Changing urban contexts

Delivering a healthy and inclusive green recovery for Glasgow

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Executive summary

The COVID-19 pandemic and its associated mitigation and control measures have fundamentally changed the behaviour of urban populations. These changes have a range of implications for population health, both positive and negative. Past pandemics have shown that these changes and impacts are not experienced equally across a population, with those already facing inequality or discrimination being most likely to be adversely affected. The already high levels of deprivation and poor health in Glasgow, together with spatial differences in the urban characteristics of the city, mean that the impact of the pandemic on the population is likely to have exacerbated existing inequalities across the city. This report explores the role of socio-demographic and built environment features in shaping the Glasgow population's experience, behaviour and exposure to COVID-19 during the pandemic.

Housing, spatial factors, neighbourhood resources, and transport and travel are covered as aspects of urban life that have changed because of COVID-19 restrictions and their impacts. Using existing data on these factors for Glasgow, together with evidence on human behaviour in urban areas during the pandemic, a range of ways in which the Glasgow population have been influenced by their living circumstances are highlighted. Housing type, condition, tenure and occupancy have all shaped the population's experience, with evidence showing that Glasgow's housing conditions make the population particularly vulnerable to COVID-19 impacts. Spatial factors explored include greenspace, play spaces and the presence of vacant land across neighbourhoods. These resources are not dispersed equally across the city. Neighbourhood resources considered include the availability of community support and differences in the food environment. Finally, transport and travel are considered in relation to short-term and possible longer-term changes in public behaviour and air quality. These are set within the context of Glasgow's existing transport system, which faced a range of challenges prior to the pandemic.

Whole systems approaches are advocated to support recovery and transition from the pandemic. Here, current approaches that aim to positively shape agendas such as inclusive economic recovery, climate change and public health are presented. Finally, a range of recommendations relating to the more equitable and sustainable distribution of Glasgow's built and natural resources are offered.

1. Introduction and background

Urbanisation is a global trend that has been increasing rapidly in recent years[1]. Despite the ever-present threat of infectious disease outbreak in highly populated areas, the multiple benefits of urban living have typically outweighed this risk. The arrival of COVID-19, however, has challenged the urbanisation trend, raising concerns about the safety and quality of urban living and how populations can adapt to a world where social distancing could become part of everyday life. The varying characteristics of urban environments mean that the direct and indirect impacts of COVID-19 have not been experienced equally across populations. Existing inequalities have been exacerbated and will continue to grow as longer-term socio-economic impacts are felt. It is therefore important that future place-based policies work for the most vulnerable and excluded members of society.

1.1 About the paper

This paper brings together learning on how place-based and environmental measures can support Glasgow's recovery and transition from COVID-19 in ways that are inclusive, sustainable and beneficial to public health. It has been developed as part of our programme of work on Sustainable Inclusive Places, which aims to advance understanding of how place and environmental factors shape health and inequality across different population groups in Glasgow. Specifically, the report aims to:

1. Outline the urban and environmental characteristics of Glasgow City that are relevant to the population's experience of living during the COVID-19 pandemic.
2. Highlight evidence relating to the population's experience of these characteristics since the pandemic emerged.
3. Outline relevant societal changes that have arisen during this period that could shape how neighbourhoods' function in the future.
4. Propose place-based and environmental solutions that could support public health and other co-benefits in the future.

The report has been written to support staff working in a neighbourhood improvement role in Glasgow, such as spatial planning, regeneration, transport, community development or public health. Many of the challenges outlined here

existed prior to the arrival of the pandemic. COVID-19 has therefore been a stress multiplier for a range of socio-economic and environmental challenges, but importantly, has also provided a necessary catalyst for change. The mass-rollout of a COVID-19 vaccination will enable many aspects of 'normal life' to return in the future. However, long-term socio-economic impacts are now unavoidable and profound changes to our ways of living will be needed to recover and to meet the growing threat and opportunity presented by climate change.

1.2 Background

The spread of infectious disease is influenced by the environment that it exists in and the behaviour of the population within that environment. Many of the advances in urban design that shape our lives today such as modern sewerage systems and improvements to housing conditions are the direct result of interventions to curb the spread of infectious diseases[2]. Improvements in sanitation, reductions in overcrowding and the creation of public parks can all be traced back to the ingenuity that emerged following previous public health crises. However, past pandemics have also demonstrated that already disadvantaged communities are likely to be disproportionately affected in terms of disease prevalence and mortality[3].

As well as the changes to human behaviour brought about by imposed movement restrictions and physical distancing measures, economic and work-place changes will fundamentally reshape the characteristics of neighbourhoods and our movement patterns within them. Shops and amenities, as well as employers across the public, private and third sectors face financial pressure and uncertainty. This raises important questions around how cities and the neighbourhoods within them should be designed and adapted to meet population needs now and for an uncertain future. Restrictions on movement and an increase in home-working have brought a renewed focus on localism and increased calls for a transition towards a more just and resilient economy. A 'green recovery', which supports a move towards more sustainable and active travel and the creation of more self-sufficient neighbourhoods, is arguably the only viable way of tackling the socio-economic impacts of COVID-19, whilst also addressing the greater global health threat of climate change. With

ambitious carbon reduction targets and COP26[a] on the horizon, Glasgow must now accelerate plans to become a carbon neutral city[b] by 2030 and net zero emissions[c] by 2045 or earlier.

A previous GCPH evidence review on the built environment and health summarised the various direct and indirect impacts that neighbourhood features can have on population health[4]. The review highlighted the important role that housing, neighbourhood features, population density and connectivity play in shaping health, health behaviours and social activity in communities. Beyond shaping individual behaviour, well connected and densely populated areas with good quality public spaces engender increased trust and a sense of community in the population. This means that good practice in urban planning and design, which encourages busy outdoor social interaction, is at odds with the measures required to prevent infectious disease spread. Urban spaces of the future therefore need to ensure that the principles of healthy and sustainable urban planning and design are applied in ways that enable safe social distancing, promote carbon reduction and support an inclusive economic recovery from COVID-19. Figure 1 below shows the features used in the Place Standard to assess the quality of different places. The Place Standard is a recognised tool for assessing the quality of places. Users are encouraged to consider 14 key aspects of place when undertaking an assessment of its quality.

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[a] **COP26**, the 26th United Nations Climate Change Conference, is scheduled to take place in Glasgow from the 1st to the 12th of November 2021.

[b] **Carbon neutrality** is defined by Glasgow City Council as being the point at which carbon dioxide emissions emitted by the city are negated by the amount of carbon stored, offset, or sequestered by natural means.

[c] **Net-Zero Emissions** is defined by Glasgow City Council as the point at which all emissions emitted by the city (CO2, NOx, SOx, PM10, PM2.5) are negated by the amount stored, offset, or sequestered by natural means.

