SCOTLAND'S URBAN AGE 2022

Shocks to the System

Brian Evans
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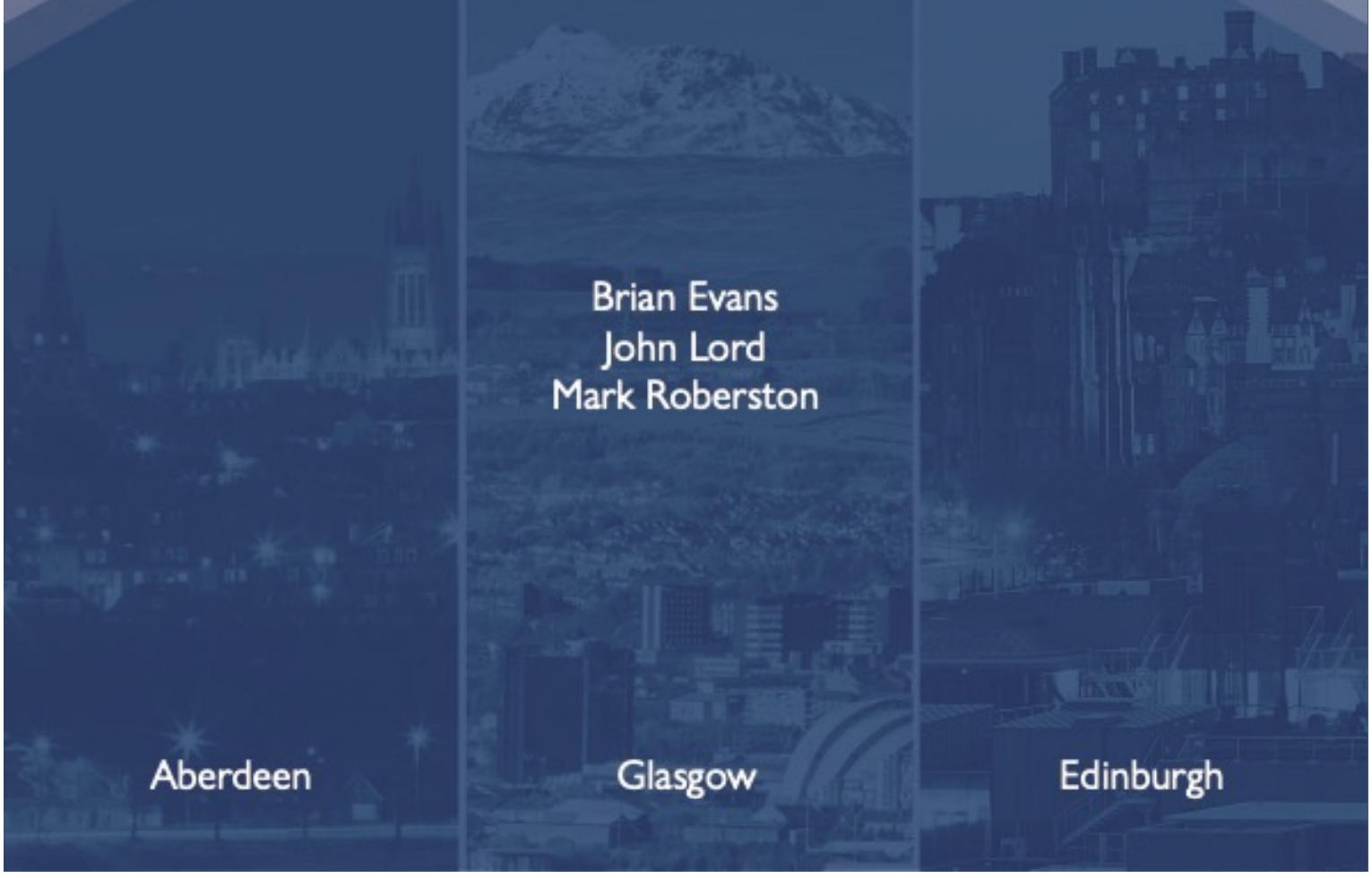

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GLASGOW URBAN LAB
THE GLASGOW SCHOOL OF ART

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Shocks to the System

"Plus ça change,
plus c'est la meme chose"
Jean-Baptiste Alphonse Karr

Brian Evans, John Lord, Mark Robertson

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CONTENTS

ABBREVIATIONS

Agenda 2030	Transforming our World, the 2030 Agenda of Sustainable Development, UN, 2015
AI, AR	Artificial Intelligence, Augmented Reality
AGE cities	Aberdeen, Glasgow & Edinburgh
BERD	Business Enterprise Research & Development (Scottish Government)
BREXIT	UK withdrawal from the EU
BRIC	Brazil, Russia, India and China (the 'supergroup' of developing countries – O'Neill)
BTR	Build to rent
CBILS	Coronavirus Business Interruption Loan Scheme
C4C	Centre for Cities
CIS	Commonwealth of Independent States (after Soviet Union dissolution, 1991)
CTR	Converted to Rent
COVID-19	Coronavirus Disease
DG Regio	EU Directorate General for Regional and Urban Policy
EFTA	European Free Trade Association
ESG	Environment, social, & governance investment practice
EU	European Union
FAI	Fraser of Allander Institute (University of Strathclyde)
FEI	Further Educational Institution
GDP	Gross Domestic Product
GFC	Global Financial Crash (2008-2013)
GVA	Gross Value Added
HEI	Higher Educational Institution
ICT	Information and communications technology
IFS	Institute for Fiscal Studies
IoT	Internet of things
IPCC	International Panel on Climate Change
JRF	Joseph Rowntree Foundation
KIBS	Knowledge Intensive Business Services
LQ	Location Quotient
MI	Machine Intelligence
MINT	Mexico, Indonesia, Nigeria and Turkey particularly well placed to exploit a geo-political location between developed and developing markets (O'Neill)
MOOC	Massive open online courses
NESTA	UK Innovation Foundation formerly National Endowment for Science Technology and the Arts
NPF	National Performance Framework (Scotland)
NPF 4	National Planning Framework 4 (Scotland)
OECD	Organisation for Economic Cooperation and Development
ONE	Opportunity North East
PBSA	Purpose built student accommodation
PwC	Price Waterhouse Coopers
PUA	Primary Urban Area
R&D	Research and development
RDA	Regional Development Agency
REITS	Real Estate Investment Trusts
SDG	UN global Sustainable Development Goal
SEIA	Socio-Economic Impact Assessments (UN)
SME	Small to Medium-sized Enterprise
SUA-1	Scotland's Urban AGE: Aberdeen, Glasgow & Edinburgh in the Century of the City
SUA-2	Scotland's Urban AGE: Shocks to the System
UK	United Kingdom of Great Britain & Northern Ireland
UNECE	United Nations Economic Commission for Europe
UN	United Nations
US	United States of America
WHO	World Health organisation

FOREWORD

In 2018, the Glasgow Urban Lab published ***Scotland's Urban AGE: Aberdeen, Glasgow & Edinburgh in the Century of the City*** as a review of Scotland's three principal cities and their regions. The document considered the international context to Scotland's principal cities, reviewed their performance against a range of measures, drew some strategic conclusions and made a series of recommendations about the future (SUA-1). A lot has happened since.

SUA-1 was undertaken by the Glasgow Urban Lab working in conjunction with Yellowbook and Ryden and was a *tour d'horizon* of Scotland's principal cities, picking up on international research by the Glasgow Urban Lab for the UNECE to take a more expansive view of places seen by some as '*wee cities in a wee country*. The starting point was recognition that, in world terms, the future is urban and, by reflecting on international trends, it is possible to set Scotland and her principal cities within these trends to investigate the extent to which they were reflected at home. We found that they were, but this wider view can be lost in parochial noise within the intra-Scottish urban system, and UK and international city league tables. We found that the AGE cities (Aberdeen, Glasgow, and Edinburgh) have the potential to fare well in international milieux, that they have more in common than separates them, and that they sit at the apex of an interrelated urban system in Scotland within the UK and European contexts.

One of the rewarding legacies of SUA-1 was closer working between the Chambers of Commerce for the three cities and these organisations, have asked for this update to consider how the cities are faring in the troubled waters at the start of the 2020s by posing the questions nagging at everyone – ***what has changed***? ***what has stayed the same?*** and ***what's new?***

Scotland's Urban AGE 2022: Shocks to the System (SUA-2), updates SUA-1 in the light of the COVID-19 pandemic, engages with the challenges of the climate emergency (brought into sharp focus in Scotland by COP26) and reflects on the legacy of the Global Financial Crash and Brexit. These have, and are, causing shocks to the system – and they interact. Together they stoke uncertainty and make already difficult challenges even more keen. The cumulative effects, without understanding, judgement and leadership, could be toxic for our cities and their peoples.

COVID has had a serious impact on those in the front line and it has had a collective and frequently negative effect on communities and individuals – anxiety abounds. For those of us whose work affords the opportunity for reflection away from the immediate fog of the emergency, it was clear that the imperative of combatting the effects of the pandemic would inevitably be cojoined with tackling the climate emergency and would lie under the long shadows of the financial crisis and Brexit. As this work was is finalised, we reel from the further international shock of a serious international war in Europe. So, the title of the report reflects the state of being in which we find ourselves. We have engaged with the **shocks** to the system of (COVID-19, the Climate Emergency, the GFT and Brexit), the **flux** these are causing together and the intrinsic **resilience** to handle these forces – or not. Thinking along these lines also presages our collective view that **scenarios** and **systems** will be as important as **plans** and **projects** going forward.

There is therefore something around agility, resilience and trajectories that might guide active but measured action. Sustainability is overused, but perhaps **stability, systems** and **scenarios** might have more utility in helping establish a dynamic equilibrium for the AGE cities. The dynamic nature of cities has tempered our thinking, particularly just now. There is no end state, no arrival – cities need to be dynamic, or they decline. We contemplated adding 2030, when some of our cities intend to be net carbon zero or 2040, the horizon for NPF 4, 2045 when Scotland will be net-carbon zero, 2050 when the UK will join the party. But if 2030 turns out to be 2029, is it a

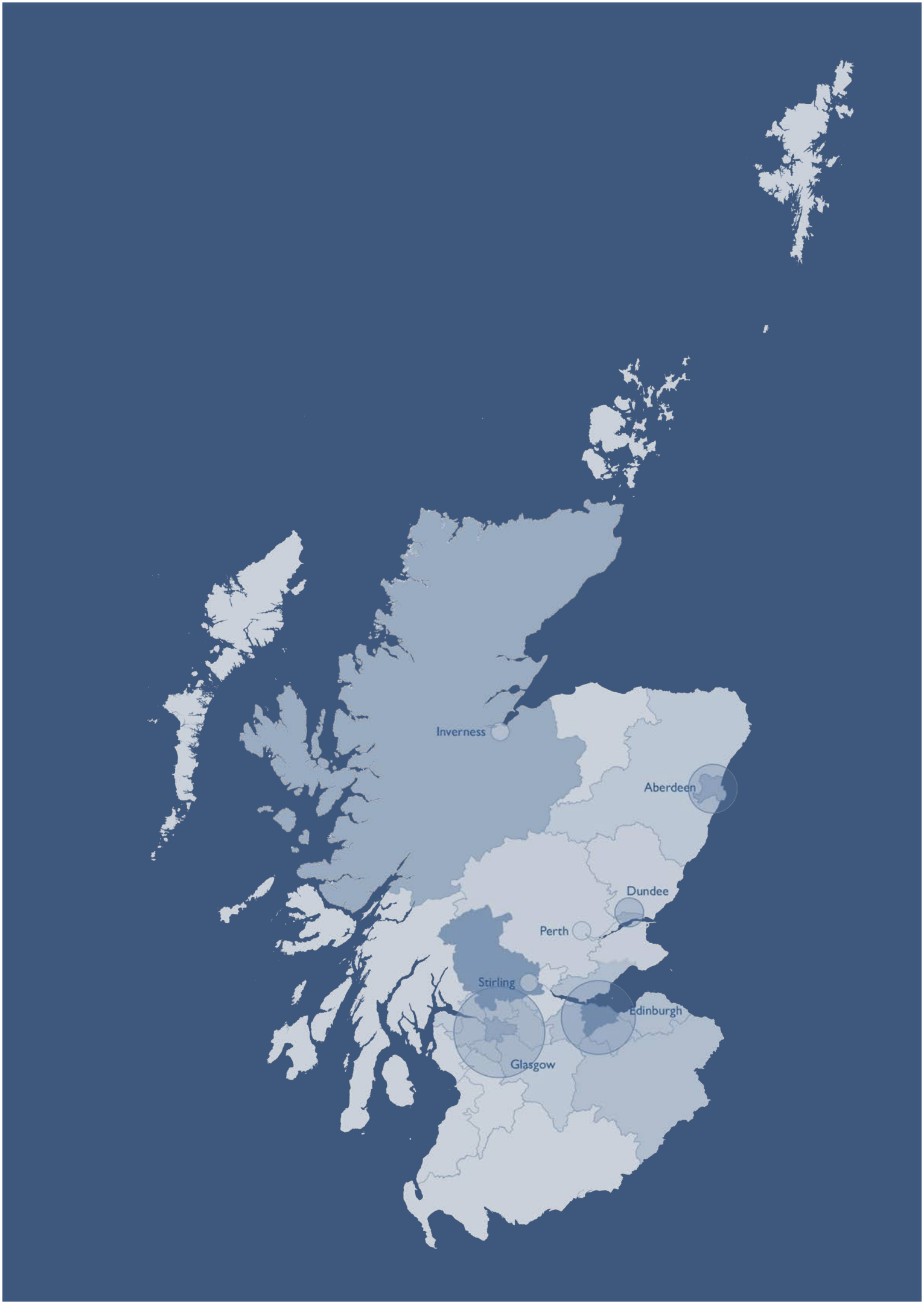
cause for celebration? Or is 2032 a failure, well hardly, after all Tokyo 2020 was held in 2021. So we settled on 2022 – to distinguish SUA-1 from SUA-2 and to recognise its point in time.

Finally, this report, as the first one, unapologetically concentrates on Scotland's three principal cities and their regions – the **A**berdeen **G**lasgow and **E**dinburgh of Scotland's Urban **AGE**. We will see that their concentrations of populations, wealth and knowledge remain of pre-eminent importance to Scotland's well-being. They are a litmus test of Scotland's future, ***but*** as we ***always*** stress, they cannot and should not be seen apart from the vibrant interconnected system of cities and towns across Scotland, nor indeed from the wider UK and Ireland, Europe's anglophone ***supercity***. This truly is a whole that is greater than the sum of its parts.

Brian Evans, John Lord, Mark Robertson

Scotland's Urban AGE 2022

1: How is the Century of the City Shaping up?


Inverness
Aberdeen
Dundee
Perth
Stirling
Edinburgh
Glasgow

1: HOW IS THE CENTURY OF THE CITY SHAPING UP?

Scotland's Urban AGE: Aberdeen, Glasgow & Edinburgh in the Century of the City (SUA-1) began, as its title implied, with the global consensus that the 21st century is the '***century of the city***', a phrase coined to recognise that this is the first time in human history where urban inhabitants will outnumber rural dwellers that is predicted to reach a ratio of 70:30 by 2050.[1] The shocks of recent years show no signs of changing this trend. North America and Europe are already there. The changes in living brought about by the COVID-19 pandemic, although potentially significant at the local level, show no signs of altering the march of urbanisation nationally or globally. SUA-1 noted that *"the process of urbanisation involves a complex and sometimes contradictory combination of concentration, agglomeration and sprawl"*.[2] This is a concise, if prosaic way to describe what Ed Glaser called "*The Triumph of the City: How our greatest invention makes us richer, smarter, greener, healthier and happier*"[3] Understanding and explaining the processes of urbanisation remains an enduring quest for many.

There is equally no change in the view that, although the world is still expected to reach peak population by mid-century – a consequence of changing demographics as countries industrialise – the significant pressures on the carrying capacity of many regions in terms of climate and environment will only increase although in some temperate regions in-migration will offset internal demographic trends characterised by ageing populations and falling birth rates.

It is now clear however, that the world, or at least the policy world, changed in 2015 with the publication by the UN of ***Transforming our World*** and with it the introduction of the 17 global ***Sustainable Development Goals*** and the targets by which they would be measured.[4] Perhaps, for the first time, there is a global agenda, language and taxonomy about how humankind should interact with the planet. At the time of SUA-1, people were vaguely aware of the SDGs, today – implicitly or explicitly – these principles underpin the basis of most urban policy. This is particularly true and prominent in countries and cities that have stated their intent to be net carbon-zero by 2030, if not before.[5] Today the policy of most governments and the practice of most cities is underpinned by the SDGs. There are now eight years to make significant progress towards the realisation of these goals.

The goals have three remarkable characteristics:

1. The SDGs and their targets have been adopted by 195 countries worldwide. Although it is now 6 years since they were introduced, they have grown in stature and prominence across the globe and today member states, sub-national governments, local authorities and the private sector use them in their daily work as a common language upon which to base international dialogue on a diverse range of subjects affecting the human habitat and our interaction with the planet;
2. The SDGs are often expressed as a circle which recognises that they are '***integrated and indivisible***. Each has its strength, but only through a balanced approach to all 17, can their intent be achieved – an integrated approach of ***paramount importance, (to) common action and endeavour across a broad and universal policy agenda***.[6] (Figures 1-1 and 1-2);
3. The 2030 Agenda with the SDGs provides a common foundation and language upon which to base the work of the UN with Member States and is the foundation for everything that the UN does in respect of sustainable development and cities.[7]

Whole of government, whole of societal action through 4 drivers of change:

[a] develop & implement ***urban*** policy;

[b] strengthen ***urban*** governance;

[c] long-term and integrated ***urban*** and territorial ***planning*** and ***design***;

[d] effective, innovative, sustainable finance framework & instruments

Figure 1-1: The global goals (SDGs) are integrated and indivisible
Source: *UN-Habitat*

Figure 1-2: The global goals (SDGs) with Scotland's National Performance Framework and Climate Change Adaption Outcomes

Source: *Scotland and the Sustainable Development Goals, Scottish Government, 2020*

Although the SDGs are interrelated and indivisible, SDG 11 (Sustainable Cities and Communities) is, for cities, of particular relevance and importance with its associated targets (Figure 1-1). SDG 11 recognises that access to adequate, safe and affordable housing and basic services is central to the delivery of action in pursuit of this goal (target 11.1) and places it alongside access to safe, affordable, accessible and sustainable transport systems (11.2), inclusive and sustainable urbanisation supported by participatory, integrated, and sustainable planning and management (11.3), safeguarding cultural and natural heritage (11.4) and universal access to safe, inclusive, and accessible green and public spaces (11.7). The SDGs are all interconnected in the concept of a resilient city where ***resilience*** is the capacity of cities and human settlement to respond better and faster to shocks, social and economic impacts or climate disasters through supporting positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning for cities and their regional hinterlands (11.a), and increasing the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change (11.b).

International trends revisited – demographics: ageing, fertility & migration

The countries of Western and Eastern Europe and North America are experiencing very low population growth compared to other regions in the world, such as Africa and Asia. A rapidly ageing population (due to a combination of low fertility rates and increased life expectancy) is most prominent in Europe but is prevalent in almost all the countries of the developed north (the region of the UNECE) and will remain a major challenge in the coming decades. Among the world's countries that are shrinking or are projected to lose substantial parts of their population in the coming 20 years, almost all are situated in the UNECE region. The trends are caused by a combination of low fertility and/or outmigration in some countries, and lower life expectancy in others.

Ageing: Population ageing is usually defined as a shift in the composition of the population towards the older generations and is a consequence of decreases in fertility and increases in life expectancy. Ageing is normally measured by the proportion of the population aged 60 or 65 years and older. In the last two decades, the ageing population in the countries of the north has grown relatively slowly. However, it is expected to grow faster in the coming decades to reach approximately 20% by 2030 and 26% by 2050. This was described and illustrated in SUA-1 by reference to UN data.

Ageing has a direct impact on cities as it changes the demands made on the infrastructure (notably the transportation system) and social services (healthcare, risk of social isolation). Simultaneously it leads to shrinking tax revenues from local and national taxation as older people live on less and pay less tax once they retire.[8] In turn, demographic ageing is paralleled by a relative decrease in the active labour force, further lessening the tax take and putting pressure on housing accessibility and affordability. This poses potential problems for all segments of the population, either through an increased need for social housing or because older cohorts of the population remain longer in larger housing units.[9] The increasing percentage of older people in the population creates a further challenge for public transportation in cities in terms of adaptation and frequency. A diminishing local revenue base, concessionary travel for older people, and lower densities caused by urban sprawl may put pressure on affordable public transport for all segments of the population and may, in turn, undermine the core aim of sustainability.[10] This is a clear and present challenge faced by Scotland and its principal cities.

Ageing is more prominent in Europe than in most other continents of the world. Since the 1960s, Europe has experienced lower birth rates, coupled with increased life expectancy, both of which lead to older populations. Both trends are here to stay. According to all

contemporary projections, replacement rates are declining – i.e. birth rates will remain lower than death rates, even allowing for the effects of ageing.[11] With the large increase in this part of the population, the need for age-friendly housing is growing, as the majority of older adults prefer to '*age in place*'. This allows older people to stay in their homes and communities with an active lifestyle, avoiding an institutional life for as long as possible. In addition to ageing, there is a general trend towards the individualisation of lifestyle which, in combination with lower birth rates and resultant smaller families, has led to a requirement for greater living space per person.

The recent publication *Shaping Ageing Cities* looks at ten European case studies.[12] The study revealed the complexity of geographies and processes that cities experience in respect of ageing populations developing an understanding of the vulnerabilities and opportunities constructed around people in older age by both society and the physical environment – for example, the potential discriminatory effect of *active trave*l and the '*war on the car*'. This is a clear example of the nuancing needed in the blanket pursuit of otherwise widely accepted policies and an instance of what is meant by the integrated and indivisible nature of the SDGs and their targets. Given the physical proximity and community characteristics of these comparator cities (e.g. Dublin), it is reasonable to infer the relevance of the findings to Scotland and the AGE cites.

The need to ensure the accessibility of public space for all becomes obvious in this context. Therefore, it is important that local governments and the private sector are prepared for the ageing of the population and adjust to it. Increased walkability of cities allows for greater mobility of older and vulnerable people, and for all age groups in the city. Equally, increased levels of walking and active travel have had an important health dividend, as active populations are healthier than excessively sedentary ones. In many parts of the north, cities and local communities have developed innovative mechanisms related to housing and social relations to respond to these challenges.[13]

Many governments have programmes that aim to increase the supply of housing available to low-income senior citizens and provide services that allow them to stay in their homes for longer.[14] The concentration of populations in many principal cities that benefit from international migration adds to a cosmopolitan character and diversity. However, a rapid influx of poorer migrant workers into some major cities can produce negative reactions and associated social tensions. These issues are playing out now in the US and in the UK and are evident in the forces behind Brexit.

Migration: In the last few years, international migration flows have risen to levels unprecedented since World War II and recent events have brought this sadly to the front of everyone's attention in Europe. Both internal and international migration has substantially increased throughout the countries of the UNECE due to globalisation, increased inequalities within and between countries, the discontinuation of population movement control in many Eastern countries, and the introduction of free movement in the EU. In the UK, Brexit was designed to mitigate this trend, that perversely exacerbates the effects of falling birth rates and ageing.

Increased population mobility leads to higher urban polarisation, as best-performing cities or neighbourhoods tend to attract population growth, youth and economic activities, leaving other areas in a state of economic stagnation and demographic shrinkage that, in turn, reduces opportunities for positive social interaction and cohesion. Another effect of increased migration is that many cities face the challenge of managing growing social and cultural diversity. While increased diversity presents many positive sides, it may be seen to

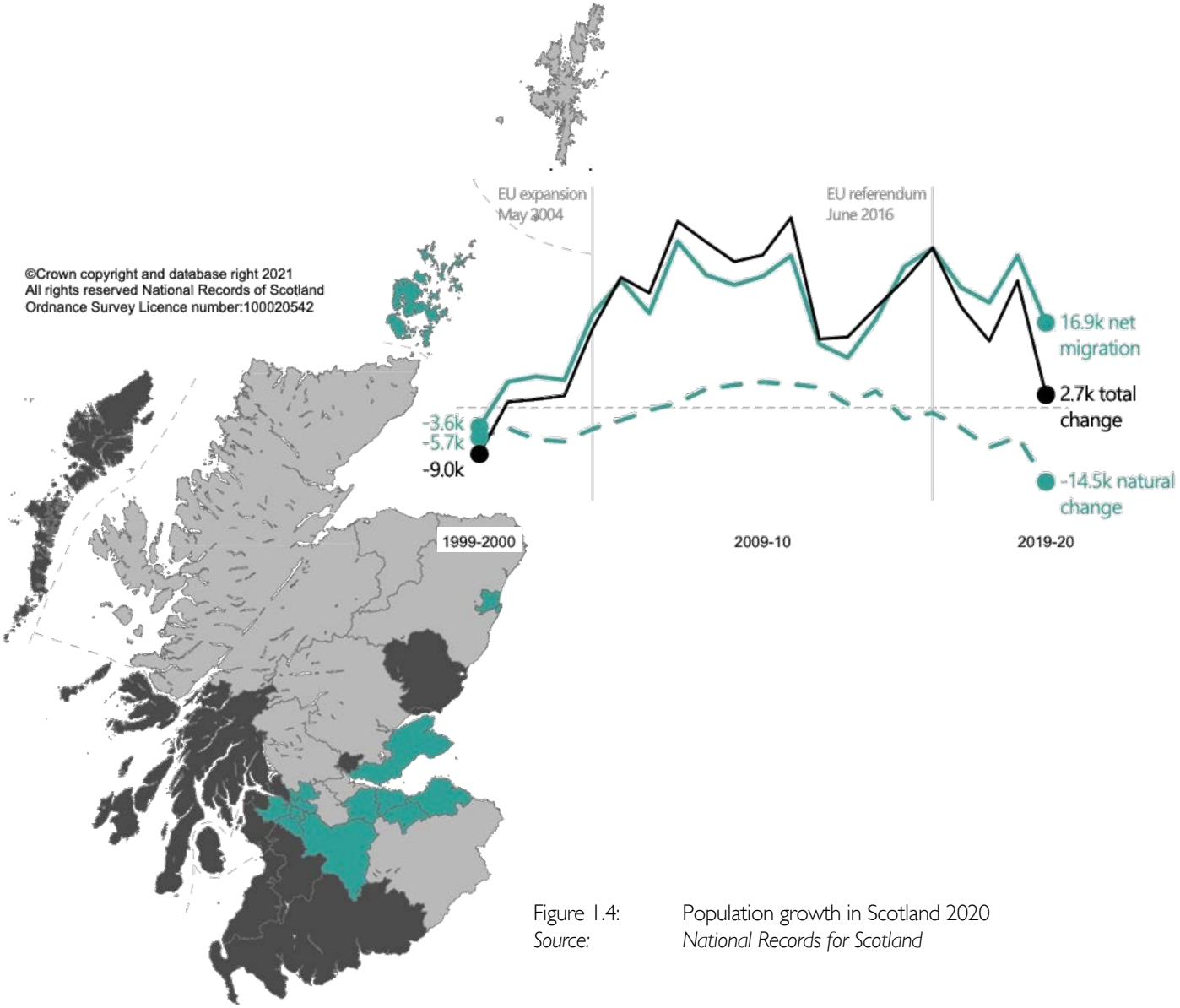


Figure 1.4: Population growth in Scotland 2020
Source: National Records for Scotland

Figure 1.3:
Population growth in selected small countries 1971-2020

Source:
World Bank, Irish Government

Country	Population 1971 (millions)	Population 2020 (millions)	Change '71-'20 (millions)	Change '71-'20 (%)
Scotland	5,229	5,510	281	5
Denmark	4,963	5,831	868	17
Finland	4,612	5,531	919	20
Netherland:	13,190	17,440	4,250	32
Norway	3,903	5,379	1,476	38
Ireland	2,992	4,995	2,003	67
Canada	21,960	38,010	16,050	73
New Zealai	2,853	5,084	2,231	78
Australia	12,940	25,690	12,750	99
Singapore	2,113	5,686	3,573	169

challenge local identity and the social consensus underpinning the urban development model followed.[15]

Given that the number of people living in cities will almost double to some 6.4 billion by 2050, the world will, in effect, turn into a global city. Human mobility and migration play an important part in this but are often misunderstood or misrepresented in the debate on urbanisation and city development.[16]

Local authorities are often an important official contact point of immigrants. While cities do not have a say on national or European migration regulations and general social and age-related policies, some cities have done better than others to successfully integrate migrants. SUA-1 looked at examples including Bilbao, Vienna, and Marseille.[17] Glasgow's *Refuweegee* charity is a noteworthy example from the AGE cities.[18] If this issue seems remote or marginal to Scotland, and the country's economic, social and environmental capital, consider the figures exhibited in Figure 1-3 that compares the growth of Scotland's population over the period 1970-2020 (5%) with Denmark (17%), Finland (20%), Norway (38%) and Ireland (67%). These World Bank figures need careful scrutiny and more investigation and Figure 1-4, from the National Records for Scotland, provides more clarity on the geography of the small population growth in Scotland. It shows that, although areas in the east of Scotland are growing the fastest, this is relative and the reality is that Scotland's urban areas are growing and, with exception of Orkney, rural areas are not.

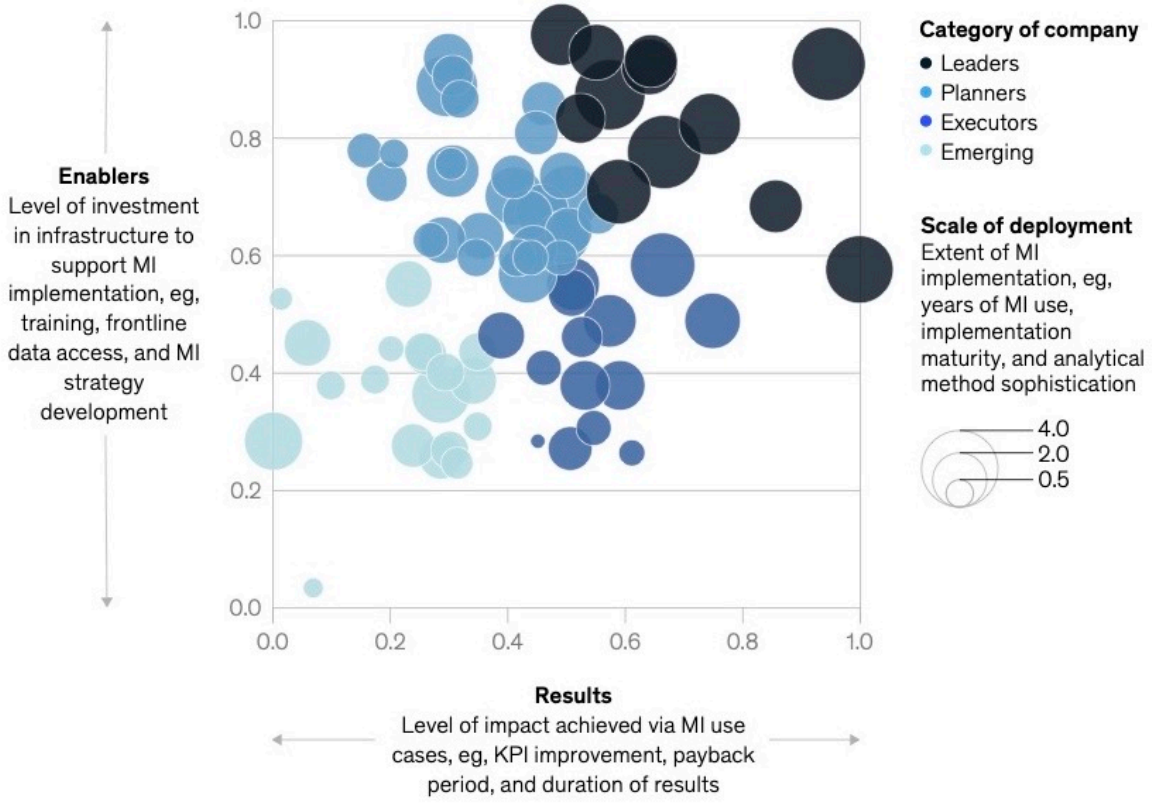
Scotland's ability to effect growth its human capital is however influenced by the immigration policy of the UK Government which is a reserved matter. These issues are recognised widely in Scotland as influencing critical issues including the growth potential of the Scottish economy and the provision of services.[19]

International trends – the digital revolution: Internet of Things, AR-AI-MI

The digital economy now drives many and various aspects of the world economy, including banking, retail, energy, transportation, education, publishing, media and health. Information and Communication Technologies (ICTs) are transforming the ways social interactions and personal relationships are conducted, with fixed, mobile (4G and 5G) and broadcast networks converging, and devices and objects increasingly interconnected. Broadband markets are expanding, with an increase in wireless broadband subscriptions – reaching close to one billion in the OECD area – resulting in a decrease in fixed telephony.[20]

The expansion of the digital economy has acted as a significant driver of economic growth in recent years expanding quickly and transforming society as a whole.[21] It permeates the entire economy, including retail (e-commerce), transportation (automated vehicles), education (online courses), health (electronic records and personalised medicine), social interactions and personal relationships (social networks). ICTs are integral to professional and personal life; individuals, businesses and governments are increasingly inter-connected through a host of devices at home and at work, in public spaces and on the move. The convergence of fixed, mobile and broadcast networks, along with the combined use of machine-to-machine communication, the 'cloud', data analytics, sensors, actuators and people, is paving the way for machine learning, remote control, and autonomous machines and systems.

While use of the Internet as a digital platform has enabled the creation of the sharing economy, the ability to connect any smart device or object to any other has enabled the '*Internet of Things*'. This is having a profound impact on multiple sectors of the economy and urban life, including industrial automation, energy provision and transportation. The '*Internet of Things*' consists of a series of components of equal importance – machine-to-machine



McKinsey identified four distinct groups of companies that vary in both their approach to machine intelligence and the impact of their efforts.

Figure 1-5: The rise of machine intelligence in business
Source: *Machine Intelligence for Manufacturing & Operations (MIMO), McKinsey & Co.*

communication, cloud computing, *'Big Data'* analysis, and sensors and actuators. Their combination, however, engenders machine learning, remote control, and eventually autonomous machines and systems, which will learn to adapt and optimise themselves.

Social media, data harvesting and manipulation, and artificial intelligence in all its guises were and increasingly are the greatest influence on our society along with the climate emergency and public health.

The *Internet of Things* also enables governments to manage public spaces in more efficient, more effective or different ways. Remotely monitoring traffic lights or water systems allows them to optimise traffic flows or to better understand flooding risks. It also allows them to achieve policy goals in new ways, for example, by reducing congestion using road pricing that is more difficult to achieve through conventional means. Similarly, smart energy meters lead to more decentralised energy markets and higher consumer awareness of energy use. Analysts and governments have high expectations of e-Health devices that will allow remote monitoring of patients at home or at work. Although a number of such devices are available on the market, adoption is relatively slow – a situation that appears to be due not to a lack of research or government commitment, but rather to difficulties in implementation that are yet to be overcome.[22]

These trends in the digital revelation summarised here were explored in more depth in SUA-1. One interesting index that highlights the degree to which the digital revolution has accelerated since the publication of SUA-1 concerns the emergence of machine intelligence or MI. In a recent article published by McKinsey & Co, the authors describe the different ways companies are employing MI compared to five years ago that "*begins with simple tools, such as dashboards to aid human decision making, and ends with machines that can adjust their own performance autonomously based on historical and real-time data*" a process that McKinseys describes as digital maturity concluding that the full scale of the opportunity is in its infancy and will continue both to develop and accelerate (Figure 1-5).[23] It remains to be seen whether these innovations can be directed towards the greatest economic and social challenges of the coming years notable decarbonisation of the economic, movement and built environment systems.

International trends – the Climate Emergency

In advance of COP26 in Glasgow in November 2021, the ***Intergovernmental Panel on Climate Change*** published its latest report indicating that the challenge of remaining within the target of a 1.5^{O}c rise in global temperate has become a ***Code Red*** in terms of meeting this aim.[24] As much as the digital revolution is accelerating, so too is awareness, concern and societal will to implement action to address the climate emergency. In the three years since the publication of SUA-1, there has been a shift in societal and business appetites to act. Thinkers and policy makers have brought the issue into the mainstream. In his recent book, Mark Carnie, the former Governor of the Bank of England, has spelled out the challenge scale of the challenge that we face: "*we have moved from a market economy to a market society and this is now undermining our basic social contract of relative equality of outcomes, equality of opportunity, and fairness across generations … the logic of buying and selling no longer applies only to material goods but, increasingly governs the whole of life from the allocation of healthcare to education, public safety and environmental protection.*"[25]

Political rhetoric is supportive, but governments do not yet have the tools nor the appetite to make other than incremental change towards the action increasingly called for by society and business. This is due to the magnitude of the tasks faced in gearing-up to address the challenges, given that current economic and taxation systems are based on maintaining and delivering a carbon-based economy. Nonetheless, progress is being made through business action to

embrace the environmental, social and governance criteria (ESG) of ***people, profit and planet*** in a move to adopt the ***triple bottom line*** that measures social and environmental effect in addition to financial performance focused solely on generating profit – the ***standard bottom line***. The challenge as some observers have commented in not on defining these concepts, but on measuring and implementing them.[26]

International trends – the COVID-19 pandemic and its effects

As much as the cocktail of demographic, technological and climate change was prevalent in 2018, the COVID-19 pandemic took matters to a new and lethal level. We became obsessed with a *return-to-normal*, soon supplanted with propositions expressed as the need for a *new-normal*. This is now morphing into what McKinseys describe as the *next-normal*. As much as return-to-normal was nostalgic, a new normal was seen by many as somewhat utopian whereas the next normal sounds rather more realistic if a little dystopian.

Governments reacted quickly to the pandemic particularly with acceleration of vaccine research. The UN also acted quickly. In early 2020, the UN Secretary General described the effects of the disease COVID-19 as a global health crisis "*unlike any in the 75-year history of the United Nations*" that attacked societies at their core potentially provoking a global recession as bad, or worse, as the credit crisis of 2009.[27] In ***Shared responsibility, global solidarity: Responding to the socio-economic impacts of COVID-19,*** the UN issued a plan to confront and address the challenge stressing the social, economic and multidimensional impacts created by the pandemic, their complexity and recognised the profound and negative effect on sustainable development efforts including the 2030 Agenda and the Paris Agreement and showed graphically the effect of COVID-19 on the SDGs (Figure 1-6).[28] The final section of ***Shared Responsibility*** stressed the interaction with efforts to combat climate change and the need to use the opportunity created by the crisis to recover better and build more sustainable societies.

Following on from ***Shared Responsibility***, the UN published, in a series of policy briefs, a comprehensive response entitled ***Saving Lives, Protecting Societies, Recovering Better.***[29] This work concentrated on the socio-economic impact of COVID-19 pandemic and is summarised in a series of Socio-Economic Impact Assessments (SEIAs) intended to inform government action and revealed that the pandemic has changed peoples' lives globally prompting governments and citizens to rethink how life should be in a future normality (Figure 1-7).[30] The multifaceted nature of the pandemic impacted on the work of the UN system by directly reversing hard gains made by countries in pursuit of SDG targets, requiring different sets of policies and solutions to respond and impacting severely on existing infrastructure and services.[31] In particular, ***Brief#2*** identified that human development has faced an unprecedented level of impact since the concept was introduced in 1990 that will require recovery responses in the medium and long terms (Figure1-8).[32] All of this was known before the outbreak of major hostilities in Ukraine that can only serve to impede efforts to effect '*bounce-back*'.

In a further Policy Brief (***Covid-19 in an Urban World***), the UN examined the effect of COVID-19 pandemic on cities and addressed the challenge head-on in three concise sections each with a series of stark message (Figure 1-9). The document concluded that, in respect of the future of cities, the pre-pandemic status quo should be avoided. Instead, there should be a focus on transforming cities across the globe in pursuit of future resilience, inclusion, green and economic sustainability. This is urgent and necessary to build an inclusive and resilient urban future opening the way for economic recovery to drive a profound green transformation, ensuring that innovation in central to the design, planning and management of cities in three steps:[33]

- Tackling inequalities and development deficiencies;
- Strengthening the capacities of local actors; and
- Pursuing a green, resilient and inclusive economic recovery.

In ***United Nations Comprehensive Response to Covid-19: Saving Lives, Protecting Societies, Recovering Better*** the UN issued their systemic response outlining key guidance, lessons and support and pointed the way to the crucial steps needed to: *"save lives, protect societies and recover better, … (by) addressing the … fragilities and gaps that made us so vulnerable in the first place."*[34] It also points the way toward addressing future shocks – above all from climate change – and overcoming the severe and systemic inequalities that have been exposed and exacerbated by the pandemic stressing the need to avoid the pre-pandemic status quo. This is now embedded in EU thinking, but it is yet to be seen how much this will be embedded in UK-Government thinking post-Brexit with a fear of divergence and weakening this message around ESG and the triple bottom line. We return to this in discussing proposition's such as PwC's concept of Good Growth in Chapter 3.

The importance of housing and habitat to the big picture for cities is stressed in a number of OECD publications that identifiy how "*the Covid-19 pandemic has severely disrupted construction … and seriously hurt the housing sector.*" [35] In addition, the OECD makes clear, that swift responses by governments to alleviate the negative consequences of the crisis for tenants, borrowers, builders and lenders can in some instances, impede a recovery and/or impair the responsiveness of the housing market to the evolving needs of society quoting the example that rental market restrictions can help tenants in the short-term, but weaken supply responses by making housing investment less responsive to changes in demand and pose obstacles to residential mobility. The OECD work identified new and emerging evidence of the impact of Covid-19 on construction activity and prospects and the balance between short-term incentives for affordability and ensuring sufficient, environmentally sustainable supply. This does have importance at the national and sub-national level with quite marked differences in policy in different parts of the UK with the Scottish Government and their partners signed up to *Housing to 2040* but with a more fragmented policy being promoted in England by the UK Government.[36]

It is discouraging to note that the conjoined effect of the credit crisis of 2009-10 and the COVID-19 crisis of 2020-21 has negatively impacted on investment in housing development that was only beginning to recover in the years 2017-19. Nevertheless, much has been achieved through supporting incomes, securing tenure, preventing evictions and sheltering the homeless and that policies ensuring purposeful investment can shape better and fairer housing markets.

As the impacts of the COVID-19 pandemic wore on and its impacts become better understood, it became clear that human societies faced not one but three conjoined shocks: COVID-19, climate change, the legacies of the GFC compounded in the UK by the effects of Brexit and inequalities in housing supply notably affordable housing. Each of these shocks can compound the impacts of the others in respect of human health, social cohesion, environmental integrity and economic vitality. These emergencies demand coordinated and urgent action in the delivery of the ***'integrated and indivisible'*** SGDs as well as inspired leadership, mutual support and tolerance (Figure 1-10).

In March 2021, following on from ***The Value of Sustainable Development (World Cities Report 2020)***[37] UN-Habitat published ***Cities and Pandemics: Towards a more just, green and healthy future*** as a major study into the human habitat with three emergencies (COVID-19, climate change and housing deficiencies) identified in sharp relief.[38] *Cities and Pandemics* set out the beginnings of a global pathway for cities and identified a number of over-arching calls to

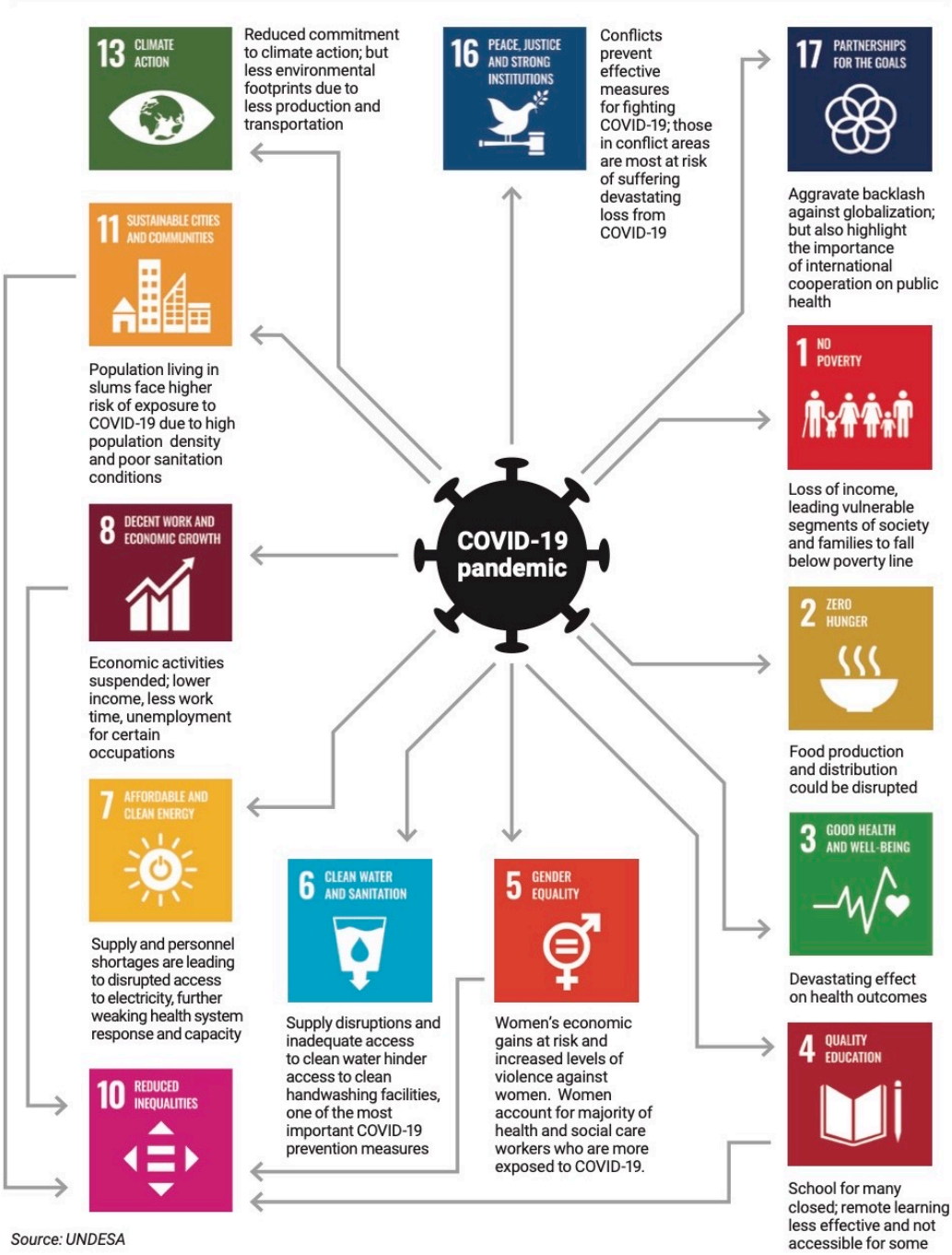


Figure 1-6: Covid-19 affects all the SDGs
Source: *UNDESA*

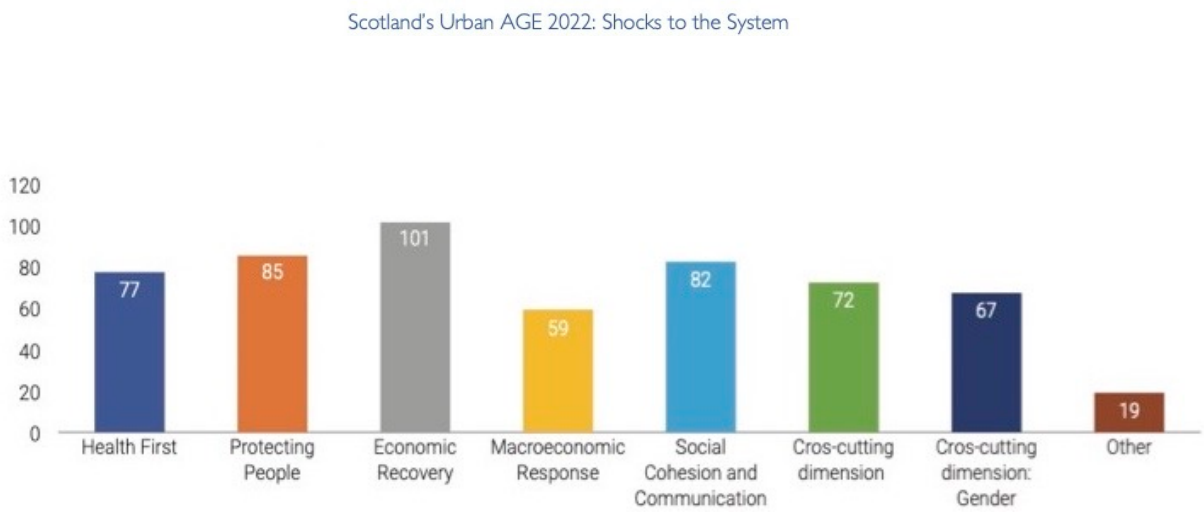
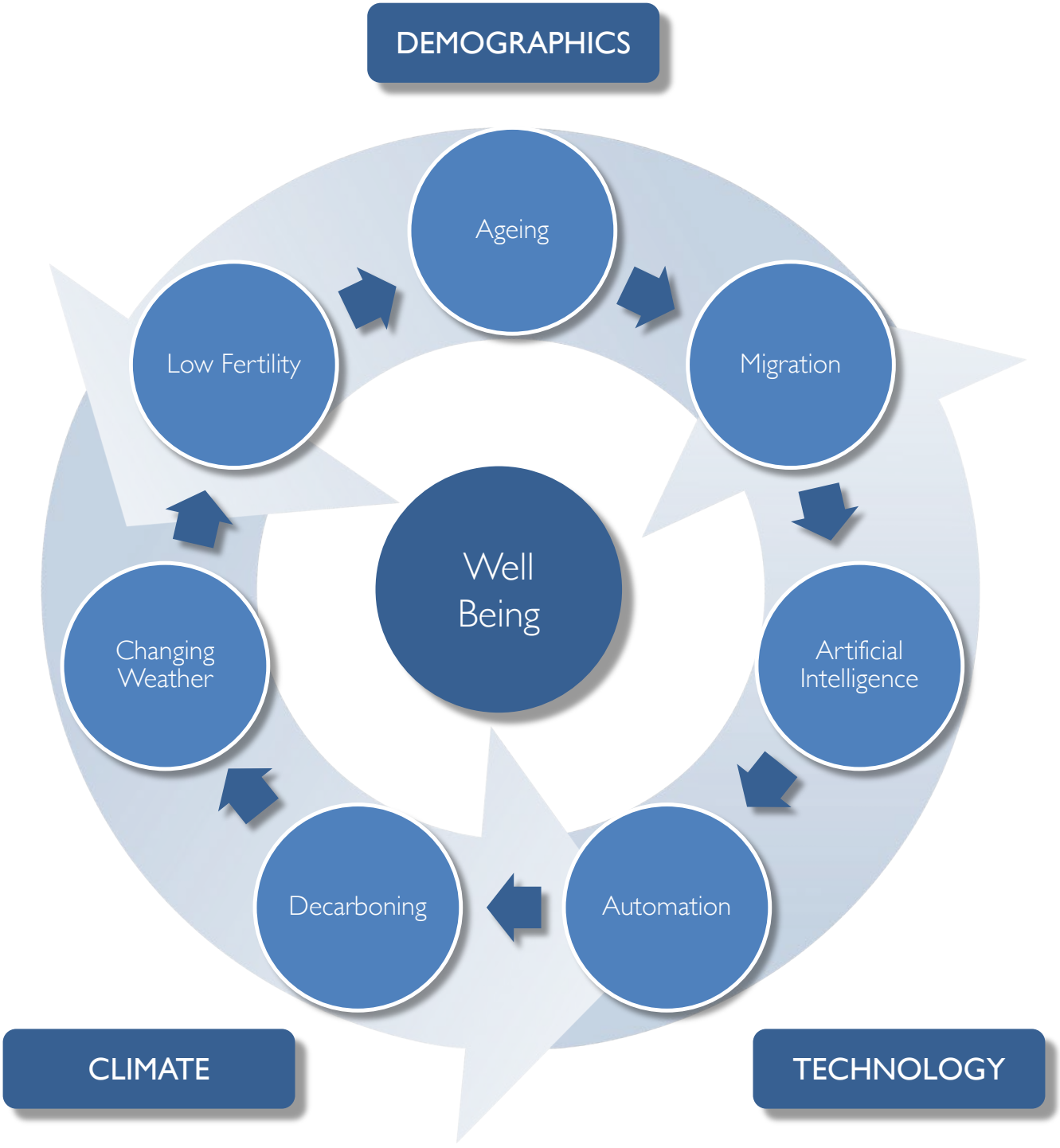


Figure 1-7: Focus of SEIA across the pillars of the UN Framework
Source: UN-Habitat

Figure 1-9: Impact of COVID-19 on the UN human development index
Source: UN-Habitat

Figure 1-8: Key messages from the Secretary General's policy briefs on COVID-19
Source: *UN COVID-19 Policy Briefs*



Vision, leadership and pragmatic management are needed to respond to these global trends that play out nationally and locally. This is the 21st century challenge for government, business and education at national, regional and city level.

Figure 1-10: Demographic, Climate & Technological Change – a benign or toxic cycle?
Source: *Glasgow Urban Lab, The Glasgow School of Art*

action including the opportunity for a new social contract, a rights-based recovery and what these will mean for cities and for society. *Cities and Pandemics* does not change the *New Urban Agenda*, nor the requirements of *Agenda 2030*, it merely makes them even more urgent. It also underlines the shape of the UN's agenda for engaging with member states underlined in the words of two Secretaries General that "*cities are where the climate battle will be won or lost*".[39]

Arising from all of this is the importance that everything is conjoined demanding integrated action and that cities are at the forefront of the fight and in all UN dealings with member states establishing the Forum of Mayors as a way to deal directly with cities in concert with national governments formulated around three key UN principles:

Cities, and all human settlements, are central to building better … stressing the ***place*** that is our cities as much as the ***agency*** of cities as governing entities becomes ever more fundamental to the human habitat and it follows that multi-level governance involving intergovernmental agencies, national and local government and stakeholder partnerships will be fundamental as cities by themselves do not have all the relevant powers and resources required for the comprehensive approach that is required;

Cities cannot flourish without well-functioning housing systems. Physical distancing, movement restrictions, lockdowns and the associated increase in working from home during the COVID-19 pandemic have allowed the neighbourhood to take on renewed importance in urban life. As historic pandemics adapted housing to ensure minimum standards of light, ventilation and sanitation, the COVID-19 pandemic presents an opportunity to reinforce such measures and adopt new ones to promote housing design flexibility and the avoidance of overcrowding. Cramped and poor-quality housing has proved to be a major factor in the spread of the virus and therefore the improvement, reconfiguration and retrofitting of housing and informal settlements is now of even more importance; and

Housing, mobility, environment and economy, and culture are interrelated and require integrated responses: The changes in the way that city residents interact with their urban environment at the neighbourhood level as a result of the COVID-19 pandemic, particularly regarding public spaces and mobility, have led to the rethinking of how neighbourhoods should be planned to build back better. Specifically, the "*15- or 20-minute neighbourhood*" characterised by compactness and the ability to meet daily needs such as shopping, health care, socialising and education within walking distance from home is gaining prominence which in turn stresses the importance of integrated design approaches in housing, mobility, environment economy, and culture.[40]

The UNECE has produced a Regional Action Plan 2030 that has established a series of over-arching principles to underpin the plan:

- Tackling inequalities and development deficiencies;
- Strengthening the capacities of local actors;
- Pursuing a green, resilient and inclusive economic recovery.

