

BRISTOL AND THE SDGs: **2022 REVIEW OF PROGRESS, CHALLENGES AND OPPORTUNITIES**



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FOREWORD

In 2019, Bristol was the first UK city to produce a Voluntary Local Review of progress towards the UN Sustainable Development Goals (SDGs). These goals reflect a holistic view of sustainability, recognising the importance of reducing our collective impact on the planet while tackling poverty and addressing entrenched inequalities within and between nations.

Much has changed since 2019. In 2020, COVID pandemic lockdowns kept many of our citizens indoors while, during that year's summer, Black Lives Matter protestors took to our streets. Neither the pandemic nor the inequalities that motivated people to take to the streets have passed. As a city, we continue a process of healing while working together to ensure a more just and sustainable future for all our citizens.

Against that backdrop, this report updates Bristol's progress against the SDGs since that first review in 2019. Its production reflects the culture of partnership that has defined our efforts to build that fairer future, involving a collaboration between University of Bristol students, staff from the Cabot Institute for the Environment and the City Office hosted by Bristol City Council. It offers a comprehensive review of progress through available local data and reflects on some of the constraints local governments and organisations face as they work to accelerate progress.

As a city, we should be proud of our successes. Emissions have been falling while the share of renewables in our energy mix continues to rise. Our economy has grown, unemployment remains low despite a small uptick during the worst phases of the pandemic and the share of city waste going to landfill continues to fall. But we know there is much more to be done and that we must work together more than ever.



Marvin

Marvin Rees, Mayor of Bristol



Evelyn

Professor Evelyn Welch, Vice-Chancellor
University of Bristol

The COVID pandemic threw into stark relief the interconnectedness of human and planetary health while reinforcing the power of cooperative action. Community support networks and organisations in the public, private and non-profit sectors pulled together in a moment of crisis. Devastating though it was, the pandemic showed that our social infrastructure is resilient and that we can effect real change when we collaborate. Right now, we face a growing challenge from the cost-of-living crisis that could further deepen inequality and poverty still evident across the city. Once again, we must rise to the challenge as one.

The partnership approach inherent within the SDGs is the ethos behind Bristol's One City Plan, with institutions, community groups and businesses working closely with other regional organisations and local stakeholders to agree on and work towards the future we want for our city. The SDGs cannot be delivered in an abstract. They will be delivered by real places in the systems that facilitate our ways of life. Major developments, partnerships and strategic initiatives, such as the regeneration of Temple Quarter and St Philip's Marsh are examples of this. These

collaborations are future-proofing Bristol's economy with opportunities for sustainable and inclusive routes to growth and co-creating solutions to the challenges at the heart of the SDGs, such as health inequalities, climate change and ecological deterioration.

The SDGs provide a common framework and language for global action, while allowing space for places and leaders to nuance activity to fit local needs and opportunities. The goals help us to collectively demonstrate our ambitions as a city and collaborate locally, nationally and internationally on our shared challenges and opportunities. Bristol has been leading local adoption and delivery on the SDGs since their creation. Since Bristol's previous Voluntary Local Review, the city has furthered this work through its strategies, activities and ambitions. The publication of this report signals our continued commitment to the SDGs and the community of cities around the world that are tackling global challenges through ambitious city action and place based leadership. We are proud to continue to raise the important role that local governments, anchor institutions and organisations play in the delivery of this global framework.



EXECUTIVE SUMMARY

Bristol is a diverse, creative and internationally connected city in South West England with a strong commitment to sustainable development. The city and many of its organisations are committed to delivering the United Nations (UN) Sustainable Development Goals (SDGs).

In 2019, Bristol was the first city in the UK to publish a Voluntary Local Review (VLR) to assess local progress in meeting the SDGs.¹ This report provides updated data and information about Bristol's progress, examines how other UK cities have approached sustainable development – especially considering recent challenges – and reflects on how national government could better partner with local governments to deliver that development.

Bristol has achieved much progress since the last report. Some areas of education, particularly early years' attainment and higher education, have seen improvements although due to the COVID pandemic not all data is recent. Since declaring a climate and ecological emergency in 2018, Bristol has made some important gains, with citywide carbon emissions falling every year and the share of renewables in Bristol's energy mix growing. Progress against economic growth measures is harder to determine given the impact of COVID-19 on data collection. However, unemployment rates have generally fallen, earnings for men and women have increased and the pay gap between men and women has decreased.

Unfortunately, progress against other measures has been less advanced. There are a growing number of children under 16 living in low-income families. According to our analysis, violent and sexual crime, domestic abuse, fear of crime and mental health issues have also risen. An increasing number of households are using food banks, with wards on the edges of the city boundaries most severely impacted.

Some indicators were missing due to a lack of reporting during the pandemic on issues like education results and public transport usage, and the COVID-19 pandemic clearly impacted others results, such as community engagement with green spaces.

The growing engagement and adoption of the SDGs at a local level in the UK has occurred while local authorities (LAs) have faced smaller budgets and growing needs. For the past decade and through the pandemic and now an escalating cost-of-living crisis, LAs have been asked to maintain services while spending less and less money. But the financial challenges go far beyond shrinking local budgets. The many short-term, competitive funding mechanisms that LAs increasingly rely upon undermine long-term financial planning and take up time and effort that could be devoted to delivering services rather than fundraising undermining local stability.

It was in this context that Bristol's localised approach to sustainable development emerged, and the strong partnerships that have formed between public, private, civil society organisations, unions and academia have been crucial in delivering the SDGs: Bristol's One City Plan is an example of how collaborative, cross-sectoral approaches can help achieve them.

Looking forward, establishing a more stable financial environment for local authorities, deepening devolution, resourcing partnership coordinators, supporting community action and investing in national and international collaborations would all help amplify local action to address our shared global challenges.

INTRODUCTION

Since 2016, Bristol has been working to use the UN Sustainable Development Goals in how it operates as a city. Bristol has a long history of environmental and social action and for a number of years was one of the fastest growing cities outside of London. Since its 2019 Voluntary Local Review, several significant developments have occurred in the city.

These developments have not only further highlighted the challenges local governments face in acting upon the SDGs but have also shown how important it is for local governments to be active participants and decision makers in the delivery of the 2030 agenda.

The disruption of COVID-19 has shaken the systems of the world. Because of the high concentrations of people and higher transmissibility in urban areas, cities and local governments were at the forefront of much of the pandemic response. The frontline workers who dedicated their time, and in some cases their lives, were rightly honoured, but there was also recognition that many people across the city face racial and socio-economic inequalities.

While many were aware of Bristol's inequalities, the reality of those issues was thrown into stark relief by COVID-19. Cities, we learned, are not separate from nature or natural forces and COVID-19 tested the resilience of our institutions and our systems. We discovered the importance of our connection to the natural world, the beauty of cleaner air and the need to take urgent action in the face of a crisis. We reflected on the way the world works and considered new ways of living and working. Additionally, like most others around the world, Bristol's local authority had to divert resources from other ambitions to respond to the crisis and protect the lives and livelihoods of Bristol residents.



During the pandemic, the murder of George Floyd in the USA sparked protests around the world. Bristol's legacy and engagement with the trade of enslaved Africans is rooted throughout much of its society. As such, when the Black Lives Matter protests spread to Bristol, the campaign was close to the hearts of many local citizens. On June 7th 2020, the statue of a Bristol merchant and trader of enslaved African people, Edward Colston, was toppled by protesters and thrown into Bristol Harbour. The toppling sent shockwaves around the world. It sparked a national conversation about history, memory and justice and, following counter protests in the city, both revealed the complexities of delivering citywide social and economic equality and demonstrated the extent to which many in society feel left behind. The toppling was a highly symbolic moment, emphasising how far the city is from real equality and bringing the concerns of multiple marginalised communities to the fore. The drama and complexity was captured in our cultural discourse through shows like David Olusoga's *Statue Wars* and the fictional drama *Outlaws*. Even before June 7th, a lot was being done to address these concerns. However, the protests and resulting conversations show the distance Bristol still has to travel to resolve many issues that cut across multiple Sustainable Development Goals.