Figure 1. Example of completed Place Standard

Source: https://www.placestandard.scot/
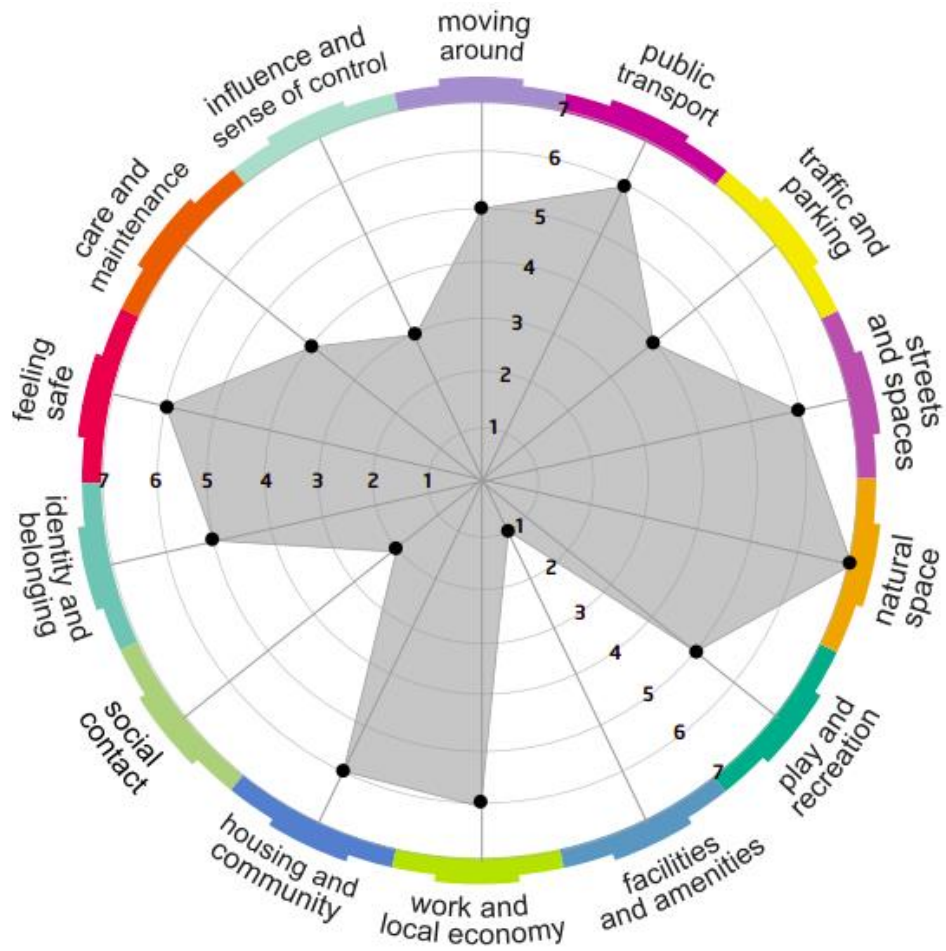
2. Glasgow's population

Table 1 summarises key demographic and health indicators for Glasgow and Scotland. The demographic make-up and health of the population have played a key role in influencing COVID-19 outcomes. These factors were also important in shaping how the population coped and adapted to changing circumstances.

Age

Table 1 shows that Glasgow's population has a lower percentage of people over 65 compared to the rest of Scotland. This is important as older people are more vulnerable to serious illness or mortality from COVID-19[5]. Glasgow's age structure reflects the high number of students and young people moving to the city for work, as well as the city's lower life expectancy than Scotland[6]. In terms of population risk, the lower proportion of over 65s in the Glasgow population is to some extent offset by the propensity of people in this age group to be less healthy or to have one or more pre-existing medical conditions.

Sex

Sex is a protected characteristic in the Equality Act 2010[7]. Although women appear to have greater protection than men from the worst impacts of COVID-19, and death rates in Scotland are lower for women than men[8], risk of infection is higher as they are overrepresented in public facing roles such as health or care[9]. Women are also more likely to be overrepresented in employment sectors that have been most negatively affected financially, to have childcare responsibilities and are much more likely to be victims of domestic abuse, which has been reported more widely since lockdown measures were first introduced.

Disability

Disability, defined as having a long-term health problem or disability that limits day-to-day activities 'a little' or 'a lot', is reported by a similar proportion of the Glasgow and Scottish population (24% and 24.7% respectively)[10]. However, it is notable that disability is more prevalent in people aged 65 and above from Glasgow compared to Scotland[6]. Although disability does not necessarily increase the risk of mortality from COVID-19, people with a disability are more likely to have pre-existing medical conditions that can increase this risk[11]. In England and Wales, 59.5% of people who

died from COVID-19 between March and July 2020 had a disability, despite making up just 16% of the population[12]. The unintended impacts of lockdown containment measures have acutely affected disabled populations due to social isolation, digital exclusion, and the existing high prevalence of mental illness[13]. To illustrate, a survey of 2,500 people found that 46% of those with a disability felt that COVID-19 had affected their wellbeing negatively compared to 18% of non-disabled respondents[14].

Ethnicity

The Scottish Core Questions Survey[d] shows that Glasgow's population is more ethnically diverse than Scotland's[10], and that for both areas the population has become more diverse since the 2011 census[15]. In England and Wales, black males are at the greater risk of death from COVID-19 than any other ethnic group, even after adjusting for socio-economic and geographical factors. South East Asian people also face increased risk of death from COVID-19 than white people[16]. In the absence of robust population-based data on ethnicity in Scotland, an Expert Reference Group (ERG) on COVID-19 and ethnicity has been convened by the Scottish Government[17]. This group aims to ensure that the Government have an accurate understanding of COVID-19 outcomes and are sufficiently informed to propose appropriate policy responses.

The intersectionality of many institutional and systemic factors influence exposure to COVID-19 and the impact of containment policies for ethnic minority populations. Firstly, minority ethnic people are more likely than white Scottish people to live in poverty or destitution, which increases vulnerability to negative COVID-19 impacts[18]. Allied to this, ethnic minority populations are also more likely to live in overcrowded or insecure housing, be reliant on public transport, work in a public facing role or to have suffered loss of income or employment due to the pandemic[19]. The impact of racism, discrimination and the availability of information and services are also important and nuanced factors which have shaped exposure to the virus and the experience of living for ethnic minority groups during this time.

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[d] The Scottish Core Questions Survey brings together responses to harmonised questions across three major Scottish Surveys; the Scottish Household Survey, the Scottish Health Survey and the Crime and Justice Survey. In the absence of up-to-date census data, this provides a reliable estimate of some population data.

Scottish Index of Multiple Deprivation

Forty four percent of Glasgow's population live in the 20% most deprived areas in Scotland. People living in the 20% most deprived areas are more likely to contract COVID-19 and are almost twice as likely to become fatally ill from COVID-19 compared with someone living in a 20% least deprived area[20].

Single adult household

Living alone is not a key risk factor for negative COVID-19 outcomes. However, loneliness and isolation can be detrimental to mental and physical health. A recent study of older adults in Scotland found that social distancing measures had increased feelings of loneliness and negatively impacted on their mental wellbeing[21]. People in Glasgow are more likely than Scotland to live alone and are slightly more likely to report feeling lonely[22]. This has implications for the population when restrictive measures are in place or when homeworking is required.

General health

Glasgow fares worse compared to Scotland in terms of life expectancy and self-reported health[23]. Limiting long-term illness is also more common in Glasgow compared to Scotland, despite the city having a relatively young age profile. Data from the Health and Wellbeing Survey for Greater Glasgow and Clyde found that 41% of the Glasgow population reported having a long-term condition, which rose to 79% for over 75s[24]. People with one or more health condition are more at risk of serious illness or death from COVID-19.

Mental health and wellbeing

The baseline mental health and wellbeing of a population provides a useful foundation for understanding how restrictive measures could affect that population. Table 1 shows that across different measures, Glasgow's population are more likely to report poor mental wellbeing compared to the Scottish population[25]. In particular, people from Glasgow score lower on the Warwick and Edinburgh Mental Wellbeing Scale (WEMWBS)[e] and higher on the General Health Questionnaire-12 (GHQ-12)[f].

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[e] WEMWEBS uses a 14-point scale to provide an aggregate wellbeing score of between 14 and 70.

[f] GHQ-12 contains 12 questions to assess the presence of psychiatric disorders in a population.

Smoking, physical activity and obesity

There remains some uncertainty around the effect of smoking on COVID-19 outcomes, although the WHO state that "*smokers are more likely to develop severe disease with COVID-19, compared to non-smokers.*" [26] Smoking is known to increase the risk of chronic health conditions associated with poorer COVID-19 outcomes. Public concern during the pandemic, together with reduced exposure to tobacco products and fewer social opportunities to smoke have accelerated the recent trend of declining smoking rates, with 1 million people in the UK estimated to have quit[27].

Promoting physical activity and reducing of levels of obesity in the population are well established public health priorities in Scotland[28]. Evidence has shown that the pandemic has adversely impacted on physical activity and led to an increase in some types of unhealthy behaviours. Universally, the types of physical activity undertaken have changed, with team sports and gym use being replaced by individual forms of exercise. This has led to an increase in walking[29], cycling[30] and at-home exercise. However, this transition will not have been made and sustained by everyone, meaning that weight gain is a likely outcome for some. Obesity is key risk factor in COVID-19 morbidity and mortality[31,32].