Adopted at the Ministerial meeting in Geneva in October 2021 and launched at COP26 in Glasgow in November 2021, the Action Plan proposes a series of ***aims, policies, goals*** and ***targets*** for sustainable urban development and affordable housing in the UNECE region and identifies a series of ***actions*** to achieve these. These will be implemented, on a partnership basis, by international organisations, the governments of member States and cities, the private sector, civil society and other stakeholders.

The Action Plan is intended to inspire action and provide the basis for plans and activities to focus on the contribution of affordable housing to sustainable urban development in the aftermath of the COVID-19 pandemic and in the face of the climate emergency.

In summary – continuity, acceleration and a shift in emphasis

Based in a review of global forces and their likely impact on cities, SUA-1 drew two overall conclusions. Reference to circular figure.

- Trends in urbanisation and migration are reinforcing and accelerating one another, creating ever greater but differing pressures between the most successful regions compared to dispersed and isolated smaller cities.

- There is a paradigm shift from the industrial to the knowledge city within the context of global forces that include an ageing population, reducing fertility in the developed world, a complementary increase in migration and the wholesale onslaught of automation and artificial intelligence.

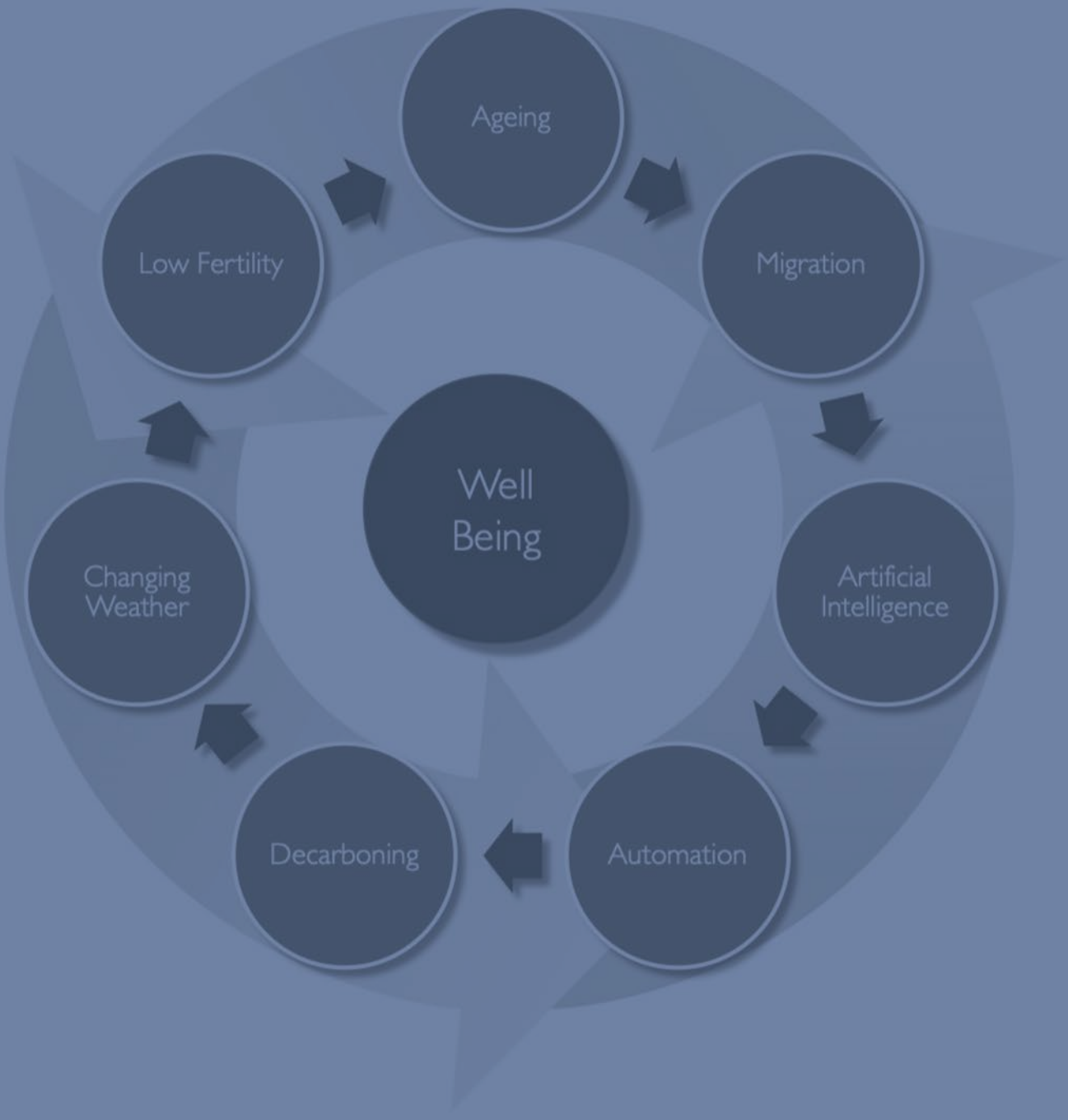
These conclusions remain valid today. Successful cities in the developed countries of the north are well along the process of transition from industrial city to knowledge city. This is no less true of cities that are engaged with advanced manufacturing.

COVID-19 has had a considerable impact on the advances made in pursuit of the UN's Agenda 2030 across the globe. Its impact has been sharp, pernicious and global, but affluent countries and cities have fared better than those less well-off. The effects of the pandemic and action to deal with climate emergency leads us to qualify our conclusions in two ways:

- The city is as important as ever, however the concept of *proximity* as a characteristic of the knowledge city is evolving and this may well influence city development, form and layout; and

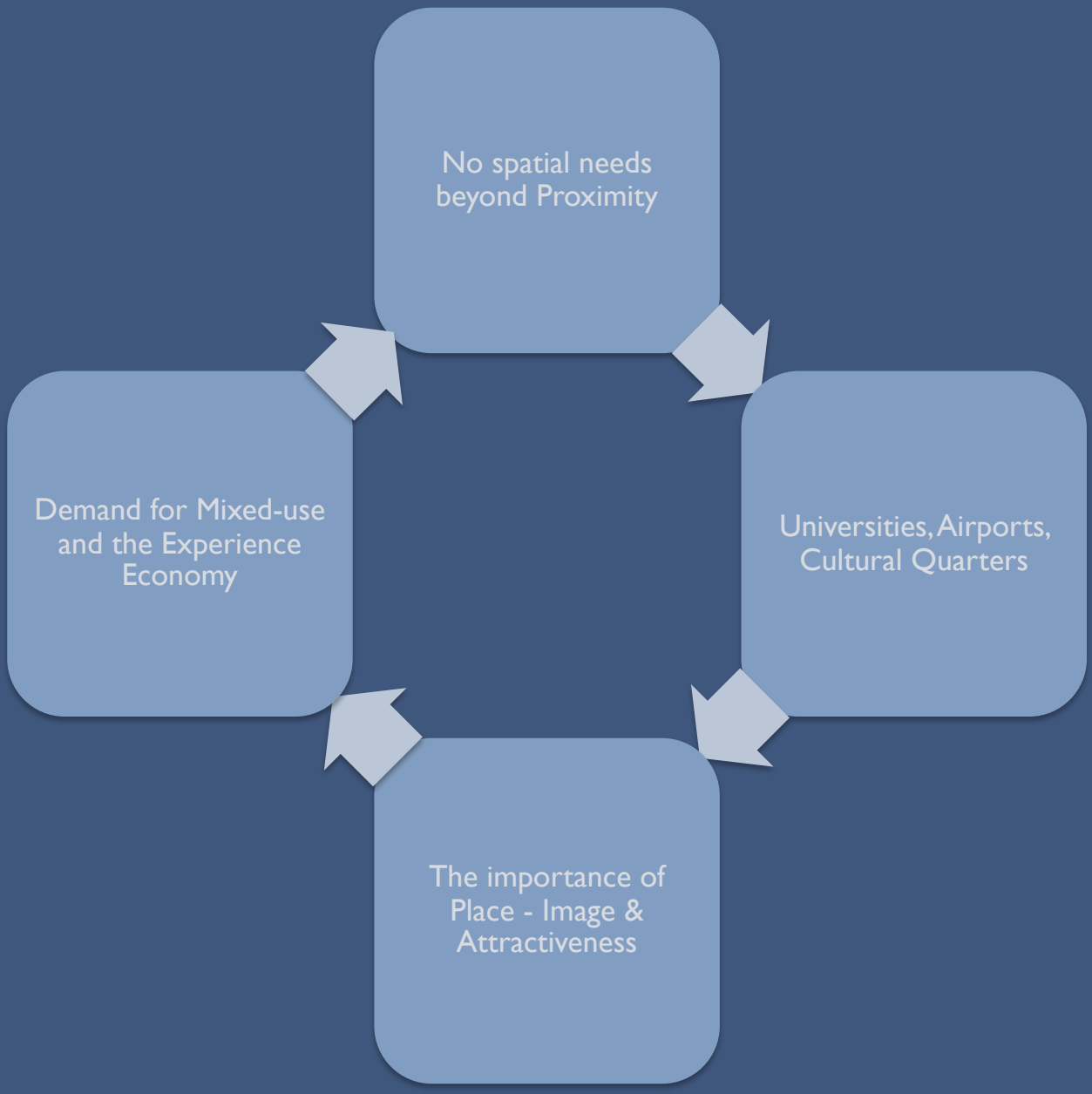
- The cycle of demographic, climate and technological change is accelerating and interacting in unforeseen ways causing uncertainty at a time when clarity is needed. The interrelated nature of this change and the interrelated nature of the SDGs stands out – the integrity of the system is as important as any of its constituent parts.

Looking at the wider international context it is possible to conclude from this brief overview that in some ways the basic pillars of challenge remain the same, and as we will see, cities require to address the combined and interactive challenge of demographic (falling birth rates, ageing, migration), technological (augmented reality and machine intelligence) and climatic change (global warming, extreme weather and sea-level rise). The speed and ability to address these challenges varies between countries and between individual cities … but they are all inter-related everywhere. There is no evidence to suggest that urbanisation will slow beyond the peaking of global population due to other effects but by which time the damage will be done and will be irreversible, underlining the importance of the global language of the SDGs and persistence with the ESG agenda.


Ageing
Migration
Artificial Intelligence
Automation
Decarboning
Changing Weather
Low Fertility
Well Being

Scotland's Urban AGE 2022

2: City Systems Knowledge & Neighbourhoods


No spatial needs beyond Proximity
Universities, Airports, Cultural Quarters
The importance of Place - Image & Attractiveness
Demand for Mixed-use and the Experience Economy

2: CITY SYSTEMS: KNOWLEDGE & NEIGHBOURHOODS

In SUA-1 we discussed the development of ***urban agglomerations*** or ***mega-regions*** and the emergence of the UN term '***supercity***', defined as a cluster of successful and competitive cities with a cumulative population of 20–50 million within a region that spans a geographical area between 200 and 500 miles in diameter. The UN defines '*Supercities*' as *metropolitan regions where a cluster of cities and research centres are connected through dense business, intellectual and creative networks accessible to one another by air or high-speed rail.*[41] Although large urban regions have been described by geographers and economists as agglomeration economies or conurbations for some time, the ***supercity*** concept introduced a significant and additional qualification – the supercities are clusters of cities and they are at the forefront of the knowledge revolution. In contrast to national economies dominated by a single megacity, *supercities* operate as an urban system and a balancing mechanism, allowing urban centres within the cluster to '*borrow scale*' from each other. In this way relatively small cities can develop smart specialisations and cultivate global connections using large metropolitan neighbours as a collaborative resource such that the whole cluster can benefit.

The UK and Ireland have such an interconnected group of principal and secondary knowledge-based cities with a population of over 60 million with a sizeable anglophone knowledge market (Figure 2-1).[42] However, the UK economy remains dominated by London, a world city, that together with Los Angeles, Moscow and Istanbul and (perhaps) Paris is one of a very few megacities in the UN 'region' to which the UK belongs.[43] Together with the South East of England, London accounts for almost 40% of UK GDP.[44] The implications of a London-centric UK economy continue to be debated, not least about whether the success of this megacity confers benefits on the whole of the UK (for example, tax revenues) or sucks life out other UK cities. This was important in 2018 for SUA-1 and it remains important today. As we will see later in this chapter when looking at productivity of UK cities, these issues are becoming even more pronounced provoking the UK Government to promote a programme of "***levelling-up***". In 2018, "levelling-up" meant something brickies did with a laser-level. Today the UK has a cabinet secretary who is charged with "levelling-up" the entire state. It is undoubtedly a worthwhile aim to project the anglophone cities of the UK and Ireland towards a functioning supercity capable of competing with other notable examples such as Bos-wash in the USA (Boston, New York, Philadelphia, Baltimore and Washington) or the Rhine-Ruhr-Randstad of Germany/Netherlands. 'Levelling' however is a term that causes a degree of suspicion. Although well meaning, references to levelling, up or down, create an allusion to ***average*** causing apprehension across economic sectors and society at large. A UK White Paper on the subject was published in February 2022, and we return to that later in this chapter.[45]

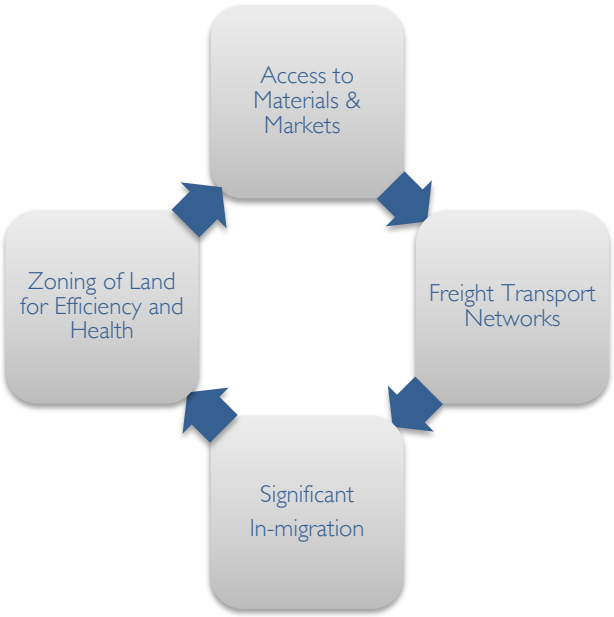
Proto-knowledge Cities and the UK 'Supercity' System

In 2018, the Scottish Government's view was that our cities are "*centres of knowledge, innovation and culture*" and, by working together, they can build on these strengths to "*develop internationally investible propositions based on skills in science, technology, innovation and creativity.*"[46] SUA-1 considered the performance and prospects of Scotland's three principal cities, Aberdeen, Glasgow and Edinburgh – the nation's capital – in the context of business, creative, visitor, student and cultural economies, connectivity, and, natural and built capital. SUA-2 reflects on the resilience of these views in the face of the Covid pandemic, the climate emergency, and the emerging realities of Brexit and the lingering effects of the global financial crash (GFC).

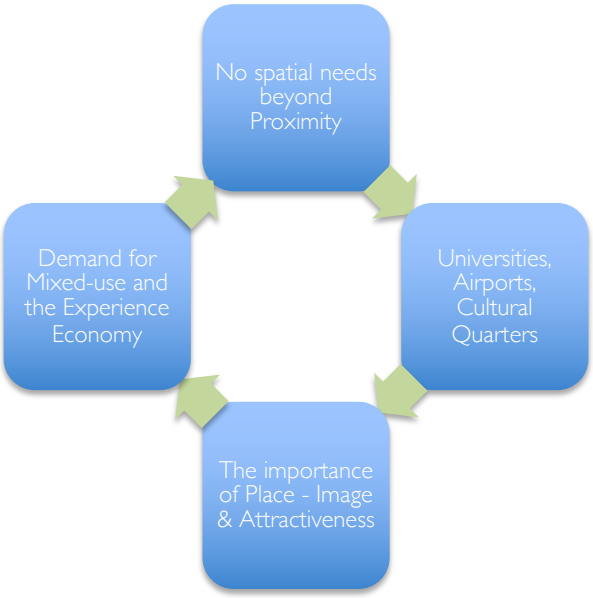
Scotland in 2022 is every bit as much an urban society as it was in 2018. It remains the case that just under 70% of the population lives in the city regions of Aberdeen, Glasgow and

Figure 2-1: The UK supercity
Source: *Glasgow Urban Lab, Glasgow School of Art*

The Industrial City: The industrial economy reshaped cities and regions through development and redevelopment, to produce lifestyles and forms that differed from agrarian and mercantile economies. Manufacturing reorganized access to materials and markets, created and controlled transport networks, attracted large numbers of workers to cities, and set up rigid routines of work reflected in the patterns of spatial and social organization.



The Knowledge City: The knowledge economy has new conditions of economic production, social requirements and cultural institutions. Knowledge as a productive capacity has no spatial requirements beyond clusters around universities, science parks and cultural quarters. This encourages the dynamics of agglomeration economies, and has led to the re-emergence of 'place' – the city of streets, squares, stations and neighbourhoods, supported by an 'experience economy' of cafes, restaurants, cinemas, galleries, cultural venues and shopping.



Figures 2-2: Transition from the Industrial City to the Knowledge City
Source: *Glasgow Urban Lab, Glasgow School of Art*

Edinburgh even if, as we shall see later, the intra-regional dynamics are changing as a consequence of Covid, and possibly Brexit, although that is harder to discern given the conflation of data over the past two years.[47] Nonetheless, these cities and city regions account for a disproportionate share of total employment, jobs in the Scottish Government's growth sectors, and employment in knowledge-intensive business services (KIBS), even more so if Dundee, increasingly emerging as a strong, creative and entrepreneurial regional city in its own right, is added into the mix. The principal cities remain more youthful than the rest of Scotland, with their high proportion of student residents (not waning but perhaps less certain than it was before Covid and Brexit) and they are much more ethnically diverse. SUA-2 reflects again on the fitness of Scotland's principal cities to perform in a UK-Irish Supercity within the continuing global trends revisited in chapter 1 and where the emerging decarbonisation transition is, if anything, accelerating these trends. In 2019, 60% of Scotland's exports were to the rest of the UK (down from 63% in 2018) with 40% going to the EU and the rest of the world (37% in 2018).[48] This does not yet suggest a trend, nor is there is anything more than anecdote to comment on the effects of the Brexit settlement and the effects of COVID.

For Scotland to hold its position in a UK-Irish anglophone supercity system and participate in international economies, the three principal cities, their city-regions and the supporting urban system need to be efficient, competitive, leading-edge and probably deliver a step-change in performance. That was true in 2018 and remains true in 2022 but that is now nuanced as we will see later on. They will also require to collaborate energetically in 'levelling-up'.

Chapter 1 has revisited international trends and challenges from SUA-1 that will influence city growth and development in the coming years and decades and has identified the shifts in emphasis arising from recent shocks to urban systems globally and nationally. This chapter considers the consequences of these for cities together with the on-going realities involved in the transition from *industrial city* to *knowledge city*, how these have accelerated and what might be inferred for Scotland's cities and urban system (Figure 2-2). As explored in SUA-1, the knowledge economy is reshaping cities and regions in a series of cycles of development and redevelopment and exerting its own spatial requirements, through reshaping industrial towns and cities with new forms that suit the new conditions of economic production, social requirements and cultural institutions.[49] However, the nature of the knowledge city is changing, and this will have implications for the AGE cities.

Recognition of knowledge itself as a productive capacity and output was a relatively new concept in the 2010s but it is now widely accepted as the pre-eminent means of economic production. It has changed the nature of products that we need and has no particular spatial requirements other than the proximity for those engaged in its production. This has changed the nature of sites for production and consumption in cities, around new clusters of activity while others are dismissed or dispersed. The new spaces of production are the spaces of knowledge: universities, science parks and cultural quarters, which co-exist with the new spaces of consumption and new patterns of social inequality.[50] The spatial expressions of the knowledge economy are likely to be the model for cities and urban areas for the foreseeable future, but *it is evolving and adapting to recent events and the changing realities of the 2020s.*

Chapter 4 of SUA-1 was devoted to considering how the knowledge economy has altered the dynamics of urban economics, encouraged the growth of agglomeration economies, and increased the importance of spaces for encounter and innovation in new economic clusters, formed by individuals and firms in universities, science and technology parks, the creative economy, and the knowledge office. The clustering of knowledge enterprise around centres of education and research has reinforced urban concentration as described by the UN and is prevalent in changing market dynamics and physical form of the AGE cities.[51] Many are located in

or on the edge of city centres such as the Innovation Districts around the Universities of Glasgow and Strathclyde and around airports.[52]

An early conclusion in the early years of the knowledge economy was that '*place*' was no longer of importance: all the citizen required was a good cable connection to bring the entire globe within easy reach. The consequence of this '*death of distance*' was said to be that the city of streets, squares, stations, shops and restaurants would be replaced by a '*city of bits*', a virtual city with a street pattern consisting of digital information highways.[53] Initially, the converse was proven to be the case. New ideas and innovative solutions come into being through intensive communication and exchange of knowledge with others and for this the proximity of people is very important – calling into colleague's offices, meeting for coffee easier, less time-consuming and more 'fun' than email especially on new work with unknown personnel, often on the other side of the world.[54]

Two years of the pandemic have influenced this dynamic. People still desire physical contact with others, not only in their work but in their free time. Cities, with an '*experience economy*' of cafes, restaurants, cinemas, galleries, venues and shopping centres, offer all the necessities of the knowledge economy on demand. But the pandemic has had a huge impact on the '*experience economy*' where much physical contact has migrated online onto Zoom and other platforms heralding an age of hybrid working. At first both necessary and convenient, as the pandemic wanes, there is emerging evidence of a desire to return to pre-pandemic norms, but this is counter balanced as firms, institutions and individuals factor in the convenience of hybrid working, the cost of travel time and carbon emissions.[55] The AGE cities were performing well pre-pandemic, but these factors – the fragility of the experience economy, uncertainty over a return to the office – are of concern in all three AGE cities, albeit with varying degrees of effect and uncertainty particularly in the city centres. A recent UK-wide survey revealed that almost three-quarters of planners would prefer to work most of the week from home. This is only one survey of one profession albeit one with a degree of sway in the spatial dynamics of our cities.[56] We will explore this further in Chapter 4.

Nonetheless, knowledge development, global trends and '*authentic*' towns and cities remain mutually supportive and it remains the case that the cities that are best able to adapt to changing patterns of the zeitgeist will also be able to capitalise on their local distinctiveness, as localisation (the increasing importance of city distinctiveness, authenticity and identity) becomes as important as the processes of globalisation.[57] In SUA-1 we suggested that the emergence of the knowledge economy had revealed a contradiction for cities between distinctive local character and globalisation as a form of '*global-local paradox*' where, in a world increasingly more integrated, cities also needed to rely more on their specific local characteristics and identity – expressed by some as '*authenticity*'. The effects of the pandemic compounded by a heightened awareness of measures to combat the climate emergency, the triple bottom-line and ESG practices is reinforcing the importance of localism in present times creating a persistent climate of uncertainty. The truism expressed in SUA-1 remains just as valid today: cities compete for the favours of inhabitants, companies and visitors and every city derives benefits by drawing in knowledge workers and knowledge-intensive activities and, as a result, gaining competitive advantage – but circumstances today are uncertain and look set to remain so for some time to come as pandemic effects and climate emergency measures wash through the urban system. Nonetheless, '*image*' or '*reputation*', can be decisive in decisions taken by companies or individuals looking for a place to settle or to visit – even if the activity and competition to secure the continental headquarters of an Amazon or Google are likely to remain more frenzied than the recent competition announced to secure the UK headquarters of Great British Rail.[58] It also remains true that to maintain and increase attractiveness to knowledge workers and other target groups, cities must reflect on their profile, and develop their competitiveness strategy as a consequence and this will be key in today's climate of uncertainty. The AGE cities have clear –

distinct and broadly complementary views on how to pursue this that we explore further in Chapter 4.

The essence of creativity is the capacity to think up original solutions to day-to-day problems and challenges, and the cities that have been successful in exploiting this quality through economic development are those with access to leading academic institutions within an urban concentration that demonstrates the qualities of diversity and flexibility. Innovation is a key long-term driver of competitiveness and productivity. Universities are central to '*innovation ecosystems*' – the networks of institutions in the public and private sectors whose activities and interactions initiate, import, modify and diffuse new technologies. These networks can result in higher economic productivity. Universities also spur stronger economic growth through fostering innovation in several ways, including research partnerships with businesses, technology transfer, spin-off companies, and the entrepreneurial pursuits of students, graduates and faculty. In the UK, many venture capital firms have close links with technology transfer units at universities. Universities tend to develop historic links with their cities, whereas other resources for economic growth – such as residents, workers, firms and investors – are more mobile. Cities benefit from strong universities, and universities benefit when their metropolitan economy prospers and offers an attractive quality of life.[59]

The AGE cities are aware individually and collectively of these characteristics and have for some years diligently pursued policies to maximise their competitive assets and attributes, nonetheless they experience a productivity deficit shared with other UK cities that distinguish them from the best of their European and North American counterparts they seek to compete with.

Britain's Underperforming Cities

The tendency for UK cities to "*punch below their weight*" is the subject of *So You Want to Level Up,* a 2021 report by the Centre for Cities.[60] The report highlights the "*uneven outcomes in health, skills and productivity*" as evidence of the need for levelling up in the UK. It argues that there is no reason why life expectancy and skills outcomes should not be levelled up in all parts of the country, but that some productivity variations are inevitable – for example, between urban and rural areas (Figure 2-3).

As a rule, cities should benefit from agglomeration: "*the process by which concentrating activity in one place increases the productivity of that activity*". But the economic performance of many UK cities and large towns suggests that most do not achieve a significant productivity advantage over neighbouring areas (the city regions).[61] The exceptions to this rule are a group of large towns in the greater Southeast of England and, notably, in Edinburgh, as shown in Figure 2-4. Aberdeen also achieved above average per capita GDP, but Glasgow, like other big former industrial cities in its peer group (Birmingham, Manchester, Liverpool and Newcastle) continues to be a relatively low productivity economy. The Centre for Cities estimates that Glasgow is falling short of its productivity potential by around £7.4bn per annum.

The graph is instructive and, while there are some apparent anomalies, it reflects much of what is known about the comparative performance of UK cities of different sizes and types, especially the rate of transition to economies based on knowledge-intensive business services and the geography of skills and deprivation. The Centre for Cities concludes that, whatever the contributory factors of varying levels of performance, collectively Britain's cities are not making the contribution they should, and "*it is the underperformance of our biggest cities that affects the largest number of people and has the biggest drag on the national economy*". Viewed through this lens, Edinburgh – which has shown strong and sustained economic and demographic growth over several decades – is one of the UK's strongest urban economies, although comparative data from 2011 showed that its per capita GDP was below the European city average.[62] Glasgow's low productivity is part of the continuing legacy of its extraordinary deindustrialisation and

consequential economic decline in the mid-to-late 20th century although the city has recovered in the modern era and is on an upward trajectory. These efforts are challenged by today's climate of uncertainty and by the cities, and Scotland's, ability to anticipate and deliver a decarbonisation transition agenda.

The Centre for Cities identifies productivity as one of three key indicators of city performance. Figure 2-3 highlights "*uneven outcomes*" across local authority areas in Britain relating to: (i) the share of the population with no (or low) qualifications, (ii) life expectancy and (iii) GDP per worker.

Good Growth

These indicators take us into the realm of "*good growth*" – a concept explored by a range of institutions and experts, notably the consultants PwC, whose Good Growth Index, developed in partnership with Demos, is now a widely cited source.[63] Essentially, the good growth concept recognises that focusing exclusively on GDP/ GVA is too narrow a measure of success. The index takes account of range of ten factors, which are weighted to reflect the views of the public on what matters most (Figure 2-5):

Based on these criteria for success, PwC conclude that the principal objectives of urban policy should be to create cities that are:

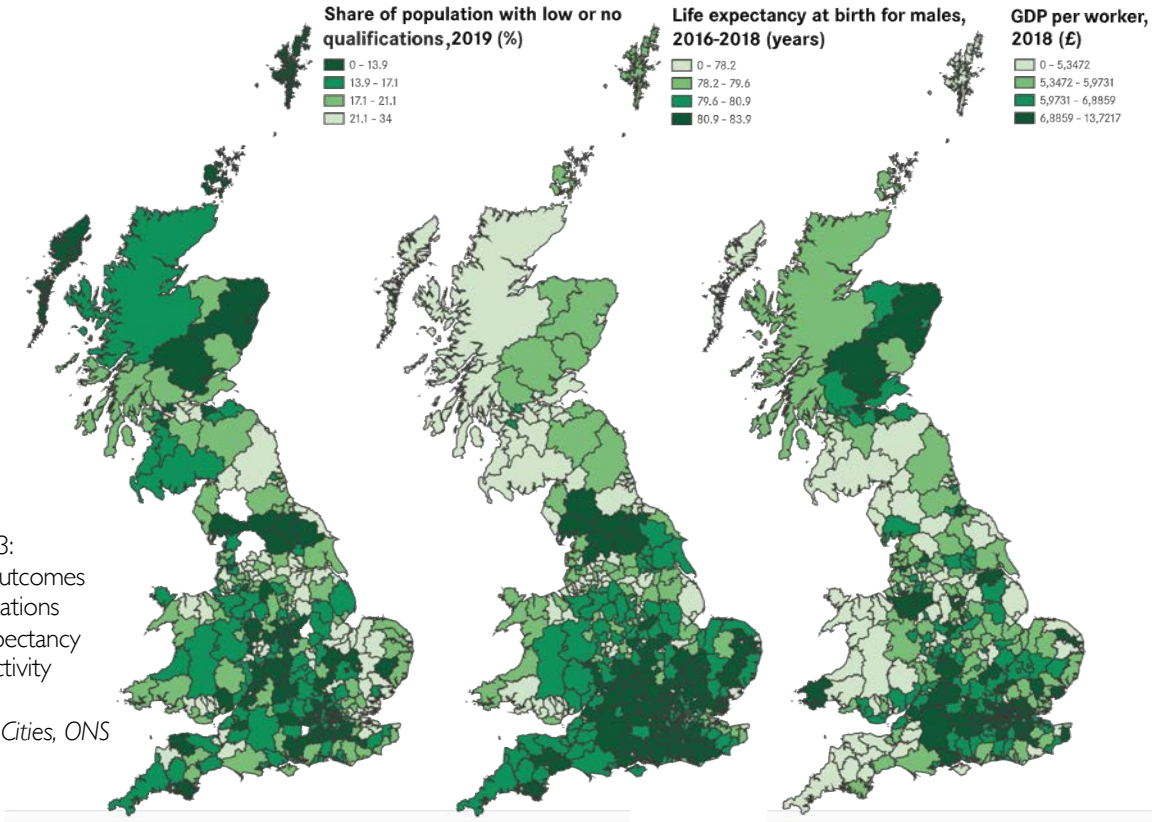
- productive and innovative;
- fair and inclusive;
- greener and more sustainable; and,
- more resilient.

These objectives resonate with the challenges that are facing cities today, namely:

a) De-carbonisation and deep retrofit of entire building stocks – residential, office, retail, and every other landuse;
b) De-carbonisation and deep retrofit of entire movement systems (MAAS);
c) Climate adaptation to the entire drainage network, the entire river systems and sea-level change;
d) Balancing Climate adaptation with social justice, health and economic development.

Figure 2-6 shows change in the index between 2017 and 2019. Before the pandemic. Edinburgh ranked 5th and Aberdeen 7th, with Glasgow in the lower mid-table. Figure 2-7 shows the relationship between the Good Growth Index score and GVA growth for 2020.[64] Even though economic prosperity is often associated with negative outcomes such as high house prices and inequality of wealth and opportunity; it is clear generally that there is a positive correlation between GVA and good growth: prosperity is good for quality of life. The upper reaches of the Good Growth rankings are dominated by the high-productivity towns and cities identified by the Centre for Cities. Figure 2-8 shows the differences in the Good Growth index for selected metro regions and for cities in the devolved administrations for the years 2016-18 and 2017-19.

In the years before the pandemic, significant changes could be observed. Across the board, improving average scores for income, work-life balance, jobs, skills (over 25s), and the environment were offset by declining scores for housing affordability, skills (young workers), health, owner-occupation and business start-ups. PwC note that, in this period, there was increasing evidence of polarisation: "*the gap between the cities at the top of the index and those at the bottom had started to widen after many years of narrowing*".[65]



Figures 2-3:
Uneven outcomes
- qualifications
- life expectancy
- productivity

Source:
Centre for Cities, ONS

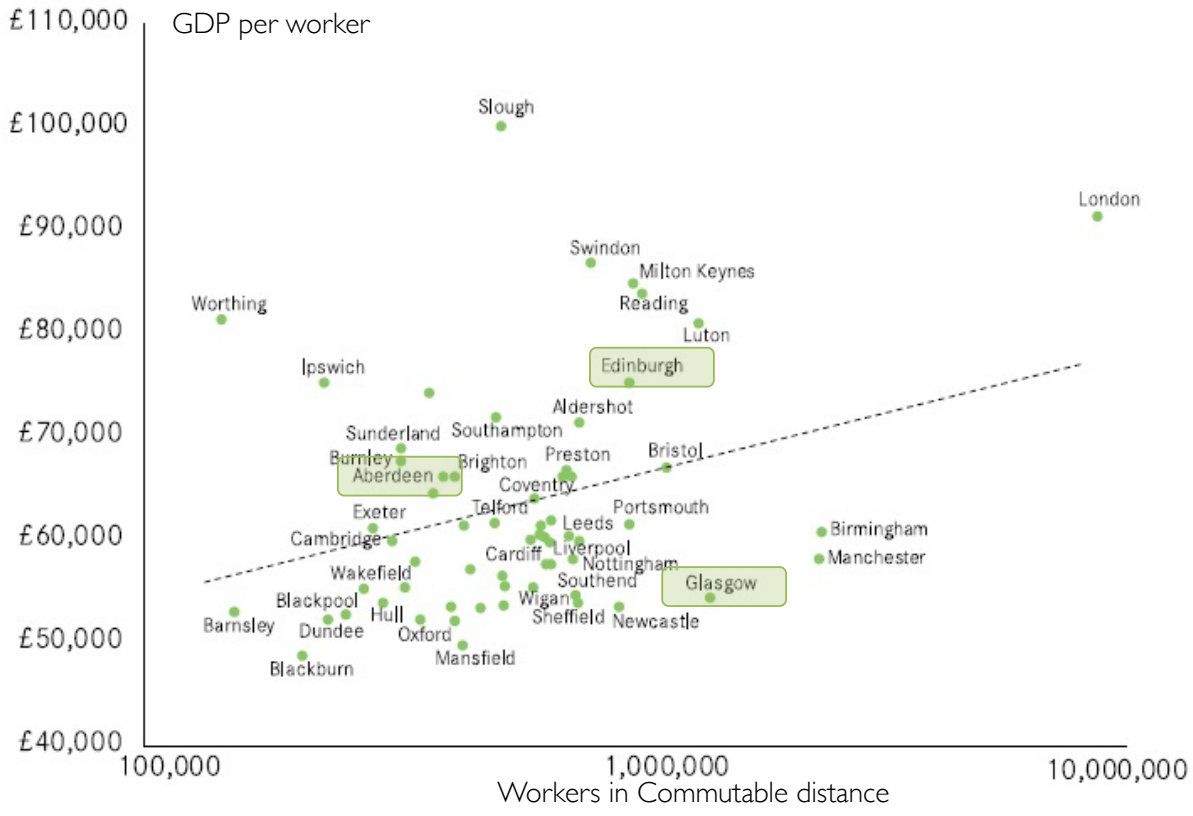


Figure 2-4: Productivity and adjusted city size: UK PUAs
Source: Centre for Cities

The PwC good growth concept recognises that focusing exclusively on GDP/ GVA is too narrow a measure of success. The index takes account of range of ten factors, which are weighted to reflect the views of the public on what matters most:

- ❑ Secure jobs
- ❑ Adequate income levels
- ❑ Good health
- ❑ Work-life balance
- ❑ Affordable homes
- ❑ Business start-up rates
- ❑ Good road and rail transport
- ❑ Skills and education for employment
- ❑ Environmental protection
- ❑ Distribution of income and wealth.

Figure 2-5: The PwC Good Growth Concept
Source: *Good growth for cities, the local economic impact of COVID-19, PwC, 2021*

Figure 2-6: Change in the Good Growth Index 2017-2019
Source: *Good growth for cities, the local economic impact of COVID-19, PwC, 2021*

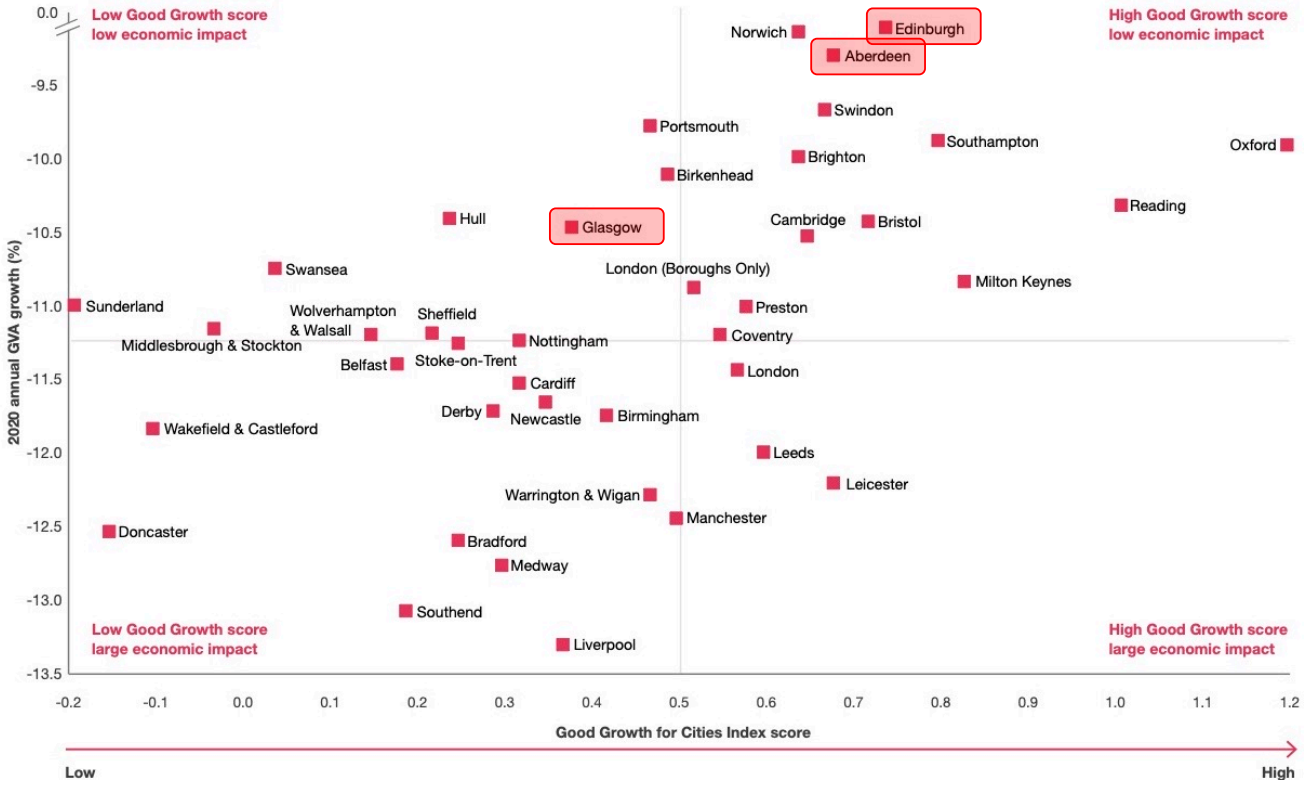


Figure 2-7: Annual GVA growth rate (2020 as %) and the Good Growth for cities Index score
Source: *Good growth for cities, the local economic impact of COVID-19, PwC, 2021*

Figure 2-8 (top): Good Growth in Cities 2016-18 and 2017-19 (Devolved Administrations)
Source: *Good growth for cities, the local economic impact of COVID-19, PwC, 2021*

Figure 2-8 (lower):Good Growth in City Regions 2016-18 and 2017-19
Source: *Good growth for cities, the local economic impact of COVID-19, PwC, 2021*

The knowledge economy and the relationship with productivity in the AGE cities is a key issue for all UK cities, widely covered, partially understood, and has been of concern for some time as reported on in SUA-1. These, however, are not the only matters that face the AGE cities in these times and there are areas of emerging policy and practice that are equally important for the cities and their regions.

Localism and the Neighbourhood

In the 2021 Demos publication *Post Pandemic Places*, Nigel Wilson, the Chief Executive of Legal & General who funded the work, neatly captured the Zeitgeist*: "Covid-19 has driven major change to people's lives and global economies. Perceptions have been altered, and our ideas around what we need from our homes, work, and communities have been challenged. What is less clear is which dynamics are here to stay and which are temporary."* [66] Wilson went on observe that as government, business and communities look to respond to these challenges, creativity would be necessary: *"regions need to evaluate how they successfully deliver 'place' through a new lens, meeting evolving social needs and the very real impacts of the climate crisis."* It is possible to speculate that in addressing these issues, there could be some feedback into the ambiance of both the knowledge economy and the productivity that drives it.

So here we have it, neatly summarised, that uncertainty surrounds creativity in '*place'* at the (city and) regional scale. Furthermore, the Demos research, the work of the *Peoples' Commission on Life after COVID* and all recent research, including this review of *Scotland's Urban AGE* have concluded that a key consequence of the pandemic has been to increase inequality within the prospect of economic uncertainty in turn ramping-up pressure to set out a clear direction of travel and a policy framework to support areas and sectors that could be left further behind.

The pandemic has put '*local'* in the spotlight. More time spent at home has created greater awareness, and often appreciation, of local areas and communities. The Demos work is amongst the most incisive and succinct of the research undertaken at this '*moment in time*' (mid-lockdown) to capture how people were feeling about their local area.[67] Their main conclusion was that people's relationship with '*place'* had become stronger, and with that, evidence pointing to a change of behaviour, including spend, well into the medium- term. This clearly has implications for regional policy, company organisation and the way that land is used in our cities. What is on offer to people locally became more important especially for those who had no choice but to spend more time in their local area than before with up to two-thirds of the working population having their daily location altered (often by law) as a result of working-from-home or on furlough. Demos pointed out, however, that being more *aware* of the importance of '*place'* is different from being *satisfied* with it. By the end of 2020, Demos estimated that 5% of the population had moved for reasons explicitly related to the pandemic and a further 5% indicated they were planning or considering such a move. This is only one piece of research, but it does shine a light on an issue of city dynamics provoked by the pandemic. (The Demos findings are summarised at Figure 2.9).

The Demos work stresses that progress with this agenda of localism will require a new approach to mobilise communities through partnerships with local government, universities, schools, health trusts, employers, and property developers.[68] In their view, city and regional deals play an important role in fostering localism but the work also stresses that levelling up cannot be organised top-down by Government alone. Local communities need to be given the powers and the funding to ensure that investment is put to good use where it is most required. And the Demos research went further "*the new focus on locality seems here to stay, The (en)forced change in daily routines has kindled a familiarity with local places that people intend to maintain*".

This brings the narrative to an area of policy and practice that has generated considerable attention – the *15-minute city and neighbourhood* with variant the *20-minute city and*

Demos Key Findings:

- Instead of worrying about the effect of remote working on urban centres, the government should embrace its potential to spread spending power over a wider geographic area and so contribute to 'levelling up'.
- Government should spur the market for remote working desk spaces by introducing tax incentives for 'remote working vouchers', similar in design to the current childcare voucher scheme, that could be redeemed at premises of an employee's choice for firms that participate.
- In contrast to some media reports, we find that most people who have moved home explicitly because of the pandemic are young, on low incomes, and are moving within urban areas.
- Government should fulfil its commitment made in the Queen's Speech of December 2019 to make flexible working the default unless employers have good reason not to; this should explicitly include flexibility of location.
- Local authorities should be required to provide all tenants and residents who request it, a modest outdoor space for their own use within a reasonable travel distance of their home.

Summarised Recommendations (full text available at www.demos.co.uk)

1. Encourage more remote working, be flexible in location, as a tool to support regeneration of all types of neighbourhoods and widen economic participation.
2. Government action to make all jobs flexible including by location with legal support in favour of remote working including at employment tribunal.
3. Introduction of tax incentives for remote-working, similar to childcare vouchers.
4. Regional regeneration policy should pivot towards geographic locations with fewer homeworkers, to prevent them falling further behind. Consider conversion of local civic buildings to remote working spaces that could help push spending power across the country.
5. The pandemic, and homeworking, presents a challenge to high population-density urban accommodation. Future homes to be built with a mix of local amenities …with places to meet and work and outdoor public space for leisure and recreation (20-minute neighbourhood).
6. All urban centre tenants and residents should have a right to outdoor space for their own use … whether as garden, play or relaxation. Not necessarily attached to the the home but, like an allotment, should be within a short distance. Delegate responsibility to Local authorities should be given the responsibility with different solutions possible in different parts of the country.

Figure 2.9: Findings of the Demos research
Source: Demos

La Ville du Quart d'Heure (the 15-minute city) proposed by the Mayor of Paris envisages remaking the city as a network of self-sufficient communities with access to a full range of local services accessible to everyone within 15 minutes (by foot or by wheel), including schools and workplaces. The intention is to reinvent urban proximity and reduce traffic, make spaces more pedestrian friendly and improve cleanliness

Figure 2.10: The 15-minute city – the Parisienne model
Source: *Martinez Euklidiadas (2020) and Willsher (2020)*

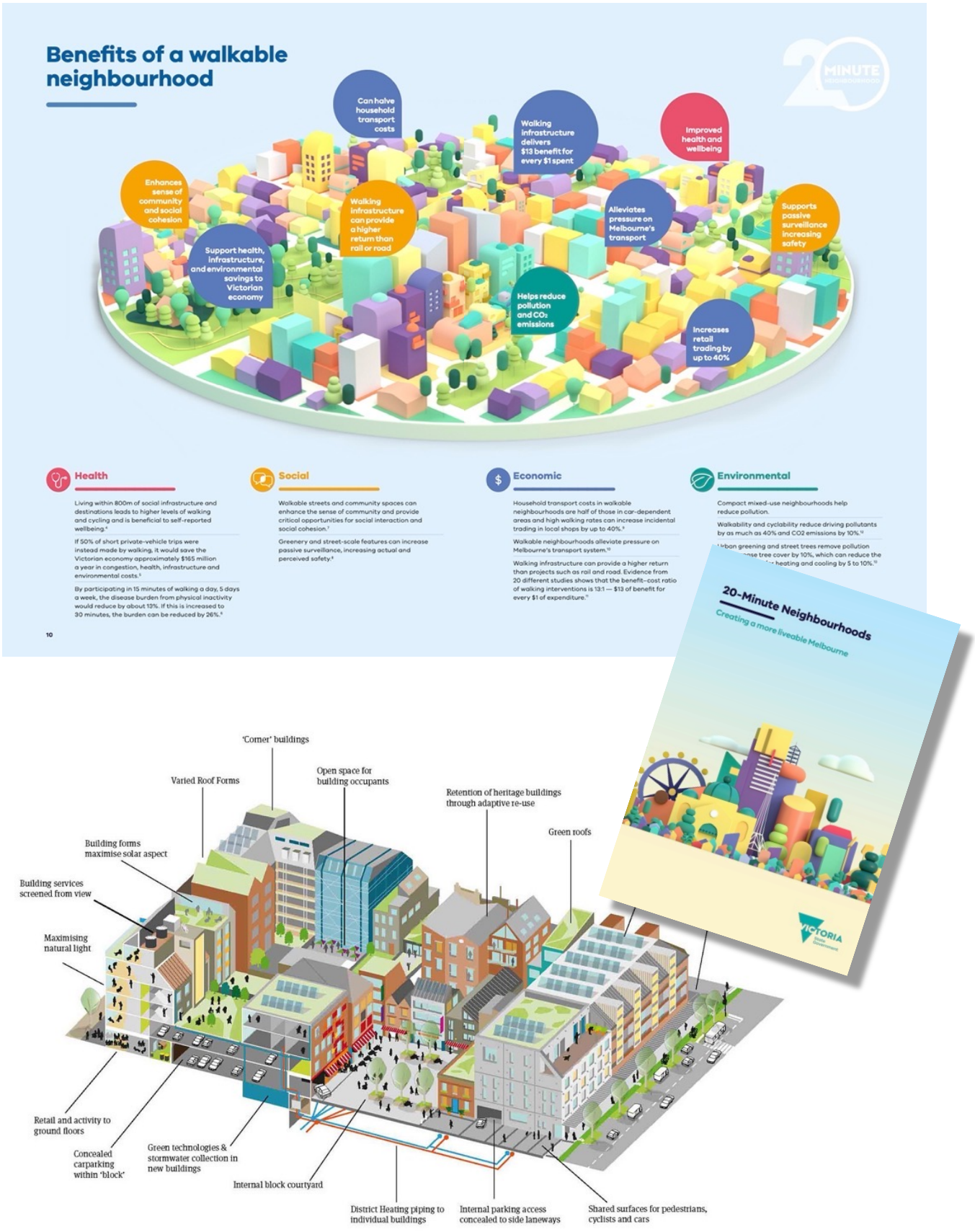


Figure 2.11: The 20-minute neighbourhood – the Melbourne model
Source: *The Government of Victoria, Australia*

neighbourhood. The principal most recent exponent of the concept is Carlos Moreno, professor at the Sorbonne and adviser to Mayor Anne Hidalgo of Paris who embraced his ideas and incorporated these into policy, practice and delivery as an organising mechanism for the City.[69] With entire professions locked down at home, away from the front line of saving lives in a global pandemic, able to afford regular supermarket deliveries and in constant contact with their peers across the world, the 20-minute concept generated reems of digital copy.

Setting aside superficialities around 20 or 15 minutes, and whether the French walk more quickly than the Brits, the 20-minute neighbourhood is important for the AGE cities, not least because it has become a flagship component of the Scottish Government's Programme for Government.[70] (Figure 2-10 – the 15-minute city). *The 20-minute neighbourhood is not new, just timely*. It has been a fundamental aspect of good urban design for decades. At its most basic, the 20-minute neighbourhood asks us to organise our places around the '*pint of milk test' – can I, within a 20-minute walk or* ***wheel*** (the distinction is important) get to a shop to buy a pint of milk, a newspaper, a cup of coffee and, by extension, get to school, get on a bus or train, go to a doctor and access other daily goods and services.

This has been a core principle of good planning since Jane Jacobs wrote The *Death and Life of the Great American City* in 1974, it is a fundamental tenet of the work of the *Congress for New Urbanism* in the USA, the *Academy of Urbanism* in the UK, *The Walkable City* by Jeff Speck, the *Happy City* of Charles Montgomery and takes the discussion into the territory of *Public Life* (Jan Gehl) and *Making Places for People* (Christie Coffin and Jenny Young) and others.[71] And the latter two move the discussion into the organisation of public space, green space and equity in road space between active travel for people who walk, cycle and wheel, and the car.

For those involved in the design and management of communities and cities the 20-minute neighbourhood is a *primus inter pares* of practice, a *fundamental organising device* for the way we live in cities and has been for decades, if not centuries, in the European cities we compare our cities with – Copenhagen, Amsterdam, Vienna, Barcelona to name four well known examples – although just as important are the hundreds of other smaller cities in these countries and others that exhibit similar characteristics from Freiberg onwards.

There is now an extensive literature on the concept and practice around the 20-minute neighbourhood. Figure 2-11 illustrates information from the Australian City of Melbourne for two reasons: the city started from a base closer to the more impoverished urbanism of mid-20th century planning common in UK and Scottish cities (that Edinburgh largely, but not entirely escaped, Aberdeen dodged and Glasgow famously did not) and because Melbourne began retrofitting the 20-minute neighbourhood before the COVID-19 pandemic struck it therefore serves as a valuable, but not to be slavishly copied, example of what the 20-minute neighbourhood represents as a principle of good planning and design and not a knee-jerk reaction to a pandemic.

The 20-minute neighbourhood is of invaluable assistance in organising the way we live and to some degree work – although the computer is far more important in that regard. What it is not however, is a panacea for planning our way out of a pandemic, ensuring the economic competitiveness of our cities and planning and designing their future structure. It might however be of assistance to the discussion on productivity because – according to received wisdom from psychologists – happy people are generally more productive people.[72] And the model should prove of assistance in the delivery of counter-measures to address the climate emergency in a way that engages and empowers communities in a spirit of hope for their places that sees neighbourhoods transformed for quality of life as well as delivering on programmes of decarbonisation. Significantly for SUA-2, however, it arguably underlines what we said in SUA-1, that the AGE cities need to "***practise better urbanism***".[73] A future practice of urbanism that

embraces economic development, planning (land use and community), housing, transportation, infrastructure (grey and green) in an integrated way engaging with emerging policy drivers from both Scottish and UK Governments.

National Planning – Levelling-up and NPF4

National and regional disparities, and especially the gap between London, the southeast of England and the rest of the UK, has been an important theme in the wider policy discourse for many years and is important context for both Scotland's Urban AGE 1 and 2.

Levelling-up: The 2022 ***White Paper*** has been produced by the UK Government as a response to Brexit and recognises the disparity in prosperity, economic performance, productivity and disadvantage across the nations and regions of the UK.[74] The White Paper describes the challenge of levelling up as "*a moral, social and economic programme for the whole of government*" and acknowledges that many of the issues it addresses are devolved matters. The issue of how much influence the White Paper will have in Scotland remains to be seen, but it is a substantial piece of work, and its emphasis on holistic and systemic approachs is both significant and welcome.