Even more recently, the city held a mayoral referendum to decide its governance for the coming 10 years. The results of this vote have determined that as of 2024, Bristol will be run by a system of committees made up of elected councillors, replacing the current model of a directly elected Mayor. The exact nuances of this new system are to be determined over the coming years, however the common framework of the SDGs may provide a strategy and direction of travel that all parties can agree on.

In the light of these challenges and the impacts they have had on Bristol's progress towards the SDGs, the need for a collective partnership-based approach has never been stronger. Bristol's response to the SDGs has always been focused on partnerships, originally through the SDG Alliance and then increasingly through the Bristol City Office and One City Approach. This collaborative way of working was developed by the Mayor in recognition of the fact that many of the largest and most pressing issues Bristol faces are not solvable by the local authority operating alone: climate change, racial and socio-economic inequality and the cost-of-living crisis cannot be fixed by any one organisation. The City Office became a key response mechanism during the COVID-19 pandemic and the development of Bristol's recovery strategy. It is also fundamental to the delivery of the city's health and wellbeing strategy. Bristol's Director of Public Health, Christina Gray, said: 'If we didn't have a One City Approach, we would have had to create one.'

This VLR updates the data for Bristol in light of some of the challenges over the past three years. Due to the opportunities that partnership working provides and the strong network of partnerships addressing the SDGs in Bristol, it primarily focuses on initiatives taking a partnership approach to the delivery of the goals. The report is structured with one chapter per SDG. Each chapter presents an overview of some of the key findings for that SDG and provides examples of action delivering against it in Bristol. We hope these partnership examples will inspire others to consider a similar model or seek to adopt some of our ideas in their local context.



BRISTOL CONTEXT



Bristol's work on the UN Sustainable Development Goals began in the aftermath of its European Green Capital year in 2015. A network of public, private and civil society stakeholders interested in the recently created global 2030 Agenda came together to discuss how it could be adopted at the local level.

This network formed the Bristol SDG Alliance. The Alliance members have been working since early 2016 to advocate for, raise awareness of and deliver the SDGs locally within their own organisations, the city and the region. In 2017, the Alliance commissioned a report on the utility of the SDG agenda compared to other sustainability frameworks that were being considered at the time, such as the Rockefeller 100 Resilient Cities project. This work drew University of Bristol impact acceleration funding to create an SDG Research and Engagement Associate role. The role provided academic expertise to support the city in its adoption and implementation of the SDG agenda.

Concurrently, Bristol was undergoing a period of strategic governance restructuring with the development of the City Office. The new form of governance came about in response to the need for coordinated partnership working to tackle the most entrenched challenges the city faces. Mayor Marvin Rees launched the Bristol City Office at the first City Gathering, where partners from the city's anchor institutions, businesses, communities, public sector organisations and unions met to discuss Bristol's biggest challenges and opportunities.

Like many local authorities across the country, Bristol's budget was decreasing. The city's response was to focus on coordinating partnerships so that it could rise to the challenges identified at the City Gathering and show that the city could be more than the sum of its parts. This One City Approach crystallised into the creation of the One City Plan. Working with the SDG Research and Engagement Associate and the SDG Alliance, Bristol embedded the SDGs into its new long-term vision and objectives. The SDGs were a core component of incorporating holistic sustainability into the work of the City Office and the One City Plan. It is through the One City Plan, the corporate strategies of other organisations and partnership working, that Bristol aims to deliver on the SDGs.

During the COVID-19 pandemic, the SDGs gained further importance to the city through the delivery of the One City Economic Recovery and Renewal strategy, providing an integral framework for the development and content of Bristol's local planning policy.

SDG1: NO POVERTY



WHAT DOES THE DATA SHOW?

Ending poverty is a challenge faced across the country, including Bristol. Most UK local authorities are experiencing growing levels of poverty, and this is equally true in Bristol for most SDG 1 indicators. Rates of food poverty and fuel poverty are mentioned in subsequent chapters (SDG 2 and SDG 7).

According to End Child Poverty, 32.6% of children aged 0-15 (27,306 children in total) were living in poverty within Bristol in 2021. This represents an increase from 30.1% in 2015. These figures factor housing costs, which are not captured in national statistics.

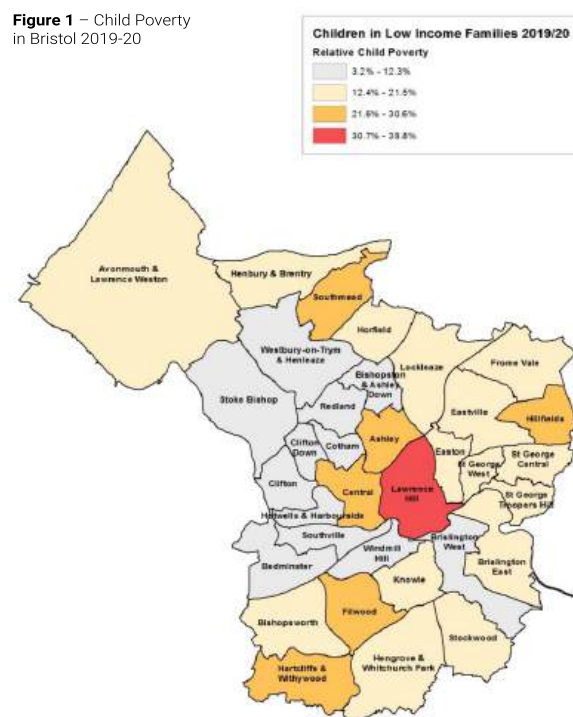
National data show that the rate of children under 16 living in relatively low-income families in Bristol remained essentially unchanged between 2015 (18.0%) and 2021 (17.8%), highlight the importance of housing costs in estimating both levels of poverty in the city and changes over time. The highest shares of children living in low-income families were in central wards around Lawrence Hill and wards on the boundaries of Bristol City Council. The lowest levels of poverty were in west Bristol, see **figure 1**.

Bristol's child poverty rate (after housing costs) is above average for the South West (25%), England (29%) and the UK as a whole (27%). However, it remains below similarly sized cities such as Nottingham (33.0%) Liverpool (33.4%), Leeds (35.9%), Sheffield (36.4%) and Manchester (42.%) and far below Tower Hamlets, the local authority with the highest child poverty rate at 52.4%

Compared to similar cities, the increase in child poverty in Bristol is modest. However, it runs counter to the trends for the South West and the UK as a whole, which saw small decreases in child poverty between 2015 and 2021. The difference between trends in the share of children living low-income households before housing costs in Bristol (slight decrease) and the share in poverty after housing costs are considered (increase) highlights the significant challenge of housing affordability in Bristol. Geographically disaggregated data on the share of children in low-income families also highlights stark inequalities in the city, ranging from just 2.6% in Redland to 40.2% in Lawrence Hill.



Figure 1 – Child Poverty in Bristol 2019-20





WHAT BRISTOL IS DOING

Bristol published a child poverty strategy in 2012 that set out how the city would tackle child poverty until 2020. This strategy highlighted the causes of child poverty within Bristol and described various methods of support for people, including making training courses and education more accessible, providing easier access to financial advice and benefits, channelling younger children into employment through apprenticeships, and supporting families by building more affordable housing. In conjunction with partners across the council and city, Bristol has been working to deliver food provision (through meal vouchers), as well as holiday activity funds.