Positive cases and deaths in Glasgow

Glasgow City has recorded more COVID-19 cases than any local authority in Scotland and has the highest rates of infection per 100,000 of the population[33]. These statistics are perhaps predictable given the size, socio-demographic make-up and geographical characteristics of the city. Glasgow has also recorded more deaths than any other Scottish local authority but has the ninth highest death rate per 100,000 of the populaton[5]. Despite having a population that is vulnerable to negative COVID-19 outcomes, the high proportion of young people in Glasgow is likely to be an important explanatory factor for the lower death rate than some other local authorities.

Table 1. Population and health indicators for Glasgow and Scotland

	Glasgow	Scotland	Year(s)
Population			
Age[34] 65+	13.5%	19.1%	2018
Disability[10] All Over 65	24% 47.4%	24.7% 41.5%	2018
Ethnicity BME (Census) [15] BME (Scottish Core Questions)[10]	12% 13.3%	4% 4.6%	2011
SIMD[35] 20% most deprived area in Scotland	44%	20%	2020
Single adult household[36]	45%	36%	2019
Health and health behaviours			
Life expectancy[6] Female Male	78.7 73.4	81.1 77.0	2016-18
Self-reported health[37] (good or very good)	69%	72%	2019
Population overweight or obese[37]	65%	61%	2016-19
Meet weekly physical activity guidelines[37]	65%	62%	2016-19
Smoker[37]	23%	19%	2016-19
Mental health and wellbeing			
WEMWEBS score[37]	48.4	49.8	2016-19
GHQ12 score of 4+ (indicative of a possible psychiatric disorder)[37]	23	17	2016-19
Feel lonely (some of the time or more)[37]	22%	21%	2016-19

3. Glasgow's urban characteristics

The arrival of COVID-19 has fundamentally changed public perceptions of space and behaviour within it, both at home and in the wider neighbourhood. Personal experiences of living during this period have varied greatly, exposing considerable differences in the quality of people's living circumstances. For Glasgow, it has re-emphasised the uneven distribution of environmental burdens across the city's diverse neighbourhoods. Vacant land, dereliction, poor quality greenspace, antisocial behaviour, litter and fly-tipping, and sub-standard amenities, shops and housing are all more common or more likely to be perceived as being problematic in socio-economically deprived parts of the city[4]. The upshot of which is that restrictions which prevent people from leaving their local area have been felt most acutely in areas where the quality of the built and natural environment is poor.

This section explores how Glasgow's urban characteristics have been shaped by measures to reduce the spread of COVID-19. It covers four key aspects of place that have influenced the population's experience of living during the pandemic: housing; spatial factors; neighbourhood resources; and transport. Ongoing and past GCPH work has highlighted the importance of these factors in shaping population health. Comparisons with Scotland and differences by area deprivation are highlighted where relevant.

3.1 Housing

Housing type, tenure and quality

Housing plays an important role in shaping population health. As perhaps expected, there is emerging evidence that people living in poor quality housing are more likely to have suffered depressive symptoms while movement restrictions have been in place[38]. Almost a third of people across the UK (31%) report that they have experienced mental or physical health problems because of a lack of space or the condition of their home[39]. Housing inequalities have also been brought into focus through the shift towards home working. While there is evidence that more flexible working arrangements are now preferential for many workers[40], some people lack the space, set-up or digital means to work from home in a way that promotes a positive work/life balance[41].

In Glasgow, 72% of the population live in flatted accommodation, the highest percentage of any local authority in Scotland[42], and only a third of properties have three or more bedrooms, the lowest percentage in Scotland. The relatively small size of properties in Glasgow, alongside the density of dwellings, increases the risk of relationship breakdown, particularly when inhabitants are confined to their homes. It also increases the risk of accidental exposure to COVID-19, reducing the extent to which household members can isolate from one another, or from their immediate neighbours in buildings with communal areas.

Linked to property size, overcrowding is an aspect of housing that has shaped the population's experience during this period. Living in overcrowded housing is associated with worse health outcomes, greater risk of infection and is most likely to affect people in the lowest income quintile across the UK[43]. Census data from 2011 shows that the percentage of the population living in overcrowded conditions was higher in Glasgow (17%) than Scotland (8%) and accounted for over 20% of the population in 12 of Glasgow's 56 neighbourhoods[44]. Overcrowding in Govanhill West, an area with high in-migration, and Drumchapel North is reported to account for over 30% of the population[45].

In terms of housing quality in Glasgow City, 37% of properties fail to meet the Scottish Housing Quality Standard (SHQS), which although slightly lower than the Scottish average is still considerable[42]. Meanwhile, a large proportion of Glasgow's population live in the private rented sector, where disrepair and overcrowding are more common[42]. Additional burdens can be placed on people living in the private rented sector due to insecure and more expensive tenure[46], having less control over repairs and the ongoing challenge of ensuring that rights are upheld[47].

Housing related abuse and mental health

Domestic abuse has gained increased traction across public discourse during the pandemic. With 88% of reported cases taking place within the home[48], domestic abuse is deeply rooted in a victim's living circumstances[49]. Nearly 5,000 homeless applications were made to local authorities last year from people experiencing domestic abuse, of which most were women[50]. This makes it the leading cause of women's homelessness in Scotland[51]. The early stages of the pandemic saw a sharp

increase in demand for support from various support organisations[52], indicating the potential for lockdown measures to have harmful unintended consequences[53]. In some cases, these measures have prevented victims from escaping abuse[54] or seeking alternative living arrangements through their local authority[55]. Glasgow City consistently records the highest number of domestic abuse incidents of any Scottish local authority and is higher than expected given its share of the Scottish population[56].

People living alone, meanwhile, face a different set of challenges. The mental and physical health impacts of loneliness and isolation are well evidenced[57] and have been brought into sharper focus during lockdown measures. Almost half of the Scottish population reported feeling anxious and a quarter felt lonely in the early stage of the pandemic[58]. People living alone or suffering with a pre-existing mental health condition are particularly vulnerable to these feelings. Importantly, Glasgow has a higher proportion of single adult households (45%) than the national average (36%)[37]. This is important to consider in relation to the impact of lockdown measures and how people living alone can be supported to work from home.

Table 2. Housing and housing related issues for Glasgow and Scotland

Housing	Glasgow	Scotland	Year(s)
Housing type (flat)[42]	72%	36%	2016-18
2 or fewer bedrooms[42]	67%	51%	2016-18
Housing tenure[42]			2016-18
Own/mortgage	48%	62%	
Social	32%	23%	
Private rented	19%	14%	
Overcrowding[44]	17%	8%	2011
Police recorded domestic abuse incidents per 100,000[59]	147	112	2018-19

3.2 Spatial factors

Spatial justice promotes the idea that all people should have equal access to good quality outdoor space, irrespective of income, housing or population characteristics. Disparities in the distribution of different types of land-use across cities have exposed considerable spatial injustices during the pandemic. Although neighbourhoods vary in character and land use, data can be used to assess whether populations have equitable access to health enhancing resources such as good quality greenspace.

Streets and public realm

Differences in Glasgow's streetscape have shaped the population's experience of living during the pandemic. In some parts the city, the need for social distancing has tested the capacity of streets and highlighted an imbalance in the allocation of space between motorised travel and pedestrians. This has led to some temporary changes through 'Streets for All'[60] and 'Spaces for People'[61] after feedback from local people on how to improve conditions in ways that ensure safe social distancing. While uncertainty remains about how the pandemic could shape human behaviour in public spaces in the long term, it is unlikely that a return to previous ways of living will be desirable for everyone. Notwithstanding this, the threat of a future pandemic and the need to move towards lower-carbon forms of living gives a strong precedence for re-prioritising space in the city.

Urban density

Urban density relates to the number of people living within a defined area. Glasgow is more densely populated than any other Scottish Local Authority[62]. This has implications for the spread of the virus and the capacity of neighbourhoods to enable safe social distancing. Densely populated urban areas help to support the use of neighbourhood facilities and amenities, as well as promoting socialisation and active forms of travel. Glasgow City Council aim to take advantage of these proximity benefits by doubling the city centre's population over the next 20 years[63].