The document starts with some fundamental truisms e.g. "*not everyone shares equally in the UK's success. While talent is spread equally … equality is not*". The initiative is intended to be about fairness, opportunity and reducing geographical inequality albeit seen through a particular lens and with a private sector impetus. The paper does recognise that whereas "*there are world-leading … businesses and innovators across the UK, economic growth and the higher productivity which drives it (is) over-concentrated … particularly in the Southeast of England.*"

Noting that "*geographical inequality...[is]...a striking feature of the UK*", the White Paper states that our existing urban success stories need to be preserved and enhanced, but there are also "*stalled*" places where we need to *"...improve productivity, boost economic growth, encourage innovation, create good jobs, enhance educational attainment and renovate the social and cultural fabric..."* Sound and welcome rhetoric, but can it and will it be done?

The White Paper envisages levelling-up in the form of "*a contemporary Medici model*", in a reference to the flourishing of human achievement in Renaissance Italy under the Medici rulers and calls for a "*broad, deep and long-term*" programme to:

- Boost productivity, pay, jobs and living standards in lagging places;
- Spread opportunities and improve public services;
- Restore a sense of community, local pride and belonging; and,
- Empower local leaders and communities.

This will be achieved by a focus on six pillars of physical, human, intangible, financial, social and institutional "*capital*" working together in "*a mutually reinforcing fashion*" structured in four parts: the United Kingdom's geographical disparities and the drivers and potential policy approaches (chapter 1) that presents data and employs analyses very similar to the methodologies employed in SUA-1 and SUA-2, dealing with systems reform (chapter 2), the policy programme (chapter 3) and next steps (chapter 4).

The White Paper has received a mixed response and not everyone thinks the comparisons with Renaissance Italy are helpful.[75] There is, however, a broad welcome for what the Institute for Fiscal Studies calls "*a serious piece of policy work*" and the Joseph Rowntree Foundation (JRF), the Institute for Public Policy Research (North) and the Centre for Cities all see the document as a

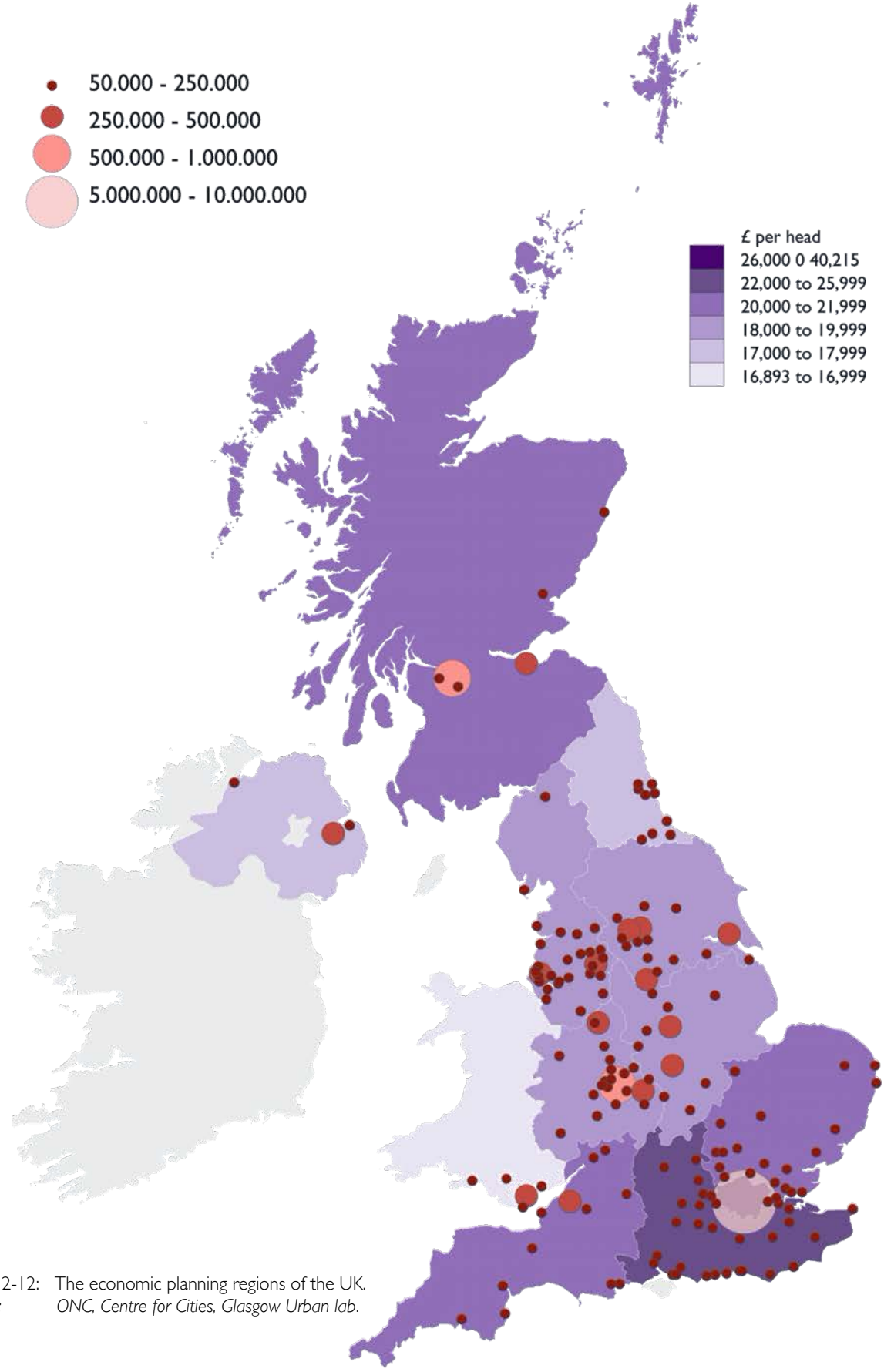


Figure 2-12: The economic planning regions of the UK.
Source: *ONC, Centre for Cities, Glasgow Urban lab.*

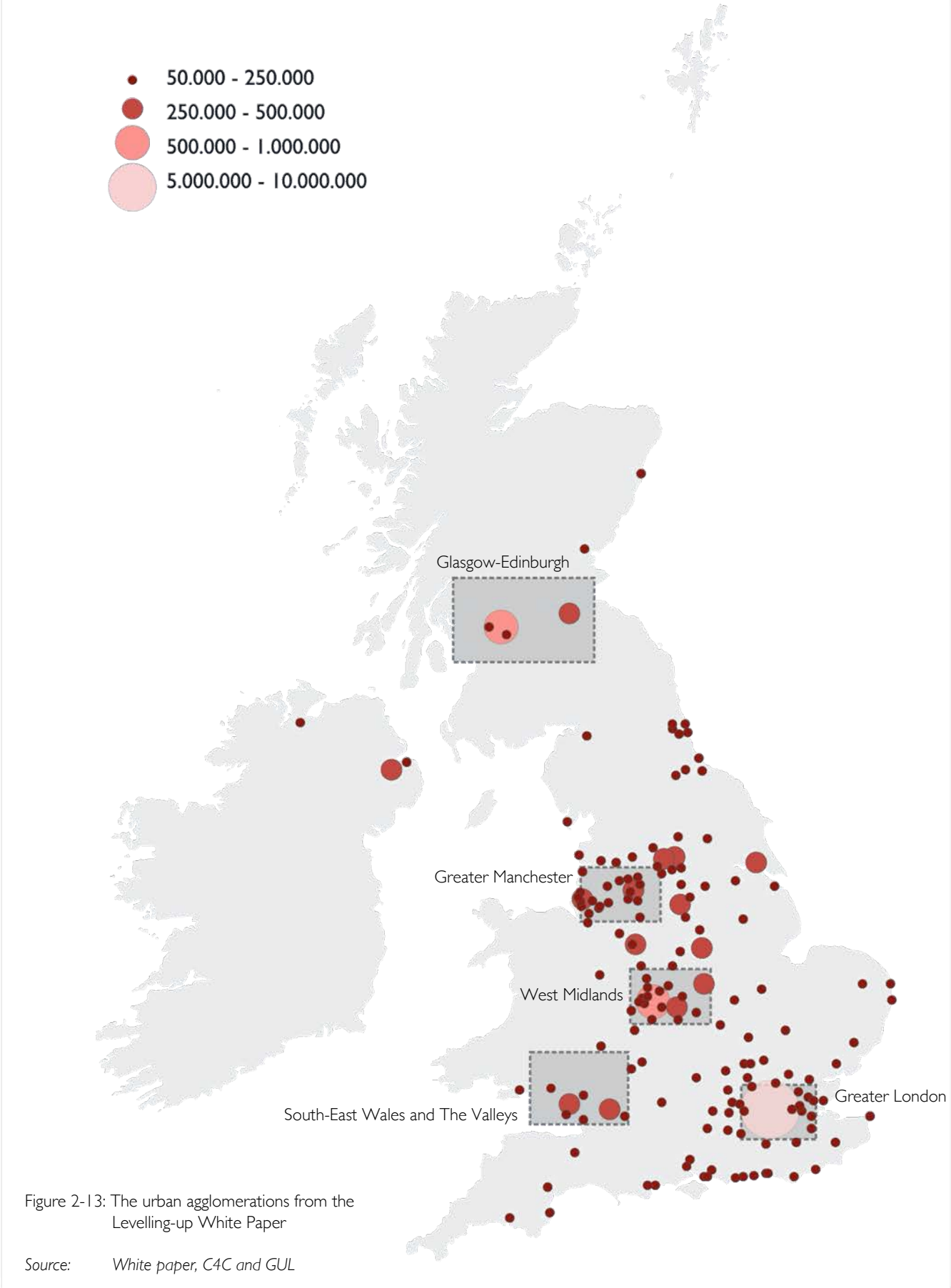


Figure 2-13: The urban agglomerations from the Levelling-up White Paper

Source: *White paper, C4C and GUL*

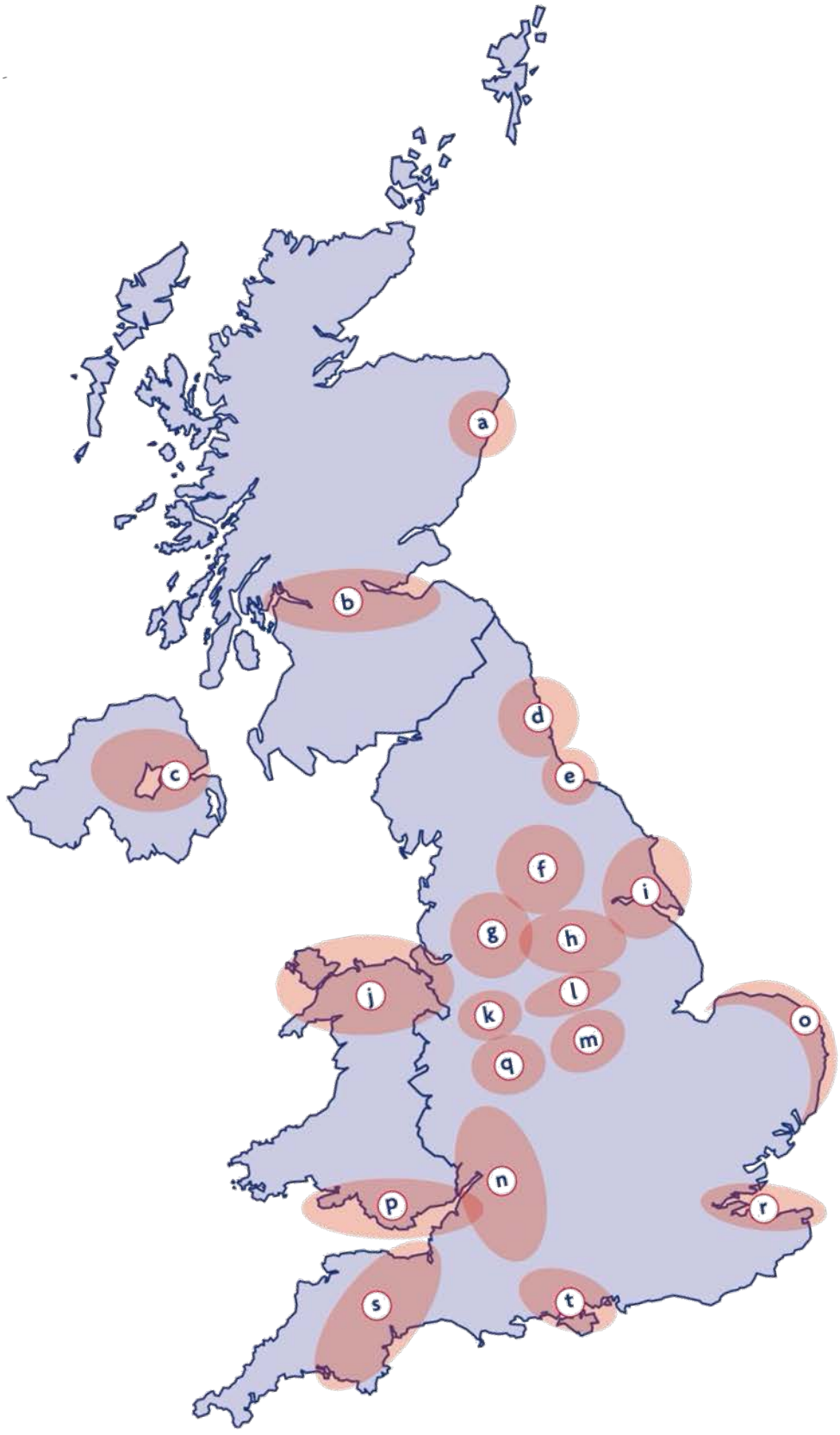


Figure 2.-14: The Levelling-up urban and industry clusters
Source: *White Paper*

step in the right direction, but rightly turn to focus on delivery and in particular on three key issues:

- based on the key metrics of productivity, educational attainment and health, levelling up will be a huge challenge and, as the Centre for Cities points out, the White Paper sets targets (some ill-defined) for 2030, and is skeptical that the challenges can be met in eight years;

- whether the UK government is serious about broader and deeper devolution (a key issue for Scotland). JRF argues that the approach still appears to be quite centrally controlled and other commentators have gone further suggesting that the policy and budgets controlled by Whitehall and their delivery is put in the hands of "metro" mayors;

- concern about the lack of additional resources identified for the levelling up campaign, which is taken by some to indicate a lack of Treasury backing for the strategy - the IFS argues that this ambitious agenda would need "*to be backed up by funding and sustained over decades*"; the Centre for Cities states bluntly that "*there is no new money*" and contrasts this with the two trillion Euros spent by the German government since 1990 on reunification, a process which is still not complete.

So, there is understandable apprehension that, whereas the underpinning analysis and aspirational intent is to be welcomed, the effect may be more focused on rhetoric and a reorganisation of existing resources rather than a ramping-up of funding to enable delivery of a radical programme of change.

Nonetheless, from a policy analysis and spatial geography point of view, the analysis in the White Paper is based on the 12 economic planning regions of the UK – the nine of England and the three devolved countries. The economic planning regions may not the best possible geographical descriptors of the UK, but they are rational, well established and well understood (Figure 2-12).

There is also welcome and implicit recognition of the (six) principal urban agglomerations of the UK (Figure 2-13) identified as Glasgow-Edinburgh, Greater Manchester, West Midlands, South East Wales and The Valleys and Greater London. This is helpful to everyone as the White Paper uses a familiar geography that has been used for decades. The economic planning regions, the RDAs of the Blair/Brown years and the integrity of the 3 devolved administrations together with these urban agglomerations makes it simpler to track performance longitudinally and they are good enough to capture a long-held understanding of the spatial and economic understanding of the geography of the UK. What is also helpful for Scotland's Urban AGE is the recognition and agreement/coincidence this conveys of the UK and Ireland as a supercity system that is reinforced on pages 40/41 of the White Paper that shows the UK's sectoral clusters and strengths (Figure 2-14).

NPF4: The draft of Scotland's new National Planning Framework (NPF4) was published at the end of 2021. The document continues the spirit and purpose of previous national planning frameworks and makes innovations as it shifts the emphasis towards *place* to advance Scottish Government thinking contingent on the *Place Principle*, the *Place Standard Tool* in parallel with the new development plan regulations.

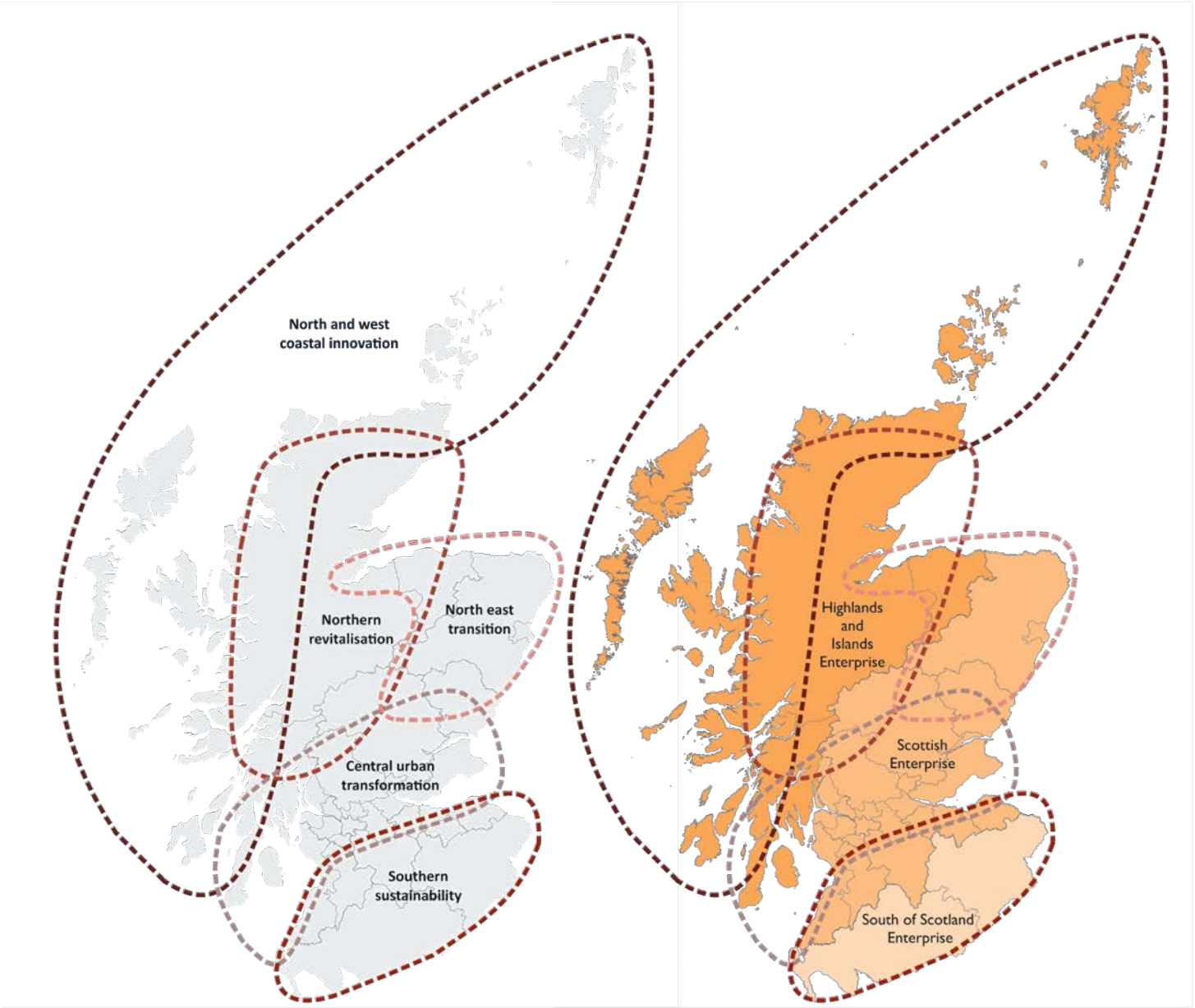
The draft NPF4 sets out the approach to national thinking with a spatial strategy towards 2045 (Part 1) with four themes of *sustainable, liveable, productive* and *distinctive places* supported by spatial principles for the whole of Scotland that are in turn directed to five zones: *North and west coastal innovation*; *Northern revitalisation*; *North east transition*; *Central urban transformation* and *Southern sustainability* (Figure 2-14). Part 2 of the document, sets a series of *developments of national importance* within, and in some instances, across these zones. Part 3 contains a national

planning policy handbook that amplifies the four themes and will, in the future, be deemed to be incorporated into the next round of development plans. Part 4 sets out a narrative on delivery.

The draft is very welcome – it brings clarity, begs questions (it is a draft for comment) and provokes comment (it is intended to). It is not the intent of this work to critique draft NPF4, but rather to reflect on the direction of travel set out by the Scottish Government and its implications for the AGE cites and their city-regions. It should be remembered that this is primarily a planning document, and we are reminded at the start of the spatial strategy that the purpose pf planning is *"to manage the* **development and use of land** *in the long-term public interest"* with the intention of: *(i) improving the health and wellbeing of our people; (ii) increasing the population of rural areas; (iii) meeting housing needs; (iv) improving equality and eliminating discrimination; (iv) meeting targets for emissions of greenhouse gases; and, (vi) securing positive effects for biodiversity.*[76] These aims are the law of the land, reflect the international context described here in SUA-2 and a growing societal consensus at home and internationally but, with the exception of increased population in rural areas (a worthy cause), they are territorially neutral. However, the draft *National Spatial Strategy* clarifies that, in planning terms at least, our "*cities and towns will be models of healthier and greener living, and a focus for investment in the well-being economy"* amplified in the four themes identified in the previous paragraph.[77]

The four themes stress that our future places will be: *net zero, nature-positive … more resilient to the impacts of climate change and support the recovery and restoration of our natural environment (***sustainable places***); will be better, healthier and more vibrant places to live (in homes and neighbourhoods) (***liveable places***); will attract new investment, build business confidence, stimulate entrepreneurship and facilitate future ways of working – improving economic, social and environmental wellbeing (***productive places***);* and, *will attract new investment, build business confidence, stimulate entrepreneurship and facilitate future ways of working – improving economic, social and environmental wellbeing (***distinctive places***).* Within these themes, *place* is scale neutral and can apply equally to a crofting township of a few people and to a city of a few hundred thousand which is democratic and egalitarian but, given that earlier in the strategy section, there is a distinction between the focus of Scotland's rural areas, cities & towns, and islands, it might be good to stress that, within the context of the *interrelated and indivisible nature* of the Sustainable Development Goals, *all* of these place propositions (perhaps varying by degree) will apply to *all* of Scotland's places … irrespective of how big or small they are, and as a consequence so will the six spatial principles that follow (*compact growth, local living, balanced development, conserving and recycling assets, urban and rural synergy and, a just transition*).

The concept of the compact city (underpinning *compact growth* as a spatial proposition) remains a valid planning principle internationally albeit one that is now nuanced by the drivers of the health pandemic and the climate emergency, just as *local living* is underpinned by a move to better local places reinforced by the pandemic and the possibilities of deploying the 20-minute neighbourhood as an organising and design principle. *Conserving and recycling assets* and a *just transition (*to decarbonisation and net-zero*)* equally are well developed and widely shared economic and social principles which have consequences for spatial organisation. *Compact growth*, *local living*, *conserving and recycling assets,* and *just transition* are well-known, understood and widely supported principles. On the other hand, balanced development and urban and rural synergy seem less well-defined and could be described as two sides of the same coin and are more to do with the organisation and delivery of systems thinking. They are voiced more succinctly in the targets for SDG 11 – *Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning (11.a)* – and it might be beneficial to say so. They are more akin to *outcomes,* rather than *principles,* for spatial planning.



Figures 2-14: NPF4 – the draft 'Areas'
Source: Scottish Government

Figure 2-16: The NPF 4 areas mapped onto the operational areas of Scotland's Development Agencies
Source: Scottish Government, Glasgow Urban Lab

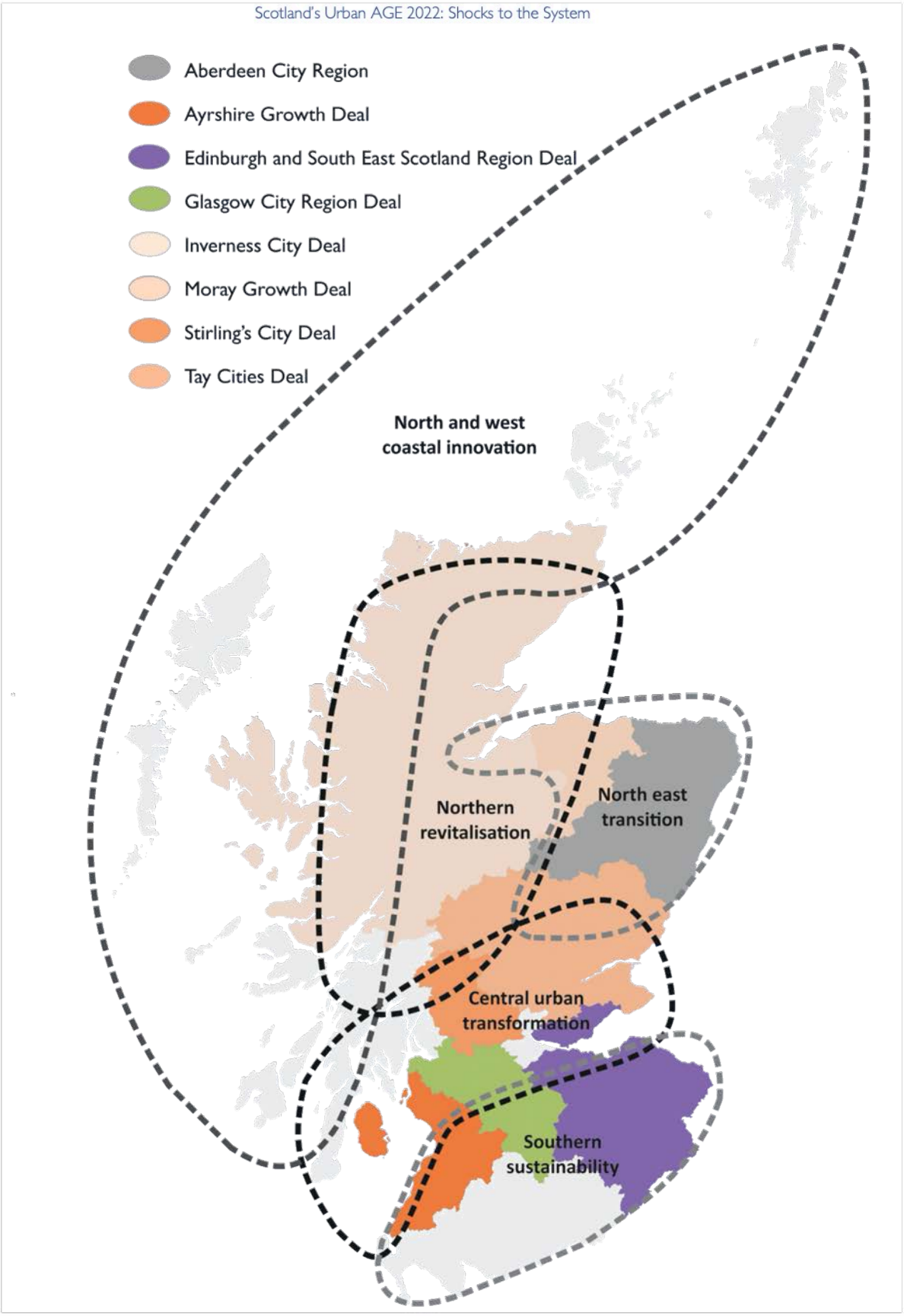
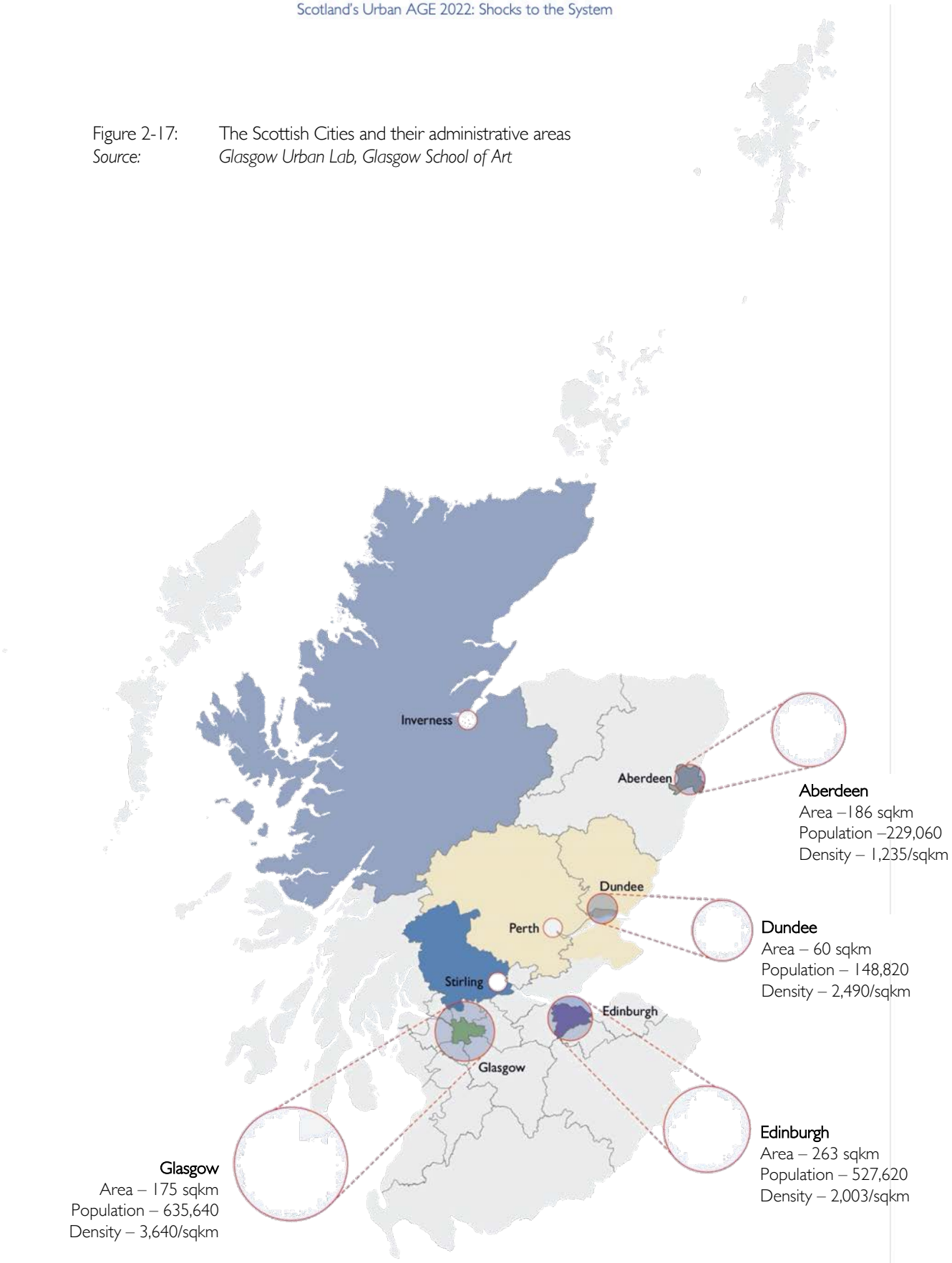


Figure 2-15: City-Region Deal and Growth Deal Areas showing the suggested NPF4 transition area boundaries

Source: *Scottish Government, Glasgow Urban Lab*

Figure 2-17: The Scottish Cities and their administrative areas
Source: *Glasgow Urban Lab, Glasgow School of Art*



Later, the document (Part 3) introduces a series of generic place policies that are to form the policy backbone of a national development plan that in turn will drive local development plans with the weight given to the application of these policies presumably nuanced by the characteristics – economy, society, community, environment and culture of the particular place they are being applied. A key perhaps to this weight can be found in pursuit of the characteristics of the five zones identified in Figure 2-14.

In terms of the AGE cities and their regions, there are some specifics worthy of note.

Aberdeen is positioned as the core hub city of the *North East Transition* zone (emphasis on *transition*). The descriptors and the indicative spatial context is focused very much on the city and shire which bleeds into Moray to the north west and Angus to the south. It is the former Grampian Region territory, with a script that is orientated to *transition to net zero*, *improving local liveability*, *regenerating coastal communities* and *decarbonising connectivity* if perhaps a little silent on the technological lead that the high-skilled economy of the north-east could supply, but overall and given that this is a planning document, the emphasis is to be welcomed.

Glasgow and ***Edinburgh*** will act as the primary hubs and share a leading role in the *Central Urban Transformation* zone (emphasis on *transform*). Something they will share with three other of Scotland's cities – Dundee, Perth and Stirling. The area embraces the Glasgow and Edinburgh city regions and bleeds into the Tay cities, the Ayrshires, the Clyde corridor, the Tay valley and, slightly incongruously, a national park. It is reminiscent of long held propositions around the Geddesian notion of Clyde-Forth, and the mid-20th century Oceanspan. It thankfully dodges 'Glasburgh' and evokes comparisons with the Ruhr/Emscher Park region in Germany and Randstad in the Netherlands that were discussed at length in SUA-1.

The descriptors again resonate – *pioneer low-carbon resilient living*, *reinvent and future proof city centres*, *accelerate urban greening*, *rediscover urban coasts and waterfronts.* Again, and with the caveat that this is a planning document, the emphasis is to be welcomed.

One niggling issue with NPF4 concerns geography. A great deal of what NPF4 aspires to will need to be delivered by local authorities whether through the local development plans or other place and community related initiatives. Figure 2-15 relates the areas mentioned in the text of NPF4 to the areas of the city-region deals and growth deals and provokes an apprehension about geographical confusion. Figure 2-16 shows the areas superimposed on the operational areas of Scotland's economic development agencies which closely shadow local authority boundaries.

Overall draft NPF4 is to be welcomed. It says many of the right things about the right areas of Scotland but if anything there is perhaps a slight echo of modernism rather devoid of character and personality – it's all about *place* in a procedural sense but leaves the reader with very little feeling *about* ***the*** *place* with a residual apprehension about control and regulation – quite how all these policies can be enshrined in a plan for the whole country and then be applied with the sensitivity needed for the wide array of characterful and inspiring places that make up Scotland remains to be seen. It is rather silent on economic performance, but it is a planning document, so it is concerned *to manage the* ***development and use of land*** *in the long-term public interest.*

The AGE cities, Scotland's urban system and the Scottish Cities Alliance

The AGE cities, sit at the apex of Scotland's urban system. There is no change in this since 2018 and SUA-1. Their leadership, prominence and capability – their economy of scale – ensures that this remains the case. But there are changes within the system. The city of Dundee has made considerable steps forward in terms of delivery of regeneration outcomes, cultural renaissance and inward investment. Furthermore, it shares with the AGE cities a clear city boundary and the

election of a dedicated city government authority – only Dundee and the AGE cities – can claim to have a form of city governance. They are compact, high density and they elect authorities whose principal purpose is the good governance and delivery of services for the people who elect them. They are innovators in, and deliverers of, the Scottish Government's principal urban policies (Figure 2-17: Scotland's cities).

Thankfully Scotland seems more willing to set aside city league tables. Edinburgh benefits from its capital city status, Glasgow continues along its legacy road carrying an inherited burden but has otherwise broken free from these shackles and is an outlier. Alone in Scotland, only Glasgow is metropolitan – with a continuous urban area much bigger than its boundary. This is widely recognised in the UK and internationally. The *primary urban area* puts the city's population at around 1.2 million. This characteristic of Glasgow should be properly recognised for what Greg Clark has long described as a *managed metropolis*. Aberdeen knows and recognises the transition it faces; it deserves support in the challenges it faces in a managed transition from a natural resource carbon economy. Dundee still has some distance to travel in terms of economic clout has nevertheless found and established its cultural credentials and identity as a burgeoning small city. These four are different but share what was described in SUA-1 as a familial likeness in cultural identity and significant attributes of a European urban form. Scotland's needs them all at the top of their games. It is one of the principal duties of Government (Holyrood and Westminster) to do everything within their power to ensure that they succeed, not least in trusting them with more devolved responsibility to address the tasks at hand.

The other three cities in Scotland – Inverness, Perth and Stirling – are different. They are (very) small (Scottish) regional cities completely integrated with their hinterland and governed by extensive rural authorities. In most respects, they are indistinguishable from Scotland's other larger towns and their numbers may swell by another this year if the Sovereign grants city status to coincide with a royal jubilee – a very British, if somewhat quaint, reason for establishing a city. The regal reasons for kings and queens making a city – establishing and taxing markets – have long since been suborned by Government. A new city status is a ceremonial proposition, somewhat arcane – complete with the lords-lieutenant– but it is no way to run an urban system.

We discussed the Scottish Cities Alliance in some depth in SUA-1 concluding that it is ill configured and underpowered to lead urban transformation in Scotland. That remains true today. But it ***is*** a good idea and there have been rumours that the Scottish Government is thinking about a more enhanced '*cities think tank role*' for the SCA. If adequately resourced with enhanced capacity to access and disseminate thought leadership in Scotland and internationally in order to establish – for example – a cities council, the SCA would make a welcome contribution to the landscape of urban endeavour in Scotland by strengthening the capacity of the cities and giving large towns and the new towns a voice perhaps collaborating more closely with the Scottish Futures Trust established by the Scottish Government as a form infrastructure brains-trust. This is a opportune time to build the capability and capacity of the SCA and the SFT to explore how good design and good urbanism is key to the futures of our cities – with systems design to renew, reinvent and re-establish. All the European cities we compare ourselves with have benefit from the informed and consistent hand of world class designers within the city – beyond the interventions of visiting (st)architects.

Geography, Governance & The AGE Cities

The physical, economic, human and urban geography of Scotland are products of its geology. The country has three major fault lines: the *Great Glen Fault* that runs from Fort Augustus in the west, north-east to Inverness; the *Highland Boundary Fault* that runs from Helensburgh (west) to Stonehaven (east), and the *Southern Upland(s) Fault* that runs from Girvan in the west to Dunbar in the east. The latter two define the extent of the *Midland Valley of Scotland* an area that contained all Scotland's carboniferous geology and therefore all of the accessible coal resources.[78]

At its heart lies an isthmus between the firths of the Rivers Clyde and Forth – at its narrowest the distance between the navigable stretches of the rivers is just over 25 miles. Abundant, affordable energy, ready access to the world's oceans to the west and the continent of Europe to the east were a perfect recipe for massive industrialisation and population growth in a compact area … just what a burgeoning imperial power of the nineteenth century might require.

Moving past, but recognising the legacy from, a period of decline and market failure in the mid-20th century, through concepts of Clyde-Forth and Oceanspan to the regeneration effort of the Scottish Development Agency and today's concentration of population around nascent knowledge cities with numerous knowledge institutions of world renown, the draft of NPF4 presents us with an area of Scotland referred to as the *Central Urban Transformation* that nearly matches the midland valley.

The area between the Great Glen fault and the Highland Boundary Fault again created a geography that is clear on the ground today and shadows (nearly) the area referred to as the *North East Transition* that again highlights the historical and geographical integrity of an area of Scotland focused on the city and region of Aberdeen. A similar logic may be extended to *Southern Sustainability* and a composite of *North and West Coastal Transformation* and the *Northern Revitalisation.*

Leaving aside for the moment the rationale behind four or five '*areas*' of Scotland in NPF 4, it is legitimate to ask whether the country's administrative and (local) political geography is a match for the policy and programme delivery of what is proposed. Older county and regional boundaries have been tinkered with over the last century and city-region/growth deals – the most recent incarnations – leave some stranded outliers of which the most obvious are Moray (straddling *Northern Revitalisation* and *North-East Transition)*, Argyll & Bute (straddling *North and West Coastal Innovation* and *Central Urban Transformation*, but not wholly in either) Scottish Borders (*Southern Sustainability* and the *Edinburgh City-Region)*, South Lanarkshire (largely in *Southern Sustainability* but governed from Hamilton in *Central Urban Transformation* where the bulk of its population live and work even if most of the territory lies further south) and of course Clackmannan and Falkirk lie marooned at the epicentre of Scotland.. The existing territorial configuration that most closely shadows the five NPF4 *Action Areas for Scotland 2045* are the operational areas of *Highlands and Islands Enterprise*, *Scottish Enterprise* and the new *South of Scotland Enterprise* (Figure 2-16).

We do not advocate an approach to Scotland's NPF4 Areas based on physical determinism, nor are we suggesting a further reorganisation of local government boundaries, the age-old tactic of getting lost in the long grass, but we do suggest a recognition of these factors in the final shaping of the NPF4 areas which might presage more coherent regional planning and/or regional agencies that might coordinate development and delivery with a rationalisation of the various city-region/growth deal and NPF4 Action Areas together with local authority boundaries to bring some coherence to delivery of '*Place*' in Scotland. Although only one of the considerations facing Scotland, recognition of these boundary issues is important in Government policy (Holyrood and Westminster) whose delivery is usually administered by local authorities.

The UK Government has made clear through the White Paper, that in England, the Levelling-Up agenda will seek to devolve responsibility to local authorities and to metro mayors in particular, although the Government will not force local authorities to adopt metro mayors … however local authorities cannot expect to achieve the highest level of proposed devolution without them as a single point of contact in order to make strategic decisions at the (sub-) regional level. It is not yet clear how this is to be resolved with the devolved administrations in Scotland, Wales and Northern Ireland. Putting aside for the moment the issue of whether pursuit of levelling-up is

intended to circumvent or set up confrontation with the devolved administrations, it does highlight the potential challenges that might arise from complexities in local geography.

In a recent BBC review of 'levelling up', the Centre for Cities and the Institute for Government considered whether the proposals might create an absolute confusion of layers of local councils, metropolitan authorities and city-regions making it difficult for voters, businesses and stakeholders to be clear about who is responsible for what. It was suggested there is a need to move towards a more coherent system in order to create clusters of capability to support investment in productivity through place-based initiatives, recognising that the creation of civic environments in order to make places attractive for people to live is one of twelve missions in the White Paper. There is recognition that this might be difficult to achieve if geographies look strange when politics don't come together.[79]

In summary … the more that things change!

We have observed consistency and continuity with many trends since the publication of SUA-1 and few, if any, reversals. But there are distinct changes and many of these are subtle. The final sections of this chapter constitute a plea for coherence and alignment of policy and action at the hands of the Westminster, Holyrood and Local Governments in Scotland particularly in respect of geography, systems and delivery in pursuit of cohesion around city planning, the streamlining of agencies to deliver on that and the delegation of governance and funding and capability to the AGE cities and their partners to get on with the job at hand. We would maintain our call from SUA-1 for a minister for cities (not necessarily of cabinet rank) to act, not as some centripetal and centralising tsar in Holyrood but, as a consensual and coordinating leader supporting innovation, imagination and enterprise across Scotland's urban system perhaps through a reinvigorated and enhanced Scottish Cities Alliance.

Scotland's Urban AGE 2022

3: Revisiting the AGE Cities & Regions

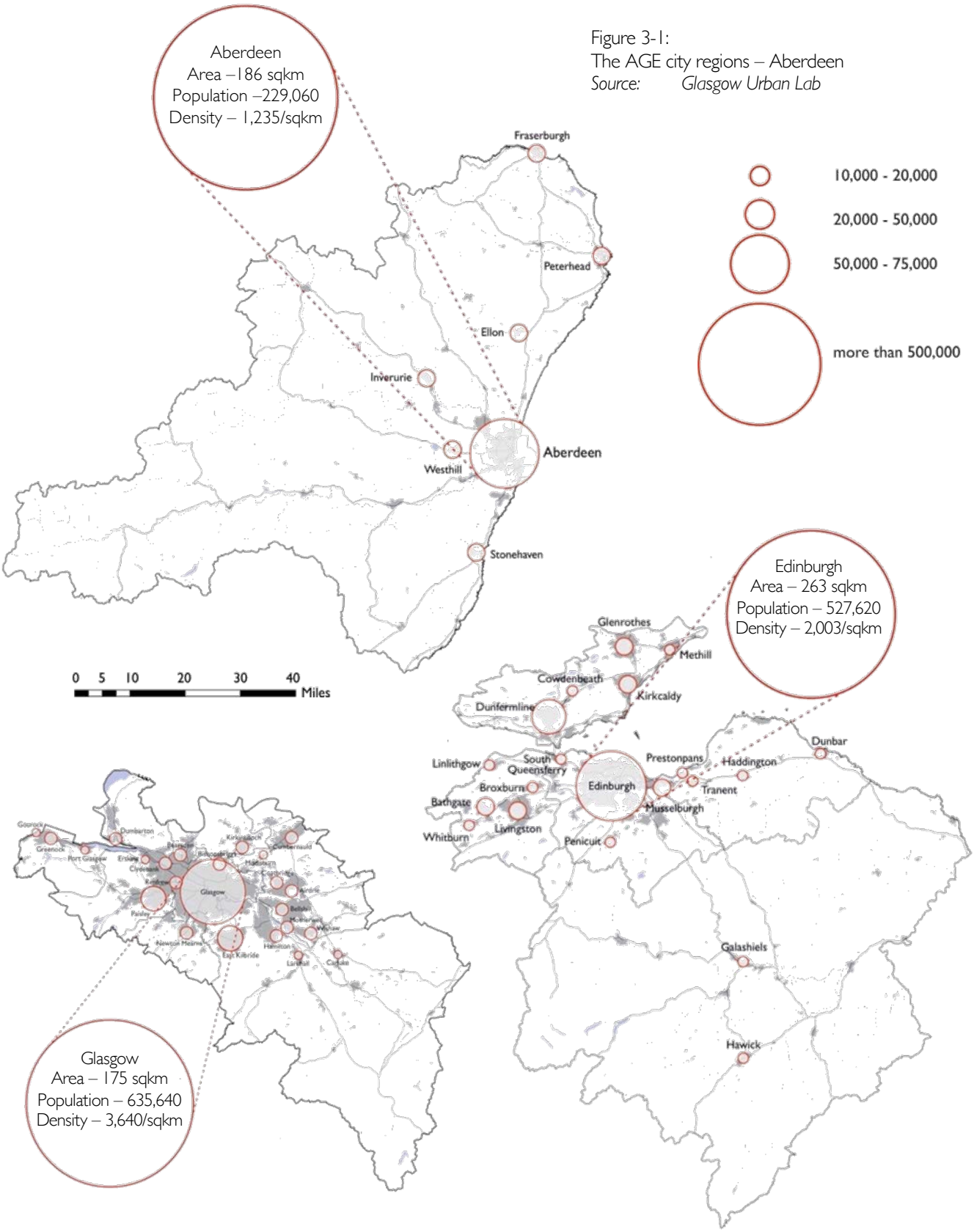


Figure 3-1:
The AGE city regions – Aberdeen
Source: *Glasgow Urban Lab*

Figure 3-2: The AGE city regions – Glasgow
Source: *Glasgow Urban Lab*

Figure 3-3: The AGE city regions – Edinburgh
Source: *Glasgow Urban Lab*

3. REVISITING THE AGE CITIES & REGIONS

Chapters 1 and 2 have revisited and expanded the wider context explored in SUA-1 and reviewed changing events since 2018. This chapter rolls forward and expands the analysis of SUA-1 in respect of the cities and their regions by examining key data on demography, employment, key industries, the labour market, productivity and deprivation, and includes UK-wide comparative data drawn from the Centre for Cities' City Monitor tool.[80]

The three city regions are based on local authority areas as follows:

- ***Aberdeen***: Aberdeen City, Aberdeenshire
- ***Glasgow***: Glasgow City, East Dunbartonshire, East Renfrewshire, Inverclyde, North Lanarkshire, Renfrewshire, South Lanarkshire, West Dunbartonshire
- ***Edinburgh***: Edinburgh City, East Lothian, Fife, Midlothian, Scottish Borders, West Lothian.

These regional definitions are the same as those used in SUA-1 and, apart from north-east Fife, are coincident with the areas used in the city-region deals. Unless otherwise noted, tables and charts describing the "city regions" refer to the regions excluding the principal cities. Figures 3-1, 3-2 and 3-3 shows the three city regions to the same scale.

Population

The population of Scotland declined during the 1980s and 1990s but has grown by 8% since 2000. In 2020 it stood at 5,406,000 (Figure 3-4).

Figure 3-5 shows annual population change in Scotland since 1960. The chart records the decline in the 1970s and 1980s before a modest recovery in the mid-1990s. Scotland returned to population growth at the start of the century, but the growth rate fell markedly in 2019-20, likely reflecting factors including Brexit and the onset of the pandemic.

Figure 3-6 shows the components of population change in Scotland. In the mid-20th century, the number of deaths exceeded births, and there was significant net outward migration. The situation stabilised in the 1990s, and since the start of the century the level of net inward migration has increased, driving population growth. In 2019-20, the level of inward migration declined – although it remained positive – and the rate of natural decline accelerated. These data presumably reflect the impact of COVID and Brexit, but it remains to be seen if they mark a start of a significant demographic trend.

Figure 3-5 covers the 40 years from 1981 to 2020. It shows population change in the three AGE cities and their respective city-regions, compared with Scotland. Population growth was most rapid in Aberdeenshire, reflecting the oil boom, although it slows markedly from 2000, and slips into decline in recent years; Aberdeen city grew more or less in line with the Scottish rate. The population of Edinburgh and its city region grew steadily throughout the 40-year period at well above the Scottish rate. By contrast, the Glasgow city region experienced a consistent decline until the start of the 21st century with a degree of stabilisation that has yet to return to the levels of the early 1980s. The steep, long-term decline in the population of Glasgow city which began in the mid-20th century continued to the turn of the century before a robust recovery in the last two decades.

The chart reflects familiar narratives from Scotland's modern history:

- the rise of Aberdeen as a globally significant player in the energy sector, and the suburbanisation of the surrounding countryside;
- the collapse of Glasgow's manufacturing economy in the mid-20th century and the Government overspill policy before the city's subsequent, regeneration and renaissance, in the late 20th/early21st century;
- Edinburgh's continuing prosperity; and,
- in lowland Scotland, the steady shift in population growth from the west to the east.

In the past 20 years, the population of Scotland has grown steadily, and the AGE cities and their regions have all achieved growth (Figure 3-8). The rate of growth in Aberdeen was close to the Scottish average until it stalled and drifted into decline in the middle years of the last decade and there was very strong growth in the city region, until it too slowed in recent years. Edinburgh and its city region both continued to grow strongly, and Glasgow has now experienced 15 years of sustained population growth, with the city outperforming its region.

These recent trends are shown in more fine-grained detail in Figure 3-9, which looks at the past decade. After a period of modest growth, the populations of Aberdeen and Aberdeenshire have both fallen back since 2015. By contrast, Glasgow grew by 8% over the course of the decade, while Edinburgh grew very strongly (+12%). It is notable that Glasgow and Edinburgh both grew more rapidly than their regions in this period, although local authorities within the regions have exhibited different trajectories.

