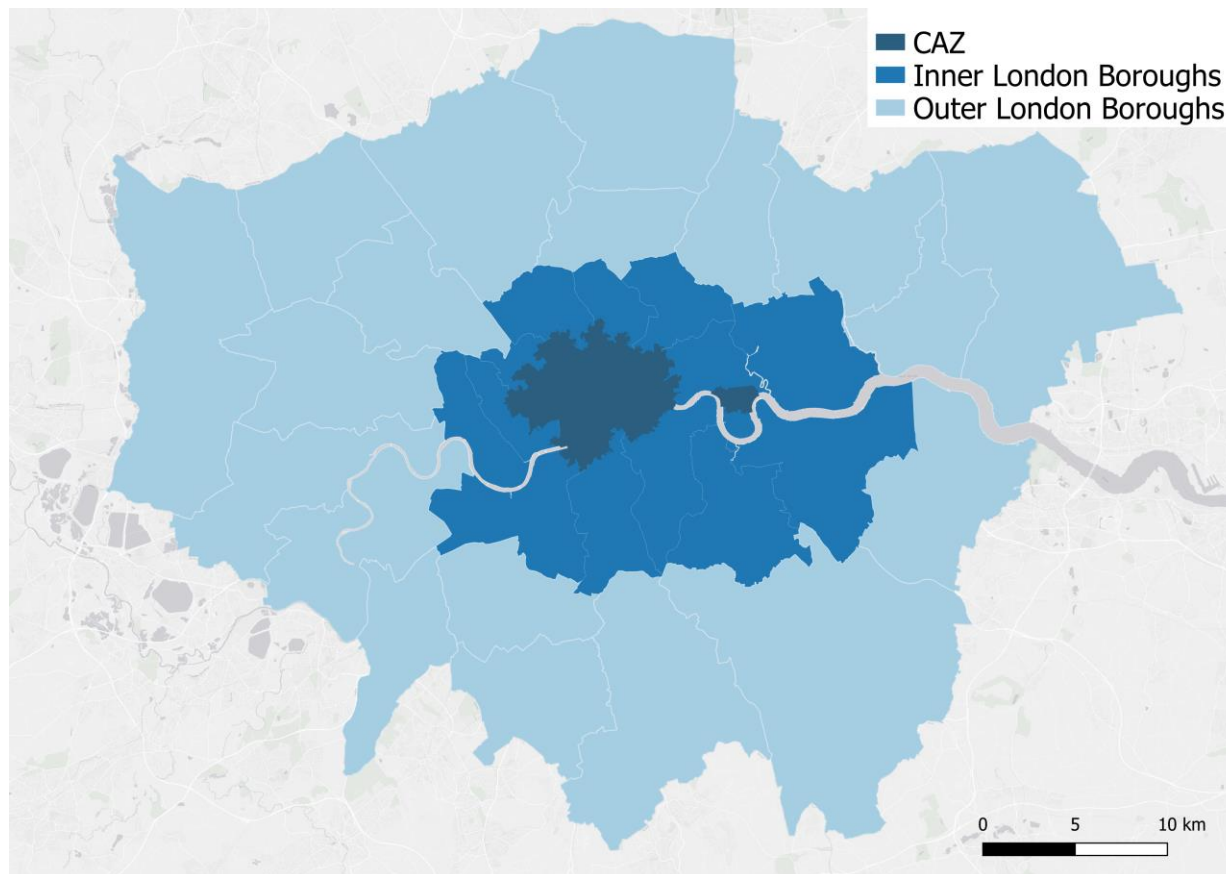
Study areas

The geography of the CAZ, inner London and outer London

The CAZ, as defined in the 2021 London Plan (GLA 2021c), covers much of the city core, from the West End, to the City of London, and from Nine Elms to Borough and London Bridge. It also includes the area known as the Northern Isle of Dogs, containing Canary Wharf.

It is a network of neighbourhoods and identities, a series of distinctive places which attract a broad range of people to live, work, study and visit. Steeped in history, the CAZ is home to the seat of national government and some of the country's most significant heritage assets. It plays host to culture, arts, retail, entertainment, food and drink, education, and business – from start-ups and knowledge driven sectors to some of the largest businesses in the country. The breadth and abundance of the offer makes examining the CAZ and its economic ecosystem both delightful and challenging. This report will often reference the CAZ which might suggest one place, but it is much more than that. Where possible its distinct neighbourhoods and economic layers will be unpicked and referenced, but, at other points might be described as a whole.

As outlined in our Phase 1 Report, the CAZ is both depended on, and dependent on the rest of London, and beyond. Therefore, where possible we have made comparisons between the economic impacts between the CAZ, and the rest of London.