The Bristol Poverty Institute, set up through the University of Bristol, helps tackle poverty through research and collaboration with local charities, such as The Matthew Tree Project, Frank Water and Bristol Food Network. Bristol Local Food Fund received a donation from the local council to help tackle food insecurity and waste in Bristol.

To ensure the city considers future climate risks in its planning and decision making, Bristol City Council and the University of Bristol are working to deliver a Heat Vulnerability map of Bristol. This will map some of the key vulnerabilities that may impact the city's future resilience to a changing climate and highlight the area's most vulnerable to future heatwaves.

In recognition of the high housing costs facing many citizens, Bristol has established a commission to explore how Bristol can become a living-rent city without negatively impacting on the quality or availability of rental properties. The commission will seek to bring together analytical data with expertise, input and lived-experience testimony from key city partners and housing representative groups to understand how rent stabilisation might affect the Bristol private rented sector (PRS) market and support the most vulnerable citizens.

In 2020, Bristol became a Living Wage City. Working in partnership with Bristol City Council, the University of Bristol, Triodos Bank, DAC Beachcroft, Wessex Archaeology, Bristol Credit Union, the Soil Association and Business West, the city is aiming to more than double the number of Living Wage-accredited employers paying the real living wage of £9.30 per hour by 2023. This work will help raise many out of in-work poverty and has made Bristol the largest UK city to achieve the status of Living Wage City.

In response to the growing cost of living crisis, Bristol is developing a network of warm places to support residents who will struggle to pay their energy bills when the autumn energy price rise hits. With the support of partners across the city, Bristol has identified 22 community spaces which will provide warmth, financial support and advice. Some will also help to tackle issues of hunger and education support.



SDG2: ZERO HUNGER



WHAT DOES THE DATA SHOW?

There is a mixed picture of food poverty in Bristol. The number of people facing moderate and severe food insecurity has almost halved since 2018, yet there is significant demographic and geographic variability and many children receive free school meals. As such, food poverty is an ongoing issue within the city. Nationally, the DWP found that 14% of households (9.5 million people) across the UK experienced some level of food insecurity in 2019. In this metric, Bristol is considerably under the national average at 4.6%. Around 1 in 60 (1.8%) households in Bristol suffered from severe food insecurity in 2021 and 1 in 22 (4.6%) households from either moderate or severe food insecurity. Both indicators have decreased since 2018, despite a rise in the use of foodbanks.

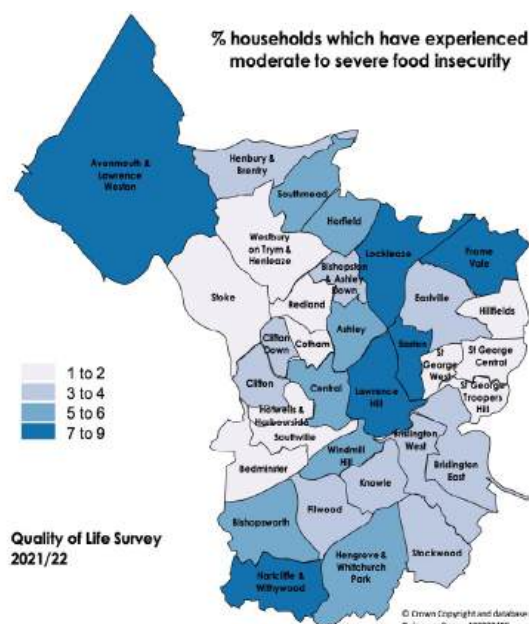
The data highlights substantial inequality over food insecurity. Single parents (20.5%), disabled people (16.1%) and Black/Black British (19.2%) residents experience dramatically higher rates of food insecurity. Rates were also more than double the Bristol average for people aged 16-24 (10.6%). Therefore, while Bristol's overall food poverty level is comparatively low nationally, the wide variance shows that a lot more needs to be done to ensure the city leaves no one behind. This data is hard to compare with previous years as COVID-19 made food accessibility much harder and food security more prominent.

Food parcel deliveries in 2021-22 reached 26,961. This was down from a peak of 34,668 at the height of the pandemic but over 10,000 parcels higher than in the years before the pandemic and many recipients reported being first-time users as a result of unemployment and financial insecurity caused by the pandemic.

Across Bristol, in 2016, 20.3% of children received free school meals, on average, with the percentage reaching 43.3% in the most affected wards and dropping to 1.9% in the least affected areas of the city. Figures for 2022 show an average of 27.6%, with the highest percentage being 52.8% and the lowest 2.0%. This increase came after slight decreases in 2017 and 2018. The East and North East Bristol wards, which contain a higher percentage of children receiving school meals, correlate strongly with the wards experiencing higher levels of moderate to severe food insecurity.

Obesity issues have not improved since 2019 either, with child malnutrition rates hovering around their 2011 levels (underweight children between 4-5 0.7%-0.8%, overweight children 4-5 years old 22-23%, overweight children 10-11 years old 32.7-33.9%).

Figure 2 – Food Insecurity in Bristol Wards 2021/22





WHAT BRISTOL IS DOING

To tackle inequality of access to food in the city and beyond, Bristol has committed to a One City Food Equality Strategy bringing together over 70 different organisations, including the local council. This partnership approach is also being adopted by the council across the wider food system. Following Bristol's successful Gold Food Sustainability Award in 2021, the city is now working on a Good Food Action Plan for 2030. This comprehensive plan covers urban growing, procurement, food education and climate-friendly diets, food infrastructure, good food governance, and disaster risk reduction. The Food Equality strategy will also form a key pillar of this work. This combined approach recognises the interconnected nature of the food system and how integral food equality and sustainability are to the delivery of multiple SDGs.

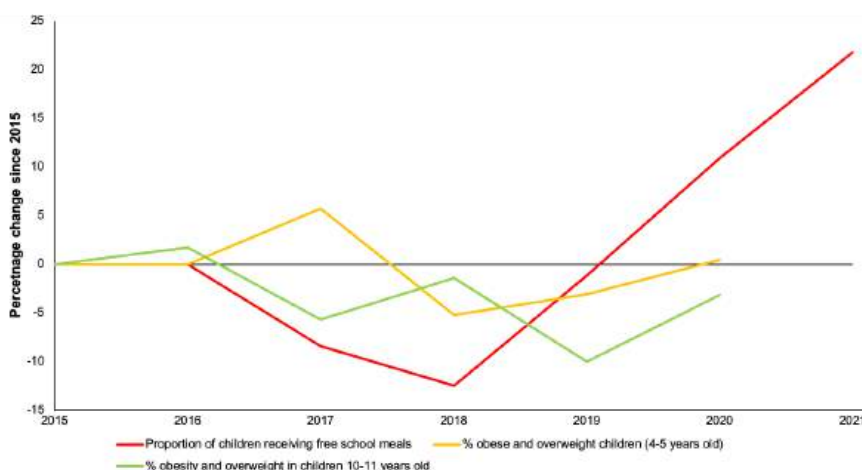
Another recent partnership solution to help develop sustainable, healthy, local food systems in the city has been realised through the city council's parks department. For the past three years, Bristol's plant nursery at one of its key parks has donated crop plants to growers who are supporting food banks. The project has donated 10,000 fruit and vegetable plants to over 45 community groups that are supporting those most affected by the cost of living crisis. The food grown provides foodbanks and schools with fresh, local, seasonal produce.

The city is also collaborating to provide fresh local produce in some of Bristol's more deprived wards. Windmill Hill City Farm and Heart of BS13 are working to reopen a city farm in Hartcliffe, one of the areas of the city that faces the highest levels of food insecurity. This partnership will provide new jobs for the area, locally sourced sustainable food and improved engagement with nature and climate action.