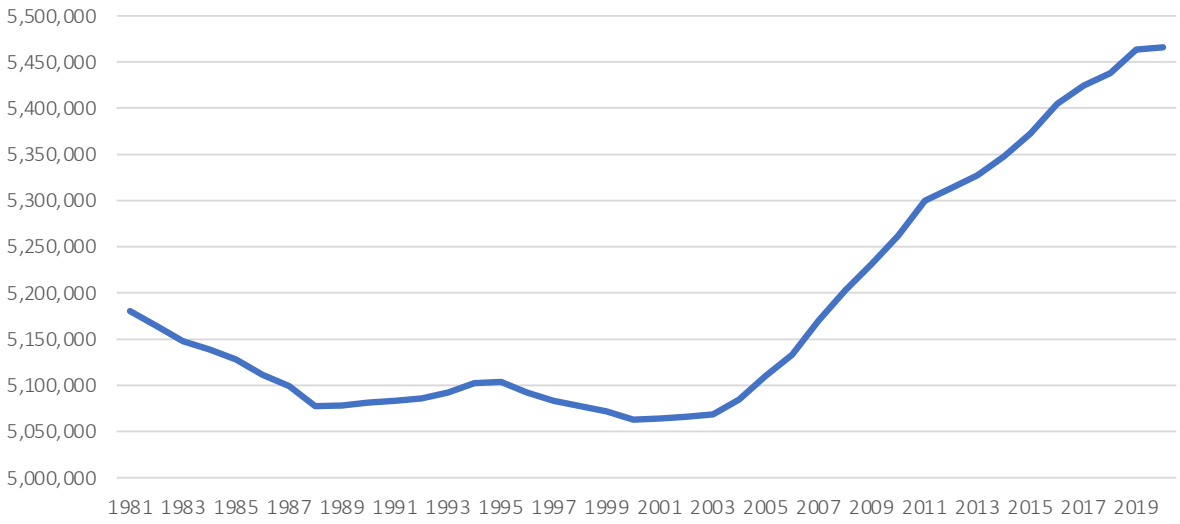


Figure 3-4: Population of Scotland 1981-2020
Source: Annual Population Survey, NRS

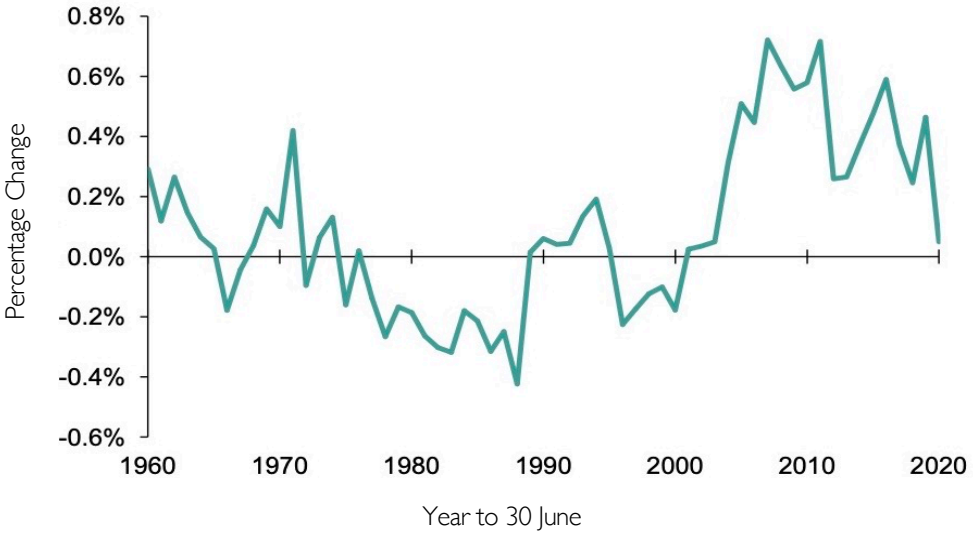


Figure 3-5: Annual population change, Scotland 1960 – 2020
Source: National Records of Scotland © Crown Copyright

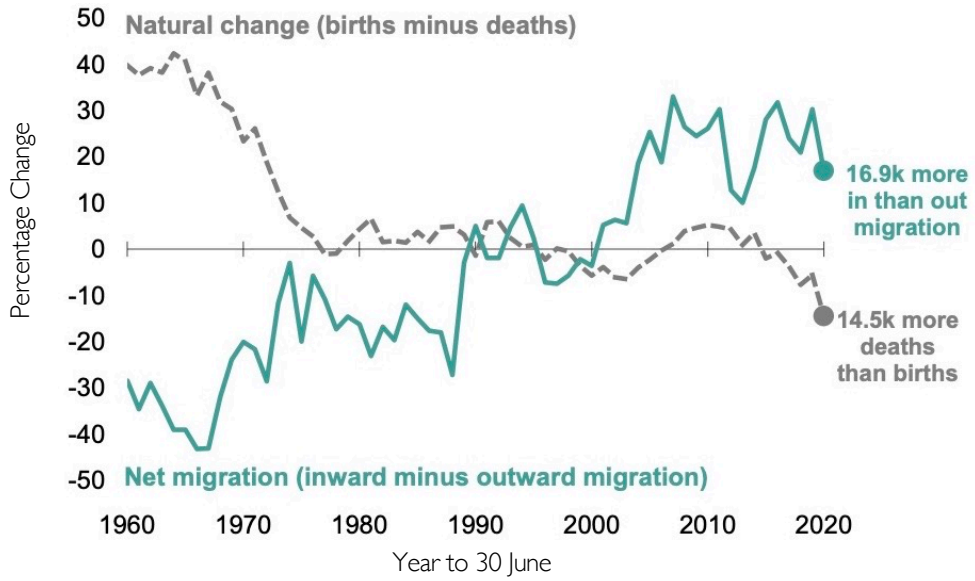


Figure 3-6: Natural change and net migration, Scotland 1960 – 2020
Source: National Records of Scotland © Crown Copyright

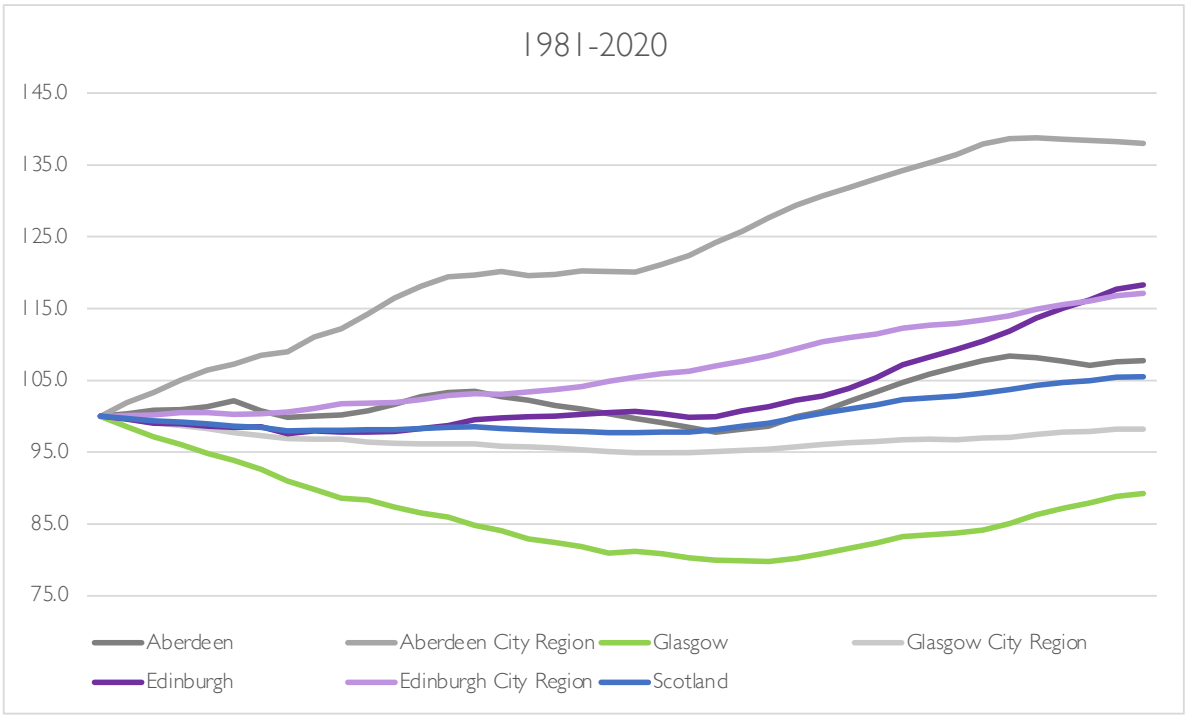


Figure 3-7: Population change, AGE cities, regions and Scotland 1981-2020 (1981 = 100)
Source: Annual Population Survey, NRS

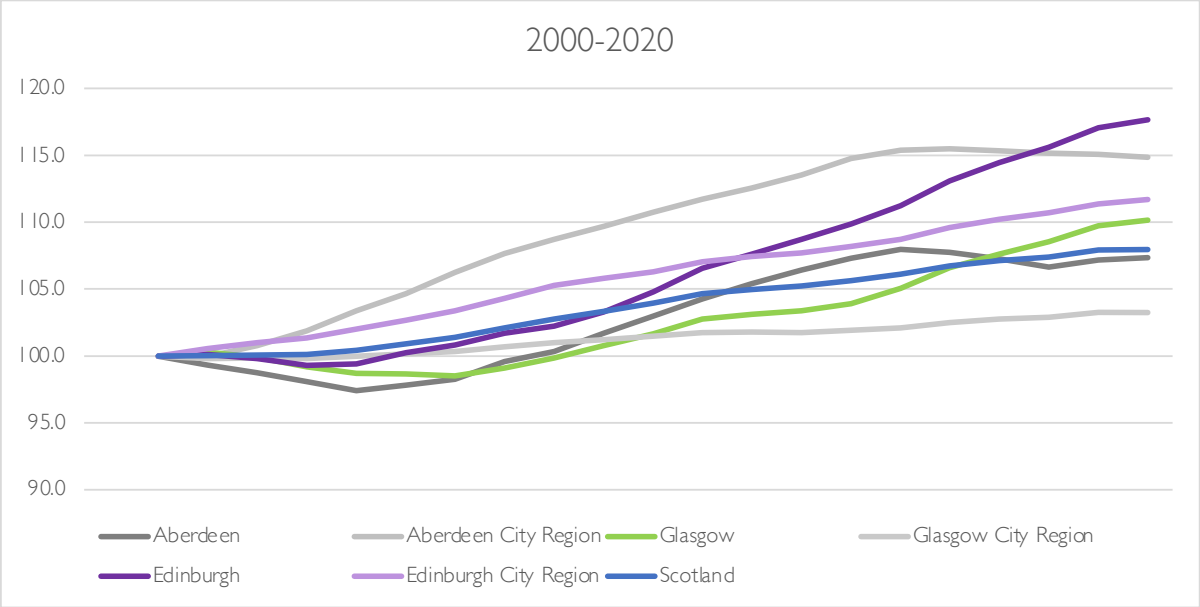


Figure 3-8: Population change, AGE cities, regions and Scotland 2000-2020 (2000 = 100)
Source: Annual Population Survey, NRS

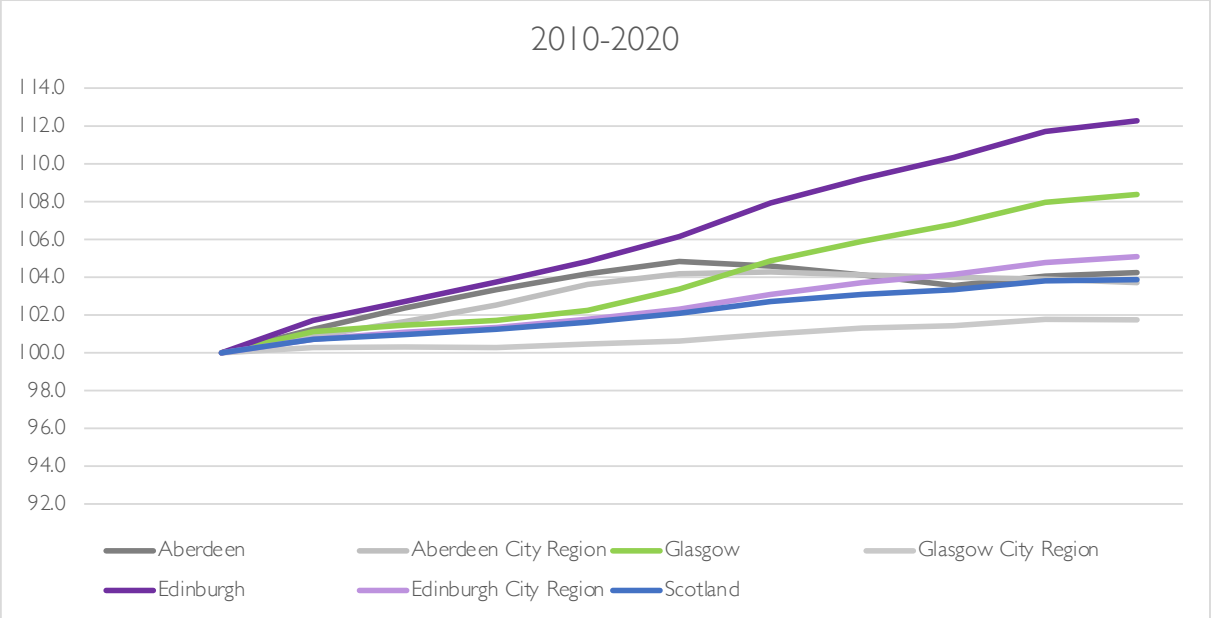


Figure 3-9: Population change, AGE cities, regions and Scotland 2010-2020 (2010 = 100)
Source: Annual Population Survey, NRS

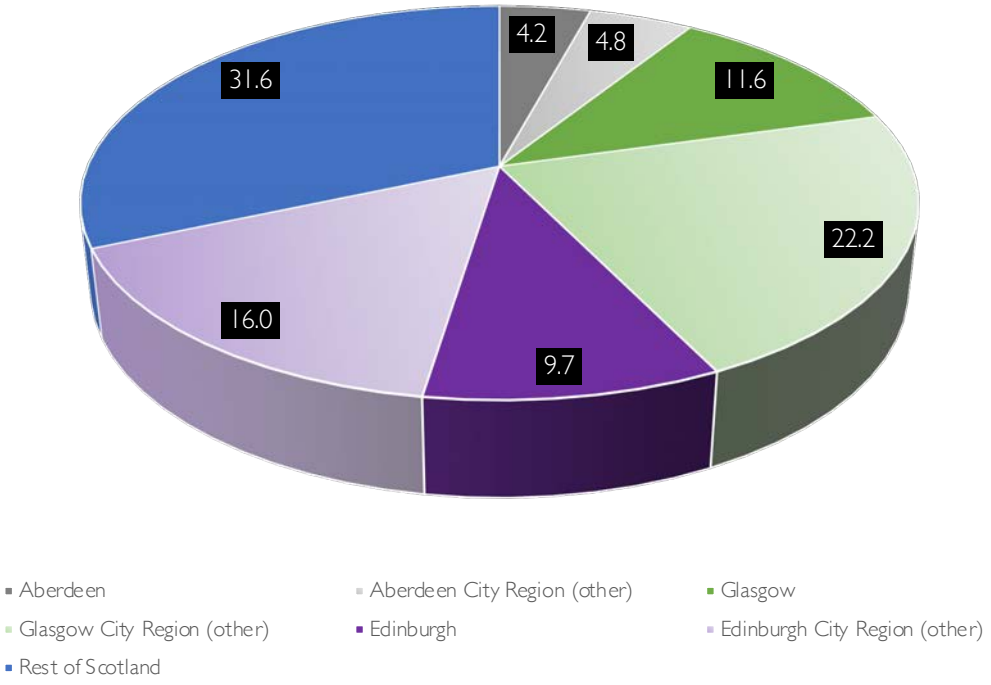


Figure 3-10: AGE cities and city-regions - % share of Scottish population, 2020
Source: NRS, Annual Population Survey

	Pop (mid-year est)			
	2000	2020	% change	Principal towns (pop 2016 >20k)
Aberdeen City	**213,340**	**229,060**	**7.4**	
Aberdeenshire	**227,020**	**260,780**	**14.9**	
Glasgow City	**577,020**	**635,640**	**10.2**	
East Dunbartonshire	108,620	108,750	0.1	Bearsden (28,120) Bishopbriggs (23,540) Kirkintilloch (21,380)
East Renfrewshire	89,040	96,060	7.9	Newton Mearns (26,600)
Inverclyde	84,660	77,060	-9.0	Greenock (42,680)
North Lanarkshire	321,390	341,140	6.1	Cumbernauld (50,920) Coatbridge (43,960) Airdrie (37,410) Motherwell (32,590) Wishaw (30,290) Bellshill (22,920)
Renfrewshire	173,680	179,390	3.3	Paisley (77,220) Renfrew (22,570)
South Lanarkshire	302,270	320,820	6.1	East Kilbride (75,210) Hamilton (54,080) Rutherglen (31,190) Cambuslang (29,100)
West Dunbartonshire	93,930	88,340	-6.0	Clydebank (26,320) Dumbarton (20,560)
City region exc Glasgow	**1,173,590**	**1,211,560**	**3.2**	
Edinburgh City	**448,430**	**527,620**	**17.7**	
East Lothian	89,910	107,900	20.0	Musselburgh (20,840)
Fife	348,340	374,130	7.4	Dunfermline (53,100) Kirkcaldy (50,010) Glenrothes (38,510)
Midlothian	81,110	93,150	14.8	
Scottish Borders	106,250	115,240	8.5	
West Lothian	157,050	183,820	17.0	Livingston (57,030) Bathgate (22,920)
City region exc Edinburgh	**782,660**	**874,240**	**11.7**	
AGE city regions	**3,422,060**	**3,738,900**	**9.3**	
Scotland	**5,062,940**	**5,446,000**	**7.6**	

Figure 3-11: The population of the AGE cities, city regions and Council areas, 2000 – 2020
Source: Annual Population Survey/National Records of Scotland

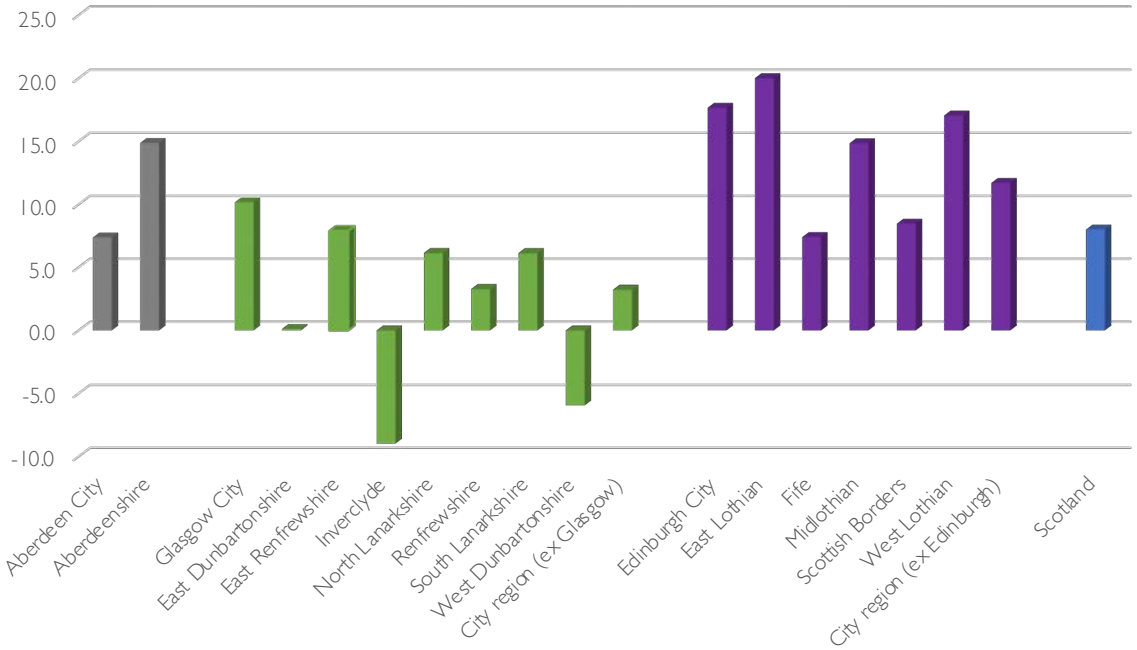


Figure 3-12: Population change: AGE cities, city-regions and Council areas 2000-2020
Source: Annual Population Survey, NRS

	Aberdeen	Aberdeenshire	Glasgow	Glasgow CR	Edinburgh	Edinburgh CR	Scotland
2015	180,400	106,950	402,045	437,380	321,350	309,350	2,462,000
2016	174,900	104,450	414,040	438,700	322,450	313,000	2,480,000
2017	172,425	106,200	401,040	439,850	327,800	316,100	2,471,000
2018	173,900	104,350	411,075	443,975	348,900	315,500	2,509,000
2019	169,700	102,950	416,100	440,680	343,400	318,525	2,501,000
2020	160,950	100,450	407,075	438,575	346,350	305,925	2,444,000

Figure 3-13: AGE cities and city-regions – employee jobs 2015-2020
Source: NOMIS/Business Register & Employment Survey (BRES)

Together, the AGE cities and their city-regions now account for 68.4% of the population of Scotland. This is a modest increase since SUA-1, when their share was 67.6%. The chart (Figure 3-10) shows the distribution of population between the different geographies. In aggregate, the Glasgow city and region accounts for 33.8% of the population of Scotland, Edinburgh city and region 25.7%, and Aberdeen city and region 9.0%.

Figures 3-11 and 3-12 present key population data for the period 2000 – 2020 at AGE city, city-region and Council area level, together with a commentary on the geography of the city regions. As described in Figure 3-8, growth was strongest in Edinburgh (+17.7%) and Aberdeenshire (+14.9%), but weaker in Aberdeen city and the Glasgow city region, which are lower than the Scottish growth rate.

The Council area analysis for the Glasgow and Edinburgh city-regions is revealing. The Glasgow city region has experienced its own west-to-east shift with modest increases in most council areas offset by significant declines in Inverclyde and West Dunbartonshire as a result of a complicated interaction of local demographics including ageing, low birth rates, and absence of opportunity putting a break on in-migration. In the Edinburgh city region, growth was much stronger in the Lothians than in Fife and Scottish Borders (Figure 3-12).

There are no settlements in Aberdeenshire with a population greater than 20,000. The Glasgow city region includes four towns with populations exceeding 50,000 (Paisley, Hamilton and two former New Towns – East Kilbride and Cumbernauld) as well as a group of medium-sized towns. With the exception of the New Towns, most of these towns have a long history as industrial centres closely linked to the Glasgow economy. The Lothians had no large urban settlements until the creation of the Livingston New Town. Dunfermline and Kirkcaldy, both exceeding 50,000, are two substantial historic towns in Fife, now generally accepted as being within the orbit of the Edinburgh labour market. ***In terms of their historical development and urban character, these are three very different city regions.*** For each of the AGE cities and their regions, we have provided the benchmark of comparable growth figures for Scotland as a whole (8% since 2000). The consideration of Scotland's growth is out with the scope of this research, but Figure 1-5 (Chapter 1) that compares Scotland growth with other small countries over the period 1971-2020 (e.g. Denmark, Norway and Ireland) begs much bigger questions around demographics, productivity and growth of the countries and the relative performance of their principal cities and city-regions.

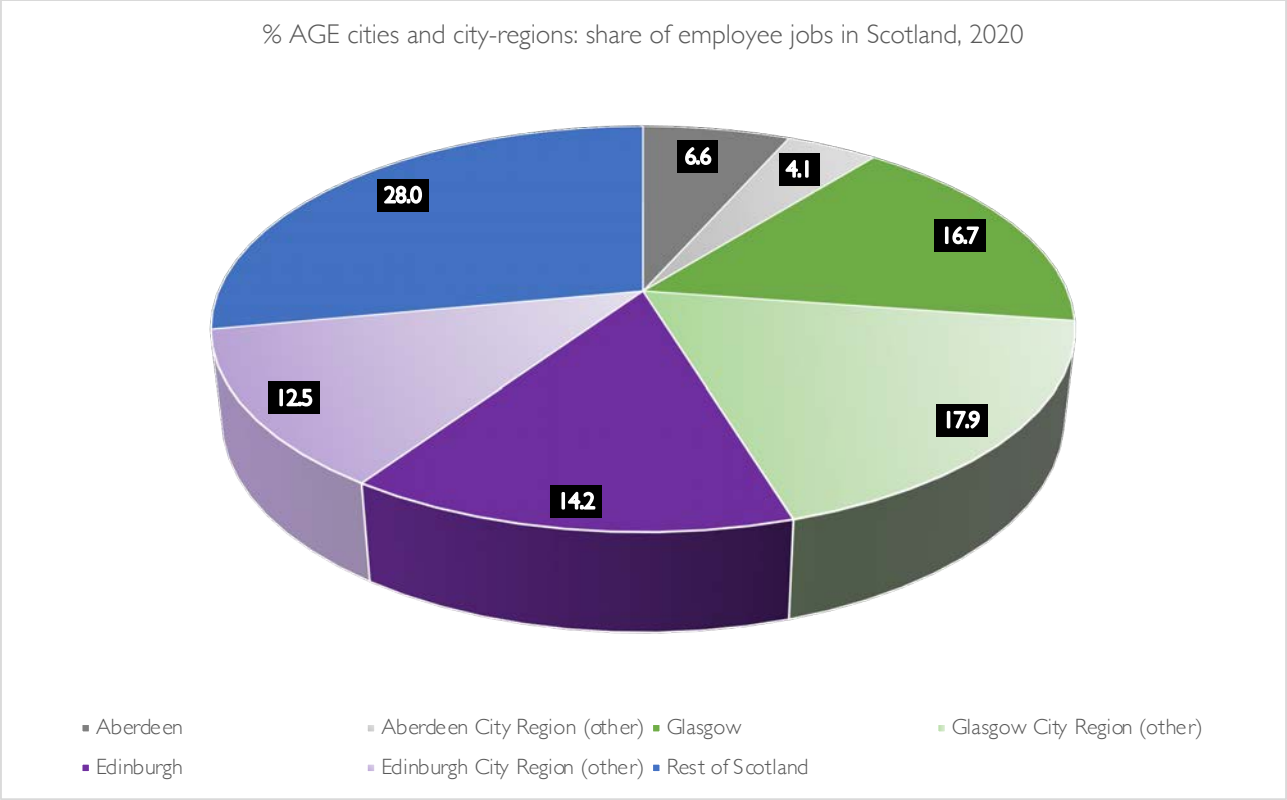


Figure 3-14: AGE cities and city-regions – % share of employee jobs in Scotland 2020
Source: NOMIS/Business Register & Employment Survey (BRES)

	Aberdeen	Aberdeenshire	Glasgow	Glasgow CR	Edinburgh	Edinburgh CR	Scotland
2015	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2016	97.0	97.7	103.0	100.3	100.3	101.2	100.7
2017	95.6	99.3	99.8	100.6	102.0	102.2	100.4
2018	96.4	97.6	102.2	101.5	108.6	102.0	101.9
2019	94.1	96.3	103.5	100.8	106.9	103.0	101.6
2020	89.2	93.9	101.3	100.3	107.8	98.9	99.3

Figure 3-15: AGE cities and city-regions – jobs change 2015-2020 (2015 = 100)
Source: NOMIS/Business Register & Employment Survey (BRES)

Employment

In 2020, there were 2,440,000 employee jobs in Scotland in 2020, of which 914,375 (37.4%) were in the AGE cities, and 1,759,000 (72.1%) in the AGE cities and city regions combined (Figures 3-13 to 3-15). Between 2015 and 2019, total employment was on a slow upward path, but the recession following the pandemic is reflected in a decline in employment between 2019 and 2020.

As shown in Figures 3-13 and 3-14, the performance of the AGE cities varied significantly between 2015 and 2020:

- employment fell significantly (by 10.8%) in Aberdeen, and by 6.1% in Aberdeenshire
- Glasgow more or less held its own before slipping back in 2020, while there was little change in the city region
- Edinburgh recorded 7.8% growth over the period, outperforming its city region and the Scottish average.

Jobs density is the ratio of jobs in a given area to the population aged 16-64. The average jobs density for Scotland is 0.80. As shown in Figure 3-17, the AGE cities all have a jobs density in excess of 1 (in Aberdeen's case, 1.10) which is an indication of their role in providing employment for their respective city regions. The city regions, by contrast, all have jobs densities below the Scottish average, reflecting their roles as commuter zones supplying employees for the regional labour market. The jobs density of some Council areas is notably low, for example in East Dunbartonshire, East Lothian, East Renfrewshire and Midlothian, all of which can be characterised as suburban economies. Jobs density is around the Scottish average in Renfrewshire, Scottish Borders and West Lothian indicating a degree of self-sufficiency within the city-region context.

Employment by Sector

Figures 3-18 and 3-19 show employment share in 2020 analysed by selected key sectors. In Figure 3-20 we have used these data to generate location quotients (LQs): LQs show the ratio of a sector's share of employment in an area to their share of total employment in Scotland. If the LQ is greater than 1, the sector is over-represented in that area (compared to Scotland as a whole); if it is below 1, it is under-represented. The table highlights hot spots (LQs >1.4) where particular industries are strongly concentrated, as well as cold spots (LQs <0.7) where industries are significantly under-represented.

- Aberdeen (city and shire) is a special case: despite recent job losses, it continues to dominate Scottish and UK employment in the extractive industries/energy sector; Aberdeenshire retains a substantial manufacturing base
- Glasgow has an above-average share of jobs in business administration and in professional, scientific and knowledge intensive business services (KIBS) functions but manufacturing has reduced to a very low level; the Glasgow city region is relatively weak in accommodation/food and KIBS
- Edinburgh has a slightly higher LQ for KIBS, and, like Glasgow above-average representation for business administration, while manufacturing employment in the city region is, like Aberdeen city-region, above the Scottish average.

Figure 3-21 highlights employment in professional, scientific and KIBS activities. Jobs in these sectors act as a useful, though broad-brush proxy, for the knowledge economy. They account for 16% of employment in Scotland, but a much higher proportion in Edinburgh (27%) and Glasgow (22%). Figure 3-22 shows the change in employment in these sectors between 2015 and 2020. In the period since SUA-1, Edinburgh remains Scotland's top performer in KIBS employment but Glasgow has closed the gap somewhat. Professional and scientific employment (Groups J-M)

increased by 20% in Glasgow, compared with 11% in Edinburgh and 10% in Scotland. This effect was replicated in the Glasgow city region, which saw 18% growth compared with 14% in the Edinburgh city region. Employment in these sectors declined in the Aberdeen city region in the same period, reflecting the challenges facing the energy sector.

The Labour Force

Figure 3-23 shows key data on economic activity derived from the Annual Population Survey, 2020. There is limited variation between the AGE geographies. At the lower-skilled end of the spectrum, 13.6% of people in Scotland work in manual and elementary occupations. The figure is significantly higher for residents of Aberdeen (21.2%) but much lower in Edinburgh (7.3%). Glasgow city has a below (Scottish) average economic activity and employment rates.

Figures 3-24 and 3-25 show the qualifications of the population aged 16-64 in the AGE cities and city-regions, analysed at Council area level. Almost half (49.0%) of Scottish residents have an NVQ4 or higher-level qualification. Aberdeen and Glasgow are slightly above the Scottish average whereas two-thirds (65.4%) of Edinburgh residents are educated to degree level and these figures are reflected in numbers with no qualifications with Glasgow (12.5%) above the Scottish average (8.1%) and Edinburgh (5.8%) and Aberdeen (6.5%) below. The table shows also marked differences at local authority level in the Glasgow city-region: NVQ4 or higher ranges from 38.5% in North Lanarkshire to 60.3% in East Renfrewshire and without qualifications ranges from 4.6% in Renfrewshire to 13.9% in West Dunbartonshire.

Based on the Annual Population Survey, ***reflecting place of residence rather than place of employment***, shows the occupational breakdown of people in employment in the year to September 2021 (Figure 3-25). The same data are presented in graphic form in Figure 3-26 showing that 41.1% of Scottish residents are employed in managerial, professional and technical occupations (SOC groups 1-3). The figures are considerable higher in each of the AGE cities with Aberdeen at 48.7%, Glasgow at 55.5% and Edinburgh at 66.6%. Employment in these high-skill occupations is lower in the city-regions, but still above the Scottish average.

In Scotland, 13.6% of the employed residents work in manual and elementary occupations. The figure is considerably higher than the Scottish average for Aberdeen (at 21.2%), just above average in Glasgow (14.2%) but well below at 7.3% for Edinburgh.

Productivity and R&D Expenditure

Figure 3-28 presents Scottish Government data which shows that, in 2019, every hour worked in Scotland generated £34.40 gross value added (GVA). Local data are presented at International Territorial Level (ITS) 3 which do not correspond exactly to our definition of city-regions, but still act as useful approximation. GVA per hour in Edinburgh is an estimated £41.90, well above the Scottish average (+22%) all of the other AGE geographies are just above at or slightly below the Scottish average with only Scottish Borders an outlier at £29.70 (-13%).

The Scottish Government Business Enterprise Research & Development (BERD) statistics for 2019 estimate that businesses spent on average £576 per employee on R&D (Scotland), which is very close to the UK average. Expenditure was highest in Edinburgh (+£839 above Scottish average) followed by Aberdeen (+£156) and Glasgow marginally below the Scottish average (-£36). Expenditure in all the city-regions was below the Scottish average, reflecting the tendency for these areas to focus on lower order economic activities (Figures 3-29 & 3-30).

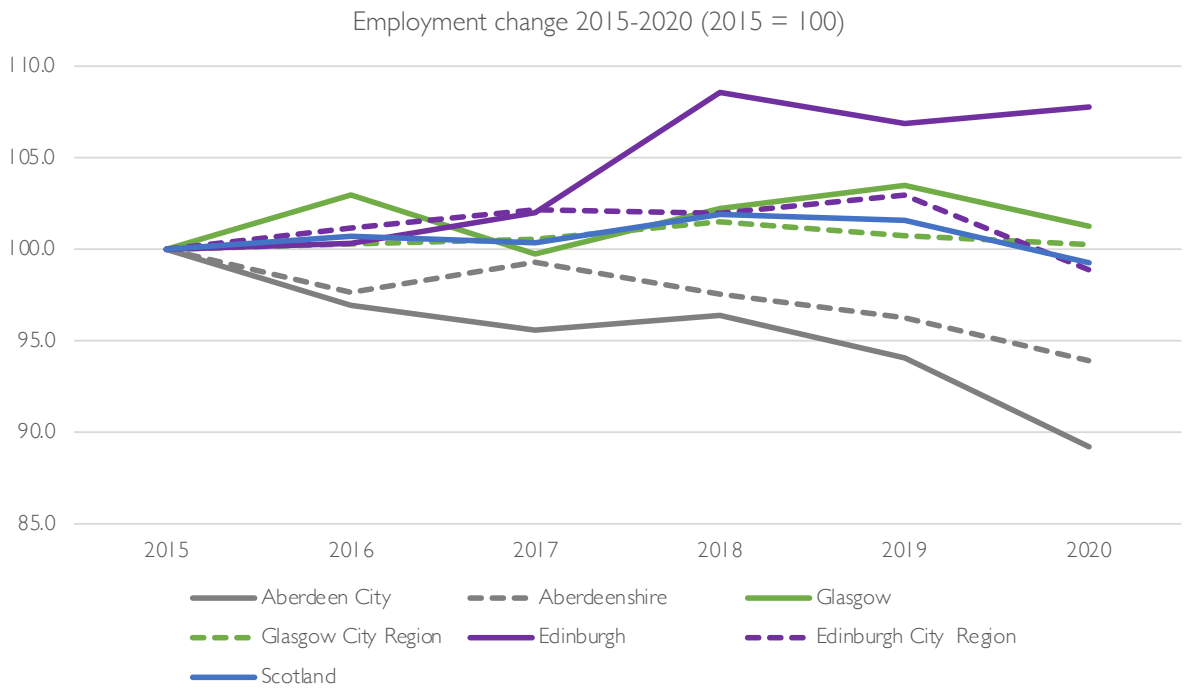


Figure 3-16: AGE cities and city-regions – jobs change 2015-2020 (2015 = 100)
Source: NOMIS/Business Register & Employment Survey (BRES)

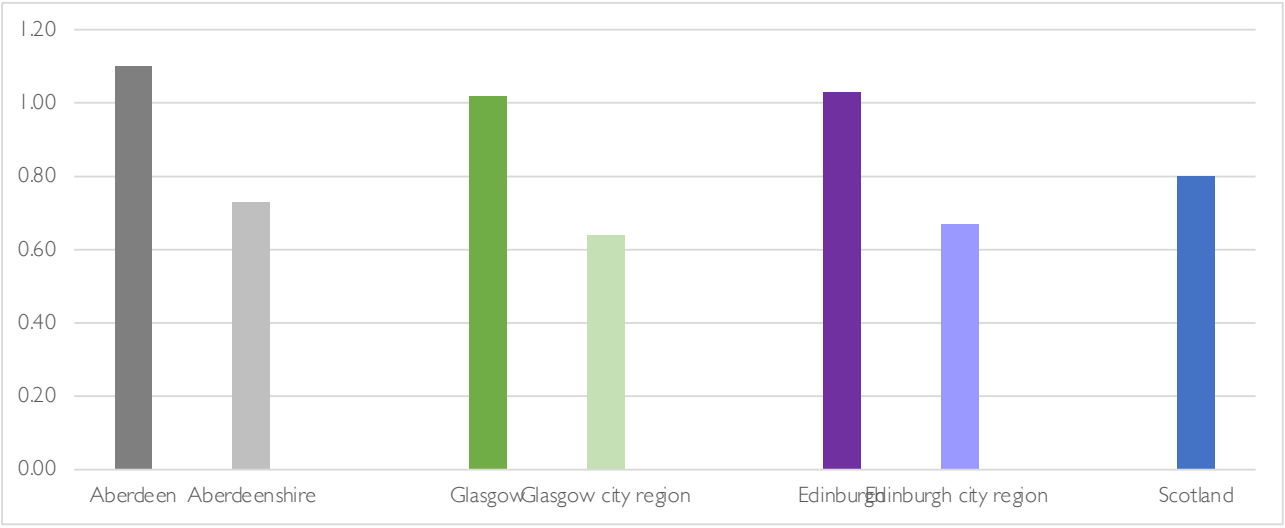


Figure 3-17: Jobs density, AGE cities and city-regions, 2020
Source: NOMIS Labour Market Profiles

	Aberdeen	Aberdeenshire	Glasgow	Glasgow CR	Edinburgh	Edinburgh CR	Scotland
Mining, quarrying, utilities (B,D,E)	12.4	8.0	1.5	2.1	1.2	1.3	2.7
Manufacturing (C)	6.2	12.9	4.7	8.6	2.3	9.7	7.2
Wholesale and retal (G)	9.3	11.9	10.6	13.2	9.2	14.4	12.0
Accommodation and food (I)	7.5	6.0	6.6	5.3	8.1	5.7	7.1
Professional, scientific, KIBS (J,K,L,M)	17.9	14.1	21.9	10.8	26.6	12.8	15.3
Business admin (N)	7.5	5.0	12.3	8.3	11.0	5.5	7.9
Public admin, education, health (O,P,Q)	27.3	21.4	30.7	32.7	30.0	30.5	31.2
Arts, entertainment, recreation (R,S,T,U)	2.8	3.5	3.4	3.9	4.6	4.2	3.9

Figure 3-18: Employment share by key sector, AGE cities and city-regions, 2020
Source: NOMIS/Business Register & Employment Survey (BRES)

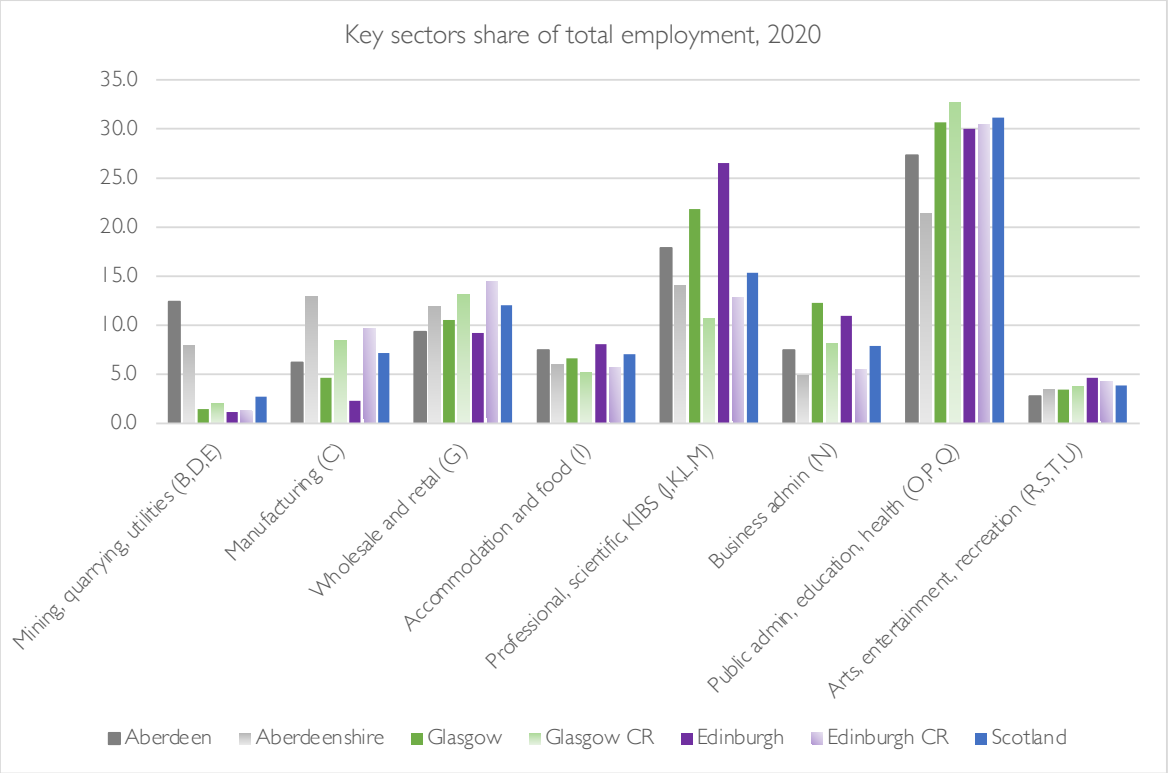


Figure 3-19: Employment share by key sector, AGE cities and city-regions compared, 2020
Source: NOMIS/Business Register & Employment Survey (BRES)

	Aberdeen	Aberdeenshire	Glasgow	Glasgow CR	Edinburgh	Edinburgh CR	Scotland
Mining, quarrying, utilities (B,D,E)	4.6	2.9	0.5	0.8	0.4	0.5	1.0
Manufacturing (C)	0.9	1.8	0.6	1.2	0.3	1.4	1.0
Wholesale and retal (G)	0.8	1.0	0.9	1.1	0.8	1.2	1.0
Accommodation and food (I)	1.1	0.8	0.9	0.7	1.1	0.8	1.0
Professional, scientific, KIBS (J,K,L,M)	1.2	0.9	1.4	0.7	1.7	0.8	1.0
Business admin (N)	0.9	0.6	1.6	1.0	1.4	0.7	1.0
Public admin, education, health (O,P,Q)	0.9	0.7	1.0	1.0	1.0	1.0	1.0
Arts, entertainment, recreation (R,S,T,U)	0.7	0.9	0.9	1.0	1.2	1.1	1.0
	Hot spots	LQ > 1.4					
	Cold spots	LQ < 0.7					

Figure 3-20: Location quotients relative to Scotland for key sectors, AGE cities and city-regions, 2020
Source: NOMIS/Business Register & Employment Survey (BRES)/yellow book

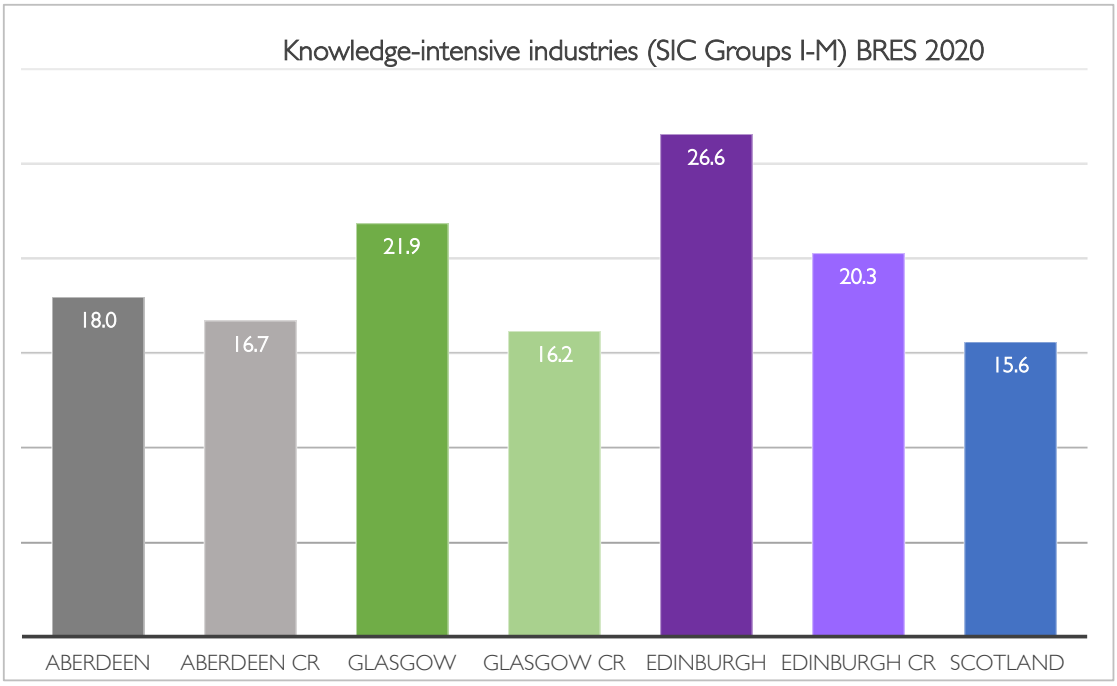


Figure 3-21: Share of employment in professional and scientific activities and knowledge-intensive business services (Groups J,K,L,M), AGE cities, city-regions, Scotland, 2020
Source: NOMIS/Business Register & Employment Survey (BRES)

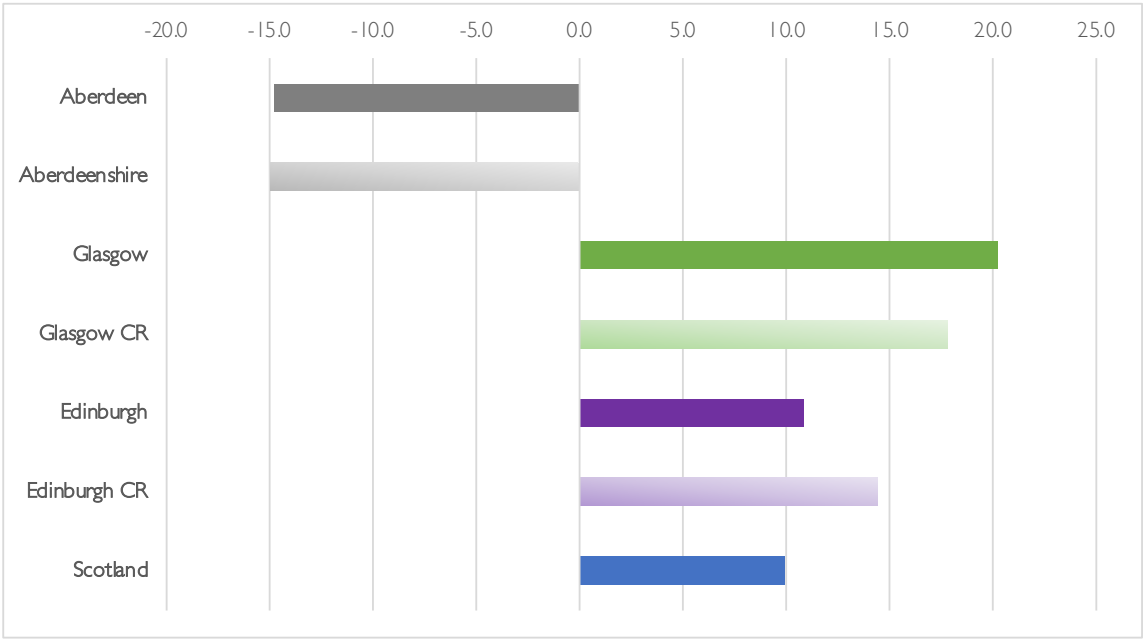


Figure 3-22: % change in employment in Groups J-M, AGE cities, city-regions, Scotland, 2020
Source: NOMIS/Business Register & Employment Survey (BRES)

	Aberdeen	Aberdeenshire	Glasgow	Glasgow City Region	Edinburgh	Edinburgh City Region	Scotland
Economic activity rate	78.1	78.5	73.2	75.6	77.0	76.6	75.9
Employment rate - aged 16-64	72.6	75.0	69.3	71.4	74.8	72.4	72.2
% aged 16-64 who are employees	66.0	66.6	62.0	64.8	68.1	63.9	64.3
% aged 16-64 who are self employed	6.3	8.0	7.2	6.4	6.6	6.6	7.6
Unemployment rate - aged 16-64	7.0	4.5	5.3	5.5	2.9	2.9	4.8
Unemployment rate - aged 16+	6.8	4.5	5.2	5.4	2.8	2.8	4.7
% who are economically inactive - aged 16-64	21.9	21.5	26.8	24.5	23.0	23.0	24.1
% of economically inactive who do not want a job	82.0	74.9	83.9	83.6	81.1	81.1	81.1

Figure 3-23: Economic activity – key data, AGE cities, city regions and Scotland, 2020
Source: NOMIS/Annual Population Survey

	Aberdeen	Aberdeenshire	Glasgow	E Dunbarton	E Renfrew	Inverclyde	North Lanark	Renfrewshire	South Lanark	W Dunbarton	Edinburgh	E Lothian	Fife	Midlothian	Sco Borders	W Lothian	Scotland
None	6.5	4.9	12.5	7.6	5.5	12.5	12.8	4.6	8.9	13.9	5.8	6.9	5.9	5.4	6.0	8.8	8.1
Other	5.9	6.0	7.4	1.7	3.5	4.8	7.0	7.1	3.1	4.0	6.1	6.5	4.3	6.0	3.6	8.5	5.7
NVQ1	4.7	8.8	4.1	5.8	5.5	6.8	6.8	5.9	10.2	9.0	3.6	7.6	10.0	6.7	8.0	8.0	7.0
NVQ2	14.1	16.5	12.8	12.0	10.2	16.6	19.4	16.8	19.9	16.2	9.8	12.6	14.0	14.8	20.0	16.5	15.5
NVQ3	16.8	11.3	11.6	17.8	15.0	17.9	15.5	15.3	16.0	18.1	9.3	15.6	14.4	16.4	19.1	17.2	14.7
NVQ4 and above	52.0	54.5	51.7	55.1	60.3	41.5	38.5	50.3	41.9	38.7	65.4	50.8	51.3	50.6	43.2	40.9	49.0

Figure 3-24: Workforce qualifications, AGE cities and Council areas, 2020
Source: NOMIS/Annual Population Survey

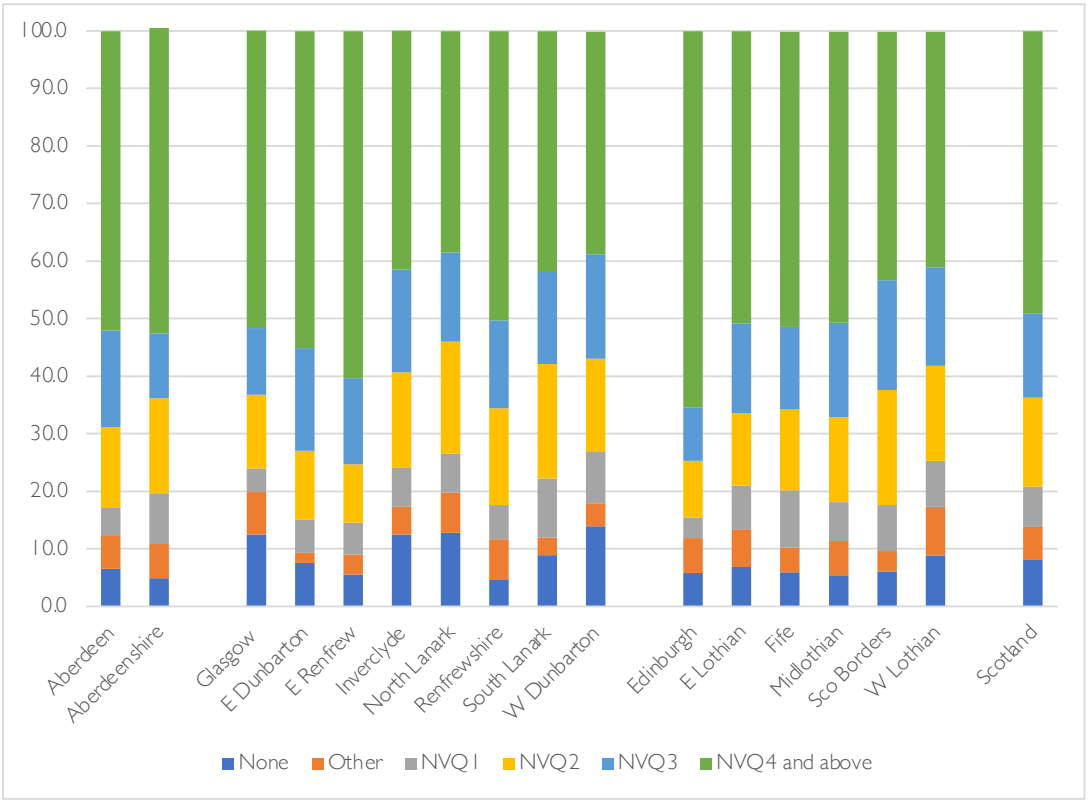


Figure 3-25: Workforce qualifications, AGE cities and Council areas, 2020
Source: NOMIS/Business Register & Employment Survey (BRES)

	Aberdeen	Aberdeenshire	Glasgow	Glasgow City Region	Edinburgh	Edinburgh City Region	Scotland
1: Managers, directors and senior officials	7.8	9.9	8.0	8.7	9.4	8.4	7.9
2: Professional occupations	25.5	22.7	29.5	20.8	35.4	23.2	16.8
3: Associate prof & tech occupations	15.4	11.5	18.0	14.9	21.8	15.4	16.4
4: Administrative and secretarial occupations	6.4	9.4	7.5	10.6	10.4	9.3	11.4
5: Skilled trades occupations	7.3	15.2	5.7	8.2	3.2	11.3	9.2
6: Caring, leisure, other service occupations	10.6	9.7	9.6	9.8	7.3	8.4	8.9
7: Sales and customer service occupations	5.8	4.4	6.9	11.8	4.9	8.4	15.8
8: Process, plant and machine operatives	4.8	6.2	3.1	6.3	2.3	4.6	4.3
9: Elementary occupations	16.4	10.6	11.1	8.6	5.0	10.8	9.3

Figure 3-26: Employment by occupation, AGE cities, city-regions, Scotland, 2020-21
Source: NOMIS/Annual Population Survey

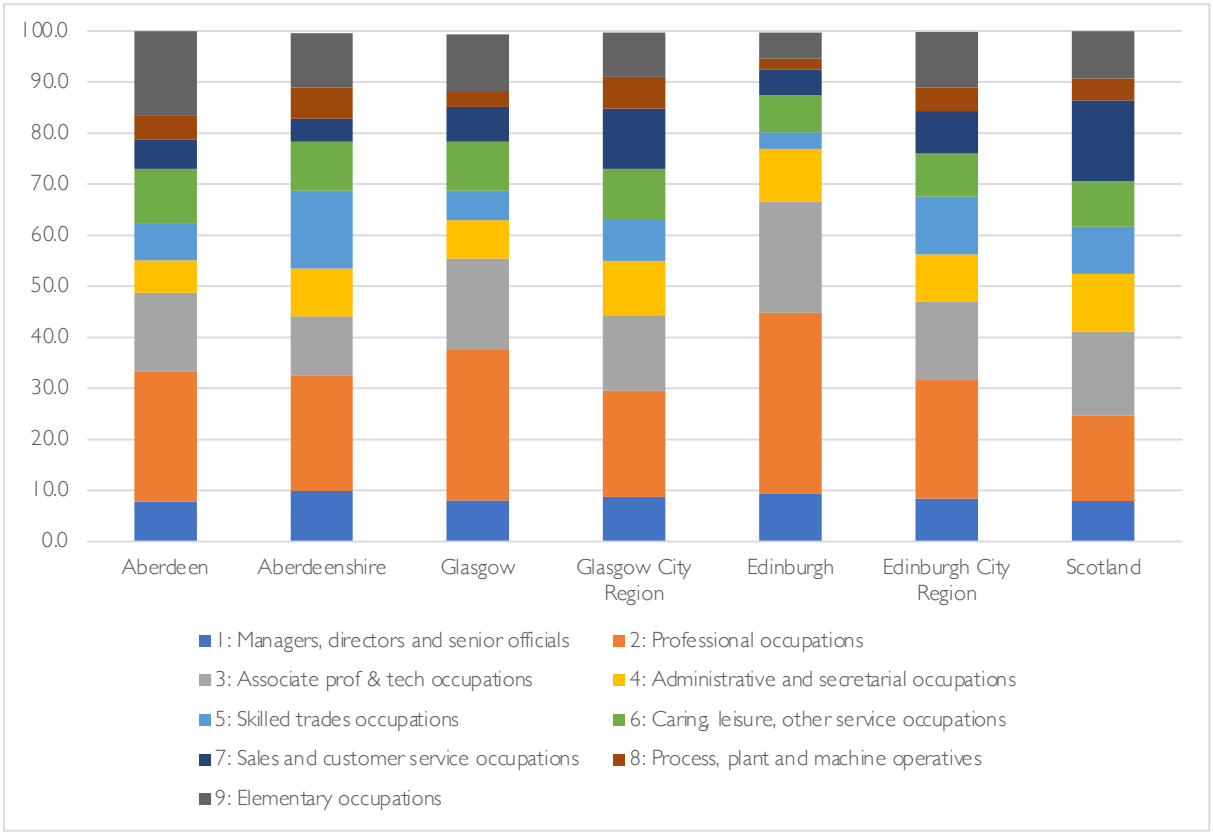


Figure 3-26: Employment by occupation, AGE cities, city-regions, Scotland, 2020-21
Source: NOMIS/Annual Population Survey

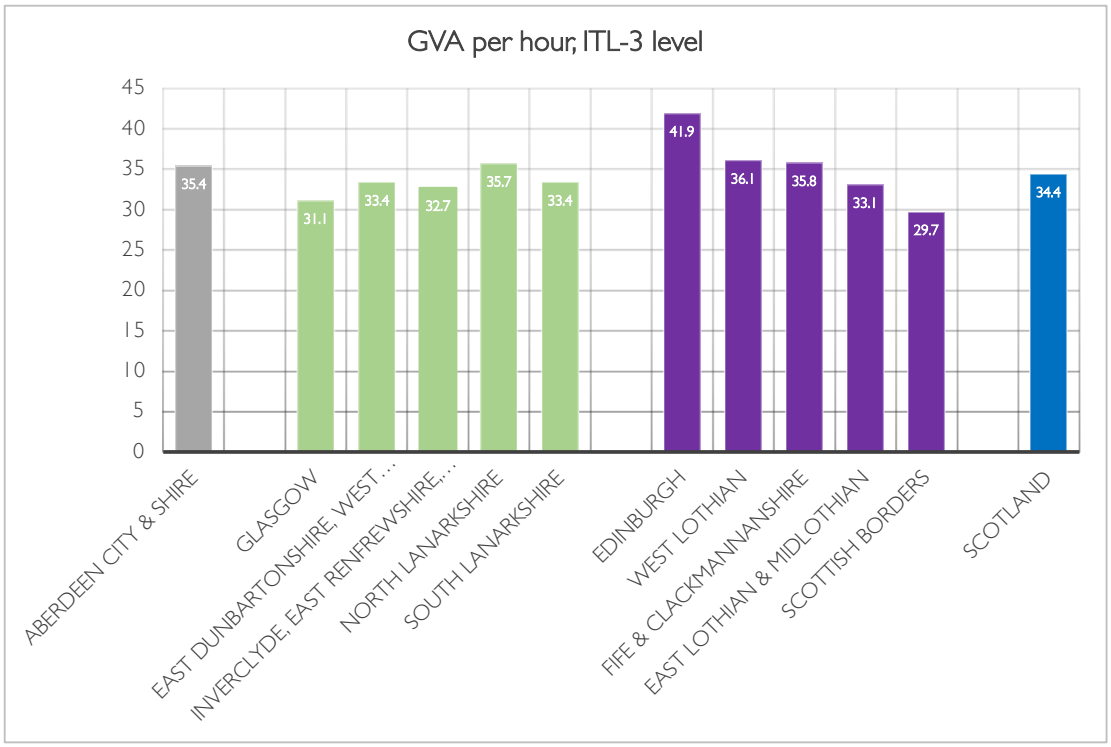


Figure 3-28: Gross value added per hour worked, ITL-3 level, 2019
Source: Scottish Government BERD statistics

	R&D Expenditure (£k)					Employees	R&D spend per employee
	Mfg	Services	Other	Total	% share		
Aberdeen City	26,987	62,991	27,829	117,807	8.36	160,950	£731.95
Aberdeenshire	14,269	6,748	18,817	39,834	2.83	100,450	£396.56
Glasgow	38,298	180,385	1,302	219,985	15.61	407,075	£540.40
Glasgow City Region	98,591	8,692	466	107,749	7.65	438,575	£245.68
Edinburgh	186,938	297,368	5,607	489,913	34.77	346,350	£1,414.50
Edinburgh City Region	41,519	23,709	761	65,989	4.68	305,925	£215.70
Scotland	657,293	678,559	73,054	1,408,906	100.00	2,444,000	£576.48

Figure 3-29: R&D expenditure by businesses, AGE cities, city regions and Scotland, 2019
Source: Scottish Government BERD statistics

Multiple Deprivation

Figure 3-31 shows local authority the percentage of datazones within local authority areas that are in the 20% most deprived in Scotland. All the Council areas in the Aberdeen and Edinburgh city-regions have a below-average incidence of deprivation compared to the Scottish average, however there is a polarisation of deprivation in parts of the Glasgow city region with high and persistent (since SUA-1) incidences of poverty and deprivation in Inverclyde (44.7%), Glasgow city (44.4%), West Dunbartonshire (39.7%) and North Lanarkshire (34.7%), compared to very low levels in East Dunbartonshire (3.9%) and East Renfrewshire (6.6%).