Study geographies: CAZ, non-CAZ Inner London and Outer London: CAZ boundaries defined by all LSOAs within or intersecting with the CAZ official boundaries available on the London Data Store

Study areas

Sub-geographies within the CAZ

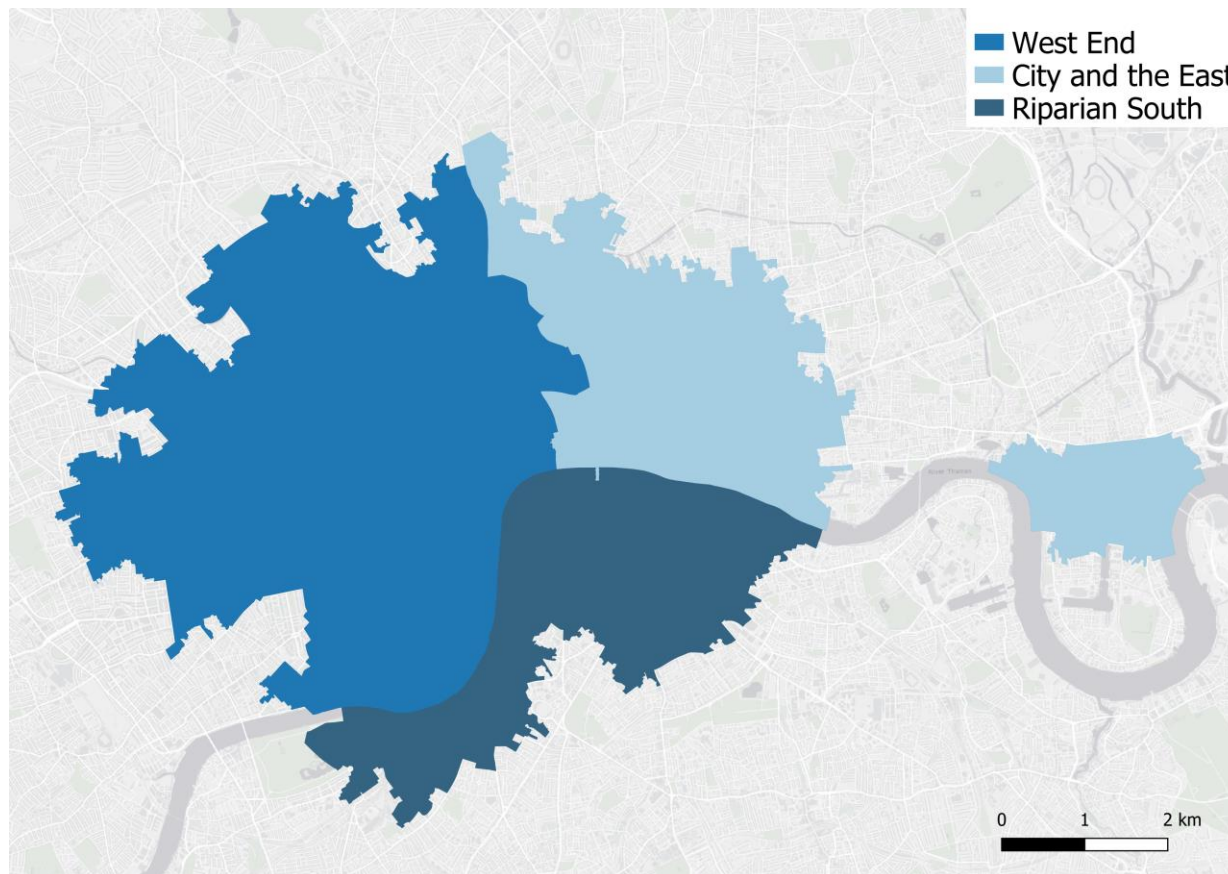
The CAZ is defined using boundaries based on the London Plan (GLA, 2021c), and built up using:

- Lower Super Output Areas (LSOAs) where possible.
- Middle Super Output Areas (MSOAs) where LSOA data is not possible or when maps would be made more legible.
- Estimates based on borough-level data, pro-rated to the CAZ spatial area, when neither LSOA or MSOA data is available.

In this last case, where data has been estimated, this has been noted in the relevant charts and/or maps.

In some cases, to undertake more detailed analysis, we have broken the CAZ into three sub-geographies:

- West End (all CAZ LSOAs located in Camden, Kensington and Chelsea and Westminster).
- City and the East (all CAZ LSOAs located in City of London, Tower Hamlets, Islington and Hackney; includes the Northern Isle of Dogs).
- Riparian South (all CAZ LSOAs located in Lambeth, Southwark and Wandsworth).



Sub-geographies within the CAZ: West End (all CAZ LSOAs located in Camden, Kensington and Chelsea and Westminster), City and the East (all CAZ LSOAs located in City of London, Tower Hamlets, Islington and Hackney) and Riparian South (all CAZ LSOAs located in Lambeth, Southwark and Wandsworth)

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