In 2019, a Bristol partnership was formed to address school holiday hunger. The Healthy Holidays programme, led by Feeding Bristol and Fareshare, sought to create a city where no child goes hungry during the summer school holidays. In 2021, following funding from the UK Government to deliver free holiday activities and food to children and young people, Bristol City Council, Feeding Bristol, Fareshare, Bristol Association for Neighbourhood Daycare and Playful Bristol established the new Your Holiday Hub programme.

Following the One City Approach, local organisations and providers are engaged in a free school-holiday programme for children and young people who receive free school meals. Sessions include a variety of fun activities, such as sports, music, arts and crafts. They provide excellent opportunities for children to learn and develop skills, create friendships and try new activities while also tackling childhood obesity and fostering positive mental wellbeing.

Figure 3 – Key Trends in obesity and food insecurity



SDG3: GOOD HEALTH & WELLBEING



WHAT DOES THE DATA SHOW?

Bristol has seen mixed results across health and well-being. Data is only available up to 2020 and so does not include both years of the pandemic but mortality from causes considered preventable, including premature deaths from cancer, has varied little since 2015. This is significant given deaths for COVID are considered preventable. Alongside this, cardiovascular diseases and smoking rates have remained similar to 2015 levels. Road traffic accidents new incidences of HIV and incidences of TB have all decreased significantly since 2015. The rate of births by women aged 15-17 has decreased from 69.2 in 2015 to 40.8 per 1000 in 2020.

The fraction of mortality attributed to air pollution has risen since 2015, although it declined in both 2019 and 2020 from a 2018 high. There has also been a slight increase in the prevalence of respiratory disease, with Bristol still above the national average. Additionally, the city has seen a rise in drug misuse, climbing from six cases per 100,000 in 2015 to 8.9 per 100,000. This is significantly higher than the England average and is increasing faster than the rate of change in the UK.

Life expectancy in Bristol has changed little between genders since 2010, and the difference between people in the most and least deprived areas remains similar to the 2015 statistics. The number of people reporting below-average mental wellbeing rose between 2017 and 2021, rising to 20.5%. The majority of the increase since 2020 is likely due to the impact of the pandemic on mental health and wellbeing.

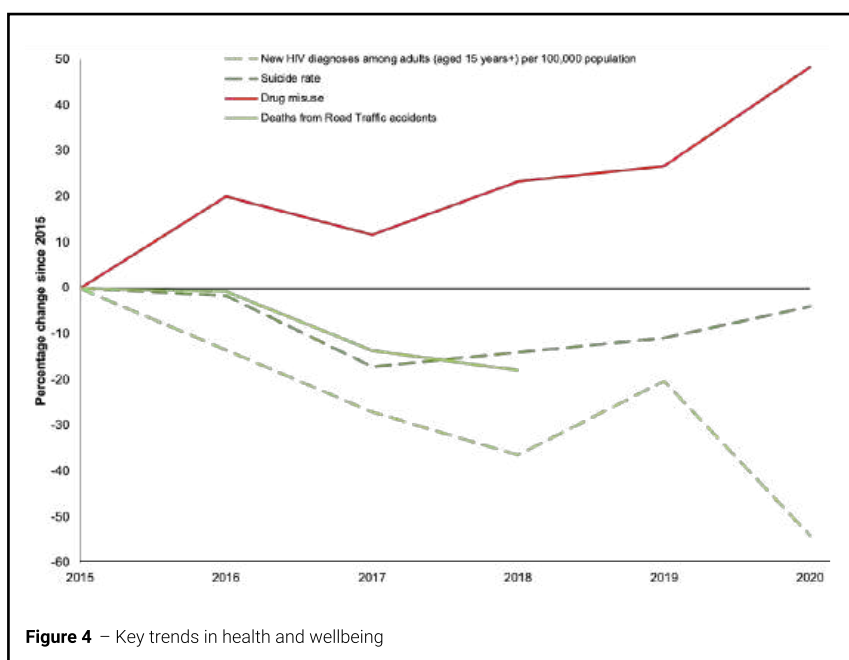


Figure 4 – Key trends in health and wellbeing



WHAT BRISTOL IS DOING

Health and wellbeing in Bristol is overseen by the One City Health and Wellbeing Board, and made up of public health experts, community organisations and key NHS teams. The priorities for the board are informed by intelligence drawn from the annual Joint Strategic Needs Assessment. The Health and Wellbeing Board's strategy runs from 2020 to 2025 and focuses on the themes shown in Figure 5. Many of these themes cut across other SDGs, demonstrating the importance of the holistic partnership approach adopted by all One City boards.





Bristol is encouraging good health and wellbeing by working with other organisations to invest in leisure centres and exercise facilities across the city. In conjunction with charities such as Thrive Bristol, the city is helping to make mental health support more accessible for everyone and arranging a mental health summit to engage key local stakeholders in improving Bristol's mental wellbeing.

One particular approach is the Are You Ok? programme run through the Keeping Bristol Safe Partnership. This partnership, involving Bristol City Council, the NHS Bristol, North Somerset and South Gloucestershire Clinical Commissioning Group and Avon and Somerset Police, aims to safeguard vulnerable adults and children and create safer neighbourhoods. The project strives to encourage people to attend to the wellbeing of others. It was established to support those who might be struggling as the city exited from lockdown.

A growing issue in Bristol had been deaths resulting from drug misuse. As a result of a partnership between Bristol City Council, Bristol Drugs Project, The Loop (a drug testing service) and the People's Republic of Stokes Croft (a community organisation), Bristol has launched the first Home Office licensed regular drug-checking service in its city centre. The recent drug and alcohol strategy, as well as initiatives such as Safer Bristol, is also helping to improve support for those involved in substance abuse.

In 2019, Bristol signed a declaration to become a Fast-Track City, committing it to help end new cases of HIV by 2030. The supporting partnership involves Brigstowe, the University of Bristol, Public Health England, Unity Sexual Health, North Bristol NHS Trust, Terence Higgins Trust and members of the public working across all Bristol's communities to enable sexual health support, facilitate testing and treatment and challenge public misperceptions about HIV. With new incidences of HIV in Bristol falling, the data suggests the project is already making progress.

In addition, Bristol's Clean Air Zone will be introduced in 2022. The zone will help improve air quality by reducing harmful levels of pollution caused by traffic, ensuring everyone benefits from a healthy and natural environment. Bristol City Council has launched a package of financial support for residents and businesses to adapt to the changes and has worked with partners to develop and communicate the new measures. This support has been designed to make sure the poorest will not be hit financially the hardest by the new Clean Air Zone.

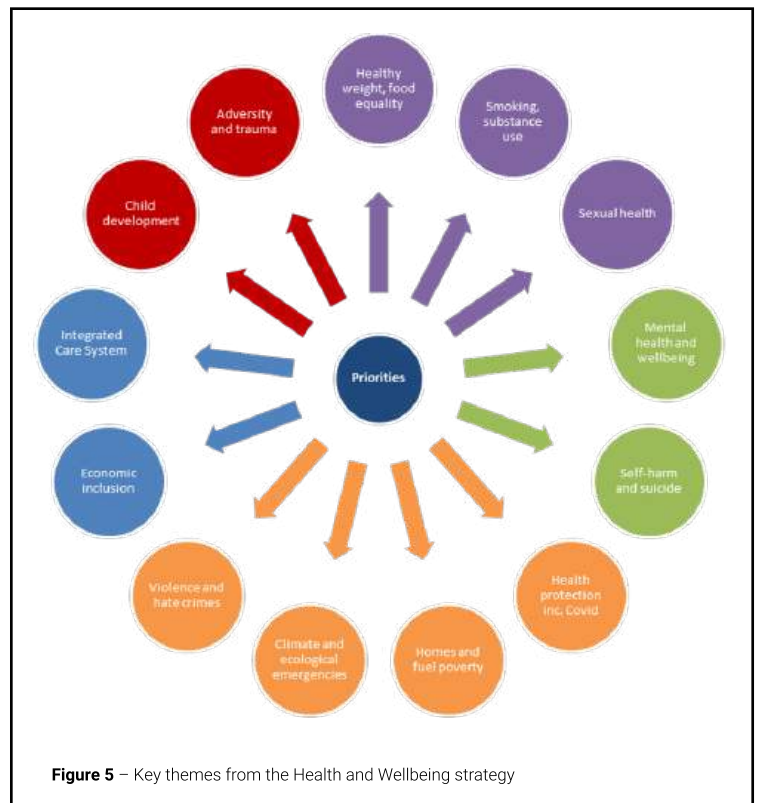


Figure 5 – Key themes from the Health and Wellbeing strategy

SDG4: QUALITY EDUCATION



WHAT DOES THE DATA SHOW?