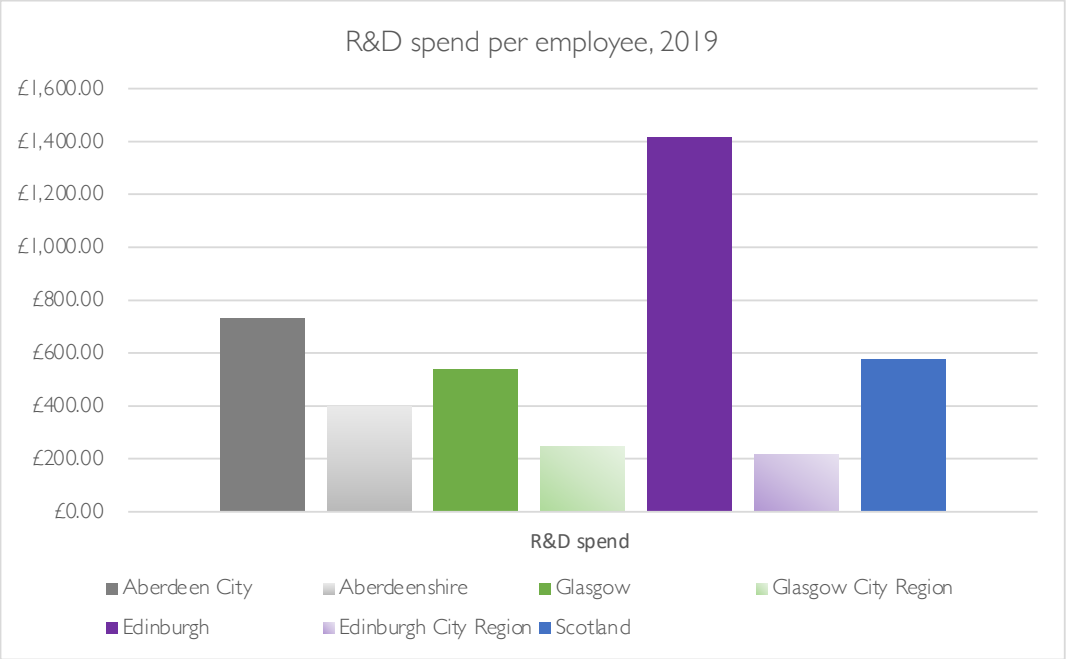


Figure 3-30: Average R&D expenditure per employee by businesses, AGE cities, city regions and Scotland, 2019
Source: Scottish Government BERD statistics

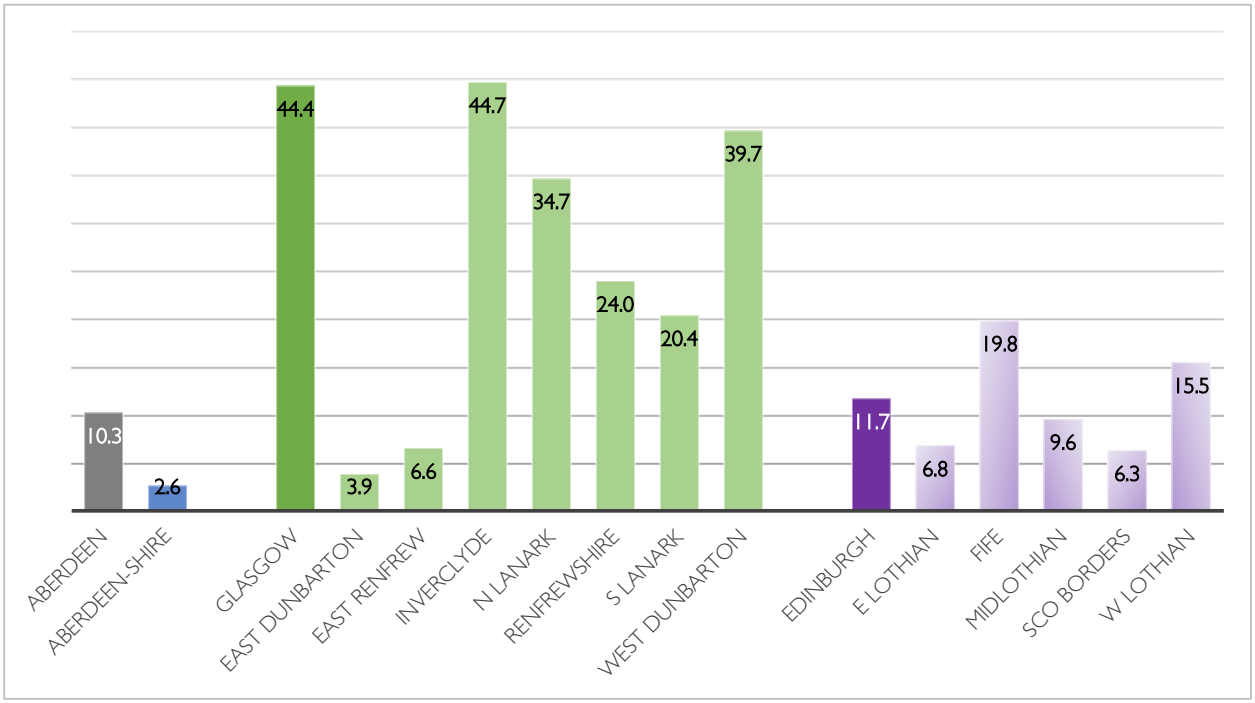


Figure 3-31: Percentage of datazones (by council area?) in the most deprived 20% in Scotland, Council area 2020
Source: SIMD/data-map Scotland

Centre for Cities' City Monitor

The Centre for Cities (C4C) tracks the performance of the UK's 63 largest towns and cities using a range of performance indicators published annually in their *City Monitor*.[81] The C4C analysis is based on primary urban areas (PUAs), which are defined as the continuous built-up area of a city. They are generally less extensive than the corresponding city-regions in the UK which is also the case for the city-regions used in SUA-1 and SUA-2. In Scotland, only Glasgow has a continuous built-up area bigger than the corresponding local authority area reflecting the metropolitan character of the city which C4C defines as Glasgow City, East Dunbartonshire, East Renfrewshire, Renfrewshire and West Dunbartonshire.[82]

The following pages present comparative data for the AGE cities together with a benchmark group of 6 English cities: Bristol, Cambridge, Leeds, Manchester, Milton Keynes and Newcastle. Manchester and Leeds were selected as large cities (using PUS data) as useful comparators for Glasgow; Bristol, Milton Keynes and Newcastle represent a range of medium-sized cities that can be compared to Edinburgh. We have already noted that Aberdeen is something of an outlier, but we have included Cambridge as an example of a high-performance small city.

Figures 3-32 and 3-33 analyse business formation and closures. They show that, in 2020, the business start-up rate was lower in the AGE cities compared to the English comparators. The picture on business closures is mixed. Business closures are not on their own a negative measure of city competitiveness and less entrepreneurial cities tend to have a lower failure rate. Some turbulence was inevitable as the impact of the pandemic made itself felt, so the data on total business stock may be a more reliable indicator. Figure 3-34 shows that Aberdeen and Edinburgh have greater business stock held by population than Glasgow and are closer in performance to most of the English comparators. In terms of patents lodged, Figure 3-35 shows that the three most successful cities in respect of patents applied for are Aberdeen, Bristol and Edinburgh respectively (and to lesser extent Milton Keynes) and all are above the UK average compared to Glasgow, Leeds, Manchester and Newcastle which are below the UK average suggesting these are less entrepreneurial cities. Cambridge, which has 5 times more patent applications than any of the other cities in our sample, is excluded from this chart because of its exceptional performance and unique circumstances. The data can be taken as a proxy for innovation, but the Centre for Cities warns that it is an imperfect measure. There is no way to verify that the innovative activity happened at the address on the patent application. Patents tend to capture technical innovations, but not process innovations, trademarks or creative innovation. Within these limitations however, Aberdeen, Bristol and Edinburgh perform better than most of the comparators.

Figure 3-36 shows that Aberdeen and Glasgow have a higher proportion of their populations qualified to degree level than any of the selected English cities with the exception of Cambridge that together with Edinburgh has the highest qualified workforce of any city (measured by PUA[83]) in the UK. In terms of no qualifications, Glasgow has the highest proportion of residents with no qualifications and is eighth highest in the UK (Figure 3-37).

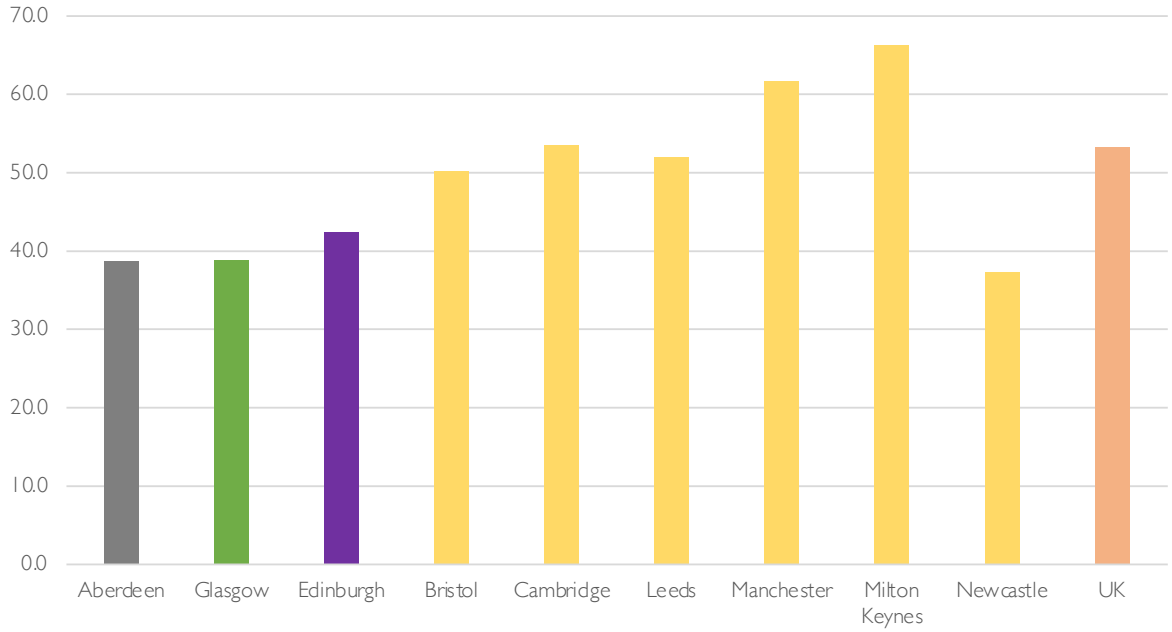


Figure 3-32: Business start-ups per 100,000 population, selected PUAs, 2020
Source: Centre for Cities, City Monitor

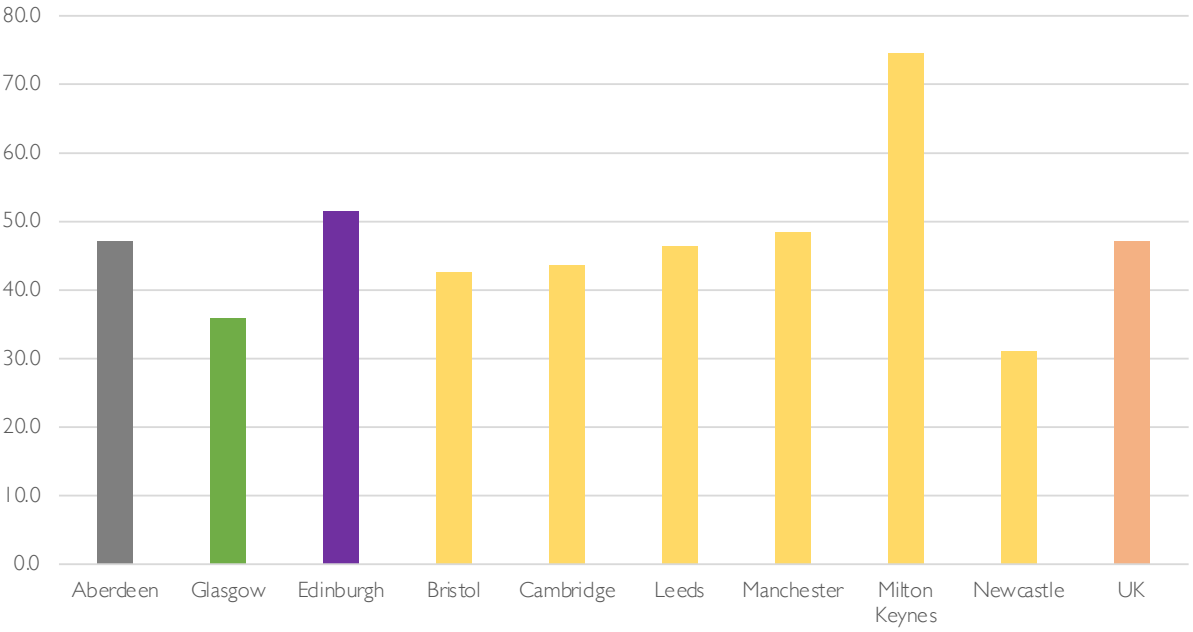


Figure 3-33: Business closures per 100,000 population, selected PUAs, 2020
Source: Centre for Cities, City Monitor

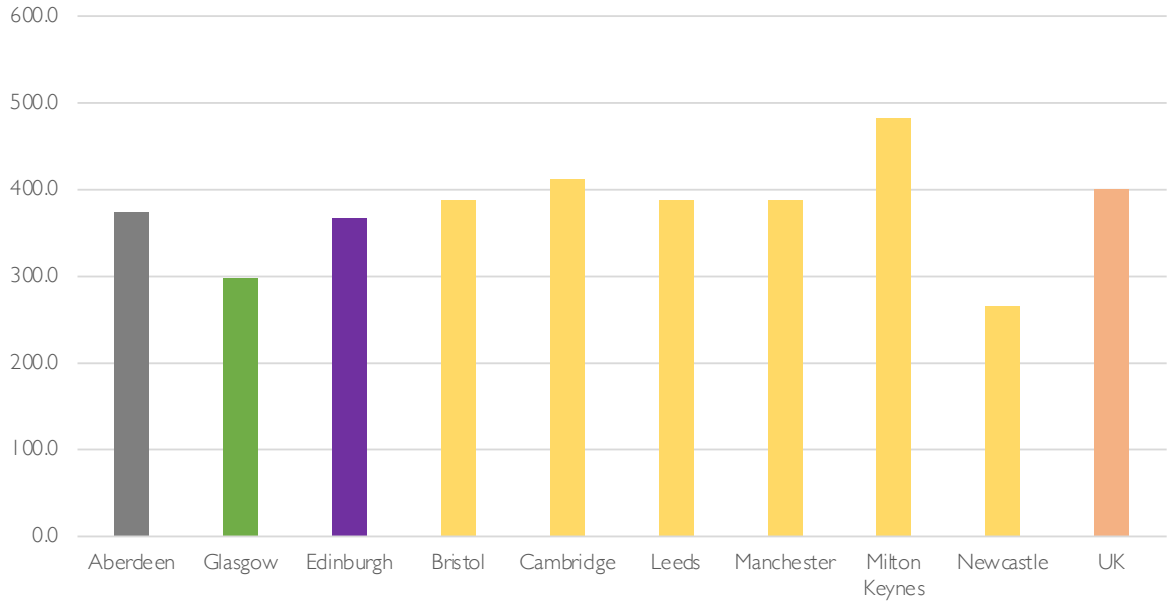


Figure 3-34: Business stock per 100,000 population, selected PUAs, 2020
Source: Centre for Cities, City Monitor

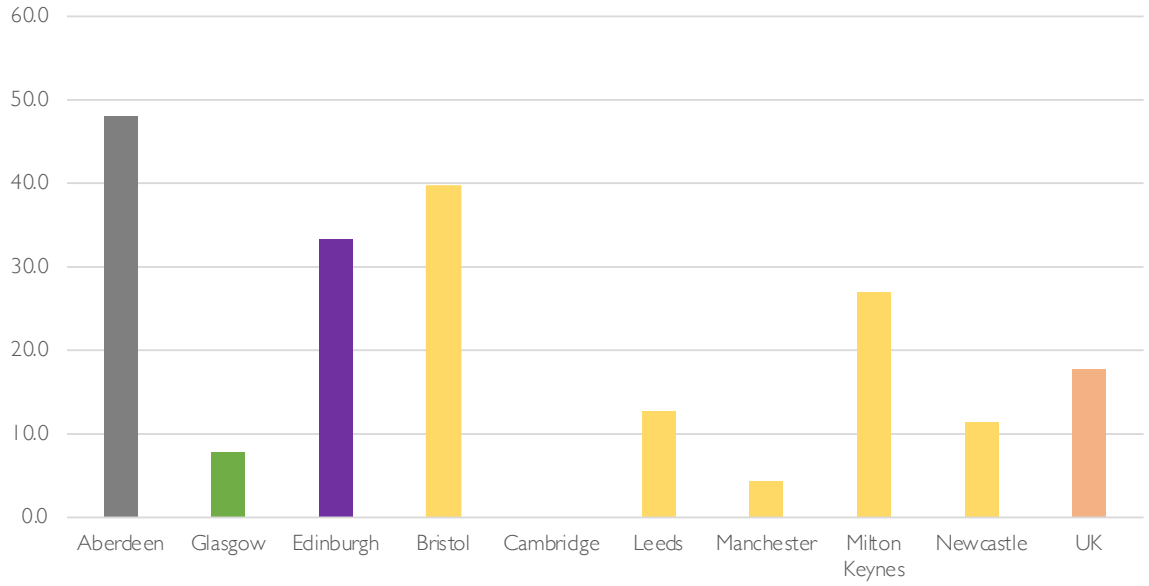


Figure 3-35: Patents applied for per 100,000 population, selected PUAs, 2020
Source: Centre for Cities, City Monitor

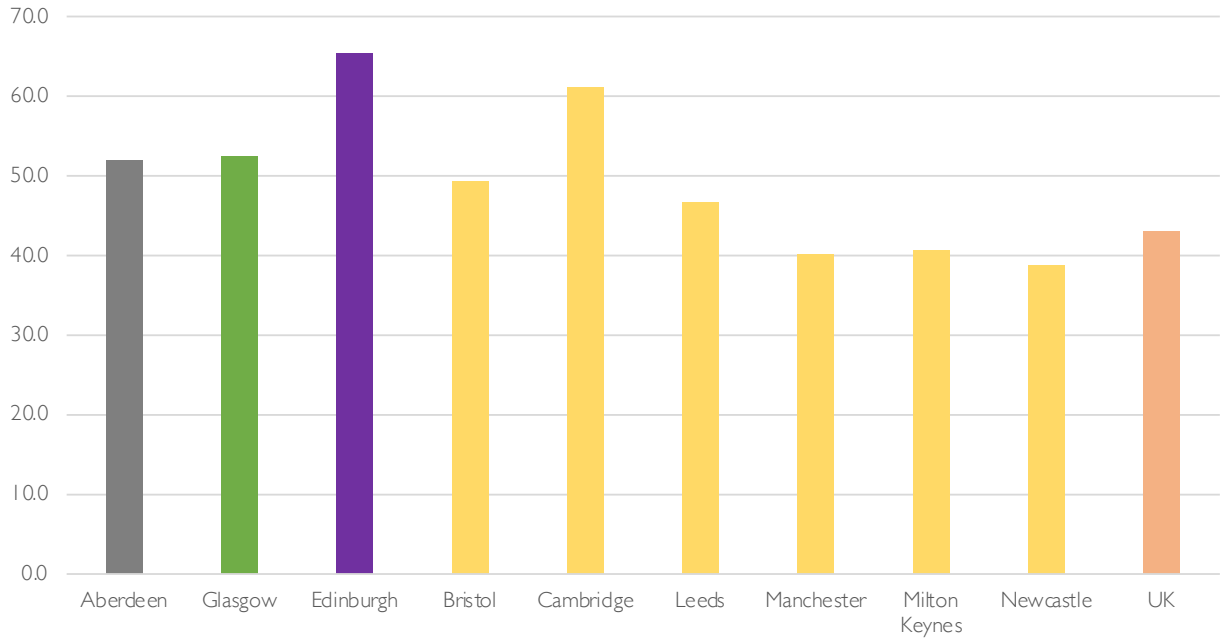


Figure 3-36: % of the working age population with an NVQ4 or higher qualification, selected PUAs, 2020
Source: Centre for Cities, City Monitor

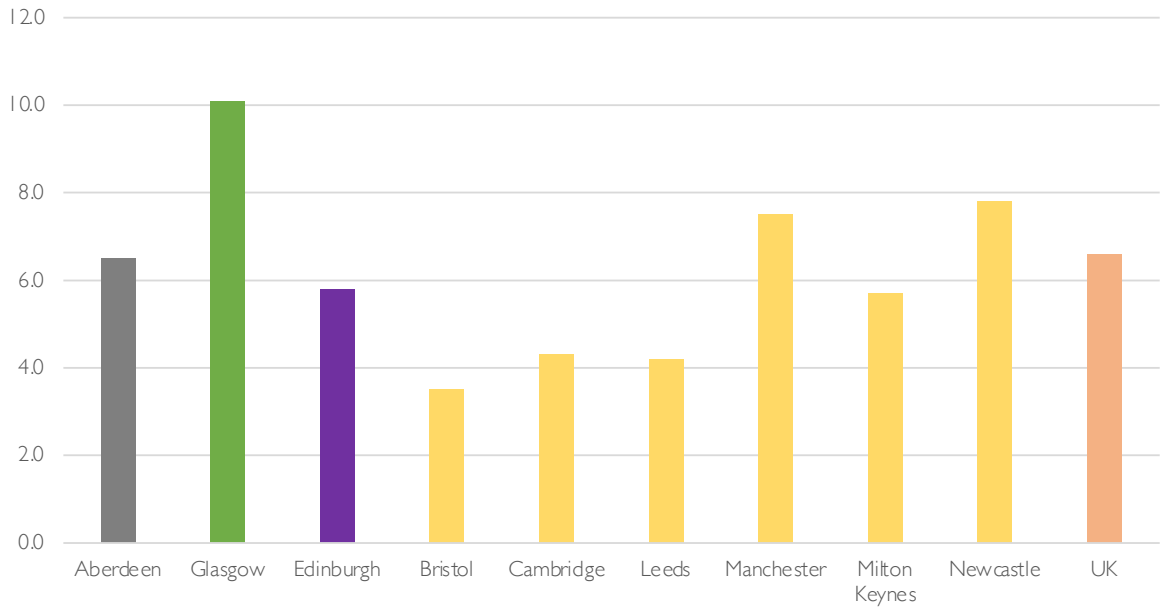


Figure 3-37 Percentage of the working age population with no qualifications, for selected PUAs, 2020
Source: Centre for Cities, City Monitor

	% share			
	Area	Pop	Jobs	GVA
Aberdeen City	0.2	4.2	7.0	7.6
Aberdeenshire	8.6	4.8	4.0	5.2
Glasgow City	0.2	11.6	16.7	14.4
Glasgow CR (ex Glasgow)	4.4	22.2	17.7	15.9
Edinburgh City	0.4	9.7	13.9	17.4
Edinburgh CR (ex Edinburgh)	8.2	16.0	12.4	12.4
AGE cities	0.8	25.5	37.6	39.3
AGE city regions (ex cities)	21.2	42.9	34.1	33.4
AGE cities and city regions	22.1	68.4	71.7	72.8

Figure 3-38: Age cities and city-regions as engines of growth
Source: Office for National Statistics/yellow book

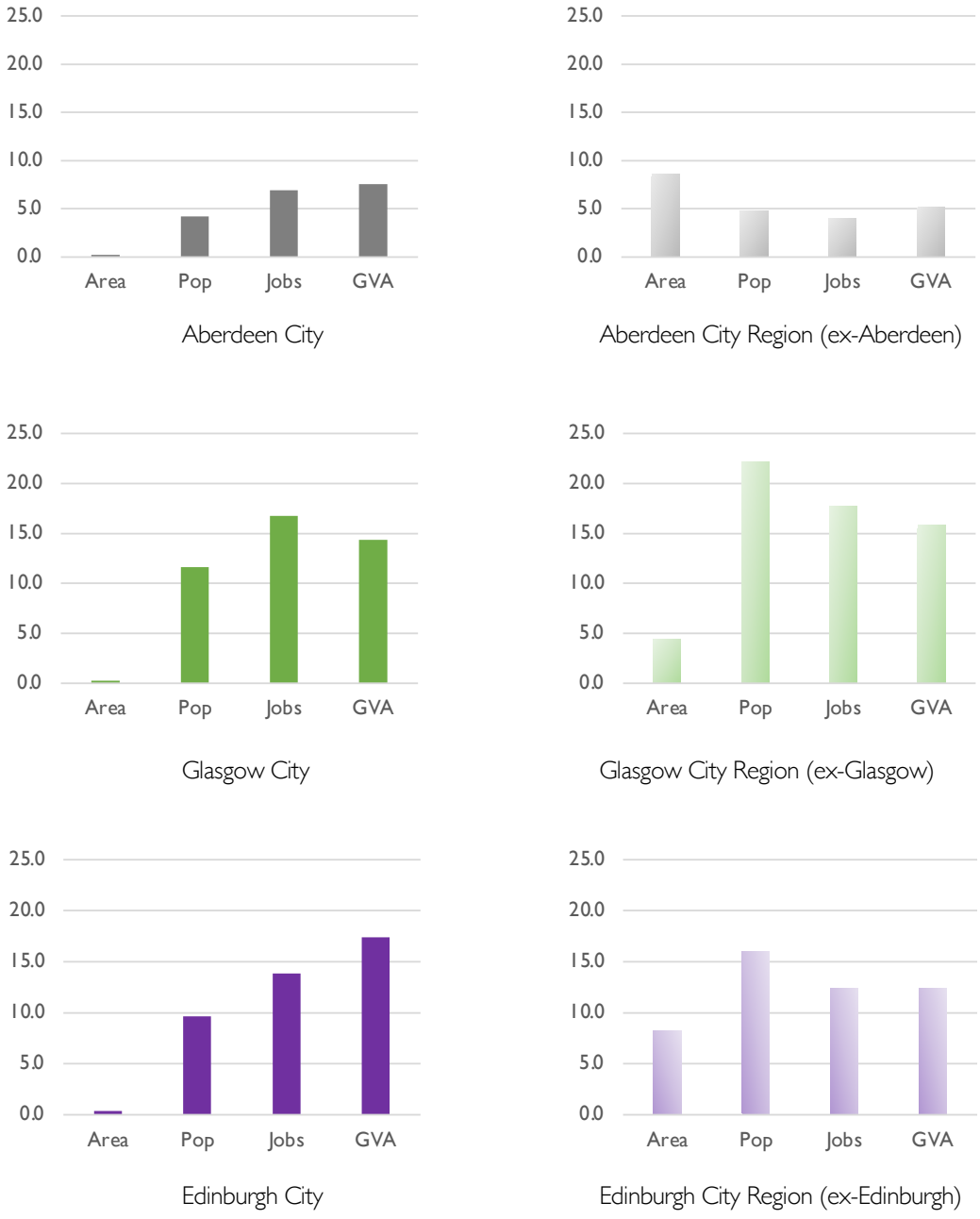


Figure 3-39: AGE cities and city-regions
Share (left to right) of : Scottish mainland land area | Scottish population (2020)
Total Scottish employment (2020) | Total Scottish GVA (2018)

Source: *Office for National Statistics*

In summary … the more that cities remain the same …?

The principal findings of our review are summarised in Figure 3-38:

- the three AGE cities together occupy just 0.8% of the land area of mainland Scotland, but they account for 25.5% of the population, 37.6% of employment and 39.3% of GVA.
- the three AGE city regions (excluding the cities) account for 21.2% of mainland Scotland, 42.9% of the population, 34.1% of jobs and 33.4% of GVA
- together, the AGE cities and their regions together account for 22.1% of mainland Scotland, 68.4% of population, 71.7% of jobs and 72.8% of GVA.

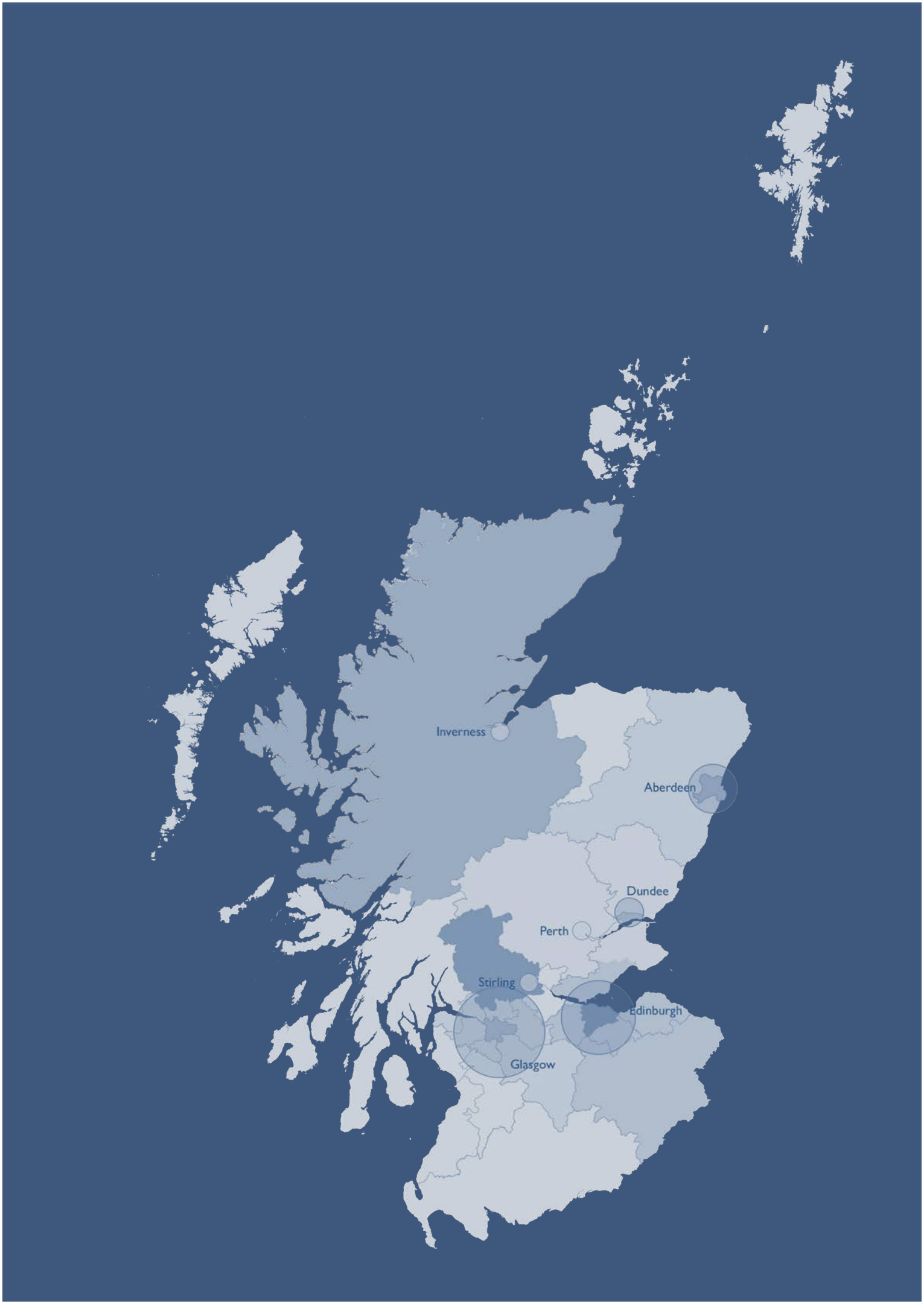
A 2019 a Fraser of Allander Institute report commissioned by the Scottish Cities Alliance, argues that the seven Scottish cities are the "*engines of growth*" for the economy.[84] The analysis above confirms that the long-standing dominance of the AGE cities and their city-regions persists. Together, they account for more than 70% of Scotland's economic output, and for a similar proportion of jobs. The contribution of Scotland's four other cities – Dundee, Inverness, Perth and Stirling – has not been considered in this report. It is worthy of future study. Dundee, in particular - with its universities, teaching hospital and growing creative and cultural industries sector, as well as the catalytic effects of the waterfront regeneration – may have a claim to be treated as part of urban Scotland's "big four". Returning to the AGE cities, three other points should be noted:

- the AGE cities are easily the most densely populated places in Scotland, but (by a ratio of 1.7:1) more people live in the city regions than in the cities themselves[85]
- the AGE cities account for a much higher proportion of jobs (37.6%) than residents (25.5%) confirming their role as providers of employment for their respective city-regions; the city-regions have a smaller proportion of jobs (34.1%) than residents (42.9%) reflecting their role as suppliers of labour to the cities
- there is no doubting the AGE cities and city-regions power as *engines of growth* in Scotland's economy however, with the exception of the city of Edinburgh, the AGE cities/city-regions generate only a modest productivity advantage[86] compared with the rest of Scotland, and per capita GVA in Glasgow (city and city-region) is below the Scottish average.

The relationship of land area to population, jobs and GVA is shown in more detail in Figure 3-39. In absolute terms, Glasgow (city and city region) makes the largest contribution to population, jobs and GVA, although the gap has been closing as the shift of population from west to east has continued. Only Edinburgh city shows the kind of "*productivity dividend*" that would typically be expected of a high-performance city economy. We explore these issues in more detail in the following chapter.

Scotland's Urban AGE 2022

4: The AGE Cities & Regions Markets & Prospects


Inverness
Aberdeen
Dundee
Perth
Stirling
Edinburgh
Glasgow

4. THE AGE CITIES & REGIONS – MARKETS & PROSPECTS

The Century of the City trends and the UK and Ireland together as a city system are reflected in the growth and development of the AGE cities' property markets. Their growing populations and economies fuel the markets for residential property, office-based services, destination retail and leisure, events, hospitality and higher education.

Net additional growth of city property markets is clear to discern but cities also exhibit agglomeration effects. While some growth is additional, some has been at the expense of their wider regions, for example in the retail sector. Some growth dynamics are experienced at the intra-regional level.

Cities concentrate demand and this makes their property markets highly investible. This is crucial in attracting private capital, to office markets in particular. The UK's financialised market economy relies on that capital: new development tends to favour the investment certainty of a long, secure income stream from major office occupiers or branded hotels, for example. The corollary is that attracting private sector development for riskier SMEs, innovation sectors and around the regions is much more challenging.

This value of prime urban property as a financial security increases the amplitude of the economic cycle in cities (the magnitude of boom and slump) as the market focuses on fundable propositions at the highest site prices.[87] In recent decades that has delivered: waves of shopping malls and leisure venues as the consumer economy grew; offices for the burgeoning service sector; high density flats for sale pre-GFC; and, in the latest market cycle, student housing, hotels, further prime offices and now build-to-rent housing.

These latest waves can be seen in the new BTR developments at Triple Kirks in Aberdeen and Springside in Edinburgh, each of which previously targeted different uses. Glasgow's city centre grid is particularly exposed to these market cycles, although is now delivering mixed-use schemes such as Love Loan and Candleriggs Square. Edinburgh's recent regeneration sites such as New Waverley, Springside, The Haymarket and Quartermile are large and able to accommodate a mix of uses and public spaces. Such broader capacity is also seen across Aberdeen's Broad Street and Marischal College and Square.

Meanwhile, public sector property investment accommodates essential services and provides public goods – most notably ambitious and often high-quality affordable housing. Public investment can also fill the market gaps left by the private sector, sometimes very well. Growth Deals are addressing both opportunity and need across land, infrastructure and property, although their business cases can be difficult to fulfil and challenging to meet. A new public funding landscape is emerging, as the EU's role is replaced and superseded by UK domestic funds.

Some things can be lost in the spaces between the public and private sectors. Private capital can struggle to deliver the upfront funding required for infrastructure and public realm. The public sector has growing and, at times, competing statutory obligations and financial priorities. Partnerships, regeneration initiatives, Growth Deals, patient capital and long-term interests are crucial in helping to bridge the gap alongside shorter term development finance.

The climate emergency is resonating throughout property markets, catalysed by Glasgow's hosting of COP26. Financial markets and property funders are prioritising ESG

generally and the magnitude of the climate emergency specifically and do appear to be aligning with the public and governments around net zero carbon emissions. Whether for altruistic reasons or simply to future-proof invested capital, this may yet become a public good done ***with*** the property markets, rather than ***to*** them. By far the greater challenge, however, is the retro-fitting of existing residential, commercial and public buildings, as new development in any year, no matter how high quality, delivers only a marginal change to the existing built stock.

Edinburgh is asserting itself as a small northern European capital city. Population growth is pressurising the housing system across urban redevelopment, greenfield expansion and commuting from the Lothians, Borders and south-west Fife. Edinburgh's office, retail, leisure, hotel and student housing markets have attracted strong investment. The city was short of inner urban development space as sectors jostled for more, however the pandemic may have eased that pressure for the moment. Recent completions are noted in retail, leisure, hotels, offices, BTR and alternative uses such as visitor attractions (e.g. the Johnnie Walker Experience) with hospitality backfilling Princes Street shops. Edinburgh's property market considerations include building upon its city centre diversification in the post-pandemic era, residential densification in inner urban areas and completion of outer urban regeneration and, expansions, sustaining very successful local town centres, embedding urban logistics in the city, and westward growth.

Glasgow is moving from post-regeneration to proto-knowledge. Successful regeneration of the city's derelict inner urban areas and housing estates is in sight. The city core, including the Clyde riverside and universities, rank highly for investors. Glasgow's badge as the UK's second city of retail was always a double-edged sword in a volatile market, now shown to be vulnerable to online shopping. However, the city has diversified very effectively into events, tourism anchoring its substantial student and business populations. City centre office and student housing projects are currently completing, while BTR is just starting. The city centre is recognised as having a low resident population with limited new investment for a city of its scale and calibre, particularly in converting its handsome heritage buildings. Glasgow's deep knowledge of delivering public-private initiatives should be a significant asset in the coming market. Continuing to reinstate urban connections – Clyde Gateway, Clyde Mission and bridging to north Glasgow – is critical. Moving outward, the city's urban town centres are very mixed in quality, ranging from those with attractive 20-minute neighbourhoods to ailing centres. Glasgow will continue to have a strong relationship with its large regional hinterland, although that proved to be a fragility for the city during the pandemic as workers, consumers and students were forced to stay at home.

Aberdeen is transitioning to a diverse energy capital. The city's property market continues to adjust to the underlying demand of a small regional capital with a unique strength in the energy industries. Markets remain risk-averse until a sustained upturn is achieved. The loss of major former employment buildings and national retailers has a palpable effect in a small city. However, Aberdeen has a compelling programme of investment and diversification which is beginning to be implemented. The wider city, urban town centres and the commuting catchment are attractive enough – or have sufficient potential – to sustain market activity and interest.

These post-pandemic and climate emergency markets may be locally distinct but they do share some similar patterns. The relationship of each of the AGE cities with its urban periphery and regional towns is changing. The cities will continue to command the higher order economic activities, but some towns in the city regions see this as the time to stem the migration of jobs and spend into the cities. In market terms, the pandemic's

socioeconomic shifts in tandem with emerging planning policy may well tilt towards greater localism, however for commercial markets the investible scale, values and certainty offered by the cities will remain the prime attraction.

The property market is improving post-pandemic but in the main is expected to remain risk averse.[88] That stance, an ageing property stock, a '*fabric first*' planning approach, and of course the climate emergency (the built environment is believed to contribute around 40% of the UK's carbon footprint) are likely to re-focus the investment need onto the upgrade and reuse of existing buildings.[89]

Housing

SUA-1 identified growing stocks of housing in each of the AGE cities, driven by their rising populations, particularly in Edinburgh and Aberdeen.

While the housing stocks are growing, the development rate has halved in the post-war period, firstly after the withdrawal of the public sector in the 1980s, and again after the 2008 GFC. (Figure 4-1) Notably, it was the public sector's partial withdrawal which had the greater impact upon Scotland's housing output. Housebuilding rates continue to be inadequate in the context of stock age and demographic trends, which is now compounded by the renovation and retrofit requirements imposed by the climate emergency.

The prevailing private sector housing delivery model is functioning and effective within narrow boundaries (which are much more selective and risk-averse post-GFC). These challenges are recognised and met by affordable housing and public infrastructure investment. (Figure 4-2) The full city regions, in common with their economic role highlighted in this report, also dominate the housebuilding markets with typically around 80% of Scotland's housing output. (Figure 4-3)

The cities themselves have delivered 27% of Scotland's housing output since 2019. This reinforces the extent to which each city is bound-in with its larger regional hinterland. (Figure 4-4) The public sector share of this output varies greatly by city, with Glasgow city delivering a much higher proportion of affordable housing than the other two cities.

Housing land markets are currently strong. Developers are actively acquiring and progressing sites across the AGE cities and their regions accompanied by a pandemic-driven "*shift in preferences to larger houses and to non-flat homes, preferably with gardens*".[90] Although initially driven by lockdowns, the likely persistence of a more hybrid workstyle (see below under offices section) is benefiting the growth of more expansive domestic space in commutable areas. Emerging policy, for example in Glasgow, is expected to seek better home-working and outside space in apartments as well as houses.

The established PBSA and emerging BTR markets provide housing choice but are location sensitive and serve particular parts of the population. Currently the BTR pipeline in the AGE cities is approaching 9,000 units, principally in Glasgow and Edinburgh Convert-to-rent (CTR,) should also play a part in city centre regeneration for underused or indeed the rising stock of vacant buildings. PBSA, BTR and CTR are market-led models. More generally the delivery of housing options based around, for example care or senior living needs, falls to the public sector, other than in areas of high market values. In that context the emergence of BTR for estate housing built at scale is one welcome extension of housing choice by the market (Figure 4-5).

Increasing the city centre population is a priority in both Aberdeen and Glasgow while Edinburgh already has extensive city centre living and now proposes densification across its wider urban area to accommodate housing-led (re)development.[91]

Given that both public and private sectors are keen to build houses, the continually sub-optimal housing development rate can be seen to reflect wider constraints such as financial, industry capacity, risk appetite, models and tenures, planning policy (including public appetite) and both service and community infrastructure. The (minimum) housing land requirements for local planning authority area set out in the draft of NPF4 will

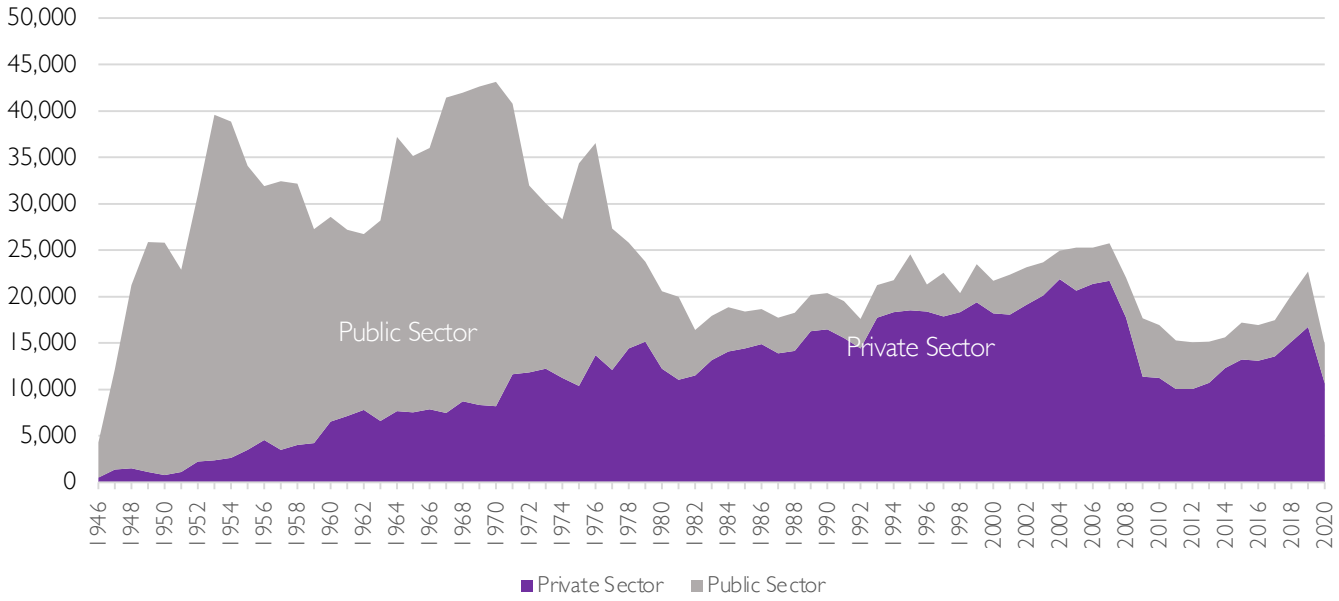


Figure 4-1: Housing Completions in Scotland by Sector
Source: *Ryden*

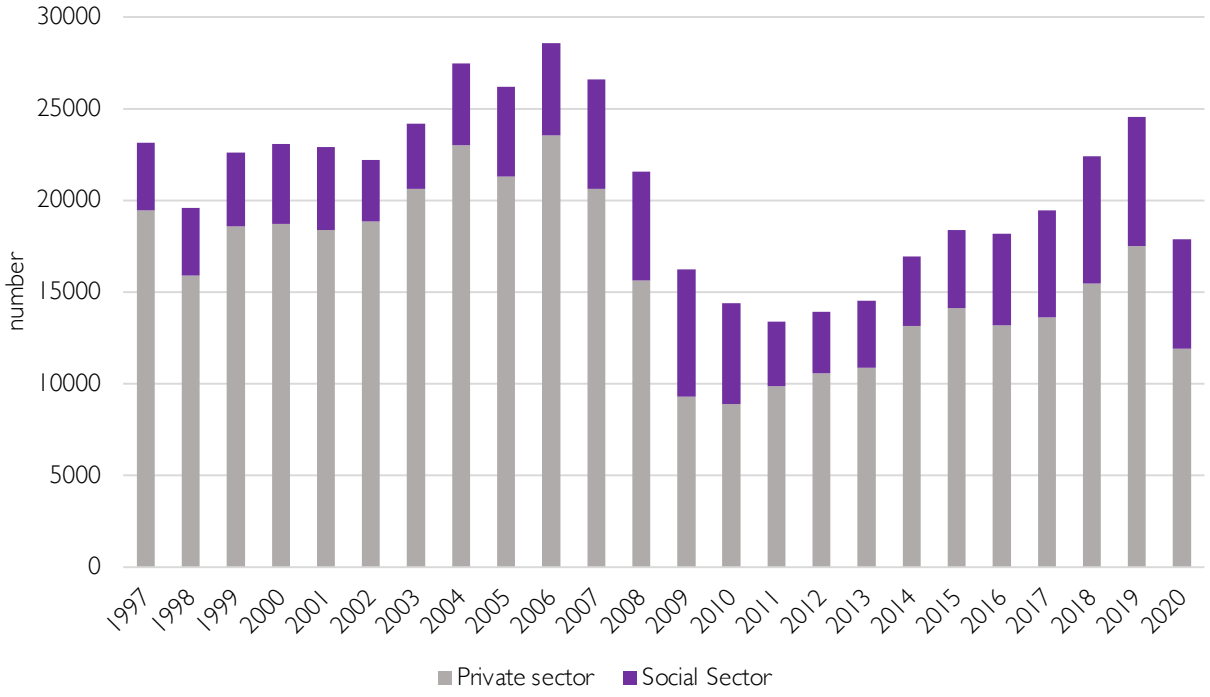


Figure 4-2: Scotland New Build Housing Starts
Source: *Ryden*

Figure 4-3: City Regions: New Housing Starts
Source: *Ryden*

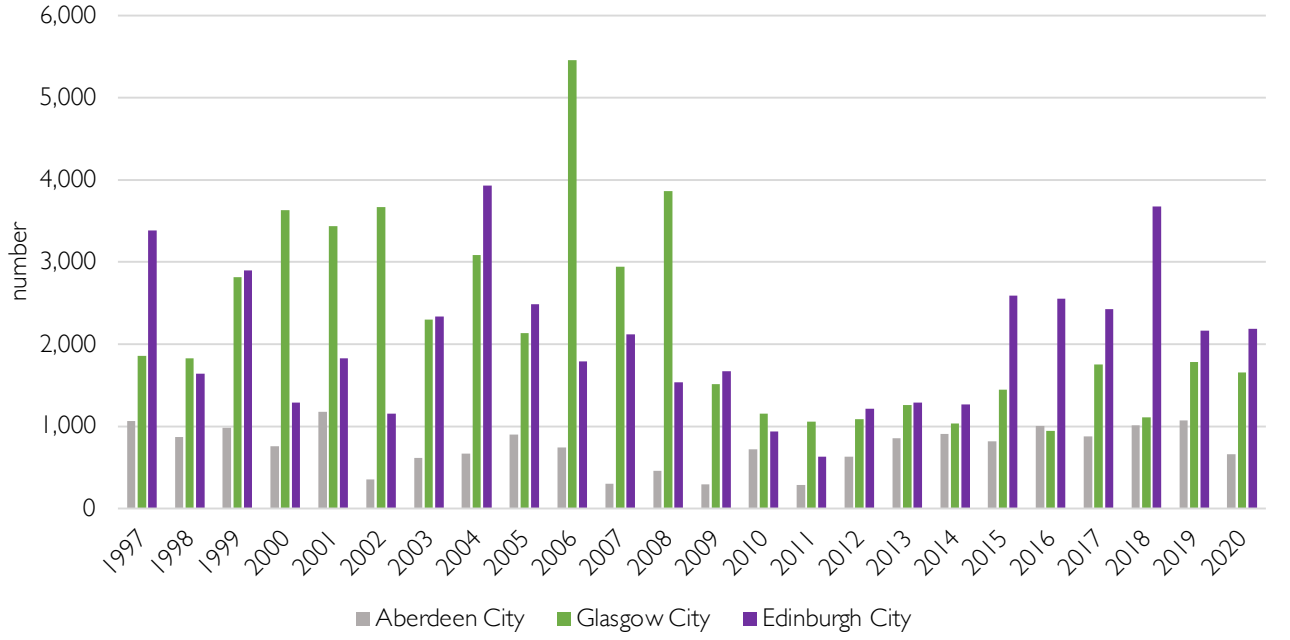


Figure 4-4: Cities: New Housing Starts
Source: *Ryden*

	Operating (homes)	On Site (homes)	Planning Approved (homes)	In Planning (homes)	Total Number of Homes	Number of developments
Aberdeen	634	-	460	-	1,094	3
Glasgow	36	1943	1647	2684	6310	18
Edinburgh	188	956	1887	259	3290	13

Figure 4-5: Build To Rent Pipeline
Source: Scottish Property Federation / Scarlett Land and Development

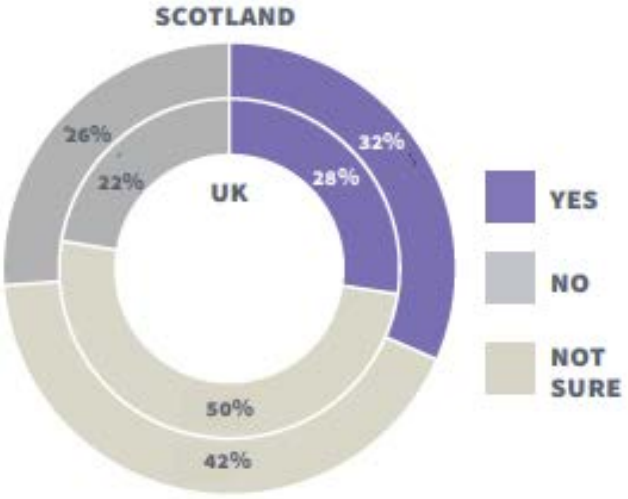


Figure 4-6: Emerging preferences for office floorspace reduction

The experience of real-estate surveyors Ryden in emerging revealed preferences, rather than survey opinions, of occupiers leasing or seeking space is for an average reduction around 25% on pre-pandemic levels.