Urban density is a relevant factor in the spread of COVID-19. However, the relationship is not a simple linear one and various studies have shown that connectivity, overcrowding, inequality and the quality of urban environment are also

important and interconnected factors[64, 65].This is partly because people living in more densely populated areas can be more likely to exercise caution, follow the necessary public health guidelines and have access to support from others (e.g. to provide food, assistance or medical support)[66]. However, despite some positive offsetting factors, people living in close proximity to others are more likely to experience feelings of fear and anxiety, as well as longer term mental health problems which arise from spending extended periods of time in a confined space[67]. More densely populated areas are also more likely to be socio-economically deprived[68] or to house people who have pre-existing medical conditions or personal circumstances which make them more vulnerable, such as a job that increases their risk of exposure to the virus[69].

Greenspace

The mental health benefits of spending time outdoors are well evidenced[70] and the availability of good quality local outdoor space has been an important resource for coping during the pandemic. Glasgow has a range of natural spaces that can support public use, including over 90 public parks[71]. Research undertaken by NatureScot in May and June 2020 found that one-in-three people (35%) exercised outdoors to manage stress[72]. Meanwhile, nearly two-thirds (63%) reported mental health benefits as a result of spending time in nature, a figure which is comparable with research undertaken by YouGov and the University of Glasgow (65%) at a period of tighter restrictions[73]. Half (49%) of the NatureScot respondents expect to spend more time outdoors for recreation than before lockdown measures were introduced compared to 58% of YouGov respondents. However, these benefits were not shared equally, and people living in deprived areas were more likely to expect a decrease in time outdoors. Those shielding – 22,000 people in Glasgow – have been unable to use public spaces at all, meaning that an already at-risk group have had limited opportunities to reduce their risk of critical illness by adopting a more active lifestyle. Shielding disproportionately affects those in the most deprived areas, where sub-standard housing is more common, and greenspace is poorer and less abundant[74].

Guidance on the safe use of parks and public spaces by Greenspace Scotland suggests that 'at risk' groups could be given priority access at certain times of the day[75]. Meanwhile, Scottish Government guidance on the safe use of public spaces outlines the need for interventions that are designed to improve access to public spaces to consider the needs of all users, including people with various forms of disability and those shielding[76]. Decisions about such changes, it is suggested, should be taken in consultation with affected population groups. This means that, where appropriate, Equality Impact Assessments (EQIA's) should be undertaken to account for the needs of people with one or more protected characteristic. The guidance also highlights the important role that city planning can play in facilitating business operation through the allocation of additional space where social distancing is difficult to maintain. While many suggested changes apply to the circumstances which necessitate physical distancing, longer term measures which enable more equitable access to public spaces should also be considered[77].

Vacant and derelict land

Glasgow is home to 9% of Scotland's vacant and derelict land[78]. Although there has been some progress in redeveloping sites in recent years, the percentage of vacant and derelict land in Glasgow is far greater than in other large urban areas in Scotland. It is also highest in the most deprived parts of the city such as the north east, where it accounts for 10% of the land mass[79]. Poor quality and unusable outdoor space such as vacant or derelict land is associated with poor physical and mental health[80] and can have the opposite effect to greenspace by inhibiting, rather than facilitating, the use of outdoor space. The Scottish Land Commission's Vacant and Derelict Land Taskforce advocate the development of vacant and derelict land on the basis that it is causing harm to affected populations. In a report on how to transform existing vacant and derelict sites and prevent the creation of further sites in the future, the Taskforce suggest the establishment of a community fund to tackle harmful and persistent small-scale sites and highlight the important role that this could play in supporting empowerment and community wealth building[81]. One of the pillars of community wealth building to be focused on in the Glasgow City Region is 'socially just use of land and property' which will involve tackling pockets of vacant and derelict land in the most deprived areas. These efforts can build on existing

initiatives such as Stalled Spaces[82], but must also include large scale improvements to sites that have been left undeveloped for years.

Play spaces

Neighbourhoods provide a range of opportunities for young people to play, socialise and develop physical, cognitive and emotional skills that are important for later life. In Glasgow, 80% of under 16s live within 400m of publicly accessible greenspace[83]. However, the quality of the space varies considerably; in some parts of the city it can be 97% of the population, while in others it is less than 50%. Typically, more affluent neighbourhoods have more accessible greenspace. The closure of play parks during the pandemic has affected children with the fewest resources and least outdoor space at home, most acutely. While concern around the transmission of COVID-19 has prevented children from playing with friends and using certain types of play equipment, a study of over 9,000 children across Scotland found that many parents and carers felt that this had been partly compensated for by an increase in imaginative play[84]. For many, lockdown measures led to an improvement in outdoor play (45%), although for 29% it was reported to be worse. It is notable that 91% of respondents had access to private outdoor space. The study population therefore does not accurately reflect the Glasgow population where flats are the most common type of property.

Unstructured outdoor play, where children are encouraged to make sense of their environment and be creative, can have a range of positive health impacts[85]. Child-led sessions provided by Playful Schools – a partnership between Play Scotland and Scrap Antics – demonstrated that it is viable to provide free outdoor play for young people in a COVID-safe environment. Importantly, play sessions were also found to have benefited young people's mental wellbeing and allowed them to 'blow off steam' at a time of great uncertainty in their lives[86]. This raises questions around how equitably informal play spaces are distributed across the city, as well as how barriers that prevent some children from accessing free play can be overcome.

Litter and fly-tipping

Littering and fly-tipping[g] is preventable and can be more quickly alleviated than other environmental problems. Although there is relatively limited research on the impact of litter on mental wellbeing compared to other environmental factors, it is a widely reported public issue. In a survey of over 7,500 UK residents, 96% agreed that litter was a public health concern, almost two thirds (64%) felt that the problem had got worse since lockdown and 20% felt sad or depressed by it[87]. Glasgow residents feel that litter is the city's most important environmental challenge, and 43% of the population have experience of a litter problem in their neighbourhood compared to less than a third of the Scottish population (29%)[88]. Across Scotland, littering and fly-tipping has got worse in recent years and has been rising most quickly in more deprived areas[89]. A recent Freedom of Information request by Tog24 found that Glasgow has the highest number of fly-tipping incidents of any UK local authority to have responded to the request[90]. This comes at a significant cost to the local authority, as well as having an unquantified but no doubt considerable impact on affected communities.

Social and cultural factors play an important role in shaping littering behaviour. For example, areas where there are fewer bins, bins that are not regularly emptied or where existing levels of litter are high, are more likely to engender feelings amongst the population that it is socially acceptable to litter[91]. Meanwhile, those who feel alienated from their community are more likely to litter as a form of minor rebellion. More positively, there is some evidence that voluntary litter picking can have a positive impact on mental wellbeing, providing people with a sense of purpose and a feeling that they are contributing to their local area[92]. As people are spending more time in their local area, there is now an even greater onus to reduce the presence of litter through collaborative approaches.

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[g] Fly-tipping is defined as the illegal deposit of any waste onto land that does not have a license to accept it.

Table 3. Spatial factors for Glasgow and Scotland

Spatial factors	Glasgow	Scotland	Year(s)
Population density (per square km)[62]	3,471	69	2015
Can walk to nearest greenspace within 5 minutes[25]	51%	65%	2018
Most deprived 20%[88]	50%	58%	
Least deprived 20%	56%	58%	
Satisfaction with greenspace[25]			2018
Most deprived 20%[88]	67%	63%	
Least deprived 20%	88%	83%	
Proximity to derelict land (500m)[93]	55%	28%	2018
Under 16s living within 400m of publicly accessible greenspace[83]	80%	-	2014
Have experience of rubbish or litter lying around in neighbourhood[88]	43%	29%	2018

3.3 Communities and neighbourhoods

Neighbourhoods are home to a range of resources that can be health enhancing or detrimental to health. Within Glasgow, more deprived neighbourhoods typically contain more retail outlets that are damaging to health, such as fast-food outlets, gambling premises and places to purchase alcohol or tobacco products[94]. Deprived areas may also have fewer resources that can support health, such as community organisations, healthy food or safe places to exercise. Overall, people in Glasgow are less likely to describe their neighbourhood as being a very good place to live than the Scottish population and people living in the 20% most deprived neighbourhoods are much less likely to view their neighbourhood as very good compared to the rest of the Scottish population[25].