Data for SDG 4 has been limited by the impact of the pandemic on testing in schools. From the available data, many of the indicators have improved slightly since the last VLR, but the gap in educational performance between genders persists overall, with boys' performances still not as good as girls'.

Bristol is below the regional and national average for some of its 2019 education indicators. In early years education, 69.6% of children under five achieved at least their expected levels of development, slightly below England's average of 70.7%. At GCSE, 59.4% of Bristol pupils achieved a pass in both English and Maths, also below the national average (65.9%).

Significantly fewer young people than average go on to higher education in Bristol (31.6% compared to 42.2% in England). In South Bristol, in particular, participation is only 22.3%, which includes three of the five lowest-performing neighbourhoods in England. However, the Bristol population with higher education degrees has increased since 2018, reaching 56.5% in 2021, above the British average of 43.6%. The number of adults who participated in education or training in the last four weeks fell from 17.4% in 2019 to 13.6% in 2020.





WHAT BRISTOL IS DOING

The One City Plan recognises that developing children and young people is crucial to the city's future. Bristol's Belonging Strategy for Children and Young People 2021-2024 sets out how the city will recover from the pandemic and improve itself within a generation. Under the strategy, Bristol City Council is collaborating with external partnerships and families to tackle the challenges that exist in education.

Bristol's SEND Local Offer is a website providing online information and support for citizens aged under 25 with special educational needs and disabilities. Bristol Education Partnership aims to enrich education in the city, and one of its key priorities is to overcome disadvantage by offering all students the chance to collaborate across partner schools to improve attainment and social skills.

Bristol has introduced various schemes to improve higher education (HE) participation from a wide range of socio-economic backgrounds. These include contextual offers, whereby applicants from lower-participation backgrounds are offered admission with up to two grades below standard requirements.

Having been ranked lower than the national average among HE providers for state school intake, the University of Bristol is running subject-specific workshops at state schools within an hour's drive of the city. Working with the 93% Club, the student society dedicated to improving the experience of state school students, which was founded by a University of Bristol student, the University has made progress on all measures, including increasing its state school intake from 64.7% in 2016 to 72.7% in 2020.

CASE STUDY - GLOBAL GOALS CENTRE

Since 2018, the Global Goals Centre has been working to develop an education centre for Bristol that improves awareness and engagement with the UN Sustainable Development Goals. During the pandemic, the Centre created multiple online experiences for children at home to engage with the SDGs within their day-to-day lives.

They ran a competition for young people to design an interactive space to engage with the issue of fast fashion, and this has since developed into the Centre's Threads campaign. In 2021, in the run up to the Conference of Parties 26 in Glasgow, they produced a series of videos with community organisations that are delivering against the SDGs. This Bristol 17 campaign highlighted how ordinary people can take action on the SDGs.

This year, they have been leading the Groundbreakers campaign, a project inspiring young people to find creative solutions to the problems they see in the world around them and to take action in their school, college and neighbourhood. The project involved 50 youth groups representing over 1,000 young people, with finalists



Photo credit: Bristol Global Goals Centre

SDG5 GENDER EQUALITY



WHAT DOES THE DATA SHOW?

From 2016 to 2020, the gender pay gap in Bristol shrank considerably, from 16.4% for those who live locally and 17.4% for those who live elsewhere to 7.5% and 9.6% respectively. Figure 6 shows that this has not been a linear trend, with rapid reductions in the gap during the most recent two years following eight years of fluctuations. Within Bristol City Council, the gender pay gap increased slightly from 2018 (4.07%) to 2020 (4.55%).

There has been a slight increase in the proportion of women serving as councillors since the 2021 election. However, none of the elected leaders in the West of England Combined Authority local councils are women.

The rate of sexual offences decreased slightly from 2018 to 2020, from 3.3 to 2.6 offences per 1,000 population. However, the number of domestic abuse-related incidents and crimes (per 1,000 population) has risen from 18.5 in 2015/16 to 25.2 in 2020/21. While this percentage has increased steadily since 2015/16, it is part of a wider UK trend. Within that trend, Bristol's incident rate is significantly lower than the UK average, which has risen from 23.9 in 2015/16 to 30.3 in 2020/21.

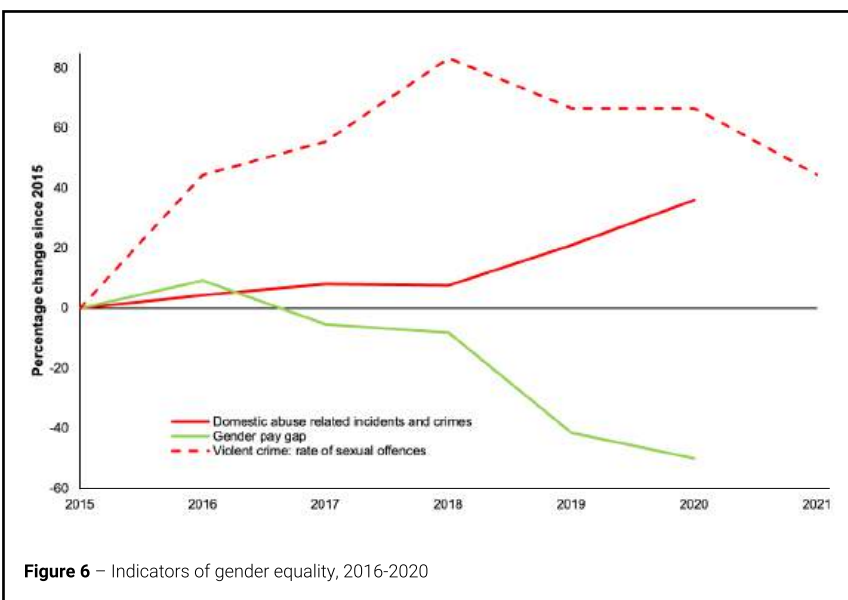


Figure 6 – Indicators of gender equality, 2016-2020



WHAT BRISTOL IS DOING

The Bristol Women's Commission, a mayoral commission established to raise engagement with the challenges women face and to improve women's representation in political discussions and decision making, played a crucial role in combatting increased women's isolation during the COVID-19 restrictions.

In addition, the Bristol Women in Business Charter brings together almost 40 commercial organisations committed to improving gender equality in the city.

Bristol has continued its work to end period poverty by developing the period friendly schools initiative. This programme developed out of Period Friendly Bristol with the aim of ending stigma and promoting period dignity in all school settings. This has also been furthered by the Period Friendly Places charity which works to help other cities implement similar approaches to tackling period poverty.

The city has also led a series of campaigns, called Bristol Nights, about women's safety in nightclubs, following the rise in sexual abuse cases across the country. Concurrently, the Women's Safety Charter connects organisations and businesses operating across Bristol's night-time economy to tackle violence against women in Bristol's bars, clubs, restaurants and venues. It includes a toolkit to train organisations so that they can improve the safety of women in their venue.