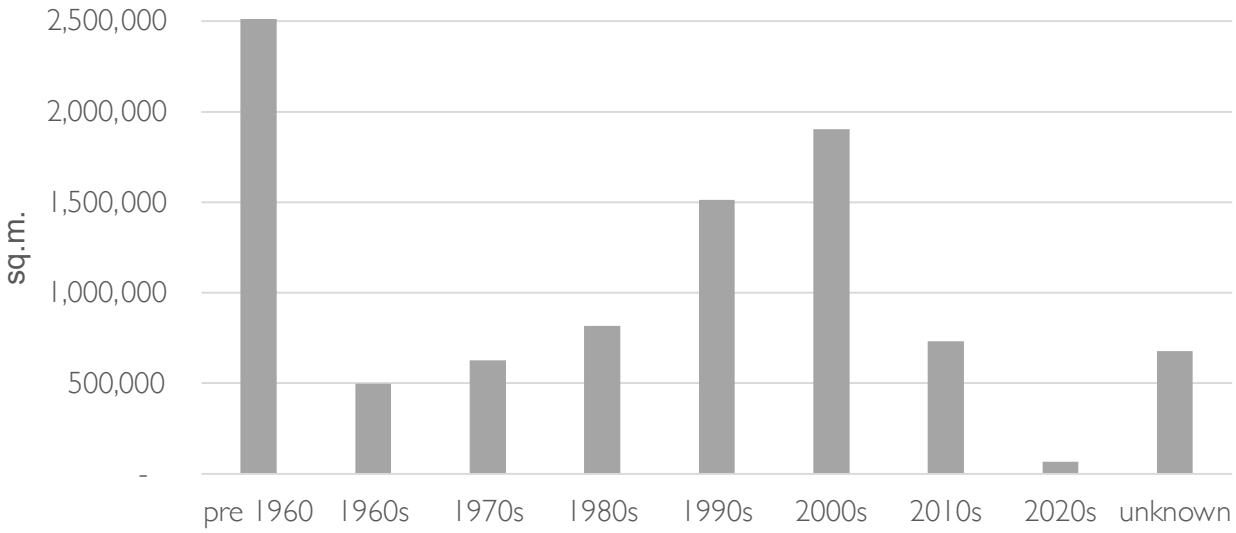


Figure 4-7: Scotland Office Stock by Ageband
Source: Ryden

bolster the intent and an '*infrastructure agency*' could provide a step forward, but other housing system constraints may yet persist.

Offices

Great debate has been generated by working-from-home during the pandemic. While the new landscape for offices is still emerging and will continue to evolve, some trends are now discernible two years after the initial lockdown provoking Demos to note that "*the only thing we can say with certainty about office life is that it has changed (forever) …more in the last year than it has in the last hundred*".[92]

Since the emergence of the modern office building in New York in the 1870s, economic output in professional, financial and related services has depended upon employees working at desks in offices. Although some nomads such as technology companies and consultancies worked in a more flexible and agile manner around projects and customers rather than '*presentee-ism*', the large majority resisted the trend.

By 2018 (SUA-1), the three cities had amassed 61% of Scotland's office floorspace, with a further 24% in their regions, driven by long run service growth. Agile and ICT-enabled working had led to better specified buildings but had not yet reduced people's presence in the office to any great extent.

That relationship between offices and knowledge output continues – but it has *loosened*. Surveys by Fraser of Allander, PWC, British Chambers of Commerce and many others suggest that occupiers will need ***less but better*** office space. Demos finds that 79% of people surveyed want to continue with hybrid working. The BBC finds that 79% of employees agree, while employers announcing a move to hybrid working include ASDA, BDO, Apple, BP, Bank of England, Nationwide, Capita, and many, many more as yet unannounced.

Sources in Scotland including Fraser of Allander Institute, JLL and *A Scotland of Better Places* tend to align around a 30% reduction in office space. The experience of real-estate surveyors Ryden in the *emerging revealed preferences* (rather than survey opinions) of occupiers leasing or seeking space is of around an average 25% reduction on pre-pandemic levels. (Figure 4-6)

A pause for reflection is required before wiping out a sizeable proportion of the office market.[93] Knight Frank surveyed 400 international businesses and found evolution rather than revolution, as occupiers focus on reconfiguring and seeking quality to deliver collaboration and attract talent. The process of shifting to smaller, better-quality offices will also be governed by existing ownerships and lease commitments, and of course by the pace of delivery and cost commitments associated with those offices.

A drive to (somewhat) less but better office floorspace implies a market polarisation:

- Demand for quality buildings, possibly brand new or bespoke (purpose-built) from larger occupiers. All three AGE cities are already achieving record office rents for the newest buildings, reflecting their top prime locations, top quality specification and costs.

- Occupiers are seeking flexible design rather than '*Dilbert*' desking, expansion/ contraction options, top specification ICT, easy access for public and active travel, design for wellbeing, and top ESG ratings.[94] Some occupier relocations, for example to the new Haymarket in Edinburgh, are from buildings that were in fact regarded as prime, Grade A only very recently.

- Smaller occupiers may opt for more flexible, affordable terms in existing or new style business centres/multi-occupied buildings, rather than making long term commitments around their whole workforce.

This focus on fewer and better offices will accelerate the process of older offices becoming surplus and requiring alternative use or redevelopment. Scotland's office stock comprises tenements, upper floors, townhouses and waves of modern buildings from the 1960s onwards. Even older Grade A space may require significant upgrading to meet the new demands of occupiers. Cities are better placed than their towns, but each still has a major and growing stock of older/obsolete offices, requiring upgrade or alternative uses. Edinburgh's attractive city centre has dealt very well with this for many years, while Glasgow and Aberdeen have good examples but must now accelerate their repurposing (Figure 4-7 to 4-10).

Aligning with these emerging trends, best in class new offices such as Edinburgh's The Haymarket or Glasgow's 177 Bothwell Street have filled up rapidly, ***during*** the pandemic. Market uncertainty meant that no further new developments commenced during the pandemic, however that now feels counter-intuitive given the flight to top quality office space.

The 2020 pandemic low point in the office market is now past and the shift to smaller, better offices and release of older, obsolete buildings is already well underway.

Other positive points to note include:

- in towns, the '*repatriation from cities*' of some office employment – even on a temporary basis to complement homeworking – is an opportunity.[95] Emerging policy, the localism agenda and Scotland's dispersed towns offer scope for greater local employment.[96] Towns such as Musselburgh, Galashiels and in the Lanarkshires and Ayrshires (Kilmarnock) are beginning to respond.
- Flexible working could allow people to re-enter the labour market. An estimated 4 million[97]
- Running counter to the narrative of city centres being undermined, KPMG forecasts that part-time use of offices will *increase* total employee numbers in regional cities by 5-10%, providing footfall recovery and the potential for high spend on their days in the office.

Meanwhile, the technology companies which became an essential infrastructure during the pandemic are not passive, with Zoom for example buying the software house Five9 to support its development of hybrid working products and Google developing concepts such as '*campfire*'. The concept of a fixed proportion of days in the office with other days at home may in fact be simplistic, as agile technology will allow people to work where it is most effective – home, office, client space, touchdown space, library, café – perhaps stimulating a recovery in the experience economy.

Beyond the AGE cities there is a further 2.18 million square metres of existing office stock in the wider city regions, typically in town centres and on business parks. Some of this may also present opportunities to intercept demand from agile businesses if suitably flexible and accessible premises with ESG credentials can be provided. Meanwhile, older local business parks with few amenities in car-dominated edge-of-town locations could struggle.

Industrial Property

Even after long run manufacturing decline, the AGE city regions contain much more industrial than office floorspace – 16.15M sqm compared with 7.75M sqm (Figure 4-11) Offices (mostly) contain higher value activities generating greater productivity, but industrial is unarguably large scale, well-occupied and services a huge range of activities: from local trades and services to manufacturing, storage, logistics and the crucial and growing innovation sector. Industrial property vacancy rates have fallen to record low levels (Figure 4-12).

The migration of retail activity online is one of the current drivers of a strong industrial market. The industrial property market found upsides and new demand in both Brexit (through investment in storage and supply chain resilience) and the pandemic (through investment in warehousing and logistics as well as the home improvement boom) (Figures 4-13 to 4-15).

The supply side of the market faces ageing premises and a low development rate since the public agencies – New Town Development Corporations, the Scottish Development agency and Regional Councils – were in their heyday from the 1950s to the 1990s This shows that the public-private watershed for housing development (shown on Figure 4-1) is largely applicable to industrial property ownership and development too, but *without* the same scale of positive market response when the public agencies withdrew.

The obsolescence through physical age and older functionality applies particularly to the industrial region around Glasgow and on a smaller scale around Edinburgh. Aberdeen's industrial stock is more modern due to investment and reinvestment by the offshore energy industry. Aberdeen is also notable in that most of its industrial stock is in the city itself, whereas most of Glasgow's and Edinburgh's are in their wider regional markets.

Over time, industry has tended to leave urban areas for purpose-built estates around the trunk road network, although urban logistics ('*last mile delivery*') and clean industry may yet move back in. Over time, lower density, lower value uses tend to be displaced from city urban areas, yet the services that trade from these industrial premises – plumbers, joiners, local food production, home improvement *et al* - are crucial to a functioning urban economy. This is a particular consideration in Edinburgh, where draft planning policy would use older industry sites, among others, in the urban area for higher density residential-led development, potentially pushing industrial demand out to the city edges. The trends in industrial transactions (sales and lettings) across each of the three AGE cities over the past 10 years are illustrated in Figure 4-13, Figure 4-14 and Figure 4-15). These confirm the steady demand for modern premises, which is gradually eroding supply in the context of a low development rate. Many occupiers now find it very challenging to secure the right industrial property in the right place for their business.

The Glasgow and Edinburgh regions will require continued development of new industrial premises to meet strong market demand across a range of service and industrial/logistics sectors. Standard modern premises will suit most SMEs, but innovation-focused and larger manufacturing and logistics businesses may need purpose-built premises to meet their scale and specialism of operation. Aberdeen will require new premises alongside a restructuring of older estates and buildings, together with space for diversification including the major new Energy Transition Zone.

Rising rents and prices can help to support the financial viability of new industrial development and encourage private sector development, but rising building standards and costs allied to land and infrastructure supply constraints and costs will make this challenging in many instances. This may turn the focus more towards the regeneration of existing buildings and estates, providing an opportunity for policy alignment to encourage the creation of much more modern and attractive employment zones.

The scale of this industrial property market challenge should not be underestimated. Industrial property is a major employer, and the stock is ageing, squeezing vacancy rates to levels where in some markets there is little or no real choice. Moreover, there is no indication that the market will be '*loosened*' by online trading/working as has happened in other sectors – online business is in fact *increasing* the demand for industrial property and, in some larger cities overseas that, of itself, is becoming a logistical challenge. The current development and refurbishment rate is a fraction of what will be required.

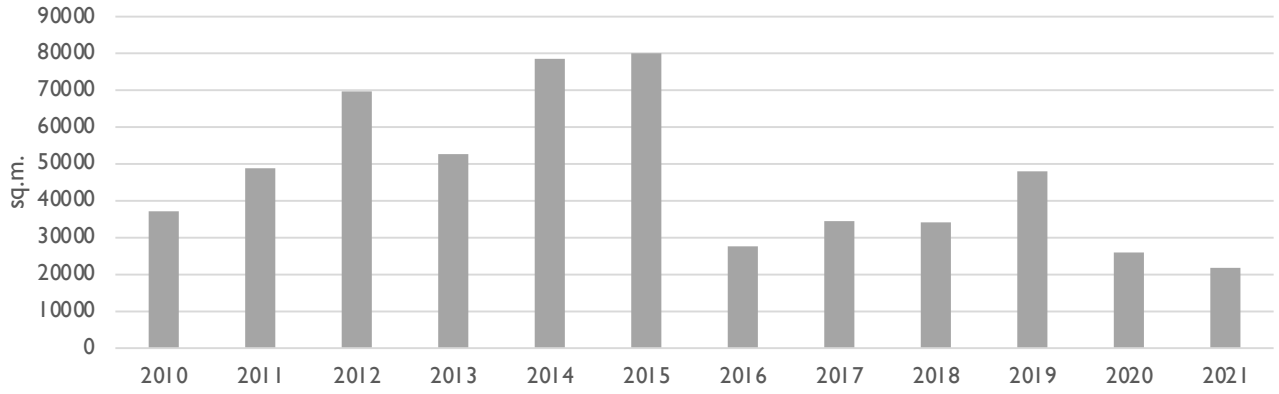


Figure 4-8: Aberdeen Office Take-up - vacancy rate 13% of 1.07m sqm (increase in recent years)

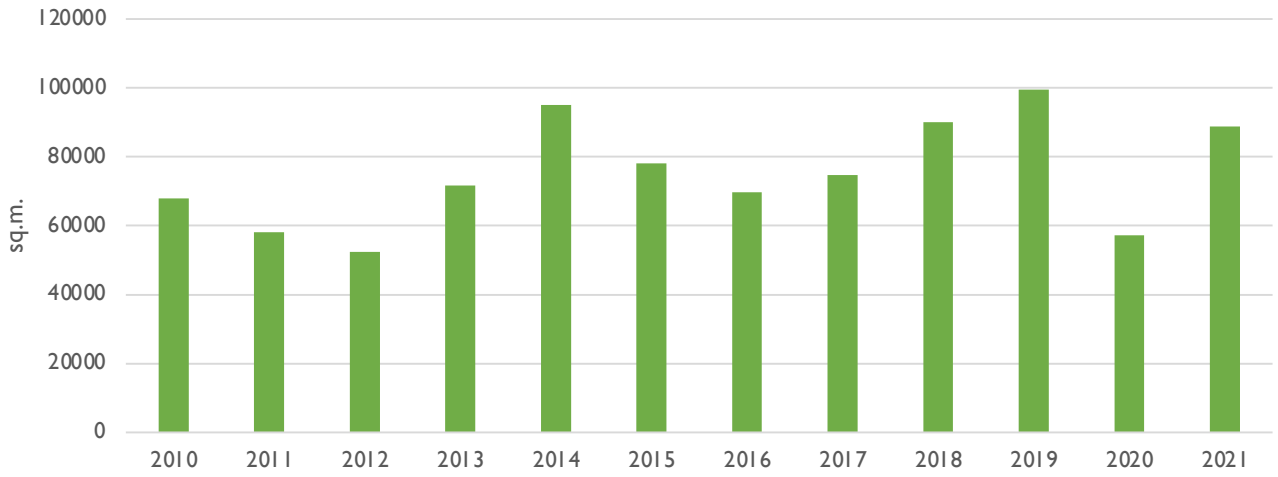


Figure 4-9: Glasgow Office Take-up - vacancy rate 8% of 2.4m sqm (normally 10%),

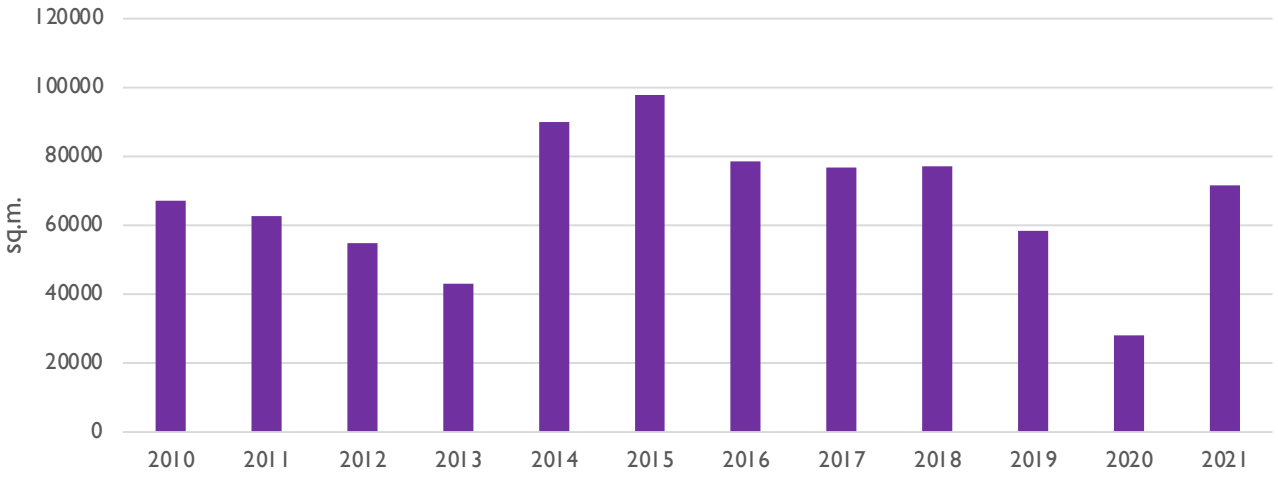


Figure 4-10: Edinburgh Office Take-up - vacancy rate 8% of 2.1m sqm (normally 7%)
Source: *Ryden (all this page)*

City	City Region industrial stock (sq.m.)	City industrial stock (sq.m.)	Region industrial stock (sq.m.) (excl City)	City Region Vacancy Rate	City Vacancy Rate	Region Vacancy Rate
Aberdeen	2.4 m	1.58 m	0.77 m	5.9%	6.8%	4.0%
Glasgow	9.1 m	3.05 m	6.05 m	3.4%	1.9%	3.9%
Edinburgh	4.65 m	1.07 m	3.58 m	3.6%	3.1%	3.6%

Figure 4-11: City & City Region Industrial Stock
Source: *Ryden*

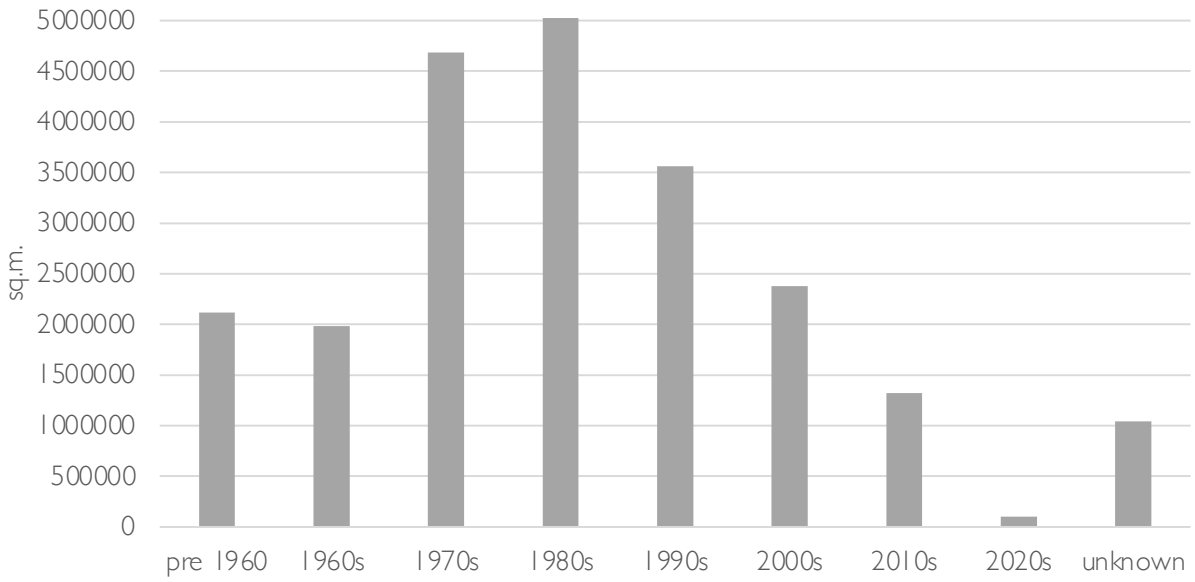


Figure 4-12: Scotland Industrial Stock by Ageband
Source: *Ryden*

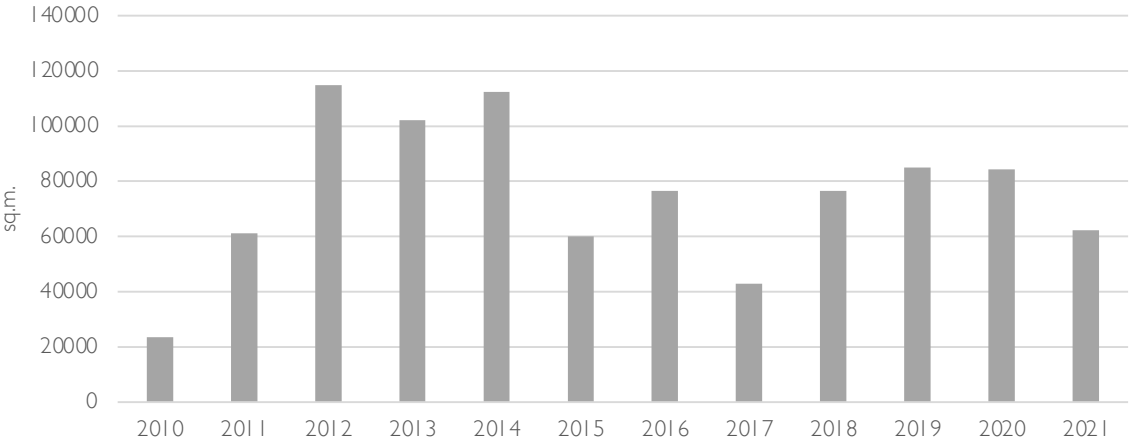


Figure 4-13: Aberdeen City Region Industrial Transactions vacancy rate 7.9% (highest, low point was 2.1% in 2015 post oil-market peak)

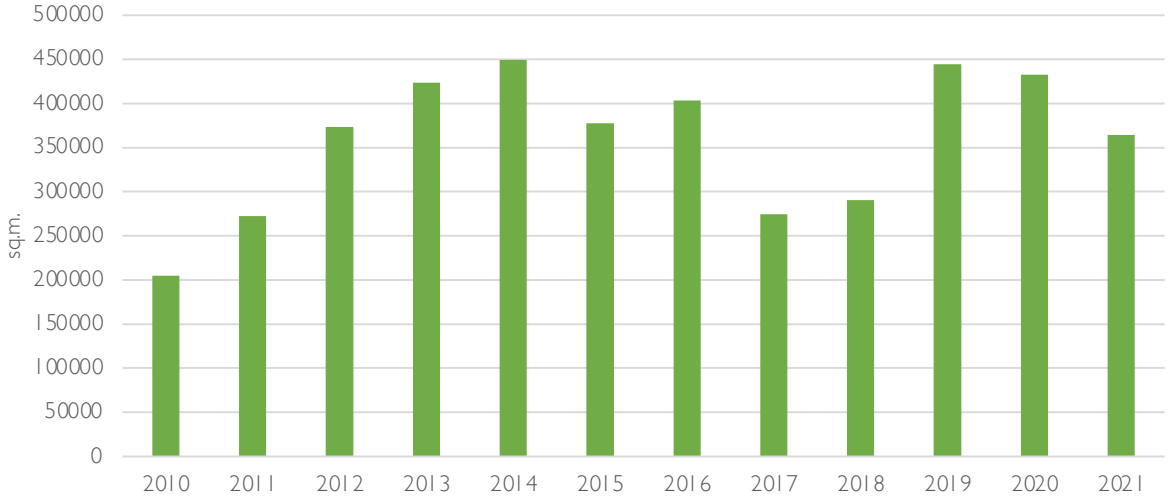


Figure 4-14: Glasgow City Region Industrial Transactionsvacancy 3.2% (post-GFC 9.7% 2012)

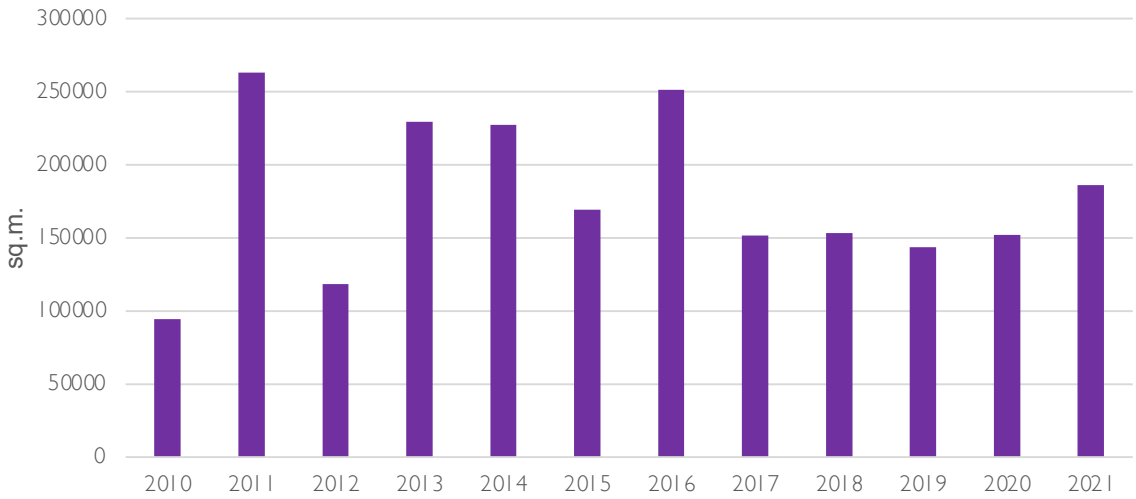


Figure 4-15: Edinburgh City Region Industrial Transactions vacancy rate 3.2% (post-GFC peak 11.2% in 2013)
Source: *Ryden (all this age)*

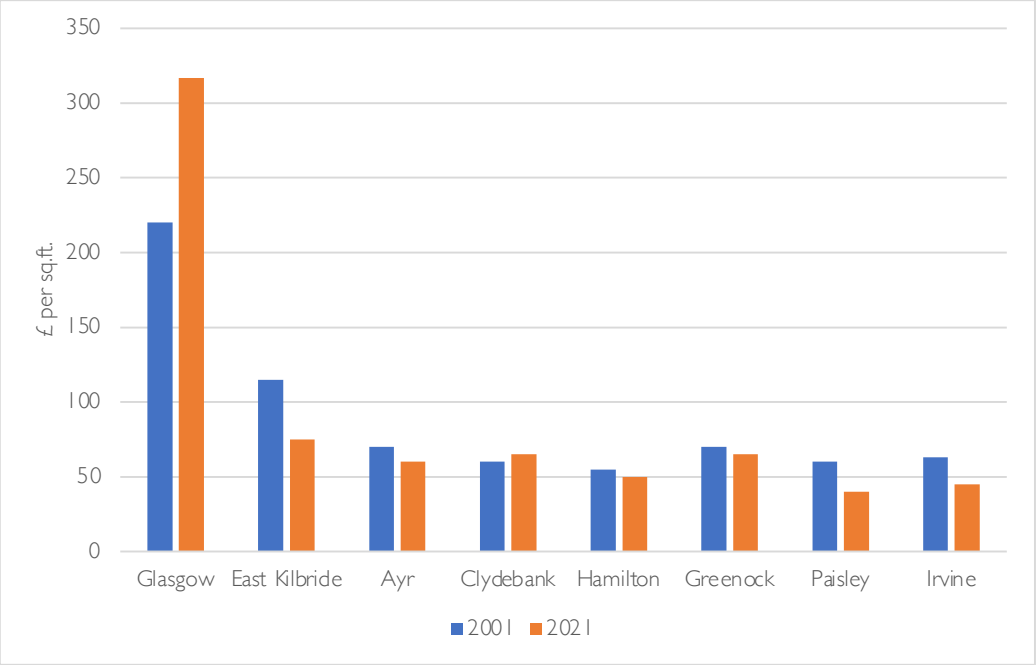


Figure 4-16: Prime Retail Zone A Rents
Source: *Ryden*

Retail and Leisure

The AGE cities sit at the apex of the retail and leisure markets. Long before online shopping or pandemic took hold, the effects of capital concentration was working in favour of the cities. Over the past five decades, increasing disposable income has grown discretionary expenditure much faster than staple or essential expenditure (e.g. groceries). This meant that larger, accessible centres with a diverse range of retail, leisure and visitor offers, including of course the top retail brands, attracted more consumers, whose footfall in turn attracted further operators, driving up values and economic benefits for both public and private sector investors. This virtuous circle benefited the main city centres and their destination retail parks and malls, but to an extent was to the *dis-benefit* surrounding regional towns which lost custom and, eventually, retailers.

This market concentration is demonstrated in the rents which operators are willing to pay. Using the Glasgow city region as an example, rents for prime Glasgow city centre shops on Buchanan Street increased by 44% from 2001, whereas rents in the surrounding major town centres fell on average by 15% and by much more in real terms after inflation. Those rents may now be aspirational in the wake of the pandemic. Meanwhile, Braehead and Silverburn have emerged to sit between Glasgow and its satellite towns in rental as well as physical terms, and smaller towns have fallen even further from the mainstream retail market radar. (Figure 4-16)

While the city centres have been the main attractors for, and beneficiaries of, the retail and leisure market, for the regional towns it is also the case that *purpose-built*, open consent retail destinations encompassing all types of goods have exerted a similar pull. For example, Glasgow and Edinburgh Forts shopping parks, Central Fife Retail Park, and the shopping malls at Braehead, Silverburn and Livingston town centre draw on the trunk road system to service networks of regional towns. The *purpose-built* nature of these developments is important as it optimises everything from store design and layout for each brand and the overall, and complementary, mix of stores and services, as well as the design of elements such as external areas and customer access and movement.

The relentless rise of online shopping has of course further transformed the retail landscape. The pandemic super-charged online shopping, although that short term effect has abated. Nevertheless, 40% of comparison shopping is now predicted to move online. At a market society level there has been a failure to anticipate that '*comparison*' would no longer require a trip to the shops, but would be undertaken online and at home. With hindsight, perhaps the online early adopter experience of sectors such as financial services and travel in reducing their store portfolios and focusing on customer experience may have signalled this shift.

Online shopping has shifted the emphasis within the retail market from stocking and running physical shops, to managing technology and logistics around fewer, or no, stores.

The consequences are still emerging. The demise of retail brands such as Arcadia and Jaeger and department stores such as Debenhams is now familiar. Retailers who did not entirely close continue to work through their portfolios across towns and cities. The market truism that it requires only 70 shops for any one brand to serve more than 90% of the UK population may prove to be over-optimistic. Leading fashion retailer Gap, for example, is closing all UK stores to move to an online-only business. With this degree of market flux, the true nature of underlying vacancy rates will only emerge over the medium term.

The likely outcome for the AGE cities and their regions is one of few stores in the destination city centres and malls, that may have a distinct, smaller experiential and/or flagship character with, in all probability, a significant click-and-collect and return space as a part of what Taylor Wessing and other commentators are referring to as the multi-hub city centre.[98] In turn, regional towns may settle for minor chains, independents and a more diverse mix of commercial, employment,

civic, recreational and residential activities with a slower, more distinctive local character. Regional towns will also continue to cede trade to the destination sub-regional retail hubs described above. Meanwhile, value/discount retailers, grocery/convenience stores and food & beverage chains, both in-town and drive-thru, will continue to invest locally and following the boost they sustained from homeworking during the pandemic.

In the regional towns, successful configurations are likely to be organiseds around smaller retail parks with local footfall supporting convenience stores and supermarkets that provide essential, staple goods and retail services such as cafes, health & beauty and medical services – such as doctors, dentists and vets – that cannot be delivered online. Other formats had begun to struggle pre-pandemic for other reasons such as an over-expansion of restaurant formats or legislative changes controlling certain outlets such as bookmakers.

A cautionary note must be sounded around the capacity of smaller chains and independents to survive and thrive. Post-pandemic market adjustment will take time to unfold, as costs increase while trade rebuilds, some operators fail, and new entrepreneurs emerge to take their places. The *Centre for Retail Research* explores this in detail, identifying high costs (rents, rates and labour), low profitability (costs again and heavy price competition), online growth, lack of planning and preparation, and the lockdown(s) as challenges.[99] Debts held by small high street businesses are estimated to have increased by 360% during the pandemic[100]. The forbearance of landlords and of the non-domestic rates regime has undoubtedly helped during the pandemic, as have the Coronavirus Jobs Retention Scheme (furlough) and UK Government loans (CBILS). The move to a more responsive 3-year rather than 5-year rent and rating review cycle should aid adjustment, although only if that captures the real shifts in values now emerging.[101]

In light of the changes now evident, major intervention to remove retail space and diversify into uses such as housing and offices is now underway in both the regeneration towns, such as Greenock, and in city centres such as Glasgow's St Enoch Centre and Buchanan Galleries around the city's former *Golden Z* retail pitch. Planning ahead can encounter and provoke structural change. Edinburgh's St James Quarter has moved footfall and retail providers such as Next away from Princes Street. Planning flexibility and a proven demand for mixed use are however supporting a steady repurposing of prominent Princes Street units for food & drink, hotels & residential, and leisure such as the Johnnie Walker Experience. St James Quarter itself is highly diversified across shops, food & beverage, leisure, hotels, apartments and events space.

Aberdeen was already adapting to the sunset oil industry with re-orientation towards energy diversification when the pandemic struck. The 2015 city centre masterplan informs a 2021 review that sets out a recovery blueprint which includes the completion of Union Terrace Gardens, Queen Street regeneration, the Beach and redevelopment of the former BHS store and Aberdeen Market complex. The pandemic has released further property such as the John Lewis site and added to the impetus to invest and diversify which has already been established in the city.

Substantial falls in property values are facilitating some of this change by allowing expenditure on adaptation facilitating alternative uses at more appropriate rents and prices. The early movers in this somewhat seismic market adjustment are the major institutional landlords – pension funds, life assurance, Real Estate Investment Trusts (REITS) – who have the resources, skills and patience to reposition their assets. Private and indebted owners will experience uncertainty and take longer to adjust.

The list of current and proposed alternative uses for town and city centre retail space is long, and rather eclectic. Some towns seem to have moved from *retail-only* to *anything-goes* in their core. The spectrum of new uses coming to an existing or former store or site near you includes –

housing of all tenures, Grade A or flexible/multi-let ESG-compliant offices, indoor markets and food halls, hotels, leisure and urban logistics.[102]

Some areas will of course re-attract shopping but in a new format, for example Edinburgh's Jenners' is proposed for redesigned retail, bars, restaurants and a hotel. This mix of uses, and potential for future changes given that this is only the first wave, implies the need for a responsive planning system around greater flexibility and more entrepreneurial urban design than has been seen in the past. Out of town, JLL believes that obsolete retail (and business) parks could also be reused for residential-led uses. Their brownfield planning status, prominent locations, transport & access and existing servicing would tend to support that view. If brought together with some design skill and with some degree of coordinating hand the effect may be to create a new vibrancy in town and city centres.

Hotels and Leisure

Rising economic output has boosted discretionary consumer expenditure and led to increasing business activity including events and travel. These have fuelled strong growth in the accommodation and leisure sectors over recent market cycles.

Branded hotel chains have been one of the beneficiaries of these trends. In property terms these chains also offer the advantage of 'fundability' through long leases or more recently, management agreements. All three AGE cities have seen a major wave of hotel investments by budget (Travelodge, Premier Inn), mid/upper-market (Marriott, Virgin) and boutique (Kimpton) operators. The 2014 oil price crash in Aberdeen halted that city's development wave, while the pandemic undermined occupancy then curtailed new hotel development in Edinburgh and Glasgow (the latter market was beginning to stabilise rather than grow in any case). Indeed, examples of consented hotel proposals potentially being considered for other uses are now being seen in the cities.

The forward path for the hotels sector is one of medium-term stabilisation with demand returning to 2019 levels by the mid-2020s – notwithstanding Glasgow's record revenues during COP26 and Edinburgh's startling performance as a result of UK staycations. This will raise questions about the demand forecasts and indicative hotel pipelines for all cities, as previous growth trajectories would need a resumption of business and leisure travel at pre-pandemic performance and growth levels.

Like offices and retail but for different reasons, the direct transmission between economic growth and the need for new hotel floorspace may be weaker in future, as business meetings, networking and events become more multi-channel. In comparison with the reams of analysis on those other market sectors, the volume of work on post-pandemic potential in the critical leisure-tourism-events industry seems to be light touch.

Each of the AGE cities has invested substantially in visitor experience and events infrastructure for both the international and domestic markets and will require a major reset of marketing and operating plans to regrow this sector post-pandemic.

The wider leisure sector is interdependent with – and can substitute with – the retail sector. Cinemas, bars, restaurants, cafes and leisure outlets bring complementary footfall and extend dwell-times. In previous weak retail markets, leisure has come to the rescue by filling units and bringing customers, however the scale of current retail change and the mutual dependency upon customer footfall signals that this time is different, and much more challenging.

Higher and Further Education

The flux in city and town centres also includes further and higher education facilities as colleges and universities seek to adjust to a parallel paradigm shift in education provision that has seen in-person tuition and research migrate online using experience gained from the intermediate stage of online learning with concepts such as such as massive open online courses (MOOCS). The educational paradigm shift is naturally different to that of the office or retail markets, but it does have parallels to the extent that the last two years have brought about a much more sophisticated understanding of what can be undertaken online and what must, if possible, be done in-person propelled by the compulsion to innovate driven by lockdown and the consequences of survival. Different institutions will have different formulae for the new hybrid learning experience – bookish academic research can be more easily accommodated online as compared to laboratory experimentation or the visual and performing arts.

In terms of further and higher education provision, each of the AGE cities has its own challenges, opportunities, and geographies to work with. Aberdeen has two pre-eminent HEIs long since well-established to the north and south of the city centre in campuses in Old Aberdeen and Garthdee but with links to a teaching hospital, exhibition campus and international waterfront purposed towards real industry and maritime travel for the foreseeable future if the energy transitioning goes well. Glasgow has three universities arrayed around the city core with innovation districts being promoted by the Universities of Glasgow and Strathclyde to the west and east respectively with a third university (Caledonia), two internationally renowned performing and visual arts HEIs (the Royal Conservatoire of Scotland and the Glasgow School of Art), and two major FEIs completing the horseshoe around the city core terminating on a long forgotten waterfront pregnant with potential. Edinburgh with its different geography shaped by geology also has the world class the University of Edinburgh together with Heriot-Watt and Napier universities and FEI colleges all with integrated links around and deeply into the city core.

As with other land uses discussed in this chapter, we may expect to see higher and further educational institutions explore their own reconfigurations to meet the shift that has arisen from hybrid learning as a counterpoint to hybrid working. This could see the institutions interested in a role in the newly emerging hub models of city and town centres as they seek to decarbonise and place greater emphasis on emissions reduction. The University of Gloucestershire is refurbishing Gloucester's art deco Debenhams. Other universities moving to city centres include Manchester, Lincoln, Worcester, Stevenage, Cambridge and Oxford – also to a former Debenhams. The Edinburgh Futures Institute in the city's former royal infirmary currently being converted is on the edge of the city centre.

In summary … the more that cities change!

In earlier chapters, we have explored the international and national contexts (chapters 1 and 2) and the long-term nature of change (chapter 3). In this chapter we have tried to be more specific about what will remain the same and what will change as a consequence of the flux and uncertainty that is bearing down on our cities and towns with a focus on the AGE cities and the towns of their regions.

The role of city and town property markets is evolving as a result of the cocktail of change we are living through – the demographic, climate and technological change revisited in earlier chapters – and their individual and cumulative effects. The technology of the internet is having a profound effect on markets escalated by the effects of the pandemic and impacted on action to combat climate change. This much is certain, and the effects of these changes are beginning to become clear.

The formerly direct economic relationships between services, consumption and occupied floorspace are loosening. The shift of activities such as financial services and travel online was already well advanced, while the enforced isolation of the pandemic has helped to accelerate

online shopping and has enabled traditionally office-based services to work in hybrid ways. The net effect on the property market is a need for less but better quality floorspace, to enable the delivery of in-person services, collaboration, communication, experiences, culture and to support online economic activity in the offline world.

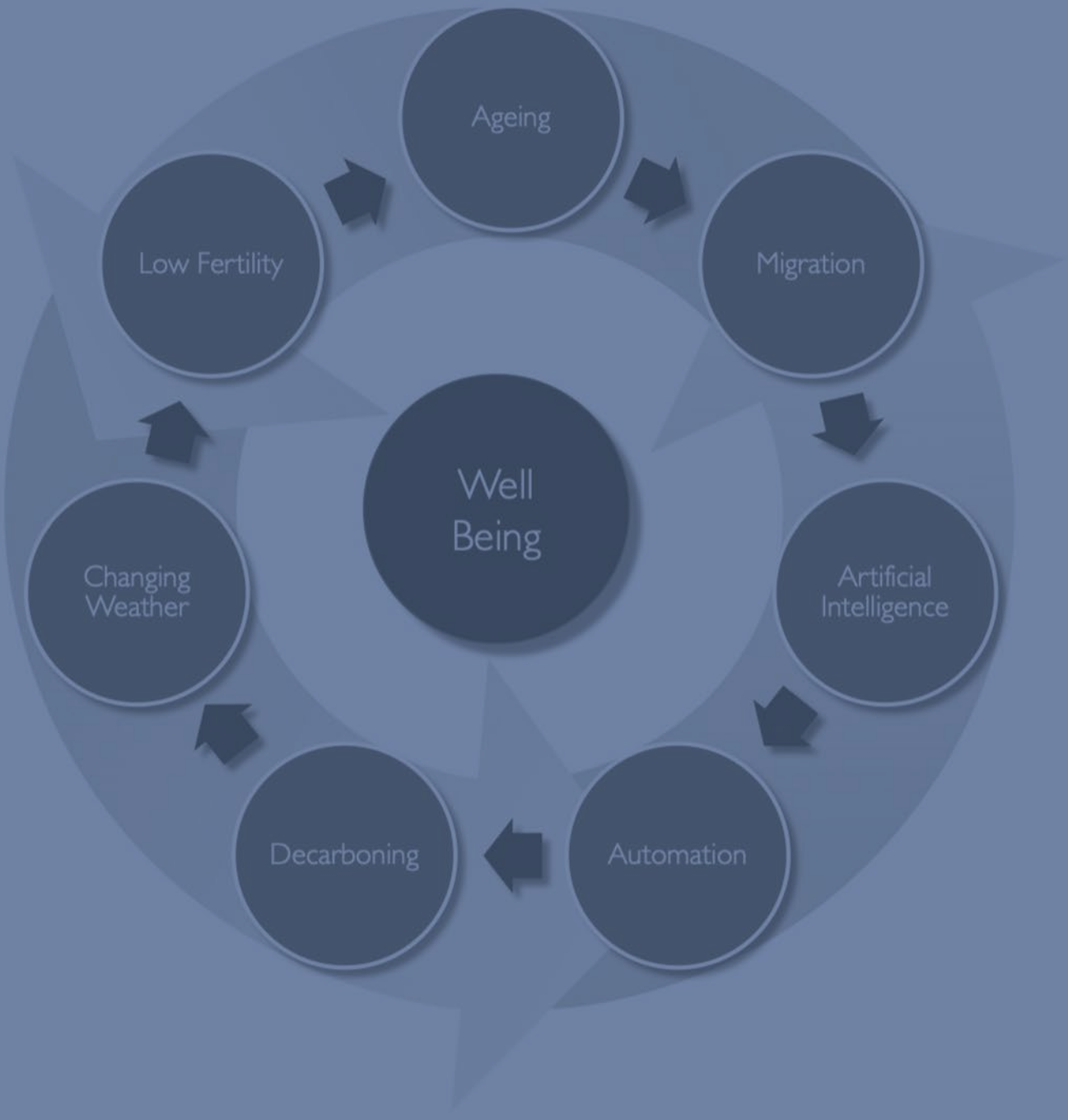
This societal shift in how we work, shop and play is creating a need to repurpose surplus buildings in central places; Edinburgh is most advanced in this regard while Glasgow and Aberdeen are well underway. One requirement will be a more flexible, agile and responsive planning function to support greater, and faster, change. The post-pandemic *bounceback* is strong, but we do not yet know what the new propensity to travel and interact in person will be, nor do we know how – or if – that demand will eventually settle then grow. The cities as destinations have staked a great deal of high quality, modern infrastructure in the '*visitors and events*' basket.

The role of local centres is resurgent, driven by new habits and encouraged by policy. That said, the mid-tier traditional shopping towns have lost a large part of that long-standing function to the larger cities, malls, parks and the internet. The housing market continues along its same, and largely productive path, delivering a narrow but steady output across both social and private sectors, with some evidence of diversification into private operator-led models such as BTR. The persistence of housing output below target levels suggests that – in spite of many reviews and initiatives – the systemic nature of this under-capacity is yet to be fully unpicked, understood and addressed.

There is a pressing need to regenerate, diversify and beautify industrial areas on a massive scale. Outside of core city urban areas and larger town centres, these industrial areas are where many of our jobs and businesses continue to reside. Policy, economic development and design must grasp this as a defensive requirement, and grant to it an equal importance in the perennial task of attracting new growth and building key sectors.

There is clear and emerging potential to decarbonise the built environment as funders, occupiers, policy and design align. The existential challenge however is the pace at which this might be achieved and a focus on new buildings misses the point given that we only develop or replace less than 1% of built property annually. Retrofitting on an unprecedented scale is required.

These challenges are greater than they were at the time of writing SUA-1. Positively however, Edinburgh and Glasgow were already in strong active phases of market shift before the pandemic struck, while Aberdeen was clearing a path to investment in a new future around energy transition. We have summarised here the flux in location and design as a consequence of the pandemic and the need to redesign and retrofit to address the climate emergency. In this chapter we have described this flux in all market sectors – housing, offices, industry (manufacturing/logistics), retail, leisure hotels & hospitality and education. These are ***ALL*** changing in terms of societal need, location, use and design. And ***they are all changing at the same time.*** These changes cannot be resolved within the sealed environments of their silos alone. There is an urgent and pressing need to understand the interactive and interrelated nature of these different changes to figure out where the ***systemic*** complementarities and contradictions exist in order to anticipate them and design for them. This is going to bring greater than ever demands on the capacities and skills of our cities, towns and their planners to cope. If brought together with some design awareness and with some degree of coordinating hand the effect may be to create a new vibrancy in town and city centres. There will certainly be a requirement for a more flexible, agile, skilled and responsive planning function to support greater, faster, coordinated change.


Ageing
Migration
Artificial Intelligence
Automation
Decarboning
Changing Weather
Low Fertility
Well Being

Scotland's Urban AGE 2022

5: Confronting Uncertainty & Transition

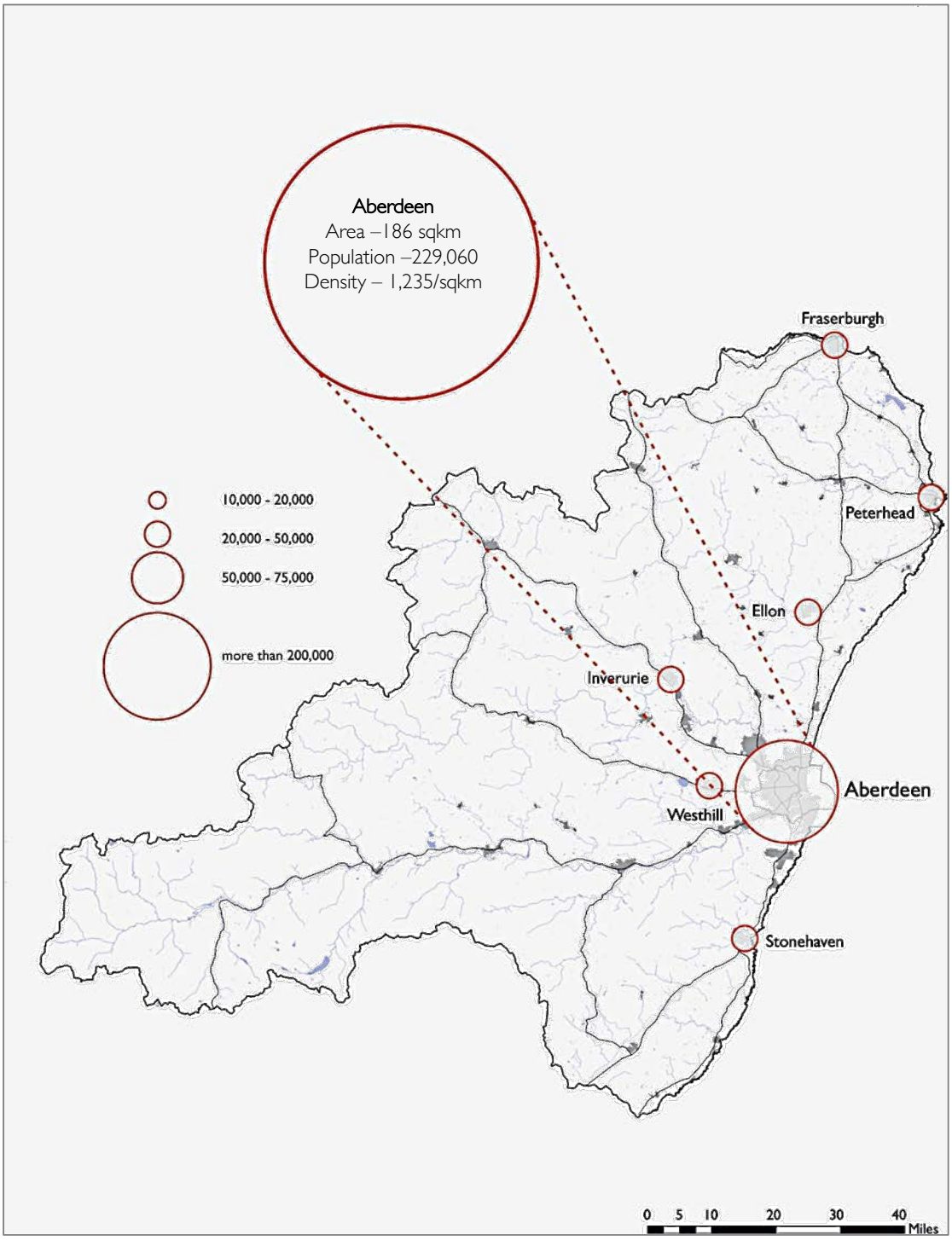


Figure 5-1: The AGE city regions – Aberdeen
Source: *Glasgow Urban Lab*

5. CONFRONTING UNCERTAINTY & TRANSITION

Aberdeen, Glasgow and Edinburgh, together with their city-regions, stand at the apex of Scotland's urban hierarchy. They form a notable and diverse group of fine northern European cities.:

- **Aberdeen** is, by dint of its role as Scotland and the UK's oil capital, a unique case. Its future – and its significance as a carbon-neutral pioneer – will be defined by the challenges and opportunities of the energy transition;

- **Glasgow** has, over many decades faced enormous challenges of deindustrialisation, decline and depopulation, matched only by Liverpool and Manchester in the UK context, but has in the last 30 years made remarkable progress. Legacy issues of poor health and low skills persist and erode productivity;

- **Edinburgh** continues to reap the benefits of its capital city status, its highly-qualified workforce and its leading role in Scotland's knowledge economy combined with strong population growth underpin the city's prosperity.

The AGE city-regions also present striking and significant contrasts:

- There are no large towns in Aberdeenshire which is a largely rural area; there are important outposts of the offshore industries in the coastal towns, while the area closest to the city has been suburbanised and includes secondary employment centres.

- The Glasgow city region is metropolitan in character with long-established satellite towns embraced within the primary urban area and with established New Towns ranged around the tightly-bounded city. Collectively, the outlying council areas contribute more than the city to Scotland's GVA, but in many other jurisdictions be considered a part of it

- Edinburgh's city region is suburban in character, but with prominent towns, however, economic activity is concentrated in the high-productivity city. The city-region extends beyond the Lothians into Fife.

These are three great cities, with long and distinguished histories, rich architectural heritage and distinctive cultures. They have been centres of learning and scholarship for centuries, and their contribution to quality of life in Scotland extends far beyond economic impact. City rankings, although useful and revealing, are of limited value and do not reflect the varying trajectories of change in different cities nor the nature and scale of the challenges they face. The *Good Growth* story adds a useful dimension by calling attention to the legacy factors faced by so many post-industrial cities as well as the enduring relationship between prosperity, opportunity and quality of life in the AGE cities.