Community support

The pandemic has provided a stark illustration of how different sectors of the economy contribute to society. While the NHS and the care sector have rightfully

received recognition for their role in protecting the population, third sector organisations[h] have been a less supported but no less crucial part of the national response. Demand for many community organisations has increased during the pandemic and some have reconfigured their activities entirely to adapt to the immediate needs of community members. This adaptability underlines their current and future importance to communities, yet many are facing an uncertain future. Glasgow currently has 3.6 charities per 100,000 members of the population, a lower proportion than it had in 2016 and lower than the figure in Edinburgh, despite having a much more deprived population[95].

Volunteerism and community spirit have emerged as important qualities since the first lockdown in March 2020. This has been evident in many forms, from the 76,000 people signing up to the Scotland Cares volunteer programme[96] to the various informal acts of kindness that are less easy to define and measure[97]. The emergence of Mutual Aid[i] has also made a significant contribution to community responses and will have a lasting impact on how people participate in community life in the future. Across Scotland, 116,000 people had joined a Mutual Aid group within a month of lockdown measures being introduced[98]. Within Glasgow, 31 local groups are currently set up to support communities[j], as well as an overarching Glasgow group to ensure support for anyone living in an area where no local group exists. Groups were able to mobilise quickly to provide support to community members in various ways, as required. An important distinction between this type of support and that provided by third or public sector organisations is that the ethos is around solidarity and mobilising community action, rather than one of provider and recipient of help or support. The presence of a city-wide group in Glasgow ensures that at least in theory, no-one in need of support should miss out. However, as an entirely community-led approach, the distribution of support may not always align with the level of need.

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[h] Third sector organisations include charities, social enterprises and voluntary groups.

[i] Mutual Aid is a voluntary reciprocal exchange of resources and services for mutual benefit. Mutual Aid groups have been established across the country and mainly coordinated through social media.

[j] Figure based on a COVID-19 Mutual Aid UK website search: https://covidmutualaid.org/local-groups/

A key challenge will be to maintain the spirit of volunteerism to support recovery from the pandemic. The increased needs of the vulnerable, a sense of social solidarity and changing circumstances of those able to offer support (i.e. a shift to more flexible working or being furloughed) provided the necessary conditions for public interest in volunteering to increase. It should not be assumed that it can be easily harnessed in non-crisis conditions without effort and resource[99]. This will be important through the formal volunteering structures set up to support people during the crisis – which have largely been oversubscribed and difficult to manage, as well as the vast number of Mutual Aid groups set up during this period. Another challenge will be to identify the gaps, particularly where the most vulnerable members of society have not benefited.

The food environment

COVID-19 has brought into question the sustainability and resilience of existing food systems, as well as the vulnerability of the population to food insecurity[100]. Food insecurity has been a growing problem in Glasgow in recent years, with 13% of those surveyed worried about food scarcity compared with 9% of the Scottish population[101]. One–in-three children in the city live in poverty, a figure that has risen by nearly 5% over four years[102]. Many parents and carers must therefore make difficult decisions around the prioritisation of food, fuel, clothing and other essential items.

Lockdown measures have increased the demand for emergency food[103], with job insecurity and the inability of some to access food safely adding to existing challenges. For those shielding, around 22,000 residents in the city, food has been made available through Scottish Government and Glasgow City Council support[104]. However, ensuring that all needs are met has been challenging, particularly where people are not digitally connected or do not have immediate family or friends to call upon. Local organisations, such as the Glasgow Community Food Network through its 'Food for Good' programme and work with foodbanks and local charities/groups have played a key role in meeting these demands[105], while the availability of free school meals during holiday periods have eased the financial burden on some families[106]. The effect of further unemployment is likely to increase demand for emergency food, which suggests that a more strategic and proactive approach is

needed to prevent what should be an avoidable situation. Moving forward, it is important to build a more sustainable food system which can support urban agriculture, boost local economies, reduce food miles and encourage people to be more considered in their decisions about what to eat. The Glasgow City Food Plan[107] takes a holistic approach to how food is grown, procured, prepared and consumed in the city, recognising the many inter-dependencies in the food system and the potential for food to play an important role in promoting better practice in the city through education and partnership working.

Table 4: Community and neighbourhood factors for Glasgow and Scotland

Neighbourhood indicator	Glasgow	Scotland	Year(s)
Neighbourhood a 'very good' place to live[25]			2018
Least deprived 20%	63%	75%	
Most deprived 20%	30%	31%	
Charities per 100,000 people[95]	3.6	1.8	2019
Experienced food insecurity[101]	13%	9%	2018-19

3.4 Transport and travel

In comparison with Scotland, Glasgow residents are more likely to be satisfied with their transport options. Satisfaction with transport tends to be much higher in urban areas than rural areas (where transport options are more limited), however, and Edinburgh has much higher satisfaction levels than Glasgow. The lower level of satisfaction in Glasgow perhaps reflects public dissatisfaction with bus services; bus passenger levels have been declining in recent years. Conversely, rail passenger numbers have increased[108] and cars continue to be the dominant mode of transport. The city has the highest traffic volume of any local authority, despite car ownership being lower in Glasgow than the rest of Scotland. Ownership is lowest in the most deprived areas where there is a greater reliance on buses for travel. Meanwhile, the number of cycling trips in and out of the city centre has more than doubled over a ten-year period[109], but still only accounts for a small proportion of all transport journeys in the city. Bike ownership in Glasgow is also lower compared to Scotland.

Travel and emissions

Motorised travel decreased sharply across the UK and Scotland following initial lockdown measures, with some days seeing less than 25% of the equivalent travel levels on the previous year. More recently the percentage of vehicles on the road has been consistent with previous years, reducing slightly to coincide with more stringent restrictions[110]. Across all types of motorised travel, car use has decreased the most, while light and heavy goods vehicle use has been higher than in 2019 on several days. Bus and rail travel, meanwhile, have reduced considerably and have failed to return to pre-COVID-19 levels.

Cycling and walking rose considerably in the spring and summer months, before reducing again in autumn and winter 2020. Across Scotland, cycling rates rose by 43% between March and September 2020 in comparison to the same months in 2019[111]. On Clyde Street in Glasgow, where a pop-up cycle lane has been implemented, an increase of nearly 200% was recorded[112]. This was partly aided by the surge in nextbike[k] use over this period[113]. Positive impacts were noted in terms of walking levels across Scotland and in Glasgow, although there has been a sharp reduction in walking journeys across Scotland since autumn 2020. This perhaps reflects the continued reduction in commuter walking, together with fewer people doing evening walks in the darker, colder and wetter months.

Air quality

Changes in travel behaviour have brought about significant improvements to air quality, together with a reduction in CO_2 emissions. Very small particulate matter (PM2.5) have been estimated to contribute to over 1,700 deaths every year in Scotland and over 200 deaths annually in Glasgow[114]. Air quality in Glasgow's city centre had been improving steadily since the introduction of a low emission zone in 2018, although pollution remains high on some streets, particularly in terms of Nitrogen Dioxide (NO_2) emissions[115]. In a study of the localised impacts of lockdown on seven of the UK's largest cities, Glasgow showed the biggest decline in harmful NO_2 (44%)[116]. There is some emerging evidence of an association between air pollution and worse symptoms and mortality from COVID-19[117].

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[k] Nextbike is the main provider of shared hire bikes in the city.