Bristol also established a Mayoral Commission on Domestic Abuse in 2020 to address some of the causes of domestic abuse. The Commission worked with 28 local and national organisations to produce a report on domestic abuse across Bristol. The report identified seven principles and 35 recommendations to underpin the city's response to domestic abuse and sexual violence.



SDG6: CLEAN WATER & SANITATION

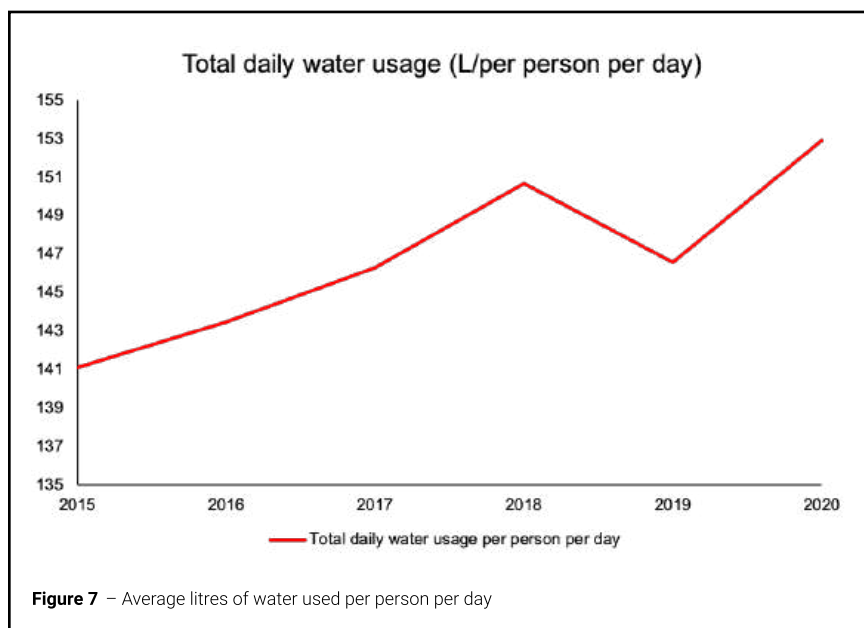


WHAT DOES THE DATA SHOW?

Total daily water usage per person per day has been steadily rising since 2015. Despite a slight decrease in 2018/19, water usage now stands at 154.7 litres per capita per day in 2021/22. Clearly, there is a long way to go before Bristol achieves its target of reducing water consumption to 110 litres per person per day by 2045. The target is necessary to manage the water resources that will be needed for Bristol's future expansion although, at present, Bristol is not facing the same risk of water stress as many other parts of the country.

WHAT BRISTOL IS DOING

The Resource West partnership works with businesses across the city to reduce waste and improve resource efficiency. Through a website, partnership members Bristol Water and Wessex Water provide guidance to Bristol residents on reducing their water usage, as well as continuing to work with others throughout the region to improve water efficiency. Bristol Water is also leading a partnership reviewing the infrastructure interdependencies of the city to ensure that the way infrastructure is delivered considers the future risks to resilience caused by a changing climate.



SDG7: AFFORDABLE & CLEAN ENERGY

7 AFFORDABLE AND CLEAN ENERGY



WHAT DOES THE DATA SHOW?

Overall, Bristol is improving across most indicators for SDG 7. The city's total electricity consumption and domestic electricity consumption both declined between 2015 and 2019 by 4 ktoe (kilotonnes of oil equivalent) and 3 ktoe respectively, despite a growing population. Bristol's electricity consumption is consistently lower than the national average. Installed capacity of renewable energy in Bristol increased significantly, rising from 79.6 MW in 2015 to 129.2 MW in 2020. Generation of installed renewable energy increased from 156,878 MWh to 174,056 MWh over the same period. However, the rates of fuel poverty in Bristol are also increasing.

The proportion of households in Bristol that are fuel poor rose from a low of 9.8% in 2018 to 14.4% in 2020, higher than the national average of 13.2%. There was a change of methodology between 2018 and 2019, but even accounting for this fuel poverty is growing. In light of the cost-of-living crisis, with average energy bills predicted to reach as much as £4,000 per annum, fuel poverty is likely to become an increasingly pressing issue in Bristol.

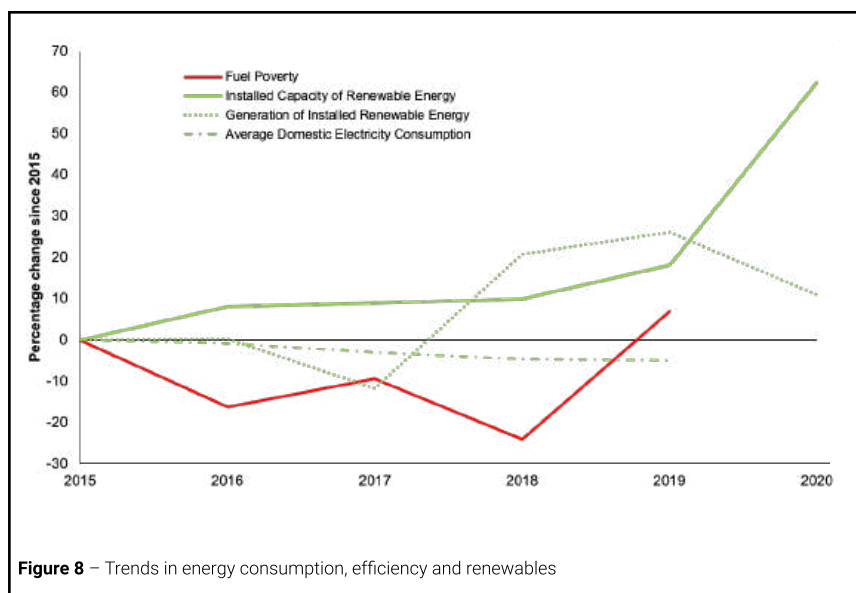


Figure 8 – Trends in energy consumption, efficiency and renewables



WHAT BRISTOL IS DOING

Bristol's Fuel Poverty Action Plan was created after the One City Plan declared that reducing fuel poverty to be a key ambition. Established by the No Cold Homes steering group, which includes Bristol City Council alongside other organisations, the Plan takes a partnership approach, suggesting measures to reduce fuel poverty such as energy efficiency retrofitting, providing subsidy packages for low-carbon heating technologies, and offering advice services. The aim of this plan is that by 2030 no one in Bristol will have a cold home as a result of fuel poverty.

The Warmer Homes, Advice & Money (WHAM) project was set up in 2017. A collaboration between several partners, it provides advice to low-income households on how to monitor and pay energy bills, tips for reducing energy use, and grants for heating repairs and upgrades. WHAM is funded by Bristol City Council, and since 2019, the project has supported 1,329 individuals.

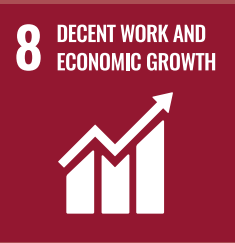
Ambition Lawrence Weston, a local community organisation, has begun work on the UK's tallest onshore wind turbine. Working with Bristol City Council and Bristol City Funds, the community will be able to provide cheaper energy to local residents, tackle fuel poverty in the community, set up a renewable-energy skills training centre and generate hundreds of thousands of pounds for community projects.

Community-owned Bristol Energy Cooperative (BEC) develops green energy projects funded by investor-members. BEC now has 13 solar installations, two ground-mounted solar farms and a grid-servicing battery installed on a housing development. These projects have an annual output of 9,436 MWh, enough to power over 3,000 homes. The Cooperative is also working to develop a community-owned urban hydroelectric scheme at Netham Weir which will provide power for a further 250 homes.