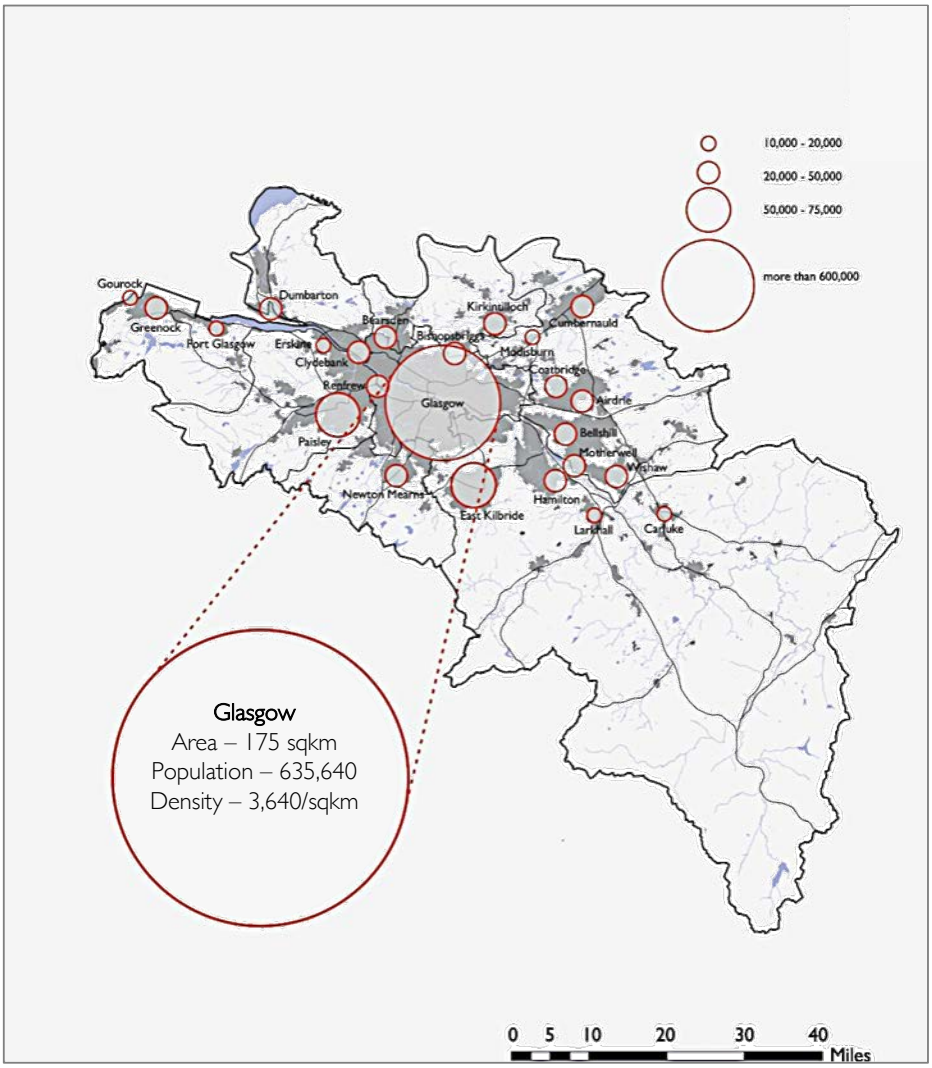


Figure 5-2: The AGE city regions – Glasgow
Source: *Glasgow Urban Lab*

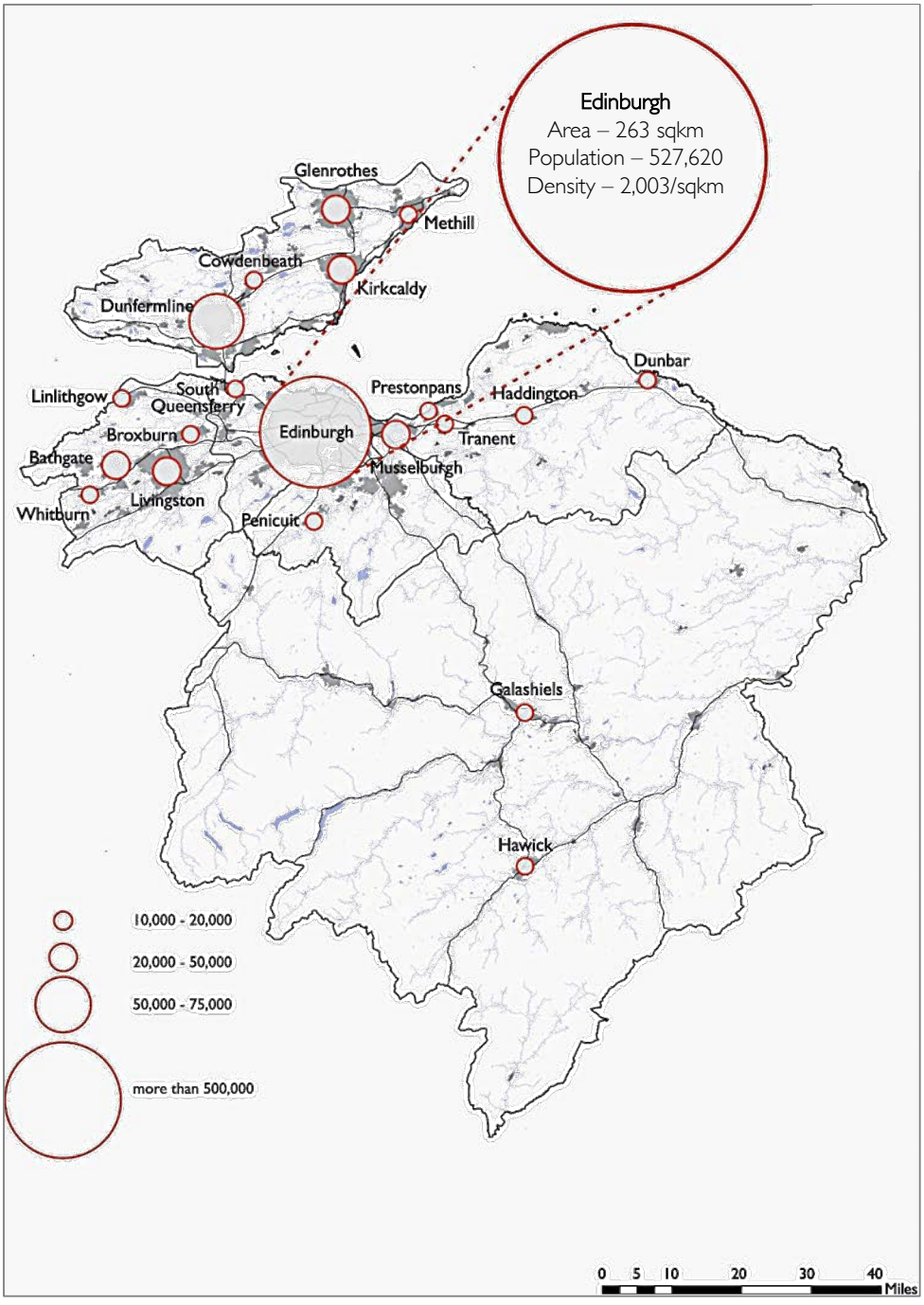


Figure 5-3: The AGE city regions – Edinburgh
Source: *Glasgow Urban Lab*

The spectre of uncertainty

"Radical uncertainty describes a situation in which we cannot enumerate a list of all possible future outcomes to which we can then attach probabilities…the proper response to radical uncertainty is not to redouble our efforts to predict an unknowable future, but to develop strategies that are robust and resilient to events which we cannot anticipate".[103]

To say that the AGE cities and their city-regions are facing **a time of change and great uncertainty** is little more than a statement of the obvious. Change is a given: the issue for cities is their preparedness – their ability to respond quickly to new opportunities and their resilience in the face of threats and challenges. Change is not driven by single issues but by the complex and unpredictable interaction of factors including, for example, technological advance, the climate emergency, demography and the legacy of COVID.

We do however know that the interaction of ***technological change*** (AI and automation) ***climate change*** (decarbonisation, extreme weather and sea-level rise) and ***demographic change*** (ageing and migration) is accelerating and driving a profound cycle of change with consequential effects on health and well-being. Some aspects (e.g. decarbonisation of building through retrofit) are easier to predict, if not fund, than others (e.g. where AI will go next, what the extent of sea-level rise will be and whether positive in-migration could be encouraged to combat the effects of ageing).

The role of **governments, local authorities and other agencies** is to try to shape the future and steer cities towards desired goals. The right policies can make a big difference but the capacity of the state to make things happen is finite; **businesses** may, of course, be agents of change in their own right but their ability to shape the operating environment is strictly limited – for most, it is more important to understand the forces shaping an unpredictable world, and to find creative ways to adapt and prosper in environments that may be difficult, hostile or more propitious.

For all these actors, **forecasting the future is riddled with risk and probably doomed**. Too often, forecasting is an expression of what we want to happen or a crude projection of recent trends. The trajectories of change in the AGE cities in recent decades are a vivid reminder of the risks of assuming that trends are a reliable guide to the future. While we can, of course, make some robust assumptions about the future, it may be more useful to open our eyes to **the futures that *might* unfold** – to recognise the boundaries of what is possible and, as a result, to make more flexible and thoughtful decisions.

To take a topical example, much of the discourse about **COVID recovery** is predicated on a "*return to normal*" in terms of consumer behaviour. There is a tension here with those promoting climate care. However, there is no doubt that many people (perhaps the majority) would like to return to the way things were. But what are the implications – for policymakers and consumer-facing businesses – if a significant minority proves to be risk-averse or even to prefer the lifestyle changes (such as homeworking or making more use of local services) imposed on the population as a consequence of COVID regulations? **Scenario planning** is a powerful tool for dealing these and other uncertainties.[104] We return to this below.

Uncertainty didn't begin with COVID, but the pandemic has sharpened our awareness of the **unpredictability of events**. The possibility of a global medical emergency was understood, but As Kay and King point out in their book *Radical Uncertainty*, "*we were wholly unable to predict when, or where, or what type of virus would emerge*". Those specifics could not have been predicted, but the knowledge that a pandemic was possible might have enabled states and international agencies "*to improve the resilience of public heath services to combat [it]…more effectively whenever it might arise*".

Something similar might be said about the climate emergency: there is a scientific consensus that extreme weather events will occur more frequently in the future, but where and how they will manifest themselves and with what severity cannot be predicted with confidence. We need policies to mitigate a range of threats and the skills, know-how and resources to respond quickly and effectively when the need arises.[105]

What are the implications for **cities**? The crucial role of cities (and especially city centres) in driving the knowledge economy through the beneficial effects of proximity and agglomeration is widely acknowledged. This report has cited research by the Centre for Cities which shows that most UK cities are less productive than comparable cities in Europe and internationally, using per capita GVA as a key measure. Given the underperformance of UK cities as a whole, the claim that Aberdeen, Glasgow, Edinburgh (and Scotland's other cities) are "*engines of growth*" probably needs to be treated with some caution, but they are the only places in Scotland qualified to play that role. Together, they account for 39.3% of Scottish GVA; when the city regions are taken into account, that share rises to 72.8%.

But **COVID has had a profound impact on all aspects of city life**. As the Centre for Cities put it in 2021, the virus "*struck at the very heart of what cities excel at doing; bringing people together*".[106] For example, COVID had the counter-intuitive effect of hitting the most successful city centres hardest. These cities cater for regional office, retail and leisure markets and, in many cases, national and international tourists. All these activities were profoundly disrupted by COVID. At different times, office workers were advised (and sometimes instructed) to work from home, dramatically reducing daytime expenditure on food and retail; non-essential retailers were shut down and some did not reopen; theatres, cinemas, clubs and other venues have experienced closures and restrictions; international tourism ceased and has recovered only slowly.

For much of the past two years, the effects were compounded in Scotland because restrictions were tighter than in England. The **impact on sales** in the AGE cities was huge. Between March 2020 and December 2021, Edinburgh city centre lost an estimated 43 weeks' worth of sales (3rd highest in the UK), Glasgow lost 42 weeks (4th) and Aberdeen 39 (13th). Weaker town and city centres, which depend more on local demand for convenience goods and services, were less severely affected by lockdowns and other restrictions. With millions of people working from home and adjusting to a local life, some out-of-town locations and suburban centres experienced a boost in trade. We do not yet know to what extent, and for how long this ***shift to the local*** will be sustained.

But trade also shifted online: the internet accounted for 21.4% of UK retail sales in December 2019, but this increased to 31.3% in December 2020 before slipping back to 27.7% in December 2021. Conventional shop sales have recovered as restrictions have eased, but value of total internet sales increased by 35% in this two-year period. Again, the medium- to long-term impact of the COVID disruption on the long-term growth of internet retail and entertainment is at this stage a matter for speculation, bearing in mind that it may only take a relatively modest percentage change in the value of sales for bricks-and-mortar operators to reach a tipping point.

The effects of COVID on the **world of work** have been much discussed. At the end of the first year of the pandemic McKinsey reviewed the state of play, classifying occupations based on physical proximity, the frequency of human interactions and where the work is done. They concluded that the short- and long-term impact of the pandemic would be most severe in four "*work arenas*":[107]

- leisure and travel venues including restaurants and hotels;
- places of on-site customer interaction including retail;
- computer-based office work; and

– indoor production and warehousing.

Construction and other outdoor production sites have been less seriously affected, while health and social care continue with a high level of personal proximity. Given the nature of these activities, these outcomes may reasonably have been treated as robust planning assumptions. Elsewhere in the labour market, the effects have been more profound. Some industries based on direct interaction with customers were forced to close at different stages of the pandemic, while most operated under severe restrictions. Other sectors **proved to be highly adaptable**, especially in the office-based service sector where new tools quickly emerged to support working from home. While many business leaders, politicians and commentators continue to stress the value of face-to-face contact and its role in promoting innovation and creativity, there is a body of opinion that the same benefits could be realised with less office time and less business travel. Highly paid knowledge workers seem to be natural candidates for **a hybrid working week** split between the home and the office. This debate has also revealed new dynamics in the labour market: even if governments and employers urge workers to return to the office, is this want employees want? Or will people with in-demand skills insist on the right to work from home, at least some of the time?

This is consequential, not least for the model of city development that has prevailed for the past 20-30 years. No one is seriously suggesting that we are looking towards the death of the office, but if **3-4 day in-office working weeks** become the norm, the impact on footfall, the viability of businesses serving office workers, the office property market and the public transport system could be profound, especially if it is accompanied by long-term changes in shopping, entertainment, and leisure. As we noted earlier, 70% of the planning profession charged with *managing the* ***development and use of land*** *in the long-term public interest* are ambivalent or agnostic about a return to the office. We cannot predict how long this will all take to play out, but we may need to think afresh about the role of cities – and especially city centres – in the mid-21st century factoring in automation and artificial intelligence.

Forecasting the future is often associated with wishful thinking and optimism bias, which are long-established sources of policy failures. But it is important to stress that the alternative – acknowledging uncertainty and the limits of our knowledge – is not predicated on a pessimistic world view. On the contrary, **challenging times often deliver pleasant surprises** as well as opportunities for human creativity, generosity and resilience. The extraordinarily rapid development of COVID vaccines, and the seamless transition from office to home working are two notable instances. We can and should be excited about the future of the AGE cities: being open-minded about their future prospects is the best guarantee of effective policy and an agile business response. We also need to understand change as a systemic, multi-faceted process: focusing on traditional policy silos is less fruitful than thinking about cities as places where systems – economy, healthcare, transportation, housing and the environment – interact. We have seen how this holistic perspective informs the UN's Sustainable Development Goals: all the SDGs matter; they are not a menu of policy options. There is a growing awareness that integrated systems design as much as service design and project design may hold the key to future thinking. Some recent research offers clues as to how to approach this tricky challenge.

We have seen how the UN's Sustainable Development Goals underpin a growing consensus about how we should interact with the planet. In this way – implicitly or explicitly – they are underpinning national, regional, city and local policy – a consensus is emerging.

Systems Thinking

One characteristic of this thinking is only just emerging however and that suggests that **the interaction of the SDGs is as important as action pursuant on any one of them** in isolation. By extension, **this thinking applies equally to the pursuit of the Scotland's National Performance framework** (NPF – not to be confused with the National Planning Framework – known as NPF-4). There is, in effect, **a growing awareness of the importance of the system as a whole** that is as least as important as any part of it – and yet, we continue with individual systems for economic development and finance, health, transportation, housing and planning. **The city is the place where these systems interact**, and **communities feel the consequences of these interactions most acutely.**

There is a growing awareness that integrated **systems design as much as service design and project design** may hold the key to future thinking. Some recent research can give us clues as to how to approach this tricky challenge.

In her book *Doughnut Economics*, Kate Raworth approaches one of our fundamental paradoxes head-on: how to reconcile the needs of the growing population of the world with the urgent need to protect the planet.[108] The goal of "*a safe and just space for humanity*" means living between two boundaries: a ***social foundation*** of wellbeing that no one should drop below, and an ***ecological ceiling*** that we should not exceed (Figure 5-4). The principles are easily stated, but the practical difficulties of establishing the doughnut economy are, of course, huge. Nevertheless, Raworth's proposition has attracted the support of a wide range of expert commentators as diverse as Mark Carney and David Attenborough while some cities have adopted it as an organising framework.[109] Figure 5-5 shows the Amsterdam doughnut. Raworth's book calls for a new kind of economics and she proposes "*seven ways to think like a twenty-first-century economist*":

i. ***Change the goal*** from GDP to creating the safe and just space
ii. ***See the big picture***, embedding the economy within society and nature
iii. ***Nurture human nature***
iv. ***Get savvy with the economy*** as an ever-evolving complex system
v. ***Design to distribute*** – because inequality is a design failure
vi. ***Create to regenerate*** through a circular economy
vii. ***Be agnostic about growth*** – focus on an economy that makes us thrive

This thinking is helpful in setting the boundaries for city operations between a safe and just space to achieve inclusive and sustainable economic development. CITY 2040, a report by Taylor Wessing in collaboration with EDGE and the University of Reading, addresses many of the same issues an opens discussion over how cities might approach the space between an outer ecological ceiling and an inner social foundation. Their starting point – which we endorse – was the 2013 UK Government Office for Science report which concluded that: "Cities matter to the UK. They are the concentrations of the UK's population, trade, commerce, cultural and social life. They are also the sites where most of the UK's future growth, both population and economic is forecast to occur. The UK's future is now closely linked to that of its cities."[110] The work sought to investigate the degree to which the proposition remained valid in the aftermath of the pandemic.

The Taylor Wessing report focused on four themes (all of which were addressed – explicitly or implicitly – by Raworth): *Equity and exchange; Access and use of public and private land; Clustering and proximity* (with implications for density and localism); and, *the importance of clean air*. The work resonates with issues similar to those that have preoccupied this work around the *speed of change* and *uncertainty* around the moves governments and cities need to make. CITY2040 draws four conclusions – that the future city:

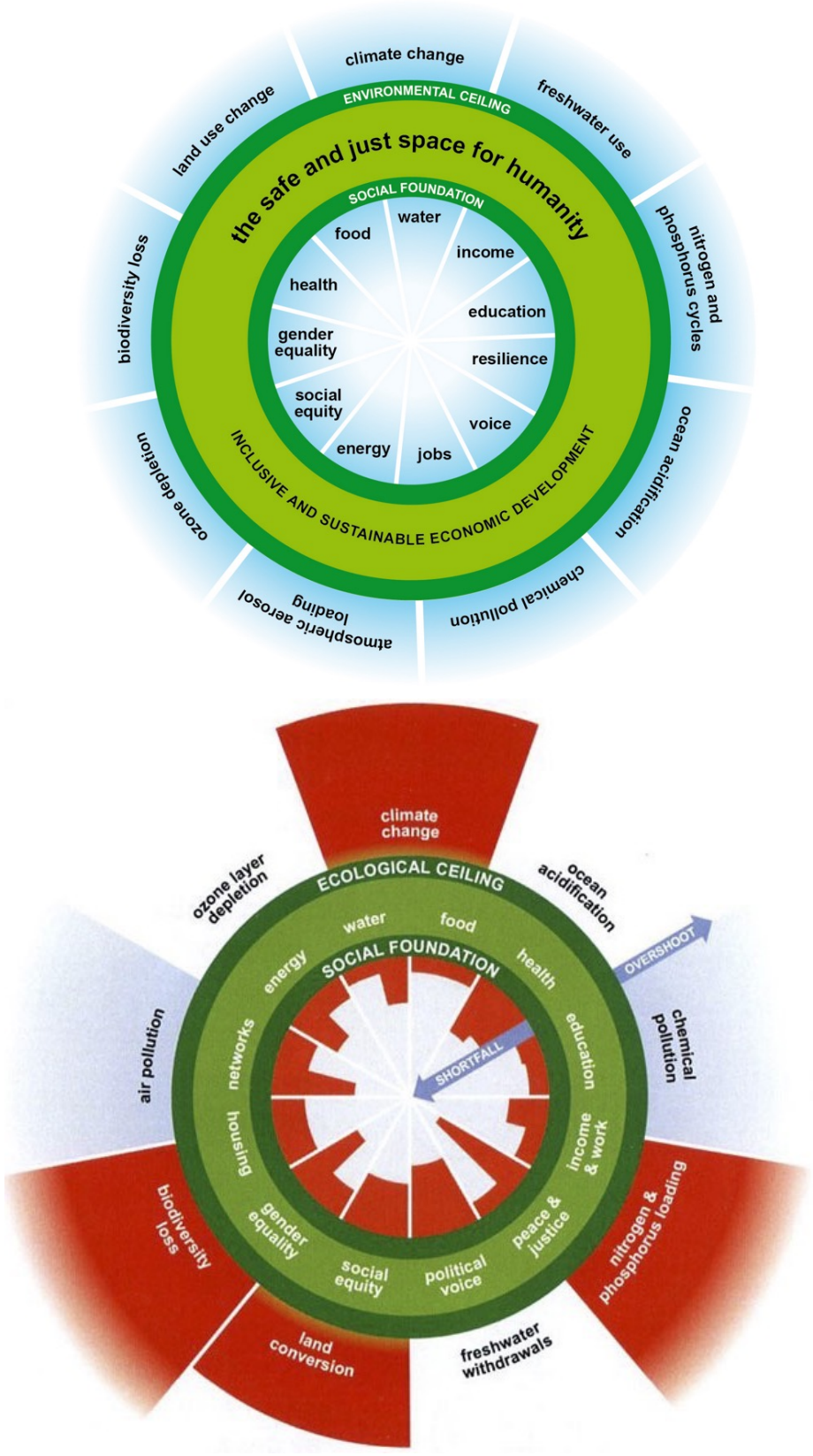
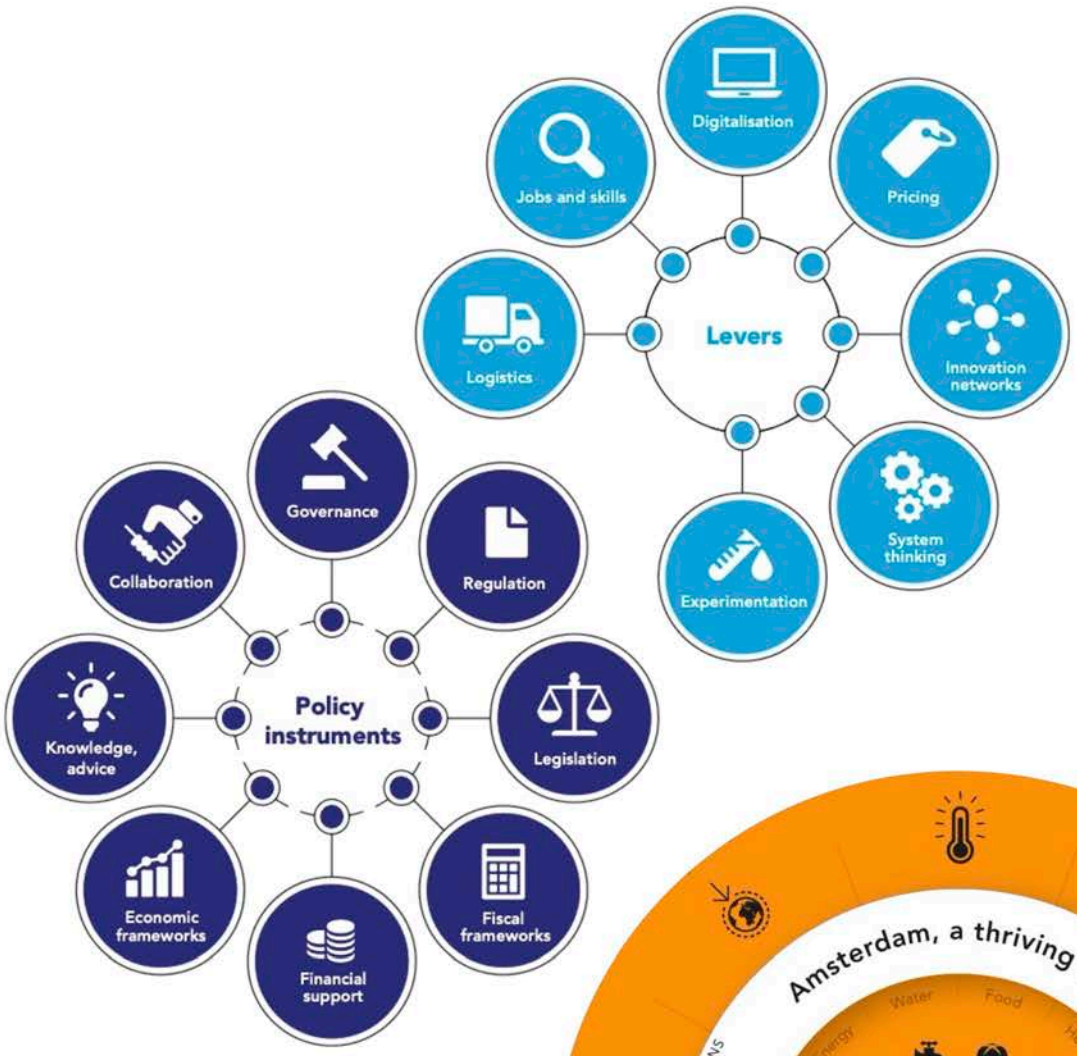


Figure 5-4: The principles of doughnut economics
Source: *Kate Raworth*



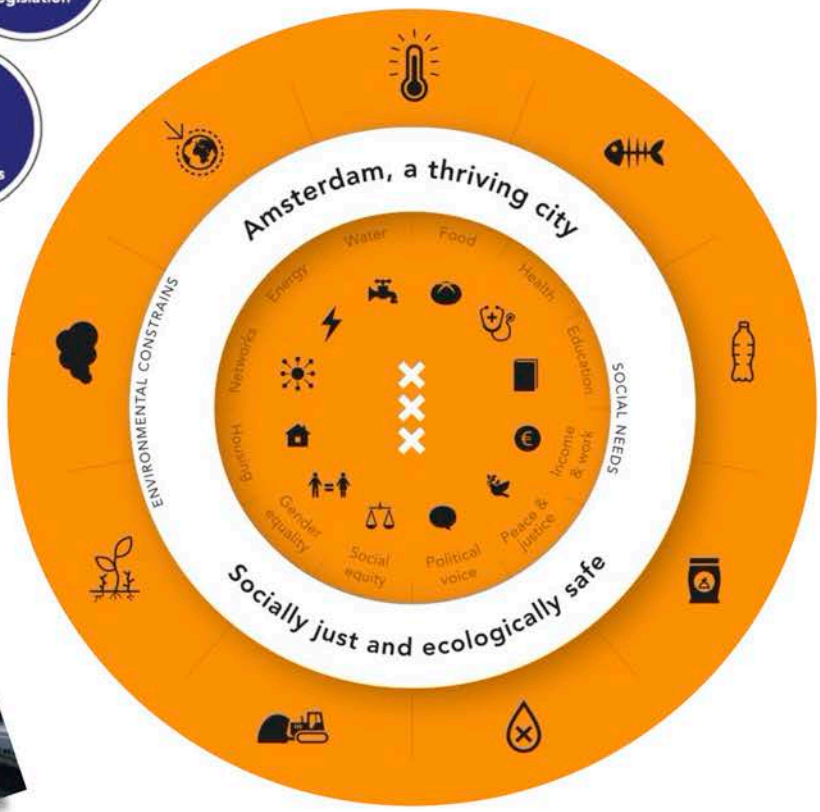


Figure 5-25: Amsterdam Circular: Building Blocks for the New Strategy 2020-2025 – a thriving city within planetary boundaries

Source: The City of Amsterdam

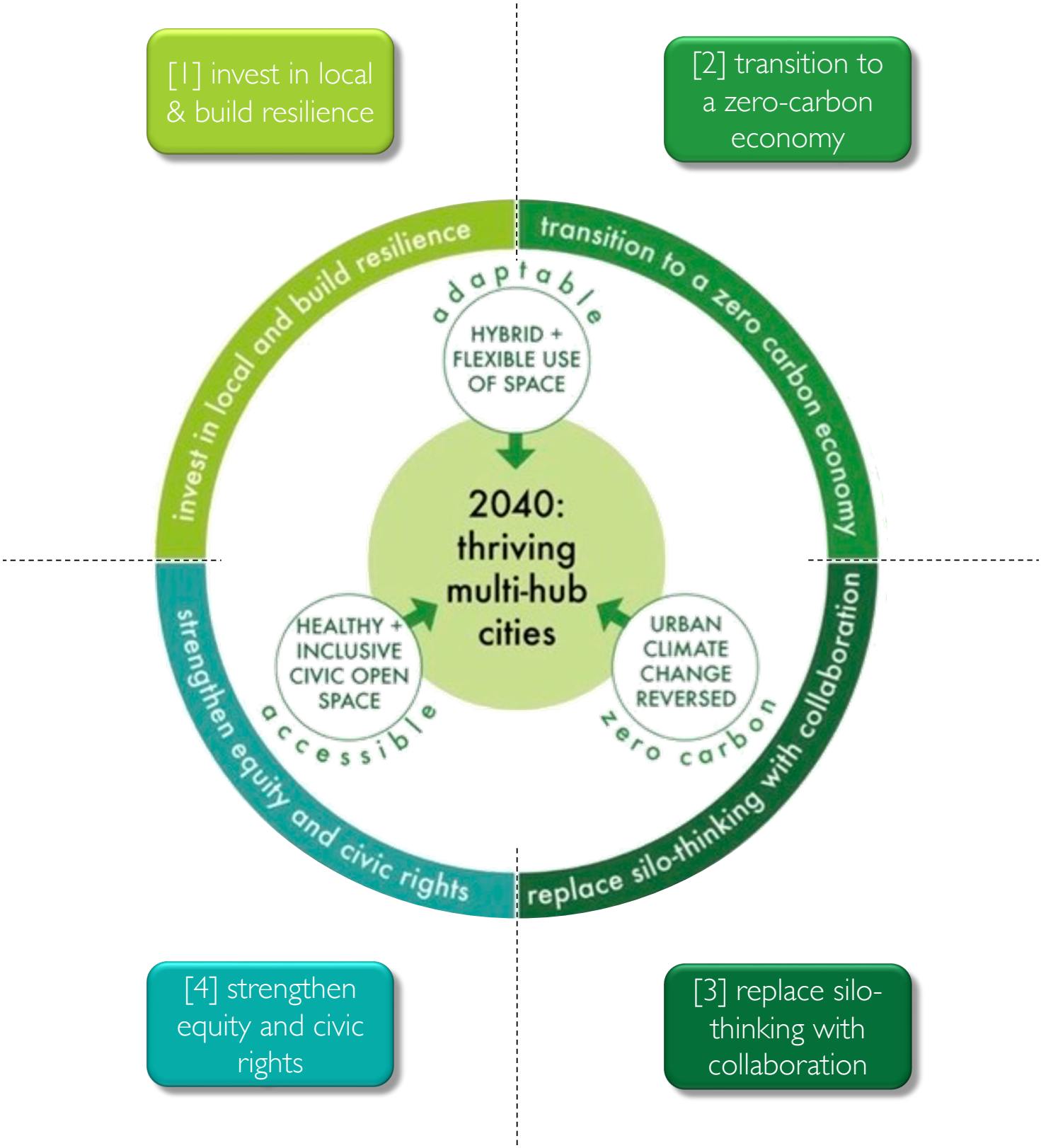


Figure 5-6: Four outcomes for THE FUTURE CITY
Source: *Taylor Wessing*

- *will become* ***a balanced multi-hub system****;*
- *will be* ***hybrid and uncertain*** *(and)* ***flexible and complex****;*
- *should embrace* ***health-driven and inclusive planning of urban space****; and*
- *should harness the opportunity of clean air and* ***reverse urban climate change impacts****.*

These were brought together in a diagrammatic model (Figure 5-6) that focuses on:

- ***Investment in localism*** *to build resilience;*
- *Transition to* ***a zero-carbon economy****;*
- *Replace silo-thinking with* ***collaboration****; and*
- *Strengthen* ***equity and civic rights****.*

There appears to be a **consensus** emerging around:

- *the importance of cities is undimished;*
- *the nature and speed of change is increasing;*
- *understanding the boundaries of acceptable intervention; and*
- *there is a nuancing of action needed around hybrid working, localism and the density/compactness balance.*

But no-one can yet move confidently beyond the uncertainty that currently prevails, with implications for planning and investment with us for some time to come. This makes meaningful planning and investment decisions difficult and enhances the risk of potentially costly miss-steps – mid-century modernist city planning still resides in the collective memory So this brings the narrative back to the opportunities for applying thought to scenarios about what *might* transpire and what attitudes we might adopt towards these possible outcomes.

Scenario Planning – a tool for dealing with uncertainty

This brief review has revealed an emerging consensus among urban commentators and policy makers:

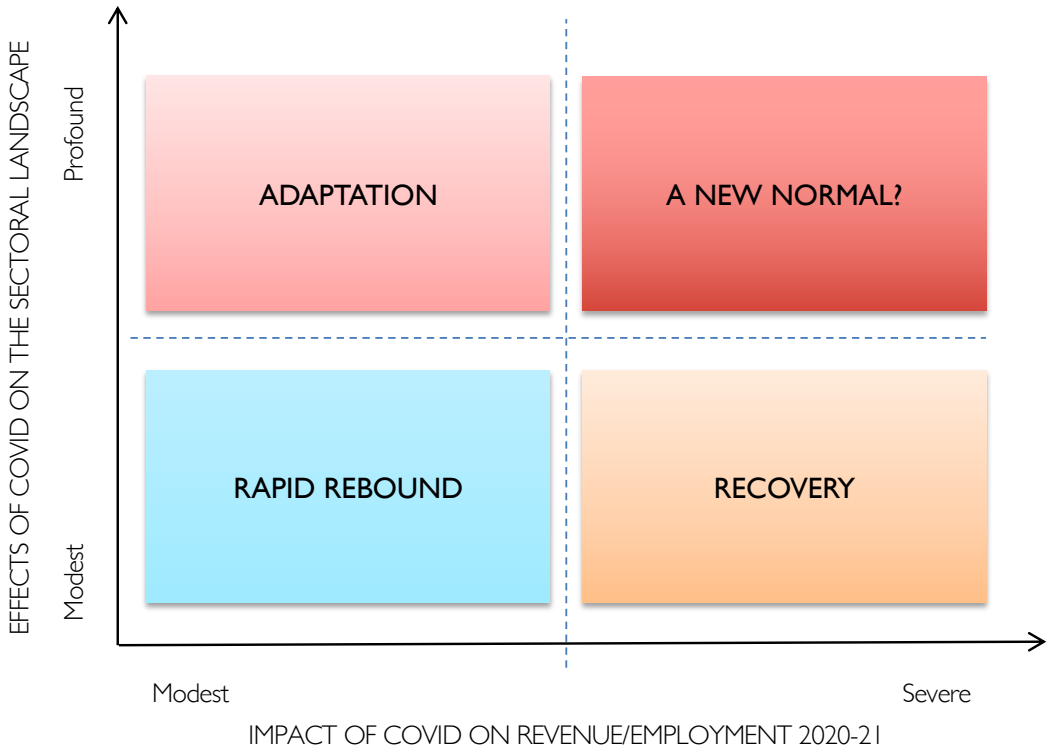
Text

- we are living in an urban age and the importance of cities is undiminished;
- cities have a vital role to play in addressing the great economic, societal and environmental challenges facing the world in the mid-21st century;
- change is a constant, but the rate of change has been supercharged by technological advances, the climate emergency and the impact of the pandemic;
- the systemic nature of these challenges and the high degree of uncertainty about the future mean that we have to find new, more creative ways to make our cities safe, just and sustainable spaces.

We are living in a world of radical uncertainty, but we still need to steer our cities – and, by extension, society – towards better outcomes. We need to frame policies that address the UN SDGs, by achieving a sustainable balance between good growth, social justice and the COP26 environmental goals. ***Scenario planning*** can be a powerful tool for developing policy in a time of extreme uncertainty. Instead of policies predicated on inherently unreliable forecasts and wishful thinking, scenarios embrace uncertainty: they invite us to consider *what might happen* and what we should do about it.

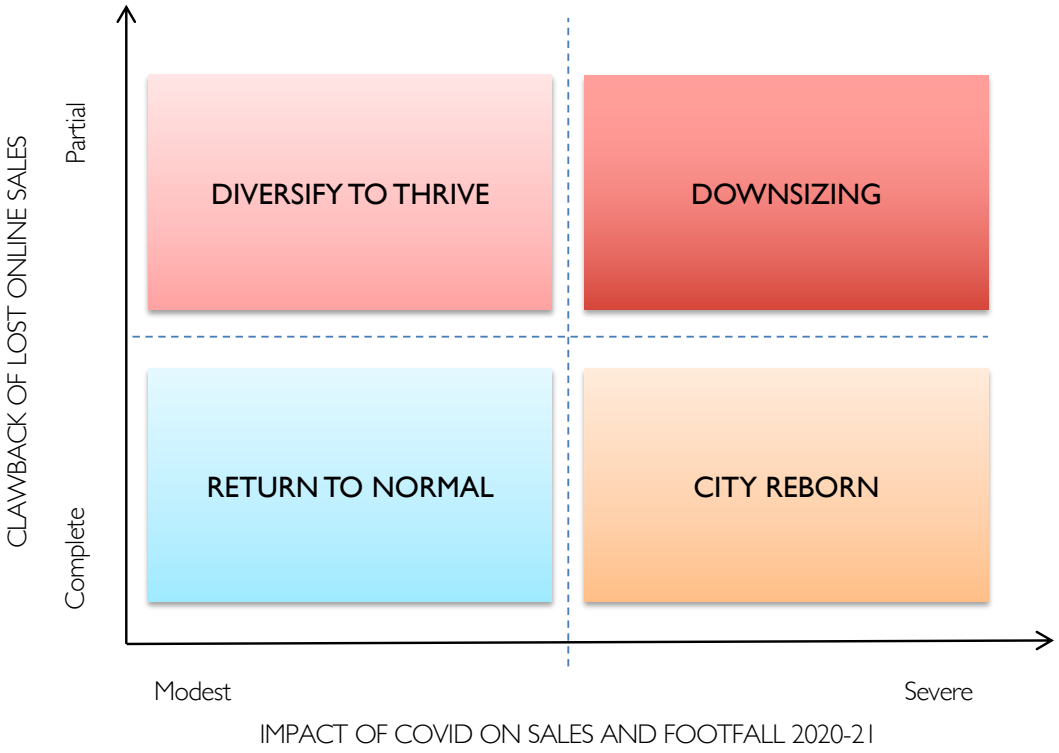
In the following pages we present a range of illustrative scenarios, with a particular emphasis on life after COVID. The scenarios present, in a simple, stylised form a range of potential futures for business sectors (Figure 5-7), the retail industry (Figure 5-8), cultural venues (Figure 5-9), the transportation system (Figure 5-10), and the office property market (Figure 5-11). Many other perspectives are possible, and would need to be introduced into a more extensive scenario planning exercise.

Text



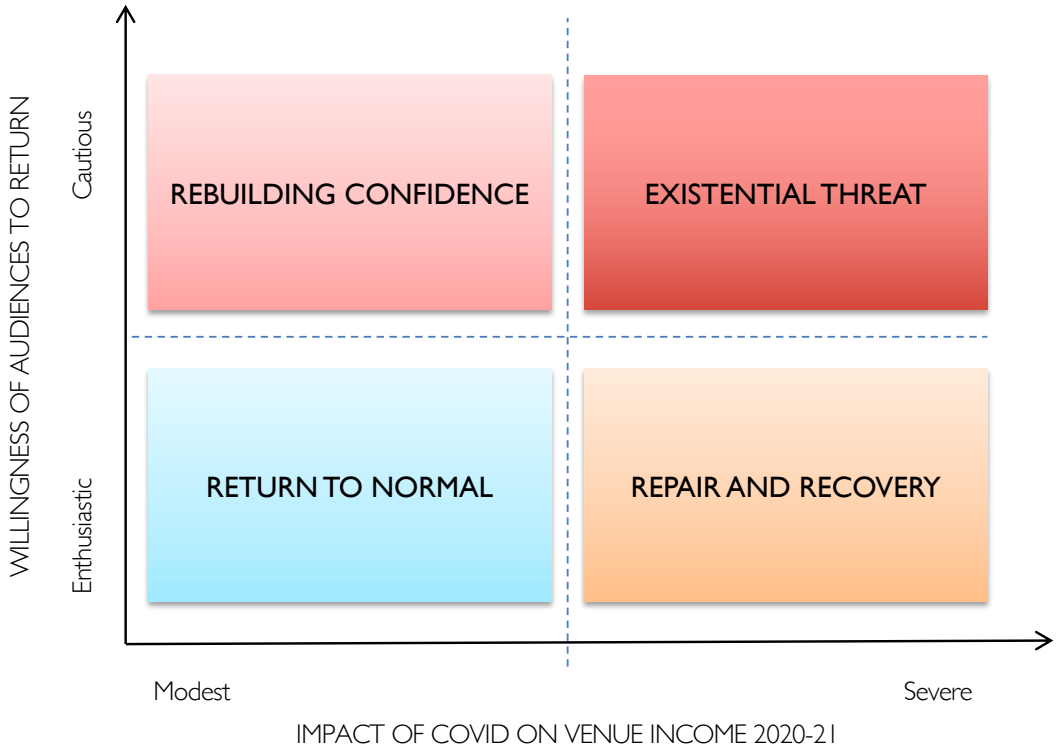
Potential Business scenarios

Figure 5-7 frames scenarios around two key dimensions: (i) the severity of the impact of COVID on different sectors and businesses in those sectors, and (ii) the legacy of COVID (still emergent) in terms of its impact on markets and prevailing business models in those sectors. This may be a useful way for policy makers and business organisations to think about the variable impact of COVID on different parts of the economy: a return to more-or-less normal may be possible in some sectors, while for others the recovery strategy will mean more far-reaching adaptation or even the creation of a new normal.



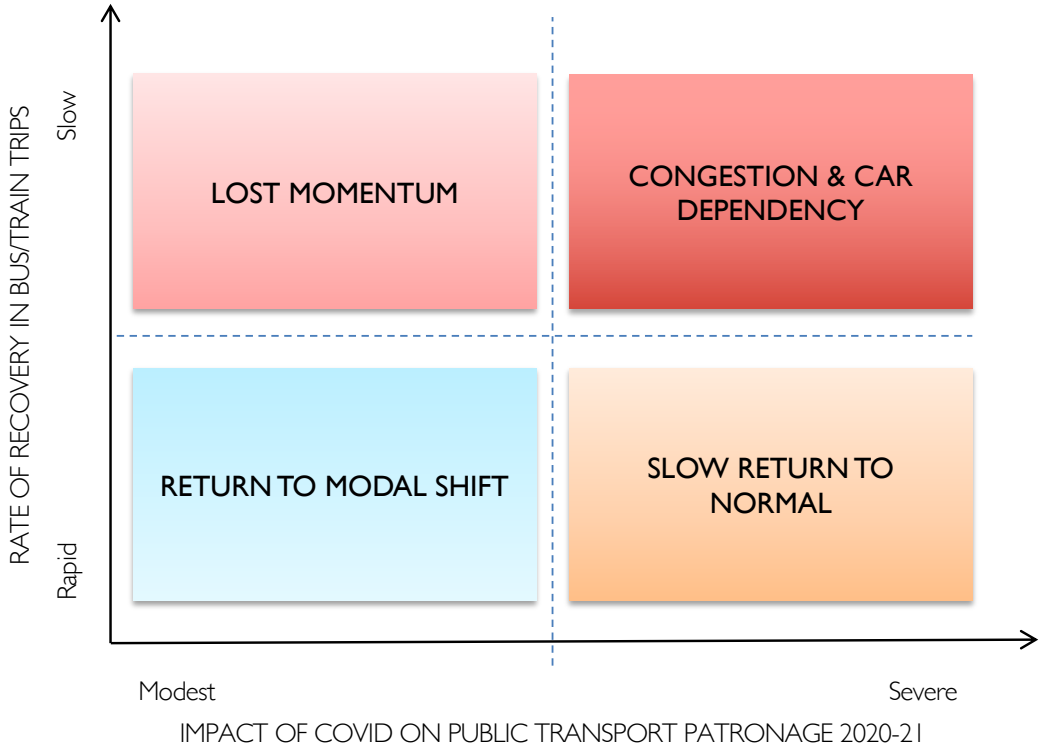
Potential Retail scenarios

Figure 5-8 focuses on the retail sector. It is framed around: (i) the scale of the impact of COVID on different parts of the retail landscape, and (ii) the still uncertain rate and extent of the "clawback" of sales from online to conventional shopping. Retail was one of the sectors most directly and profoundly impacted by lockdowns and social distancing measures. The already very rapid shift from in-person to online transactions accelerated during 2020 and 2021. It is much less clear how quickly and to what extent conventional retailers will clawback sales from online channels: some people may choose to adhere to new patterns of consumer behaviour.



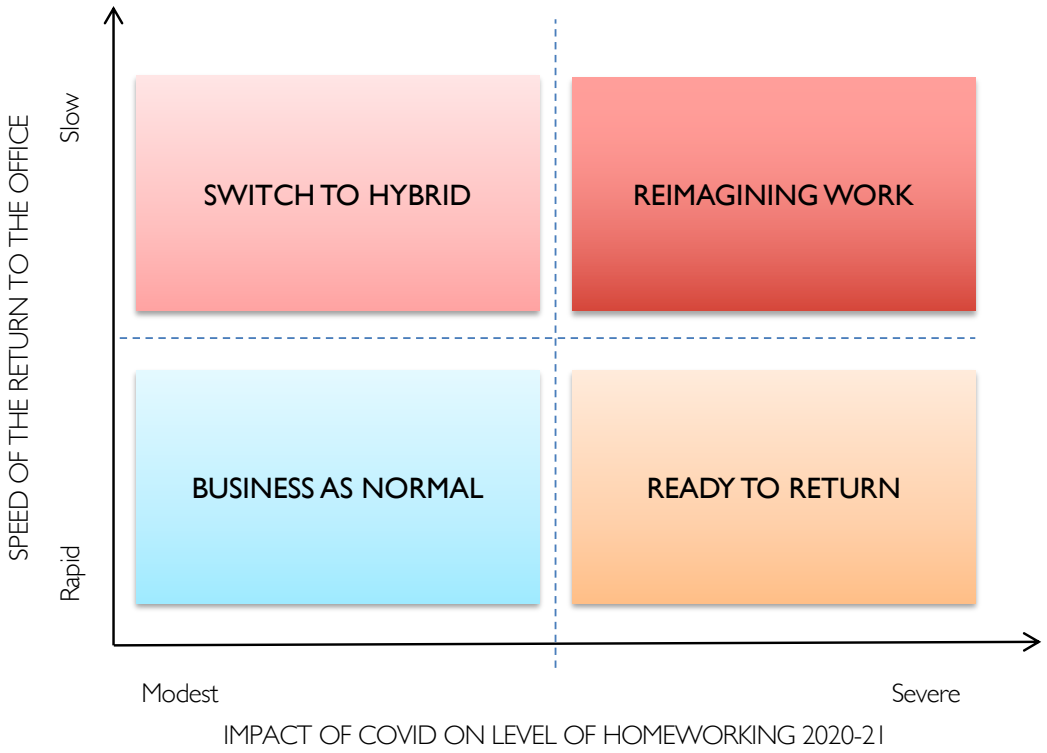
Potential Cultural scenarios

Figure 5-9 provides a similar framework for considering the future of the cultural sector, based on the same understanding that – faced with a hugely challenging set of circumstances – some organisations and some types of cultural business fared much better than others. The willingness of audiences to return to cultural venues is a key uncertainty, reflecting consumers perceptions of comfort, safety and risk: these may vary according to the demographic of the audience for different cultural sectors.



Potential Travel scenarios

Figure 5-10 looks at urban public transport. Patronage has been hit very hard by COVID restrictions, demand is still subdued, and many operators have still not reinstated full services. There is extensive evidence of an increase in the use of private cars during the pandemic, and these scenarios – like those for the cultural sector – take on board the possible effects of risk-aversion. This is highly significant for long-standing efforts to reduce car dependency and promote the use of public transport and active travel modes. These were already having mixed results: now we may have to factor in an unplanned return to the private car.



Potential Workplace scenarios

Figure 5-11 picks up on themes discussed above, providing a framework for a thoughtful discussion about the prospects for the commercial property market after COVID. The scenarios take account of (i) the incidence of homeworking in different sectors during the pandemic, and (ii) the rate of return to conventional workplaces. This is a sphere of considerable uncertainty, made more complex by possible tensions between what employers want to happen and the wishes/aspirations of their employees. Skilled workers in particular are well placed to demand flexible work patterns including a hybrid working week.

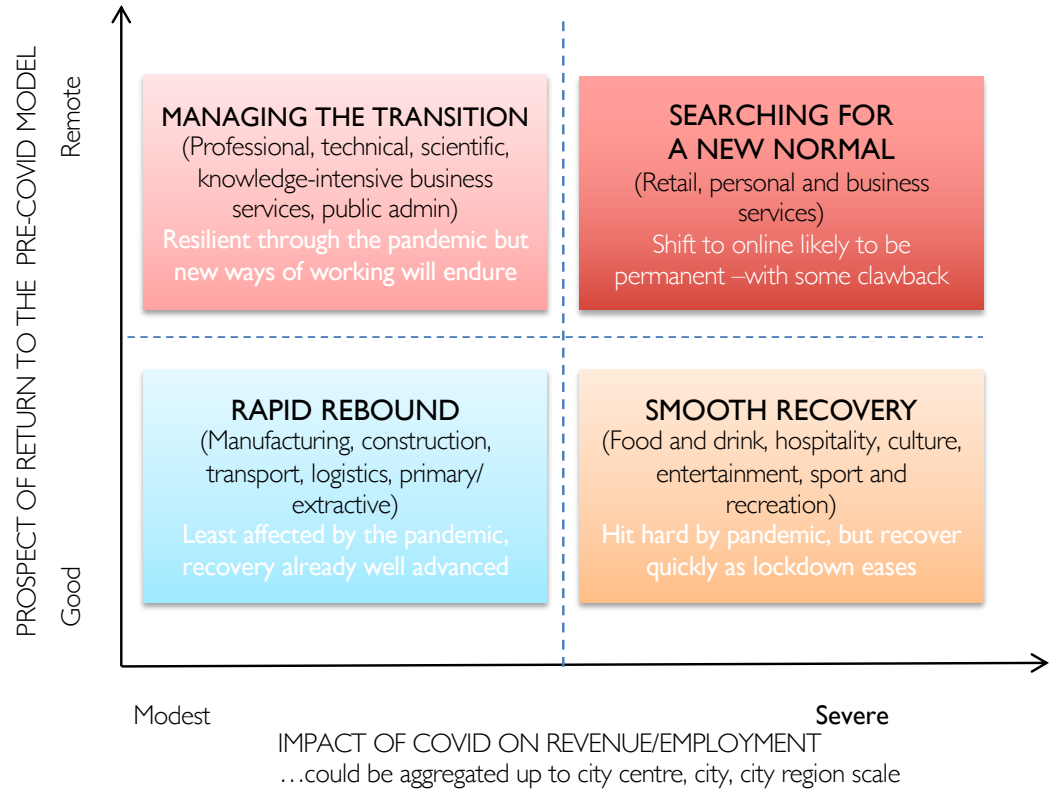


Figure 5-12: Post-COVID scenarios

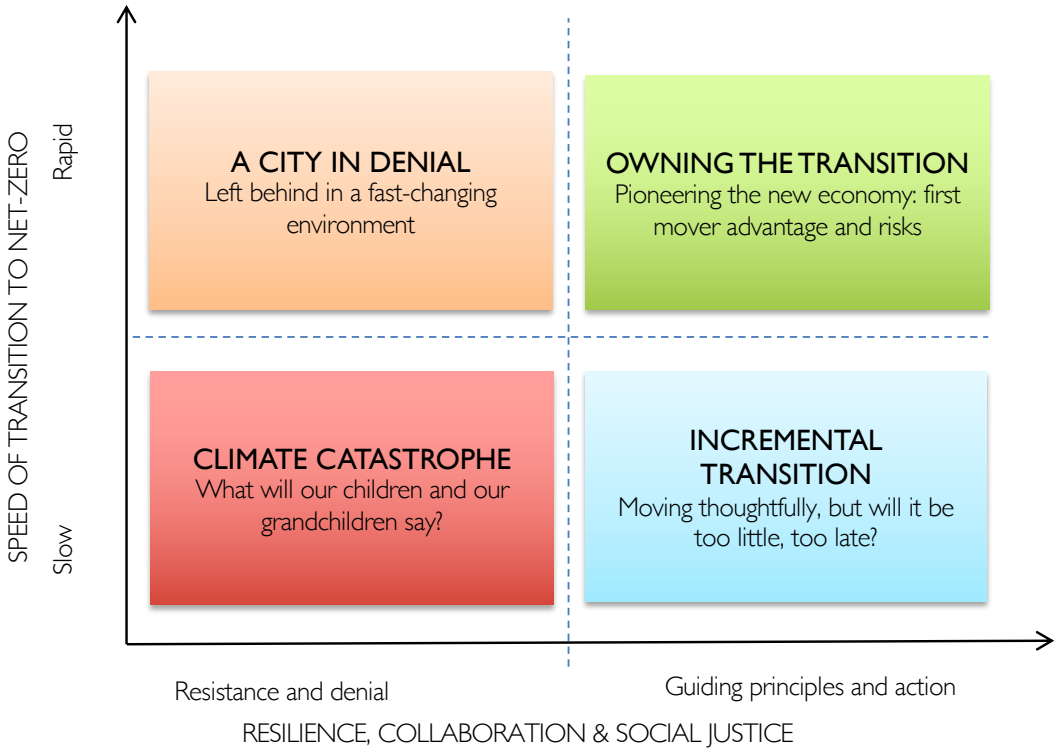


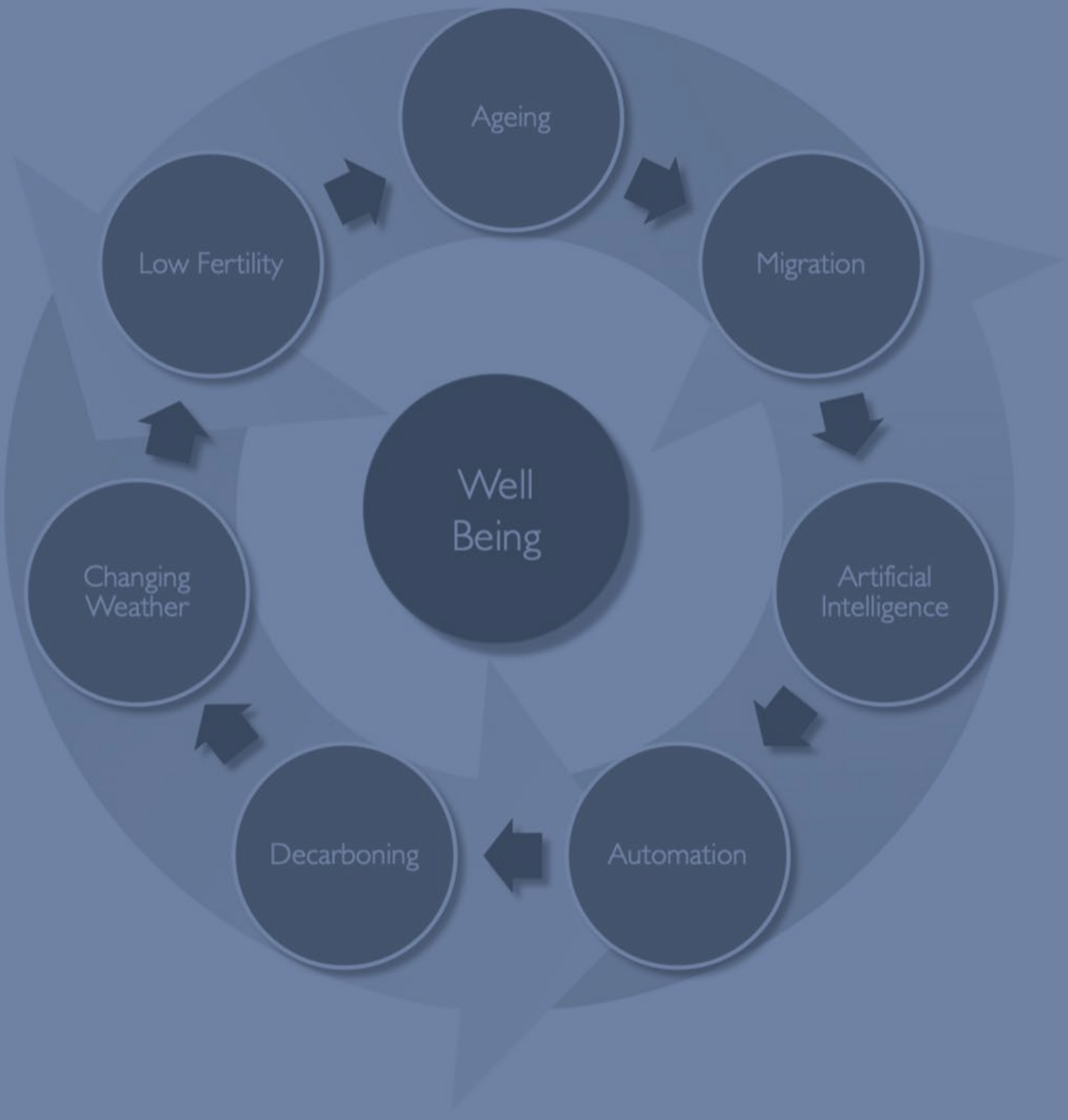
Figure 5-13: Climate Change Scenarios (Governance)

The scenarios are not fully developed, and they should be treated as illustrative, but they do demonstrate the potential of scenario planning as a tool for policy makers. They might provide the foundations for a more sophisticated and wide-ranging exercise. Figure 5-12 shows how they might be aggregated up to generate post-COVID scenarios at a city or city-region scale, taking account of the sectoral mix of the economy. Of course, the potential applications are not confined to the COVID narrative: Figure 5-13 shows how responses to the climate emergency might be determined by a combination of (a) the speed of the transition to net-zero in Scotland and the UK and (b) the responsiveness of city governance structures.