Shifting transport priorities

Enforced changes to travel behaviour provide an opportunity to rethink transport infrastructure in city centres and across neighbourhoods. With 25% of Glasgow's land use being taken up by roads – a much higher proportion than most other comparable UK cities[118] – there is an opportunity to think creatively about how this space could be used differently. Within Glasgow, the Connecting Communities public conversation, which GCPH responded to, will help to shape a new Transport Strategy for the city. The current temporary redesign of road layouts implemented under 'Spaces for People' has allowed various changes to be tested[119]. These include road closures, the widening of pavements, removing parking spaces, implementing 20mph limits and new segregated cycle lanes. These should be regarded as pilot schemes that will be considered for permanent change if effective. Returning people to public transport will be a challenge in months to come, particularly as bus use in Glasgow was already in decline[115]. However, providing a safe, affordable and good quality public transport system will be an important means of reducing inequality and meeting sustainability targets.

Table 5: Transport statistics for Glasgow and Scotland

Transport	Glasgow	Scotland	Year(s)
Satisfaction with public transport[88]	74%	65%	2018
No access to a car (household)[120]	46%	29%	2016
Bike ownership (household)[121]	27%	34%	2019

4. Supporting a green and locally sensitive economic recovery and transition

Many of the challenges presented by COVID-19 have brought about temporary changes to the way we live, of which some will have long-term public health consequences. Moving forward, it is important that the economic and social recovery across neighbourhoods encompasses principles of sustainability, inclusion and localism. This section brings together ideas and emerging policies around how this can be most effectively achieved.

4.1 Tackling climate change through a green recovery

No country is immune to the health impacts of climate change. The Committee on Climate Change suggest that the arrival of the COVID-19 pandemic should be a defining moment in tackling the climate crisis, adding that there is no alternative but to accelerate efforts to reduce carbon emissions and improve climate resilience[122]. Lockdown measures temporarily brought about a decrease in global carbon emissions[123] and an improvement in some measures of air quality[124], mainly through reductions in vehicle emissions and workplace energy consumption. This has to some extent been offset by an increase in home emissions and a rise in the number of delivery vehicles, and air quality improvements in most areas have not been sustained. In addition, some public sector services which provide environmental benefits and support low carbon living have been suspended or have operated at reduced capacity, including the closure of recycling centres, reduced frequency of refuse uplift and an increase in domestic waste across the UK[125]. The global use of single-use plastic has increased, and more recyclable materials are being sent to landfill[126]. Commercially, some organisations have moved to less sustainable practice in order to minimise the risk of viral infection, while an increase in disposable personal protective equipment has been an additional environmental burden[127] .

As Glasgow prepares for COP26 in November 2021 – a year later than originally scheduled – there is an opportunity and an obligation to ensure that the green recovery movement brings about the necessary changes for Glasgow to meet its target of net-zero carbon emissions by 2030. Beyond carbon reduction, measures to minimise the negative impacts of climate change and further environmental degradation will also be needed. This will not be achieved without a significant

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change to how our buildings, industries, transport and energy systems operate. Investment in energy efficiency measures and low carbon heating can also support climate adaptation and carbon reduction measures, particularly for the most vulnerable and those on low incomes[128]. Glasgow's people will also need to feel that climate change is a cause that is worth supporting and can be met through everyday actions, even for those who have contributed the least to it. Currently two-thirds of the Glasgow population (67%) believe that climate change is an immediate and urgent problem[25]. This figure has been rising year on year, but clearly more effort is needed to raise public awareness of the issue further. Glasgow City Council's Climate Emergency Working Group's Implementation Plan, which builds on the 61 recommendations for addressing the emergency last year[129], will be an important framework for shaping this agenda, but will require buy-in across all Council services, as well as a wider commitment from other public service providers and the private sector. Consideration should be given to how the environmental benefits of changes that have come about during lockdown measures, such as more flexible working arrangements and increased active travel, are not lost.

The green recovery movement is gathering pace, with several organisations across Scotland[130] putting their name to a letter to the First Minister outlining their wish to see a move away from the current emphasis on economic growth to ensure greater emphasis and commitment to wellbeing, fairness and actions that support sustainability and accelerate efforts towards carbon neutrality. For climate change, the current situation has put any momentum that was gathering ahead of COP26 on pause, but the recovery phase and the steps needed to achieve a net-zero economy must now be accelerated.

4.2 Placemaking for the 20-minute neighbourhood

Placemaking is recognised as an important means of addressing multiple aims, including inclusive growth, and all new developments in Glasgow are assessed against an overarching 'Placemaking Principle'[131]. This principle recommends that development should protect the environment, improve health and reduce inequality, ensure that new development achieves the highest sustainability levels, and that the planning process should be as inclusive as possible. Meanwhile, the Scottish Government has adopted the 'Place Principle' which requests that anyone

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responsible for providing services and looking after assets in a place need to *'work and plan together, and with local communities, to improve the lives of people, support inclusive growth and create more successful places'*[132].

The Scottish Government's Programme for Government in September 2020 included a commitment to provide funding for local authorities to support the establishment of 20-minute neighbourhoods. The concept of a 20-minute neighbourhood is a simple one; through sustainable travel, residents should be able to access most of what they need within 20 minutes of their home. Within Glasgow, this provides an opportunity to pilot measures within designated communities, as well as allowing the principles of the 20-minute neighbourhood to be applied more widely through regeneration and planning practice. The concept aligns with the shift towards more adaptable working practice, as well as the Council's commitment to a Liveable Neighbourhoods Plan, which will aim to reduce car dependency and increase active travel through a range of place measures. Figure 2 shows the features identified by Victoria State Government, Australia, in planning for 20-minute neighbourhoods[133].

**Figure 2. Features of a 20-minute Neighbourhood**

Source: Victoria State Government

While the notion of creating 20-minute neighbourhoods could be a positive development in urban planning terms, with scoping of different planning scenarios suggesting that it may be an effective approach for supporting walking and cycling and ensuring the needs of various population groups are more adequately met[134], several factors relating to the viability of applying these principles require consideration. This includes, but is not limited to, the role that 20-minute neighbourhoods could play in supporting economic recovery and renewal, as well as how digital infrastructure could be harnessed to reduce unnecessary travel. Clearly it will be easier to apply 20-minute neighbourhood principles to new developments than to retrofit existing areas that are poorly resourced. However, piloting the approach should not be an exercise in highlighting neighbourhoods that already align well with these principles. It should instead aim to identify key barriers to the widescale implementation of 20-minute neighbourhoods and how these barriers might be overcome. Much can be drawn from the Place Standard, which aligns well with the approach and has importantly been informed by evidence.

4.3 Building on 'Spaces for People'

The Sustrans funded 'Spaces for People' programme has provided an opportunity to deliver some 'quick wins' across Glasgow, based on easy to implement temporary street changes. The process was informed by public opinion, with local people encouraged to make suggestions for streetscape improvements across Glasgow locations on an online map. Changes were prioritised that offered the greatest benefit to public health, which balanced the needs of all users and which could be delivered in a short timeframe. This was an effective way of quickly canvasing public opinion, with over 16,000 responses being received on the Commonplace community engagement platform (see Figure 3)[135]. However, it should also be noted that responses were most commonly received in relation to the city centre, the west and the south of the city. Peripheral parts of the city, meanwhile, where inequalities are high, received far fewer comments.