The City is also decarbonising its energy infrastructure through the City Leap partnership. There is further information about this in the SDG 9 Industry, Infrastructure and Innovation chapter.



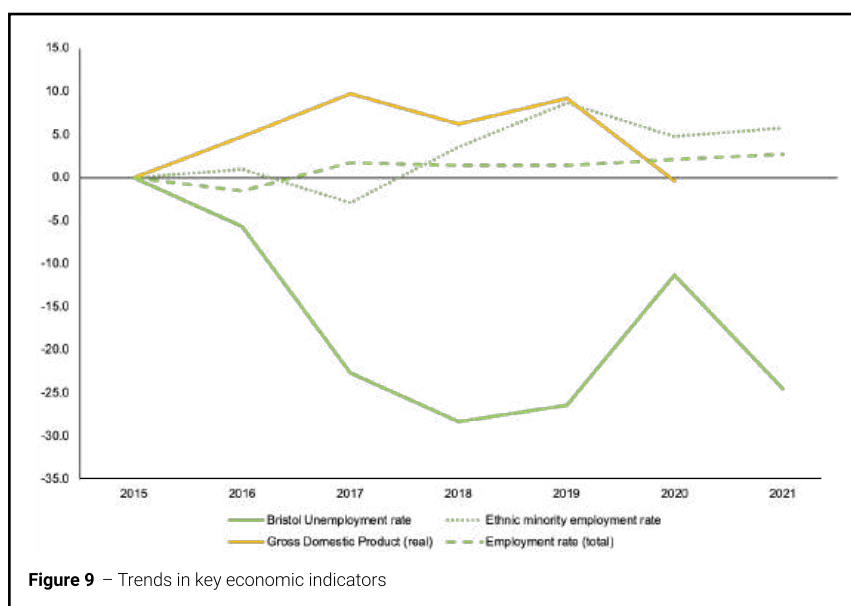
SDG8: DECENT WORK & ECONOMIC GROWTH



WHAT DOES THE DATA SHOW?

Indicators for SDG 8 are mixed. In real terms, Bristol's Gross Domestic Product (GDP) rose from £16.1 billion in 2015 to £17.7 billion in 2017, before sliding back to £16 billion in 2020 in the wake of the pandemic. A similar pattern is seen with GDP per person, which fell from £35,758 in 2015 to £34,458 in 2020 after peaking in 2017. Drilling down into key indicators of productivity, Bristol has seen growth in gross value added per hour, from £29.9 in 2015 to £33.6 in 2020, and per job filled (from £47,843 to £51,920). However, these figures are calculated in nominal rather than real terms and are below national averages. Business stock increased from 380 businesses per 100,000 population in 2016 to 388 in 2020.

Overall, the proportion of those unemployed in Bristol dropped from 5.3% in 2015 to 4% in 2021. However, these estimates conceal significant differences in employment across demographic groups over time. For example, male employment was stable between 2015 (80.2%) and 2021 (80.4%), while female employment grew rapidly from 73.2% to 79.1%. By contrast, ethnic employment remains considerably lower than the city average and has shown limited convergence, with 64.5% employed in 2015 and 68.2% in 2021. Hourly pay has increased in recent years for both males and females: women still earn less per hour than men on average, but the gap has been decreasing with growth in women's salaries outstripping growth in men's salaries. Median hourly pay for male full-time workers grew from £14.38 in 2015 to £17.19 in 2021 while median hourly pay for female full-time workers grew from £12.78 to £16.42 over the same period.





WHAT BRISTOL IS DOING

Bristol established a Commission on Race Equality (CoRE), gathering commissioners from a variety of professions and industries to tackle racial inequality in the workplace and positions of decision making. The Economy Task Force within CoRE considers employment and enterprise in relation to race. It is delivering a two-year training programme targeting young Black and Minoritised people, providing opportunities in higher-level professional roles.

The Women's Work Lab, founded in 2020, is a community interest company that helps unemployed mothers build employability skills through work placements and sponsorship programmes. Within its first year, the Lab received 65 applications for 15 spaces, demonstrating high demand for this resource. The women supported by the Lab in 2020 were from diverse backgrounds, with 42% identifying as Black, Asian or minority ethnic. They faced a number of challenges, with 60% being survivors of domestic abuse and 100% of their children receiving free school meals. After the training, 100% of participants said they felt confident in returning to work. This programme is complemented by the efforts of the Bristol Women in Business Charter which aims to improve opportunities for women in the workforce, particularly in relation to work flexibility and opportunities. Since its launch in 2019, the charter has been signed by 40 companies which collectively employ 25,000.

Young Bristol is a charity striving to improve opportunities for young people. It runs programmes to help reduce youth unemployment, such as the Outdoor Employment Programme which offers free training to those interested in becoming outdoor activity instructors. Their Hartcliffe Club for Young People, in one of Bristol's most deprived wards, provides accredited training courses for people aged 14-19. During the pandemic, Young Bristol supported 2,025 young people through their range of programmes.

Bristol's largest business network, Business West, has recently registered itself as a B Corp. Through this accreditation and its work to support its members, Business West is consistently pushing for businesses across the region to address the SDGs. The organisation is at the forefront of integrating environmental, social, and economic sustainability into the work of its 24,000-strong member network.

CASE STUDY – GREEN SKILLS FOR ENTREPRENEURSHIP

The University of the West of England, in partnership with Black South West Network and NatWest, runs an innovative skills programme to support young people from minority backgrounds into new jobs in the emerging green sector. The programme aims to provide access to green jobs, training and business support for young people between 18 and 28 years old throughout the west of England. The initial training period covers several important themes, including energy, food, living and the circular economy, transport and air quality, construction and building, innovation and enterprise. The programme is about to begin its second phase which will provide learners with the opportunity to embed their knowledge and refine the skills they have been developing through access to one of four skills pathways: a fully funded internship with a local business, a fully funded research internship at UWE Bristol, funding to cover industry training, or further learning and support to help set up a greentech business or social enterprise.



SDG9: INDUSTRIES, INNOVATION & INFRASTRUCTURE

WHAT DOES THE DATA SHOW?

Manufacturing Gross Value Added in Bristol increased slightly, from £457 Million in 2015 to £471 million in 2020, with a peak of £547 million in 2019. The proportion of total employment in manufacturing shows a similar pattern, rising from 3.1% in 2015 to 3.2% in 2020 with a peak of 3.42 in 2019. CO2 emissions per unit of Gross Domestic Product decreased from 0.12 Kt CO2/£ million GDP in 2015 to 0.09 in 2020.

Use of Bristol's public transport infrastructure has increased. The annual number of park-and-ride trips rose from 1,329,386 in 2015 to 1,687,558 in 2020. In 2015, there were 36,779,218 passenger journeys on buses originating in Bristol, increasing to 40,776,023 in 2020. Data for 2021 is not available due to the pandemic restricting use of public transport. The proportion of the local population that cycles to work has increased, rising from 8.4% in 2011 to 18.2% in 2021. The proportion of the population that walks to work has risen from 19.5% in 2011 to 20.5% in 2021.

The proportion of the Bristol population that used the internet in the last three months rose from 92.8% 2018 to 94.7% in 2020. This is above the UK average of 92.1% (2020). Bristol also has higher-than-the-UK-average access to gigabit-capable broadband, at 49.5% of households. However, digital exclusion is a still a significant problem across the city.