Changes or not? Systems and Scenarios – tools for uncertainty

Scenarios can be applied in a variety of circumstances. The common ground is that, instead of focusing on preferred outcomes, they are concerned with what *might* happen and, in this way, with establishing *the boundaries of the possible*. For businesses, military planners and others this is familiar territory. Scenario planners recognise that things do not always work out the way we expect or want, and they value a process that recognises the limits of our ability to influence the business environment, and which can help us to identify potential risks and pitfalls. Put simply, scenarios can help businesses to guard against optimism bias, identify ways to prosper even in difficult times, and to frame strategies for a range of market and operating conditions.

Policy makers and business organisations are in a different place. They are, by definition, in the business of trying to create a better future. But there is often a gap between the world described in policy aspirations and the lived reality. That is inevitable, but better policy making can help to close the gap by, for example: adopting realistic goals and targets, revealing unexpected opportunities, identifying potential threats and (as far as possible) neutralising or mitigating them. By creating a structured framework for thinking about the uncertainties that surround the policy domain we can develop a better understanding of both the good we can do and the threats we face. Cities and the regions that surround them are complex systems: scenario planning reminds us that a single-issue approach to city development will inevitably fail; it is only by comprehending the interactions between the multiple issues that define the city that we can identify policies and interventions with the power and resonance to make a real and lasting difference.


Ageing
Migration
Artificial Intelligence
Automation
Decarboning
Changing Weather
Low Fertility
Well Being

Scotland's Urban AGE 2022

6: The more things change?

6. THE MORE THINGS CHANGE …
… *the more they stay the same?*

This has been a fascinating and challenging piece of work to undertake. We are indebted to the Scottish Funding Council, the Chambers of Commerce for Aberdeen, Glasgow and Edinburgh, and their partners Brodies and A^{2}B for their funding support and encouragement. The work began with a simple question: how is the COVID-19 pandemic impacting on the three principal cities and city-regions of Scotland – Aberdeen, Glasgow and Edinburgh (the AGE cities)? And, as a supplementary, how, and in what ways, is this influencing the findings of the earlier research report *Scotland's Urban AGE: Aberdeen, Glasgow and Edinburgh in the Century of the City*? (SUA-1)?

Before we began work, it was clear that the answer would be bound up (probably) with the consequences of Brexit and (certainly) with the challenges of the climate emergency … and so in a "*what did the Romans ever do for us*" moment, the research question became *how is the combined effect of COVID and the climate emergency influencing the AGE cities and their regions taking into account the longer shadows of the financial crash and Brexit*? And, as funders are apt to do, they made the ask even clearer – *what has changed*? *what has stayed the same?* and *what's new* – all with the laudable aim of helping institutions, chamber members and clients navigate the systemic flux that is in play. We have not been alone in this quest. Even if our focus was more specific than many, numerous colleagues were, and are, travelling on the same road. They have informed our work and we have gratefully acknowledged their sources. Some with an international profile and reach – the UN and McKinseys – have illuminated the way, others (Demos, David Hume Institute, Taylor Wessing), provided belays for difficult moves, but the interpretation and the conclusions that follow remains ours alone.

In endeavouring to answer these questions, we have followed a method similar to SUA-1 beginning with a tour of the wider international horizon, a reminder that Scotland's cities are part of a wider system across the UK, Europe and internationally (Chapter 1). We bring this closer to home by looking at systems in the UK and Scotland in particular (Chapter 2), before taking a deep dive into the three cities and their regions (Chapters 3 and 4). Finally, we open up a wider discussion into tools that may assist future planning (Chapter 5).

SUA-1 & SUA-2:
The starting point for *Scotland's Urban AGE: Aberdeen, Glasgow & Edinburgh in the Century of the City,* was a recognition that, in world terms, the future is urban and, by reviewing international trends, set Scotland and her principal cities within these trends to investigate how much these were reflected at home. We found that they were, but this wider view can be lost in local noise within the intra-Scottish urban system and UK and city league tables. We found that the AGE cities (Aberdeen, Glasgow and Edinburgh) have the potential to fare well in the international milieux, that they have more in common than separates them, and that they sit at the apex of an interrelated urban system in Scotland.

SUA-2 reflects on the COVID pandemic, engages with the challenges of the climate emergency and the sharp focus of COP26, and reflects on the legacy of the Global Financial Crash and Brexit. These have, and are, causing *shocks to the system* – and these shocks interact. Together they stoke uncertainty and make already difficult challenges even more keen. The cumulative effects, without understanding, judgement and leadership, could be toxic for the cities and their peoples. We have therefore sought to bring together views on the **shocks** to the system (GFT, COVID-19, Climate Emergency and Brexit), the **flux** these are causing and the intrinsic **resilience** that exists to handle these forces and, then set out our thoughts around the **scenarios** and **systems** that may be helpful in navigating the uncertainty – and anxiety – that abounds.

Here we attempt to set out the agility, resilience and trajectories that might guide dynamic but measured action in Scotland's three principal cities and their regions to bring a measure of **stability** to help establish a dynamic equilibrium for the AGE cities. There is no end state, no arrival, for cities need to be dynamic, or they decline. The health of the AGE cities, their economies, their peoples and their environments are a litmus test for Scotland's future, and they cannot and should not be seen apart from Scotland's interconnected system of cities and towns, nor indeed from the wider UK and Ireland, Europe's nascent anglophone supercity. This truly is a whole that is greater than the sum of its parts.

Our findings are set out in the following pages under seven headings:

1. *The International Context*
2. *Systems Thinking*
3. *Competitiveness and Productivity*
4. *The AGE cities, Scotland's urban system & the Scottish Cities Alliance*
5. *Geography, Governance & The AGE Cities*
6. *Place and Urbanism*
7. *Reconciliation of The Place and The Times – Genius Loci & Zeitgeist*

1. The International Context:

The global consensus that the 21st century is the '*century of the city*' remains in play. The shocks of recent years show no signs yet of changing this trend. The changes in living brought about by the COVID-19 pandemic, although significant at the local level, are not altering the march of urbanisation nationally or globally. The settled view that global population will peak mid-century remains in play as a consequence of changing demographic dynamics across the globe However, continuing urbanisation combined with the climate emergency will escalate stresses in temperate regions that continue to experience in-migration that also offsets internal demographic challenges characterised by ageing populations and falling birth rates.

So global trends are continuing but they are being nuanced by events and there are changes evident across the past three years. In SUA-1, we described how the growth of the digital economy, described by some as the ***net-age,*** was predicted to lead to the death of distance as people could and would work from wherever they chose.[111] However, we found that global, inexpensive air travel at the start of the 21st century was in fact having a contrary effect and the ***jet-age*** was compounding the effects of the ***net-age,*** together driving urban concentration and rapid economic growth in the knowledge cities of the world. The pandemic reduced the acceleration rate of this trend. Compelled to find means to keep the economy moving and to keep people safe, society and communities made adjustments, leading to a systemic shift online wherever possible. Across the world and at home, people rediscovered their locality, valued it and spent time there. This was paralleled by a systemic shift, and massive decline, in travel patterns. Society and the media debated what constitutes ***normal*** life. Just as there was some belief that normal service might be resumed, aggression by Russia in Ukraine has compounded these changes as the world's airspace is now divided in three, the 'west', the Russias and the 'neutral' territories. There is no way of knowing how long these conditions will prevail nor what the outturn might be.

There has been a further coincidence of timing over the past three years: *climate change* has been reframed as a *climate emergency*. A welcome and successful rowing back on the repositioning of *global warming* as the less threatening *climate change*. With this coincident and heightened importance of climate has come the dawning realisation in government policy that, in developed nations in particular, the whole of society and economy are carbon based and we are only now beginning serious efforts to address the challenges when, according to some commentators, it is already too late.

Finding #1: Internationally, there is a new localism infusing a new hybrid way of life. Going "back to normal" is recognised as nostalgic, safe, unachievable and impractical – but visions of a "new normal" are now seen as a vaguely utopian construct being replaced with a search for the "next normal" … and nobody yet knows what the next normal will be – uncertainty and fears of dystopia abound. Uncertainty will persist for some time to come. Inactivity is unwise as is precipitant action in the interests of being seen to "do something".

2. *Systems Thinking:*

The work of the United Nations – often around cities – can be seen as global, remote and of little relevance to the everyday challenges at home. But over recent decades – since Habitat II in Istanbul in 1996 – the UN has sought to make more explicit the discourse around cities and calibrate differences between them. The organisation has slowly built a standard taxonomy of terms around city size and forces of change. The concept of the *supercity* as a cluster of successful and interdependent knowledge cities has stuck. Many of these *supercity* systems are in Europe and North America – the UK and Ireland make up one such system.

There is also an agreed global agenda about how humankind should interact with the planet based on *Transforming our World: The 2030 Agenda for Sustainable Development* and the seventeen Sustainable Development Goals (SDGs) and targets. Over the past four years, the SDGs and targets have grown in stature, and provide a common language upon which to base dialogue on a diverse range of subjects affecting the human habitat and our interaction with the planet. Awareness and deployment of the SDGs has grown significantly and explicitly as has recognition that their effects are '***integrated and indivisible***'. Each has its strength, but only through a balanced approach to all seventeen can their intent be achieved as a series of integrated principles upon which to found common endeavour to develop policy initiatives towards implementation of the goals and their targets.[112] Scotland's *National Performance Framework* has set up eleven national outcomes that explicitly mirror the integrated and indivisible intent behind the SDGs together with a range of national indicators that can monitor the progress of policy effectiveness towards these outcomes [113]

There is growing awareness in international discourse, mirrored in Scotland, that action pursuant on one aspect of policy change in isolation can impede action in other areas. As a result, there is a need to adopt a more systems design approach in policy thinking and action. Specialist expertise devoted to specific aspects of the system has been recognised as a risk for decades since modernist thinking held sway in the mid-20th century. The need to overcome '*siloed thinking*' and get professions '*out of their silos*' has been a common refrain for decades but that advocacy has often lacked the compelling evidence and reasoned justification to back up its intent. In our view, an aspiration for integrated systemic thinking underpins Scotland's ***Place Principle.***

Urban systems are referred to in everyday discussions without a second thought – we refer to the financial system, the transport system, the planning system, the housing system, and the National Health Service (a service that is of course the largest, most complex system in Britain). This last example demonstrates a common misunderstanding – systems and services are often used interchangeably in colloquial language to mean the same thing, but they are far from it. Designing a system is a radically different challenge to designing a service to deliver on the outcomes from that system. Indeed, this point could be stretched further to suggest that systems are designed to deliver ***outputs*** (e.g. number of passengers carried, number of planning applications processed, hospital waiting times reduced – generally related to the achievement of targets) whereas services are (or should be) designed to deliver ***outcomes*** (related to quality of life and quality of place). This makes outputs easier to measure than outcomes. Outputs tend to be quantitative, measurable, easily expressed as percentages over time. Outcomes tend to be qualitative and therein lies the challenge. So, in the pursuit of place, if we are to move from policy and programmes to people and place, we might ask where and what is our *Place System* and similarly what is or what would be our *Place Service*?

Finding #2: Systems design – with the adoption and promotion of the Place Principle, the Scottish Government implicitly recognises the importance of systems design in delivering the outcomes associated with the National Performance Framework that is in turn based on the principles contained in the UN Sustainable Development Goals.

3. Competitiveness and Productivity

There is widespread recognition that Scotland's cities should be the country's engines of growth. The AGE cities and city regions account for over 70% of Scotland's jobs and residents and a higher percentage again of knowledge intensive jobs. The relationship of land area to population, jobs and GVA is significantly in the favour of the three principal cities. In absolute terms, Glasgow (city and city region) makes the largest contribution to population, jobs and GVA, but only Edinburgh city shows the kind of "*productivity dividend*" that would typically be expected of a high-performance city economy.

In common with their UK peers, the AGE cities do not achieve a significant productivity advantage over neighbouring areas (the city regions) and we have seen that the comparative performance of UK cities of different sizes and types – especially those in transition to economies based on knowledge-intensive business services – together with the geography of skills and deprivation – are not collectively making the contribution they should: "*the underperformance of our biggest cities that affects the largest number of people … has the biggest drag on the national economy*". In our work, there are only two factors discernible that influence this: the skill levels of the workforce compared to European counterparts in the proportion of skilled/semi-skilled individuals compared to the non-skilled workforce (the percentages of the graduate workforce are broadly comparable) and, secondly the institutional governance of the country and the centripetal effect of London and the south-east. This divergence is worse again when considering the good growth index related to GVA in 2020.[114]

Even although economic prosperity is associated with negative outcomes such as high house prices and inequality of wealth and opportunity, it is clear there is a positive correlation between GVA and good growth – as we noted earlier – prosperity is good for quality of life. In the years before the pandemic, there was increasing evidence of polarisation: "*the gap between the cities at the top of the index and those at the bottom had started to widen after many years of narrowing*".[115]

The knowledge economy and the relationship with productivity in the AGE cities is a key issue, as it is for all UK cities, and has been of concern for some time and was the case in 2018 when SUA-1 was published. This is the primary impetus for and focus of the Levelling-up initiative promoted by the UK Government. It is already clear that those areas already configured to benefit will be the winners and those for whom the initiative is most needed could be the losers.[116]

Finding #3: Competitiveness and Productivity – if productivity is to be addressed across the cities of the UK and areas of disparity closed, it is clear that a tight focus on skills and an alignment of collaborative governance will be a prerequisite for city/city-regions to compete in and take advantage of the roll-out of the programme.

4. The AGE cities, Scotland's urban system & the Scottish Cities Alliance

The AGE cities, sit at the apex of Scotland's urban system. There is no change in this since 2018 and SUA-1. Their leadership, prominence and capability – their economy of scale – ensures that this remains the case. But there are changes within the system. The city of Dundee has made considerable steps forward in terms of delivery of regeneration outcomes, cultural renaissance and inward investment. Furthermore, it shares with the AGE cities a clear city boundary and the election of a dedicated city government authority – only Dundee and the AGE cities – can claim to have a form of city governance. They are compact, dense and they elect authorities whose principal purpose is the good governance and delivery of services for the people who elect them. They are innovators in, and deliverers of, the Scottish Government's principal urban place policies.

Edinburgh benefits from its capital city status and demonstrates the level of prosperity and productivity of a modern knowledge economy. Glasgow continues to address the legacy of deindustrialisation but has otherwise broken free to accelerate reinvention of the city. Glasgow is an outlier for alone in Scotland, the city is metropolitan – with a continuous urban area much larger than its boundary. The *primary urban area* puts the city's population at around 1.2 million. This is widely recognised in the UK and internationally and should be supported to become the *managed metropolis* it has the potential to achieve. Aberdeen knows and recognises the transition it requires to make and equally deserves support in the challenges it faces in a managed transition from a natural resource carbon economy. Dundee still has some distance to travel in terms of economic clout has nevertheless found and established its cultural credentials and identity as a burgeoning small city. These four have their own identities but share what we described in SUA-1 as a familial likeness in cultural identity and significant attributes of European urban form. Scotland's needs them all at the top of their games. It is one of the principal duties of Government (Holyrood and Westminster) to do everything possible to ensure that they succeed, not least in trusting them with more devolved responsibility to address the tasks at hand.

The other cities in Scotland – Inverness, Perth and Stirling – are different. They are (very) small (Scottish) regional cities completely integrated with their hinterland and governed by extensive rural authorities. They are indistinguishable from other of Scotland's larger towns and their numbers may swell by another this year if a further town is granted city status in a royal jubilee year.

We discussed the Scottish Cities Alliance in some depth in SUA-1 concluding that it is was ill configured and underpowered to lead urban transformation in Scotland. That remains true today. But it ***is*** a good idea and there have been rumours that the Scottish Government is thinking about a more enhanced '*cities think tank*' role for the SCA, prhaps in partnership with the Scottish Futures Trust. If adequately resourced with enhanced capacity to access and disseminate thought leadership in Scotland and internationally through, for example, a cities council, this would make a welcome contribution to the landscape of urban endeavour in Scotland by strengthening the capacity of the cities and giving large towns and the new towns a voice. This is an opportune time to build the capability and capacity of SCA to explore how good design and good urbanism is key to the futures of our cities – using systems design to renew, reinvent, re-establish. The European cities we compare ourselves with benefit from the informed and consistent hand of world class designers within the city.

Finding #4: The AGE cities, Scotland's urban system and the Scottish Cities Alliance – there is need to see the diversity and complementarity in Scotland's urban system, to build their capacity in the fields of urban policy, urban design and urbanism by empowering them further through further devolving responsibility and resource more akin to their European and North American counterparts. The Scottish Cities Alliance should be empowered and enhanced as a think-tank vested with the responsibility to monitor and disseminate good practice in city systems design, service design and delivery but the responsibility of doing and delivering should rest with cities (regions) themselves. They should be supported in growing their capacity to do this.

5. *Geography, Governance & The AGE Cities:*

We have posited the importance of physical, human and economic geography for the future prosperity, well-being and urban configuration of Scotland. Draft NPF4 presents the proposition of Central Scotland as one of *Central Urban Transformation* that does not quite match the midland valley although the geography of Scotland shows that it the area could be adjusted to achieve a better fit. Similarly, the *North East Transition* highlights the historical and geographical integrity of an area of Scotland focused on the city and region of Aberdeen. This logic might be extended to *Southern Sustainability* and a composite of *North and West Coastal Transformation* and the *Northern Revitalisation* in NPF4.

It is legitimate to reflect on whether the country's administrative and (local) political geography is a match for policy and programme delivery of what is proposed. These spatial propositions leave some stranded outliers such as Moray, Argyll & Bute, Scottish Borders and large swathes of South Lanarkshire and of course Clackmannan and Falkirk at the epicentre of Scotland. More could be made of the operational areas and agency of *Highlands and Islands Enterprise*, *Scottish Enterprise* and the new *South of Scotland Enterprise.*

We do not advocate an approach to Scotland's *Action Areas* based on physical determinism, nor are we suggesting a further reorganisation of local government boundaries, but we are suggesting a recognition of both of these factors in the final shaping of the NPF4 areas which might presage more coherent regional planning and/or regional agencies that might coordinate development and delivery with a rationalisation of the various city-region/growth deal and NPF4 Action Areas together to bring coherence to delivery of 'Place' aspirations in Scotland. Recognition of these boundary issues is important when delivery of Government policy (Holyrood and Westminster) is usually administered by local authorities.

The UK Government has made clear through the White Paper, that in England, the Levelling-Up agenda will seek to devolve responsibility to local authorities and to metro mayors in particular, and local authorities that wish to achieve the highest level of proposed devolution through levelling-up will be expected to have these mayors as a single point of contact in order to make strategic decisions at the (sub-) regional level. It is not yet clear how this is to be resolved within Scotland. Challenge and productivity dis-benefits arise from complexities in local geography in delivery.

Finding #5: The physical, human, economic and local administrative geography of Scotland should be recognised in the final shaping of the NPF4 areas to support coherent regional planning and/or regional agencies to coordinate policy development and delivery through a rationalisation of the various city-region/growth deal and NPF4 Action Areas together with local authority boundaries to bring coherence to delivery of 'Place' in Scotland.

6. Place and Urbanism

One of the conclusions of SUA-1was that "*Scotland needs to practise better urbanism. The AGE cities have a great and diverse built heritage but, the quality of contemporary built development and placemaking is often disappointing with notable success stories being exceptions that prove the rule.*"

The ***Place Principle*** was adopted by the Scottish Government in early 2019 after SUA-1 was published. This Principle requests that those *responsible for providing services and looking after assets in a place … work and plan together, and with local communities, to improve the lives of people, support inclusive and sustainable economic growth and create more successful places (taking) a collaborative, place-based approach with a shared purpose to support a clear way forward for all services, assets and investments which will maximise the impact of their combined resources.*[117]

The *Place Principle* is directed in the first instance to the public sector but is, by extension, embraced by most private and third sector stakeholders. With the establishment of the *Key Agencies Group* in Scottish Government, the principle is gaining traction and is further reinforced by the establishment of policies such as the 20-minute neighbourhood in *Protecting Scotland, Renewing Scotland*, the 2020/21 Programme for Government. Further advances with the Place Agenda in Scotland have been made with the preparation of regulations for *local place plans* to guide integrated working in neighbourhoods. The Scottish Government's commitment to a place-based approach is further reinforced by the approach to policy set out in the draft of NPF4. There is, therefore, a strong national policy commitment that puts a place-based approach to planning and its interaction with other policy areas at the centre of Government.

In the three years since the publication of SUA-1, Scotland now has the over-arching ***Place Principle*** to stress interworking and interrelationship of policy areas and public bodies; a ***Place Standard Tool*** for use as a means of engagement between stakeholders and with people and communities; guidelines for the preparation of ***local place plans*** as documents to support the roll out of a policy for 20-minute neighbourhoods designed to ensure that local people have access to basic goods and services within a 20 minute walk, wheel or cycle of their homes. Draft NPF4 stresses the importance of a ***design-led approach.***

This is an important and a strong basis for moving forward with the practice of good urbanism. Nonetheless, concerns remain. Firstly, this is to be led and delivered through the planning system but there is, as yet, no programme of investment proposed to augment the capacity of the planning system, with the design skills and engagement capability, to take forward the challenge of designing better places and empowering communities within this raft of policy advice and, secondly, there is no legal mandate to require that a design-led approach is adopted.

Investment in skills will be very necessary given that decarbonisation and the pursuit of net-zero carbon emissions will, by definition, touch every neighbourhood and community across the country and across the AGE Cities and their regions. This will require up-skilling of the public sector capacity and/or a significant embrace of the Scotland's talented design community in a dedicated programme together with the resources needed in research, in process and in design practice. As we stressed in SUA-1, "*the real measure of a city's urbanity is the quality of ordinary places.*" In 2018, Scotland was not "*building enough homes, of the right type and tenure across sectors and those which are built often conform to a proxy model of what the consumer is thought to want that falls far short of the quality of volume house building in much of northern and western Europe or the best in the UK.*" This challenge remains and is compounded by increasing urgency from the climate emergency and the need for a programme of decarbonisation of all land uses in Scotland and the entire movement system. Movement to a well-designed place-based system will take time. This realignment remains a work in progress.

Finding #6: Place and Urbanism. Great steps forward have been made since the publication of SUA-1 in the development of a place-based approach for towns and cities. Principles, policies and some tools have been developed and there are tools and techniques available to engage with communities, but there is over-reliance on policy and plans, with scant resources available to support communities in developing propositions for their neighbourhoods and assets, no legal mandate to insist on design quality and under-investment in research and design capability to support the ambition going forward.

7. Places and Times – Genius Loci & Zeitgeist

At the dawn of the 21st century, as Scotland contemplated the significance of a new millennium and the change that might bring, the architect and historian Frank Arneil Walker wrote "*Grasping the Thistle*" in which he posed the enduring question – how do we reconcile the *spirit of the place* – the ***genius loci*** – with *the spirit of the times* – ***the zeitgeist***. This, Walker contended, is the ultimate and enduring challenge of any time, but in times of great moment it takes on even greater significance. So it was at the turn of the millennium, and so it is today.

The *spirit of the place* evokes meaning, character and a sense of timelessness. The *spirit of the times* on the other hand evokes the new – whether good or bad – and it evokes change. There are occasions when their reconciliation is a stimulating task, there are other occasions when it is challenging. The AGE cities and their regions evoke character, and they evoke, if not timelessness, then at least continuity of character and identity. They are every bit as important to Scotland as its natural and cultural heritage, indeed they are an important part of it.

The spirit of the current times, however, is not only changeable, but mercurially so. No one is quite sure where it will lead, nor when, as we have stressed throughout this report. In SUA-1, just four years ago, the *zeitgeist* was clearer and expressed that as a cycle of demographic change (ageing, low-fertility and migration); climate change (weather, sea-level and decarbonisation) and technological change (artificial intelligence and automation). Today this remains true, but Brexit, the pandemic and the climate imperative have accelerated these changes and their interactions. We might add economic change to this mix as the realisation dawns that ***all*** of our society and economy is carbon-based. If governments struggle to keep abreast of this what then for cities?

We are arguing here that there are some things that are certain and can and should be addressed – the importance of place, the importance of good urbanism, the importance of geography – the genius loci. The need therefore for cities and their regions to work collaboratively and collectively with their places, to adopt not only a design-led approach, but a systems design and service design approach focused on the quality of people's lives and their places. Adopting a sensible approach to geographies within which these changes and processes will play out is in clear focus for Aberdeen in the *North East Transition* but a bigger and (potentially) more complex challenge for the Edinburgh and Glasgow city regions within the *Central Urban Transformation* that embraces these two cities and regional hinterlands together with Dundee, Perth and Stirling. The uncertain and changing zeitgeist requires open thinking embracing systems thinking and scenarios as tools for working through the processes of change and providing a framework for the acceleration or slowing down of that change.

Finding #7: The essential character of Scotland's towns and cities should endure, and we should ameliorate change to ensure that they do so. This will require culture change, investment on a significant scale and informed leadership and governance that is simultaneously agile and flexible. Working with place, with systems, with geography and with scenarios is suggested as a method because it will take years, if not decades, for the changes faced to be resolved and it will take many years, perhaps a generation, to decarbonise and rework the financial and taxation system to enable this to happen.

SCOTLAND'S URBAN

AGE 2022

Shocks to the System

FINDINGS

In a nutshell …the more things change … the more they remain the same?[118]

Are we experiencing a paradigm shift in society, economy and environment? When the current uncertainties settle will we have gone back to normal, we be living in a new normal or, more likely, simply the next normal? Some have a settled view, others have forecasts. At the moment, we don't know. We are faced with the infamous 'known, knowns', 'known unknowns' and 'unknown unknowns'. We offer seven reflective findings from our review of Scotland's Urban AGE:

1: The International Context

Internationally a new localism is infusing a new hybrid way of life. Going "back to normal" is recognised as nostalgic, safe, unachievable and impractical – but visions of a "new normal" are now seen as a vaguely utopian construct being replaced with a search for the "next normal" … and nobody yet knows what the next normal will be – uncertainty and fears of dystopia abound. Uncertainty will persist for some time to come. Inactivity is unwise as is precipitant action in the interests of being seen to "do something".

2: Systems Thinking

With the adoption and promotion of the Place Principle, the Scottish Government implicitly recognises the importance of systems design in delivering the outcomes associated with the National Performance Framework that is in turn based on the principles contained in the UN Sustainable Development Goals.

3: Competitiveness and Productivity

If productivity is to be addressed across the cities of the UK and areas of disparity closed, it is clear that a tight focus on skills and an alignment of collaborative governance will be a prerequisite for city/city-regions to compete in and take advantage of the roll-out of the programme.

4: The AGE cities, Scotland's urban system & the Scottish Cities Alliance

The AGE cities, Scotland's urban system and the Scottish Cities Alliance – there is need to see the diversity and complementarity in Scotland's urban system, to build their capacity in the fields of urban policy, urban design and urbanism by empowering them further through further devolving responsibility and resource more akin to their European and North American counterparts. The Scottish Cities Alliance should be empowered and enhanced as a think-tank vested with the responsibility to monitor and disseminate good practice in city systems design, service design and delivery but the responsibility of doing and delivering should rest with cities (regions) themselves. They should be supported in growing their capacity to do this.

5: Geography, Governance & The AGE Cities

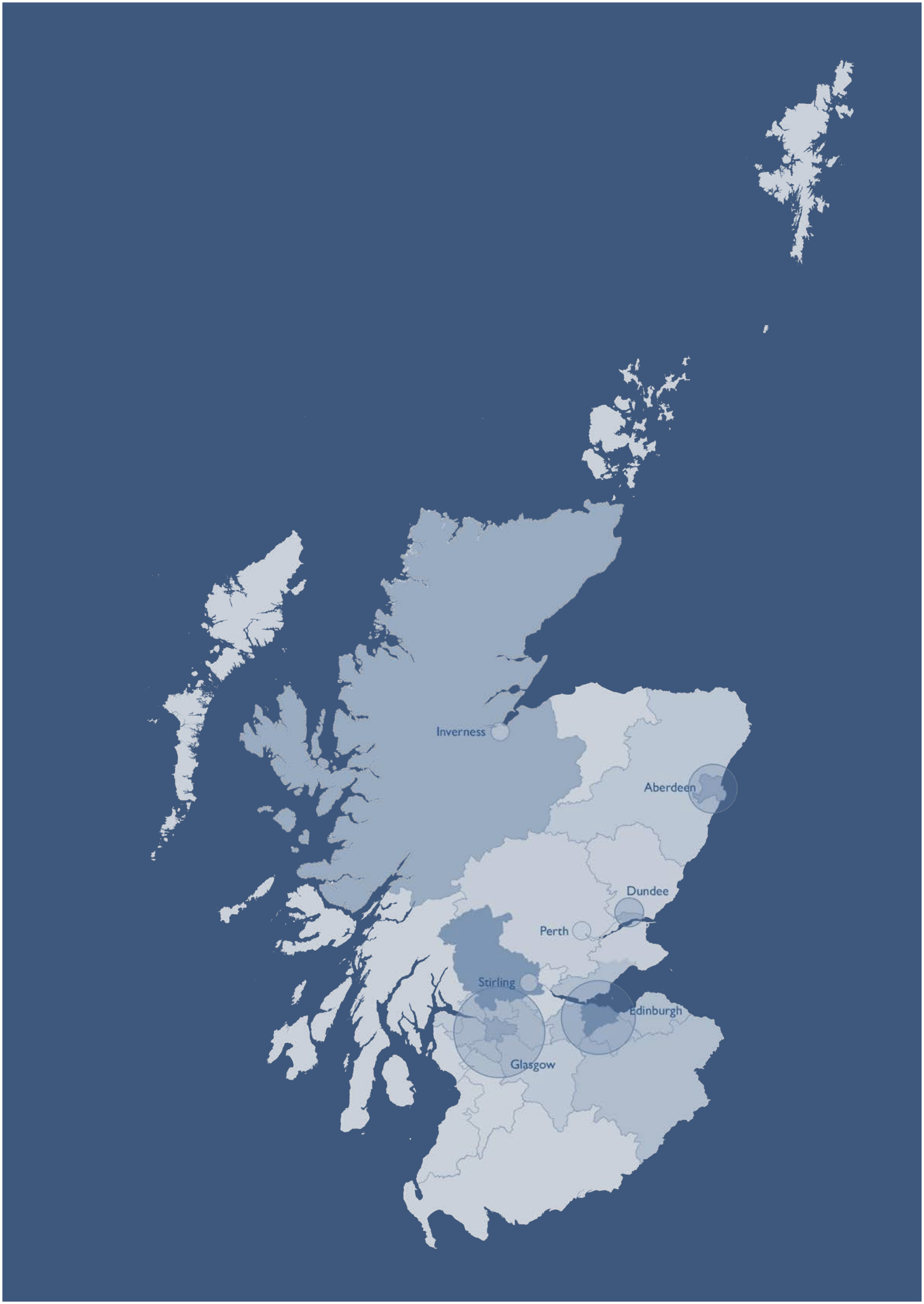
The physical, human, economic and local administrative geography of Scotland should be recognised in the final shaping of the NPF4 areas to support coherent regional planning and/or regional agencies to coordinate policy development and delivery through a rationalisation of the various city-region/growth deal and NPF4 Action Areas together with local authority boundaries to bring coherence to delivery of 'Place' in Scotland.

6: Place and Urbanism

Great steps forward have been made since the publication of SUA-1 in the development of a place-based approach for towns and cities. Principles, policies and some tools have been developed and there are tools and techniques available to engage with communities, but there is over-reliance on policy and plans, with scant resources available to support communities in developing propositions for their neighbourhoods and assets, no legal mandate to insist on design quality and under-investment in research and design capability to support the ambition going forward.

7. Places and Times – Genius Loci & Zeitgeist

The essential character of Scotland's towns and cities should endure, and we should ameliorate change to ensure that they do so. This will require culture change, investment on a significant scale and informed leadership and governance that is simultaneously agile and flexible. Working with place, with systems, with geography and with scenarios is suggested as a method because it will take years, if not decades, for the changes faced to be resolved and it will take many years, perhaps a generation, to decarbonise and rework the financial and taxation system to enable this to happen.


Inverness
Aberdeen
Dundee
Perth
Stirling
Edinburgh
Glasgow

Scotland's Urban AGE 2022

Appendices

ANNEX: THE PRIMARY URBAN AREA

The report draws on publicly available sources and data and on the experience of the authors working in city development in Scotland, the UK and internationally for over 25 years.

It is important to record that not all datasets and indices about cities – spatially as well as economically – use the same definitions and territories. Some of the differences are minor and make little or no difference to a strategic view – less than a decimal point in certain cases – but some are quite significantly different. With one in particular, the differences are important to understanding urban Scotland and its cities. This concerns the size of our cities. The administrative boundaries of our cities have evolved over time and have developed as a result of historical, geographical and social reasons. This raises an issue when the widely accepted view of the built-up area of a city now spans more than one administrative boundary.

The Centre for Cities (C4C) is one of the UK's most highly respected and prolific think thanks seeking to understand and document cities in the UK and internationally. The Centre was set up by Lord Sainsbury in 2005 as an independent, non-partisan research organisation with the goal to understand how and why economic growth and change takes place in Britain's cities, and to produce research that helps cities improve their performance. With a focus on the drivers of urban success, the Centre for Cities publishes valuable insights into the economic performance of UK cities. (http://www.centreforcities.org/about/).

The principal measure used by C4C upon which data is aggregated is the *'Primary Urban Area'* (PUA), i.e. a measure of the physical extent of the built up area of the city. Unless otherwise stated, the Centre for Cities uses data for Primary Urban Areas (PUA) in all its analysis. The PUA is a measure of the "*built-up*" area of a city, rather than its local authority boundary. The PUA is used to provide a consistent measure for comparing concentrations of economic activity in cities across the UK. The PUA is distinct from city regions or combined local authority geographies. (http://www.centreforcities.org/wp-content/uploads/2016/01/2016-PUA-Table.pdf).

There are three implications about this measure that have a bearing on this report. The first is that for some cities in the UK, it is generally accepted that the administrative boundary and the PUA are, in effect, the same. The second is that where these vary, the differences are significant. For example, the Primary Urban Area for Manchester includes eight other local authorities in addition to the City of Manchester (including Bolton, Oldham, Salford and Stockport). The PUA for Birmingham has five additional areas (including Solihull, Walsall and Wolverhampton) and London has nearly 50. Thirdly there is a formal definition of the Primary Urban Area in England but there is no such definition in Scotland.

PUA data only exists for English cities. C4C have considered this anomaly and have concluded that for Edinburgh and Aberdeen, the administrative boundary of the local authority area and the PUA are coterminous but for Glasgow, which they describe diplomatically as 'tightly-bounded', C4C uses an aggregate of four local authorities, including East Dunbartonshire, East Renfrewshire and Renfrewshire in addition to the City itself. South Lanarkshire, and to lesser extent North Lanarkshire, which take large bites out of Glasgow, are excluded because of the extent of the landward areas as is West Dumbartonshire. C4C has adopted a similar approach to Belfast which is defined as the aggregate of Belfast City, Carrickfergus, Castlereagh, Lisburn, Newtownabbey and North Down.

Using this definition of the PUA for Glasgow puts the city's population at closer to 1.25 million, approximately double the population of city itself. This can be significant for this is the only meaningful way to compare Glasgow with Manchester or Birmingham for example. It is

therefore important to understand which measure is being used when Glasgow is being compared with other cities in Scotland, the UK and internationally.

This understanding also helps to explain why the United Nations and the EU consider that in Scotland, only Glasgow constitutes a medium-sized city i.e. is a city with over 500,000 of a population. Recent surveys have put Edinburgh's population at just over 500,000, but this has not yet reached international databases and in any case would make no difference to the comparisons used in this document, although with Glasgow, the differences can be marked.

Because the PUA does not formally exist as a measure in Scotland, Scottish Government data uses the local authority areas in comparative figures for Aberdeen, Glasgow and Edinburgh and the situation is further complicated because Scotland has city-region deals and a further spatial definition of what is included in the regions for the cities of Aberdeen, Glasgow and Edinburgh city-regions.

This can mean that the Glasgow being compared internationally or within the UK, is not the same as the Glasgow being compared within Scotland and this can have consequences for the interpretation and perceived performance of Glasgow against certain indices. This document takes care, however, to distinguish the measures being used in the analysis and to comment where appropriate.

The complications do not end here as the area of the strategic development plans for Aberdeen, Glasgow and Edinburgh do not match up with their newer city-region definitions. These complications do mean that the reader of any report about Scotland's cities needs to vigilant about the extent of the city that is being described.

This document is interested in the nature, character and performance of Aberdeen, Glasgow and Edinburgh individually and as a group of cities in Scotland, their fitness to participate within their immediate city systems (in Scotland, the UK and Europe) and the challenges and opportunities they face.

Scotland's Urban AGE 2022 was enabled with support and insight from:

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Glasgow Chamber of Commerce is at the heart of one of the largest and most successful city regions in the UK. It is a membership organisation that champions all businesses across all sectors in the city and the region through an active support network. The Chamber champions the city and acts as the business voice of Glasgow.

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THE GLASGOW URBAN LABORATORY

The Glasgow Urban Laboratory (GUL) is a research group within the Mackintosh School of Architecture, The Glasgow School of Art focusing on the Contemporary and Future City. GUL has three strategic partnerships with the City of Glasgow, the Academy of Urbanism and the United Nations Economic Commission for Europe in Geneva that has established a UN Charter Centre of excellence at the Urban Lab in 2017. GUL participates in international research networks including the US-UK Fulbright Commission, the EU COST Programme and the UNECE Charter Network. In the last three years, GUL has carried out a number of strategic international commissions and published several books including *Growing Awareness: How green consciousness can change perceptions and places* that won a prestigious research award from the UK Landscape Institute.

www.gsa.ac.uk/urbanlab @GSofAreserach

THE AUTHORS

Brian Mark Evans is professor of Urbanism & Landscape at the Mackintosh School of Architecture and Director of the Glasgow Urban Laboratory at the Glasgow School of Art. From 1990-2015 Brian was a senior partner with Gillespies LLP the international design practice winning over 50 national and international awards for professional and design excellence. Brian is a Geographer, City Planner, Landscape Architect and Designer with a doctorate in urbanism, and practices, researches, teaches, and speaks widely on the contemporary and future city, urbanism, urban design, and the inherited landscape and is a widely published author. He is co-founder of the Academy of Urbanism, founding Deputy Chair of Architecture and Design Scotland and an advisor to the United Nations Economic Commission for Europe in Geneva. In 2019, he was appointed City Urbanist for Glasgow to act as an independent strategic adviser to the City's leadership team on people, design, and the city.

John Lord is the founding director of yellow book ltd, an Edinburgh-based consultancy specialising in economic development, regeneration, and place-making. John has a particular interest in the changing economic geography of Scotland and the UK. Major studies include: *Scotland's Urban Age: Aberdeen, Glasgow & Edinburgh in the century of the city*; *Medium-Sized Cities in Europe: experience and lessons for Dundee* (Scottish Enterprise); *Sheffield City of Rivers* (Sheffield City Council et al); and *Riverside Sunderland Masterplan* (Sunderland City Council). He has led research studies for the Scottish Government on community engagement in planning and the measurement of planning outcomes. John is a member of the Historic England Historic Places Panel. Before setting up his own practice, John was a director of Scottish Enterprise and a director of EDAW. He works extensively for government departments, development agencies, local authorities, third sector and community organisations, universities, and private sector developers.

Mark Robertson is a Fellow of the Royal Institution of Chartered Surveyors, a real-estate researcher, property market analyst and Managing Partner of Ryden with offices in Edinburgh, Glasgow, Aberdeen, and Leeds. He joined Ryden in 1993 after completing his PhD in Land Economics. Mark has led an extensive portfolio of research consultancy projects for clients and in 2017, won the RTPI UK award for research excellence for Planning for Infrastructure report for the Scottish Government. He is the leading research authority on Scotland's property markets and has completed more than 300 property consultancy projects for public and private sector clients over the past 29 years. He is editor of the authoritative *Scottish Property Review* (https://www.ryden.co.uk/people/dr-mark-robertson).

FOOTNOTES

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[2] SUA 1, page 1

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[4] Transforming our World, the 2030 Agenda of Sustainable Development published by the UN in 2015, available at https://sustainabledevelopment.un.org/post2015/transformingourworld/publication

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[6] ***Transforming our World: The 2030 Agenda for Sustainable Development 2030, para 18***

[7] https://sustainabledevelopment.un.org/content/documents/20549CDPbp201846.pdf

[8] OECD, 2015:49.

[9] See for example http://www.insidehousing.co.uk/older-people-hoard-family-homes/6518478.article

[10] OECD, 2015.

[11] European Commission, 2015:14.

[12] ***Shaping ageing Cities***, Arup et al available at:

[13] The best known example is Copenhagen which has systematically changed its emphasis from movement based on the car to movement based on walking cycling and public transport. See also publications by Jan Gehl (Cities for People, New City Spaces, New City Life) as well as 'The Walkable City', Jeff Speck, 2013.
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[15] Evans et al UN-habitat 2016, Op. cit.

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[25] *Value(s): Building a better world for all,* Mark Carney, HarperCollins 2021, pp4,5

[26] *The Triple Bottom Line: What Is It and How Does It Work?* Timothy F. Slaper, Tanya J. Hall Economic Research Analyst, Indiana Business Research Center, Indiana University Kelley School of Business, 2020

[27] *Shared responsibility, global solidarity: Responding to the socio-economic impacts of COVID-19 page 1.*

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[29] References for the series of policy briefs and, in September 2020, a comprehensive response entitled Saving Lives, Protecting Societies, Recovering Better.

[30] UN Policy Brief #2

[31] UN Policy Brief #2 page 3.

[32] Policy Brief #2 pages 15 & 16

[33] Policy Brief: Covid-19 in an Urban World

[34] ***United Nations Comprehensive Response to Covid-19: Saving Lives, Protecting Societies, Recovering Better,*** page 5

[35] ***Housing amid Covid-19: Policy Responses and Challenges*** (2020) and ***Building for a better tomorrow: Policies to make housing more affordable*** (2021), ***Tackling Coronavirus (Covid-19): Contributing to a global effort***, policy paper *Housing amid Covid-19:Policy Responses and Challenges,* OECD, July 2020, see also ***Building for a better tomorrow: Policies to make housing more affordable***, Employment, Labour and Social Affairs Policy Briefs, OECD, Paris, 2021 http://oe.cd/affordable-housing-2021 and ***Social housing: A key part of past and future housing po***licy, Employment, Labour and Social Affairs Policy Briefs, OECD, Paris, http://oe.cd/social-housing-2020.

[36] ***Housing to 2040*** sets out a vision for housing in Scotland to 2040 and a route map to get there. Available at https://www.gov.scot/publications/housing-2040-2/

[37] ***The Value of Sustainable Development (World Cities Report 2020),*** UN-Habitat, 2020 available at https://unhabitat.org/World%20Cities%20Report%202020

[38] ***Cities and Pandemics: Towards a more just, green and healthy future*** UN-Habitat, 2021available at https://unhabitat.org/un-habitat-report-on-cities-and-pandemics-towards-a-more-just-green-and-healthy-future

[39] Originally expressed as the fight for sustainable development by Secretary General Ban Ki Moon, the message has been continued by his successor Antonio Gutierrez who has doubled down on its importance since the onset of COVID-19, notably at COP26 in Glasgow in November 2021, further information available at:
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https://www.reuters.com/article/us-climatechange-un-cities-idUSKBN1HX2QI
https://www.weforum.org/agenda/2015/09/the-fight-for-sustainable-development-will-be-won-or-lost-in-our-cities/
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available at:
https://unece.org/housing/regional-action-plan-2030
Download the report:
https://unece.org/hlm/documents/2021/08/session-documents/place-and-life-ece-regional-action-plan-2030-tackling

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[43] The United Nations Economic Commission for Europe that has 56 members states including the USA and Russia and covers the globe from Vancouver to Vladivostok. https://unece.org/mission

[44] Projected Share of the UK's GDP in 2022, Office for National Statistics, TUC, Guardian Graphics

[45] ***Levelling-up***, the imaginatively titled White Paper is available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1052708/Levelling_up_the_UK_white_paper.pdf

[46] Scottish Government, Scotland's Agenda for Cities, March 2016 and Professor Greg Clark, "Cities, global cities and Glasgow – some reflections", University of Strathclyde International Public Policy Institute, Occasional Paper 2016

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[48] Ibid

[49] SUA-1 an ***Knowledge Economy and the City - Spaces of Knowledge***, Ali Madanipour, Routledge, 2011.

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[56] The Planner, February 2022, pp 4-5

[57] P. Cooke, K. Morgan. The Associational Economy: Firms, Regions, and Innovation. Oxford 1998, Oxford University Press.

[58] See for example https://www.theguardian.com/technology/2018/jan/18/amazon-headquarters-shortlist

[59] Three of the top four factors which were influential in determining where multinational companies located their enterprises related to the university sector (BIS 2009).

[60] Centre for Cities, ***So You Want to Level Up***, June 2021

[61] This analysis is based on ***primary urban areas*** (PUAs)

[62] Centre for Cities, ***Competing with the Continent: How UK cities compare with their European counterparts***, September 2016

[63] pWc, Good Growth for Cities, January 2021

[64] Change in GVA was in negative territory in all cities in 2020. The highest ranked cities ae those where the rate of decline was lowest.

[65] Pricewaterhouse Coopers, Good Growth for Cities: the local economic impact of COVID-19, January 2021

[66] Nigel Wilson, Chief Executive Legal & general quoted in Post-Pandemic Places, Demos, 2021

Post Pandemic Places: Renew Normal – The People's Commission on Life After Covid-19

[67] Others including the Duncan Macmillan led David Hume Institute A Scotland of Better Places give a more Scottish perspective.

[68] Demos page X.

[69] Reference to Calos Moreno papers and videos with weblinks

[70] Current ScotGov Prog for Government 20-minute neighbourhood policy

[71] Proper references for;
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- Congress for New Urbanism USA
- Academy of Urbanism
- The Walkable City (Jeff Speck),
- the Happy City of Charles Montgomery
- Public Spaces, Public Life (Jan Gehl)

– Making Places for People (Christie Coffin and Jenny Young)

[72] Reference to environmental psychology

[73] "Scotland needs to practice better urbanism", Scotland's Urban AGE (1), Chapter 6, page 79 and in the headline messages at page 98 "Practice *better urbanism – great diverse heritage but quality of contemporary development and placemaking is often disappointing – the measure of urbanity lies in everyday not prestige projects."*

[74] Levelling-up white paper

[75] See for example https://www.telegraph.co.uk/news/2021/12/16/logic-medici-model-levelling-not-michael-gove-thinks/

[76] The Town and Country Planning (Scotland) Act 1997 quoted in NPF4, page 3 and page 1 respectively

[77] Draft NPF, page 4
[78] also referred to as the midland rift valley because …

[79] The Bottom Line, discussion on levelling-up, 17 March 2022 https://www.bbc.co.uk/sounds/play/m0015b91

[80] *C4C reference tool*

[81] Centre for Cities – City Monitor

[82] It is important to note that the UK Government, the EU and the UN also use this definition of Glasgow for the purposes of comparative analysis.

[83] There is a note on ***Primary Urban Areas*** (PUA) in the annex to this document that describes why it is important to know when data for cities is measured by PUA as opposed to administrative area. Most PUAs and administrative areas are identical to one another. However some UK PUAs are considerably greater than the corresponding administrative area. It can often be important to know which dataset is being used for which metric (e.g. which size of Liverpool is being measured). Glasgow is the only city in this category, a characteristic it shares with a number of the other "core cities".

[84] Fraser of Allander Institute, ***Scottish Cities Outlook***, 2019. The report is based on travel-to-work-area (TTWA) analysis of the seven cities in Scotland, including Dundee, Inverness, Perth and Stirling.

[85] Population density calculated at Council level is in part a function of how tightly bounded or otherwise the administrative area is. The AGE city-regions appear to be relatively thinly populated, but this is determined largely by the inclusion of large rural areas such as Scottish Borders and parts of South Lanarkshire and Aberdeenshire. The suburban areas close to the AGE cities are more densely populated.

[86] Expressed as ratio of each area's share of Scottish GVA to its share of employment in Scotland.

[87] Only 8% of last year's property lending was to new development (DeMontfort University lending survey). Most of that lending is likely to have been to pre-let/sold projects. A further large segment of the investment market simply trades existing buildings, without any lending/ debt, for example pension funds and life assurance funds.

[88] The capital markets 'super cycle' driven initially by inflation then by low interest rates is perceived to be ending.

[89] The UK Green Building Council notes that 80% of buildings expected to be standing in 2050 have already been built, so the major priority is decarbonising our existing stock, not simply the specification of new development.

[90] A Scotland of Better Places

[91] Glasgow City Centre Living Strategy, for example

[92] Demos, The Nowhere Office, 2021

[93] Evidence for occupiers having no office space for staff at all is thin at the moment but may be emerging in some supply chain companies where they are bidding for contracts on price and thus seeking to reduce occupation costs to perhaps a project office only. Small outwardly bound consultancies and technology companies may also have very light touch requirements for meeting and temporary desk space only.

[94] Knight Frank summarises this as: strategic, safe, sustainable and smart – the four S's. Dilbert is a popular cartoon character appearing in the financial press

[95] East Lothian for example has 40% out-commuting, principally to Edinburgh.

[96] For example NPF4, or Scottish Futures Trust's New Frontiers for Smarter Working (March 2021)

[97] CEBR

[98] City 2040 Taylor Wessing research

[99] Retail at Bay (2021 update)

[100] Reference required

[101] There continues to be a net decline in store numbers; for 2020 PWC recorded 17,532 UK closures and 7,665 openings indicating a net loss of 9,877 [Scotland 2021?] The overall retail vacancy rate in Scotland if 15.3% (SRC/LDC) is indicative of the long term challenges set out above rather than simply normal market functioning.

[102] Reef Technology transforms under-used shopping centres and car parks into urban farms, **kitchens, logistics and e-vehicle hire.** Capital & Regional shopping centres has signed up.

[103] ***Radical Uncertainty: Decision-making for an unknowable future***, John Kay & Mervyn King, The Bridge Street Press, 2020

[104] See for example Peter Schwartz, ***The Art of the Long View – Planning for the Future in an Uncertain World,*** John Wiley & Sons, 1998; Woody Wade, ***Scenario Planning – A Field Guide to the Future***, John Wiley & Sons, 2012

[105] ***Radical Uncertainty: Decision-making for an unknowable future***, John Kay & Mervyn King, The Bridge Street Press, 2020

[106] Centre for Cities, ***Cities Outlook 2021***, January 2021

[107] McKinsey Global Institute, ***The Future of Work After COVID-19***, February 2021

[108] Kate Raworth, ***Doughnut Economics: Seven Ways to Think Like a 21st-Century Economist***, Business Books, 2017

[109] Mark Carney, ***Value(s): Building a better world for all***, Harper Collins, 2020 and David Attenborough ***A Life on our Planet,*** Witness Books, 2020

[110] Government Office for Science (2013) Collection: ***Future of Cities*** – Foresight project which looked at the opportunities and challenges facing UK cities over the next 50 years', last updated 22 August 2016. Available at: www.gov.uk/government/collections/future-of-cities

[111] Frances Cairncross ***the Death of Distance***, reference to SUA-1.

[112] ***Transforming our World: The 2030 Agenda for Sustainable Development 2030***, para 18

[113] Scotland's National Performance Framework is available at https://nationalperformance.gov.scot/national-performance-framework-downloadable-versions

[114] Change in GVA was in negative territory in all cities in 2020. The highest ranked cities ae those where the rate of decline was lowest.

[115] REFERENCE REQUIRED

[116] The Bottom Line, discussion on levelling-up, 17 March 2022 https://www.bbc.co.uk/sounds/play/m0015b91

[117] The Place Principle is available at: https://www.gov.scot/publications/place-principle-introduction/

[118] English version with the addition of a question mark of Jean-Baptiste Alphonse Karr's aphorism *"Plus ça change! Plus c'est la meme chose."*

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167 Renfrew Street
Glasgow
Scotland, UK
G3 6RQ

+44 (0)141 353 4500
www..gsa.ac.uk

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