Figure 3: Map of 'Spaces for People' comments on the Commonplace platform
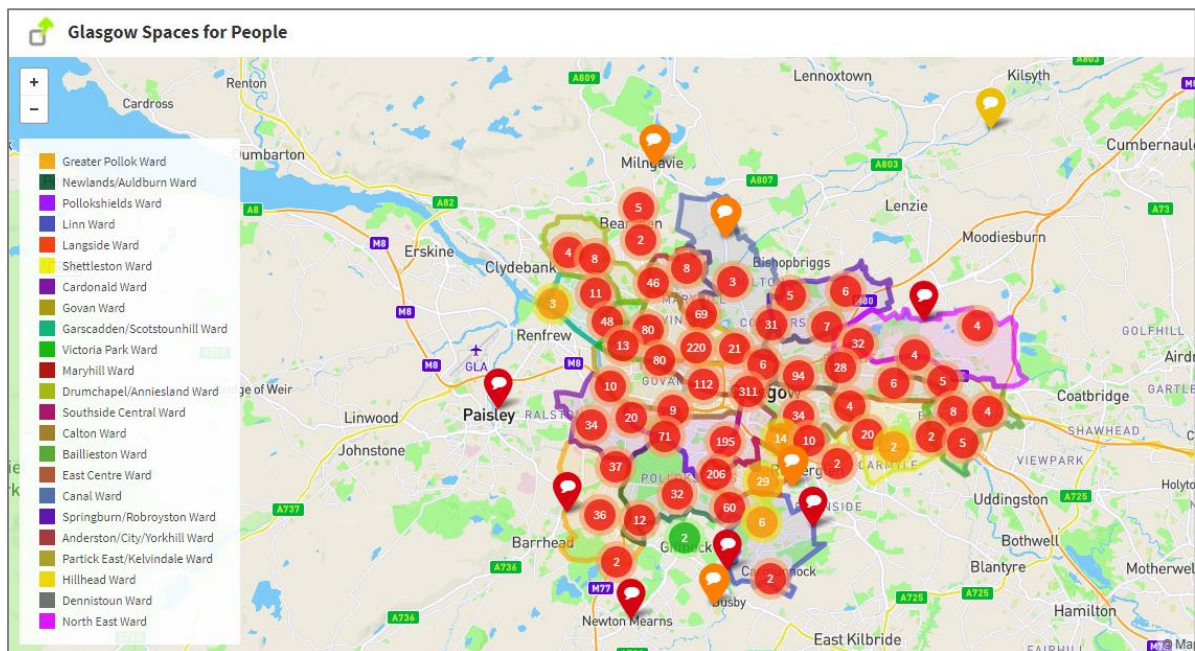
Source: Commonplace

4.4 Community wealth building

Urban centres face increased pressure following business and retail closures, reduced footfall and an acceleration towards online shopping. In the Grimsey review, an independent review on how to build back better after COVID-19, the authors advocate a return to localism, greater leadership and the allocation of spaces for people ahead of cars[136]. While changes in consumption behaviour will threaten the viability of some shops and businesses in Glasgow's city centre, local centres across the city face different challenges and opportunities. Movement restrictions and home working arrangements have brought benefits to local businesses in some areas through increased local support. In addition, the surge in community activism and social solidarity earlier in 2020 provided some hope that more locally sensitive economic policies could take root in some areas[137]. Linked to this change is the concept of community wealth building, a people-centred approach to economic development which aims to redirect wealth and economic benefits back into local communities[138]. Community wealth building provides an alternative to traditional economic models which tend to place organisational profits ahead of local interests.

In their guide for new local economies, the Centre for Local Economic Strategy (CLES) argue that anchor organisations (large, public, private and third sector

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organisations rooted in place) have the power to generate economic change at scale, utilising their role as employers, procurers and asset owners in an area[130]. Meanwhile, the five principles of community wealth building used by the Scottish Government are as follows:

- Progressive procurement
- Fair employment and just labour markets
- Shared ownership of the local economy
- Socially just use of land and property
- Making financial power work for local places[139].

The Scottish Government's Economic Recovery Implementation Plan included a commitment to '*accelerating plans for community wealth building to retain spend within local economies to aid local job creation and drive inclusive growth, working with local partners to leverage the purchasing power, assets and recruitment practices of our 'anchor institutions...*[140]'. More recently, the Scottish Government have emphasised the importance of community wealth building in the programme for Government 2020 to 2021[141]. This includes a commitment to working with five areas to develop community wealth building action plans, of which the Glasgow city region will be one.

Community wealth building approaches are a fundamental part of the economic recovery plans for Glasgow City and the wider city region. This will involve working with the Scottish Government and other anchor organisations across the five principles already described. Early work will focus on 'progressive procurement', which will build on City Deal community benefits work with the construction industry, and the 'socially just use of land and property', which will aim to address the long-standing issues with vacant and derelict land across the region. Early work will help to support the delivery of a new ten-year economic action plan for the region, which is to be published in autumn 2021.

4.5 Circular economic activity

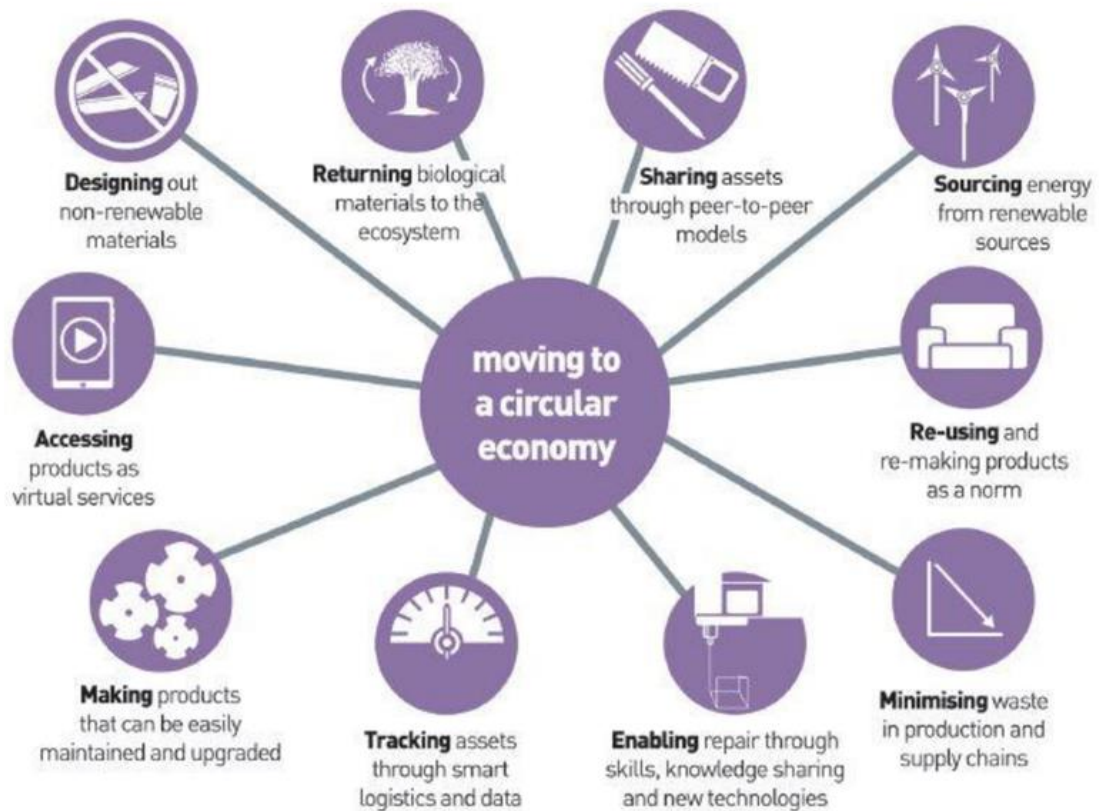A circular economy is based on the principles of designing out waste and pollution, keeping products and materials in use, and regenerating natural systems[142]. Creating a circular economy aligns well with the principles of community wealth building. In particular, re-purposing, re-using, retrofitting or re-distributing by-products can help to ensure that money and opportunities remain within a local economy. Circular economic activity can also be an important means of supporting a resilient and low-carbon recovery.

The introduction of a Circular Economy Bill for Scotland was delayed due to COVID-19, but the Scottish Government remain committed to introducing the bill in the future. A consultation on legislation relating to the circular economy sought public opinion on a range of possible measures, including Scottish Ministers having powers to set charges for environmentally harmful items, public reporting on waste use, feedback on how to encourage re-use and re-distribution, consistency of recycling collections, greater enforcement powers relating to littering and the sustainability of public procurement practice[143].

The global economy is reported to be 8.6% circular (materials are not from extracted sources), down from 9.1% in 2019[144]. In Glasgow, just 6% of employment is linked to circular activity[145]. Despite this, Glasgow has already taken major steps towards improving the practice of many businesses in line with becoming a circular city. In 2015, a City Scan identified three key sectors where the city could become more circular: healthcare, education and manufacturing[146]. Other sectors have since been identified and several projects are underway to introduce different types of circular practice. However, creating a truly circular economy is a major undertaking that requires significant buy-in from various organisations across all sectors. Unpicking supply chains and identifying opportunities for circular practice requires a long-term vision and commitment[147]. Figure 4 is taken from the Scottish Government's circular economic strategy for Scotland[147]. It highlights the various ways in which products, materials and energy sources can be used in ways which support the transition to a more circular economy. In the context of place improvements for Glasgow, circular activities around local food production and retrofitting properties with energy

efficiency measures have the potential to drive economic growth in an environmentally sustainable way[148].

Figure 4. Approaches to support a circular economy

Designing out non-renewable materials

Returning biological materials to the ecosystem

Sharing assets through peer-to-peer models

Sourcing energy from renewable sources

Accessing products as virtual services

moving to a circular economy

Re-using and re-making products as a norm

Making products that can be easily maintained and upgraded

Tracking assets through smart logistics and data

Enabling repair through skills, knowledge sharing and new technologies

Minimising waste in production and supply chains

Source: Scottish Government

4.6 Building community resilience

Resilience allows individuals or communities to adapt or thrive in the face of change. In a previous GCPH publication on resilience and public health, we define collective resilience as '*the capacity for populations to endure, adapt and generate new ways of thinking and functioning in the context of change, uncertainty or adversity'* [149]. Infrastructure (both physical and social) is identified as one of four policy areas where action could support places and communities to become more resilient to future known and unknown threats. COVID-19 has undeniably highlighted disparities in the availability of physical and social infrastructure within communities, including good quality housing and greenspace (public and personal), the presence of local amenities and services, supportive organisations and the extent to which a local population are engaged and socially active. We know from past GCPH work that

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engagement in volunteering and other forms of participation has been lower in Glasgow than in Manchester and Liverpool, which are similar sized post-industrial cities[150]. Differences in the presence of social capital may shape the ability of some communities to adapt to the current challenges, and it is important that these differences are recognised and accounted for in policies and resource allocation. Challenging financial circumstances mean that the viability of some services will be brought into question. An important consideration in any decision about the financial viability of local services should be the impact on inequalities, as well as the likely demand for services in the future. A more just and locally driven economy which ensures the fairer distribution of resources will also help to ensure that communities are more resilient to future threats.

Examples of collective resilience have been evident in many forms during the pandemic, through informal support from neighbours, friends, family members and local organisations, to more formal assistance provided by public and private companies. The emergence of Mutual Aid and the adaptability of third sector organisations have also been a clear demonstration of collective resilience. In a context where further pandemics and other major societal shocks are possible, consideration must be given to what has been important for allowing communities to respond effectively. Now is an opportune moment to facilitate conversations around the future of places. A variety of tools and resources are available to promote participation and community leadership in the creation and improvement of places. The Place Standard Tool[151], for example, allows community members to consider which aspects of their neighbourhood could be improved. Recent amendments to the tool have seen an increased emphasis on climate change considerations, as well as incorporating prompts relating to the impacts of global health challenges and advice on ways to complete the process virtually. Participatory budgeting (PB), meanwhile, which can be used in conjunction with the Place Standard Tool, is an engagement approach that involves local people in decision-making about how to spend public funds[152]. In 2017, the Scottish Government set a target for all local authorities to allocate 1% of their budget to PB practice by 2021. Mainstreaming PB practice represents a significant challenge for local authorities, not least in terms of upskilling staff to deliver and provide leadership on such processes[153]. Notwithstanding this, the shift towards home-working and new pressures on local authority budgets

present a real threat to achieving the 1% target. However, in this current climate of change, PB still represents an important means of engaging local populations and equalities groups, building trust and ultimately facilitating neighbourhood improvements. All efforts to encourage community participation should align with the national standards for community engagement, as outlined in Figure 5 below[154].

Figure 5. National Standards for community engagement

Source: Scottish Centre for Community Development

5. Discussion and recommendations

Now is the time for transformational change. A return to pre-COVID conditions will not bring about the recovery or changes necessary to respond to climate change, reduce inequality or achieve long-term economic stability. Nor will it provide the flexibility required to adapt to changing circumstances, particularly in a world where pandemics may be more common. While there is now a strong focus on economic recovery – and development and regeneration will have an important role in this – this should be delivered in ways that support long-term sustainability, health and equity. New developments should continue to follow the established principles of healthy placemaking, with consideration for how local people can be meaningfully involved and local amenities can be easily reached without the need for a car. This is particularly important in parts of Glasgow where car ownership is low[155] and people do not feel confident enough to use public transport while the threat of COVID-19 still exists. New housing must be adaptable to changing needs, and although it will not be possible to adapt Glasgow's entire housing stock, small measures can be taken to improve outdoor access, the quality of amenity space and the energy efficiency of buildings.

The recommendations below are a set of actions that we feel are important for the delivery of a just and green recovery across Glasgow. Recommendations are offered under the four aspects of place outlined in Section 3, as well as the approaches to supporting recovery and transition covered in Section 4. They have been developed with consideration for how to maximise public health benefits.

Housing
- Poor quality housing with limited space should be modernised and adapted to allow better access to personal, communal and public outdoor space.
- Domestic abuse victims and homeless people should be supported quickly into independent accommodation. New housing is required to meet the current shortfall.

- Support for home energy efficiency measures, climate proofing of old properties and community-led renewable energy projects should continue and be accelerated and targeted towards those most in need.

Spatial factors

- Following evaluation, consideration should be given to the permanent roll out of temporary measures to increase walking, wheeling and cycling.

- Consideration should be given to how car-reliant housing developments can be adapted to promote active travel, reduce car dependency and meet the principles of 20-minute neighbourhoods.

- The development of good quality public space and the re-development of vacant and derelict land should be prioritised in more deprived areas.

- Resources are allocated to the creation of diverse and challenging play spaces for children/ young people as a means of increasing physical activity and improving mental health.

- Open space should continue to be assessed based on quality, community impact and accessibility for different population groups. This should inform decision-making around which areas to develop.

- A positive city-wide campaign is launched to reduce litter and fly-tipping, with extra financial support offered to areas where it is more problematic.

Communities and neighbourhoods

- Increased interest in volunteering and participation should be channelled towards activities that can help to support a green and inclusive recovery.

- Public participation in Mutual Aid groups and their activities are monitored beyond the pandemic.

- City partners commit to the delivery of the Glasgow City Food Plan, which is built around the themes of fair food for all, community food, food procurement, the food economy, waste and the environment, and children and young people. In the short-term, it will be important to ensure food security for everyone. Beyond the pandemic, more sustainable food practice is needed to provide security from future pandemics, to reduce food miles and to enable community action.

Transport and travel

- City-wide road speeds of 20mph are rolled out and enforced.

- Greening, traffic calming and reducing traffic levels is prioritised in areas that are adversely affected by congestion and pollution due to commuter traffic.

- A safe and accessible active travel network is developed across the whole city.

- Bike share and car share schemes are further funded and rolled out, including support to use them for under-represented groups.

- Transport options are integrated across all forms of sustainable transport so that tickets that can be used on a bus, train, the subway, or a hire bike.

- Bus use is widely promoted as a viable alternative to that car once it is safe to do so.

Supporting a green and locally sensitive economic recovery

- Climate change should be a key consideration in the delivery of all activities across Glasgow, both in terms of carbon reduction and the consumption, use and disposal of goods and materials.

- Opportunities presented during lockdown measures, such as increases in active travel and the sustainability benefits of flexible working arrangements, should be built on where appropriate.

- Support, funding and guidance should be provided for circular economic activities and those which support a resilient recovery.

- Opportunities should be identified to use the Place Standard Tool and other appropriate resources to help identify community priorities. Consideration should be given to climate change and the principles of 20-minute neighbourhoods.

- COP26 should be delivered in a way that produces the lowest carbon footprint possible. Carbon offsetting measures should be introduced and in a way that engages and mobilises the city population.

- Anchor organisations in the city and city region should use their power as large scale employers, procurers and asset owners to stimulate the local and regional economy through the adoption of community wealth building principles in their everyday practice.

- The evidence is clear that collaborative action across social and economic policy arenas is needed to reduce health and income inequality while also tackling the climate emergency: investment must therefore be made in 'super-policy' opportunities.

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