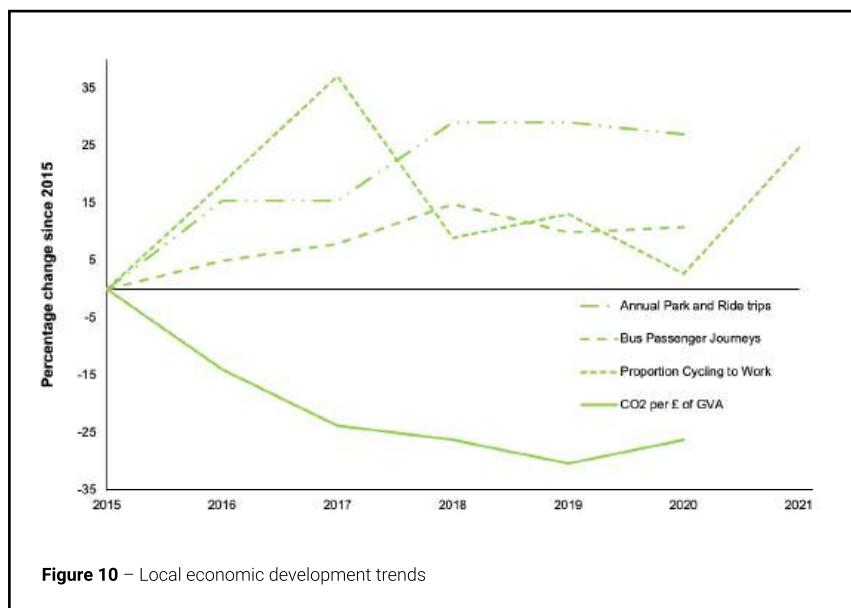


Figure 10 – Local economic development trends



WHAT BRISTOL IS DOING

The City Leap partnership is a new approach to providing low-carbon infrastructure for a city. Bristol City Council has partnered with Ameresco and Vattenfall to leverage over £1billion of investment in the city's low-carbon infrastructure across 20 years. As part of this commitment, Vattenfall and Ameresco will help deliver district heat networks and retrofit the city's social housing stock.

With the increased number of people working and learning from home, the COVID-19 pandemic highlighted the importance of internet access for all. Bristol-based charity DigiLocal aims to improve the education of young people, and throughout lockdown, provided refurbished laptops to children from disadvantaged backgrounds. The charity redistributed the laptops from city organisations seeking to tackle the digital divide. Similarly, as part of their digital inclusion scheme, Bristol City Council worked in partnership with Bristol Waste to redistribute 3,000 ex-council laptops to people experiencing digital poverty.



SDG10: REDUCED INEQUALITIES



WHAT DOES THE DATA SHOW?

Weekly wages for both women and men in Bristol have increased and the city's gender pay gap narrowed by 54% between 2016 and 2021. However, the gap in earnings between the highest- and lowest-paid 10% of workers has continued to widen for both men and women.

During the pandemic in 2020, weekly wages for the lowest-paid 10% of men and women declined compared to the previous year. At the same time, wages for the top 10% of earners continued to rise. While data for the top male earners is available, data for top earners of women is not statistically reliable. The city gender pay gap and council race pay gap decreased, however, the council gender pay gap grew.

Total numbers of hate crimes reported grew from 1830 to 2353 cases between 2016 and 2021. Last year, 2021, was the first year that rates of hate crime declined since 2015, falling back down to 2015 levels. While the city's economy grew according to most metrics (SDG 8), the number of people facing poverty rose (SDG 1) and the gap between the richest and the poorest widened (SDG 10). This shows that while Bristol has achieved economic success, that success has not benefitted everyone in the city and parts of Bristol are being left behind.

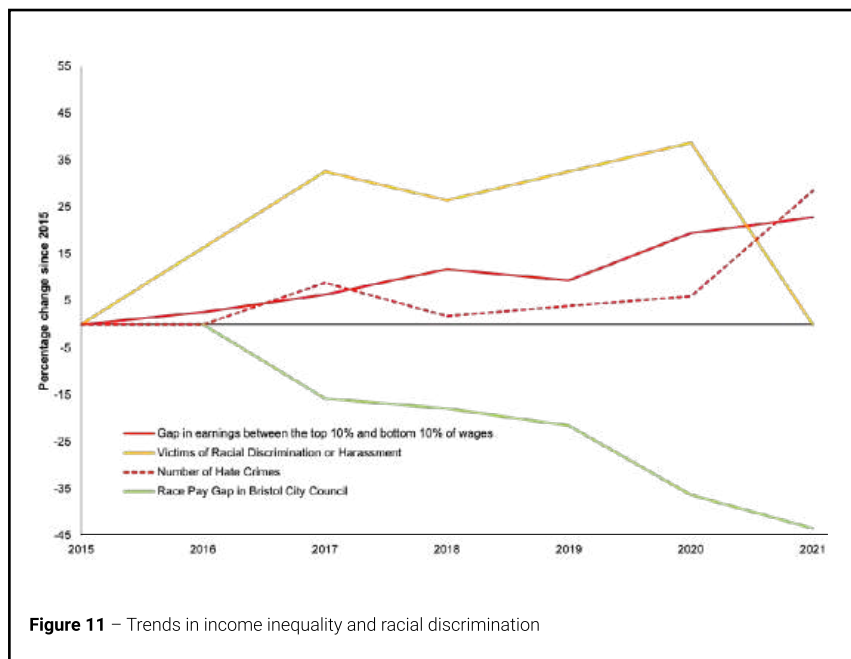


Figure 11 – Trends in income inequality and racial discrimination



WHAT BRISTOL IS DOING

While recent data is generally discouraging, numerous private, public and non-profit organisations are making serious efforts to reduce inequalities. The following is only a small snapshot of the wide range of activity occurring within Bristol.

As part of ongoing work with the Trotter Institute at Harvard University to create new pathways to employment for marginalised communities, Bristol City Council's City Office has been working to map the various city activities aiming to reduce inequalities. Gaining visibility of the totality of this work will enable improved partnership working and further develop the strategic ecosystem of inclusion support in the city.

The Bristol Hate Crime and Discrimination Services is a partnership of six organisations, including Off the Record Bristol and Brandon Trust, which offers legal, psychological and physical support for victims of hate crimes and discrimination, as well as providing a reporting service. Project Zazi and Babbasa help young people from disadvantaged areas of Bristol achieve their full potential, providing training, professional mentoring, therapy and counselling. Babbasa is leading on the Our City 2030 initiative, a project working with partners across the city to provide median salary jobs for every household in the city centre.

In September 2020, following the toppling of the statue of Edward Colston, Marvin Rees, Mayor of Bristol, set up the We Are Bristol History Commission. The commission comprises a wide range of professional historians and academics from different specialist areas, including philosophy, trade unions, arts and culture, and law. The purpose of the commission is to help Bristol better understand how it became the city it is today, work with citizens and community groups to ensure everyone in the city can share their views on Bristol's history, and build an improved, shared understanding of Bristol's story for future generations. The first report of the commission focused on the future of the Colston statue following a public consultation.



SDG11: SUSTAINABLE CITIES & COMMUNITIES



WHAT DOES THE DATA SHOW?

While homelessness is difficult to assess statistically, recent data is concerning. Between 2015 and 2019 there was effectively no change in the number of persons sleeping rough in the annual autumn count (97 vs 98), then a significant drop in 2020 (50). This is partly explained by the government's 'Everyone In' policy which provided hotel rooms for rough sleepers during COVID lockdowns. However, the number increased in 2021 to 68. Data on statutory homelessness suggests that the number of households per 1,000 assessed as homeless doubled between 2019 and 2021. Rising rents and a worsening ratio of housing costs to income (housing affordability index) is making households more vulnerable.

Air quality is an issue experienced disproportionately by disadvantaged communities. Annual mean levels of particulate matter show improvements: in 2021 the mean levels of PM2.5 were at their lowest level ever recorded at 8.33 $\mu\text{g}/\text{m}^3$, down from 10.25 in 2015 $\mu\text{g}/\text{m}^3$. PM10 levels have fluctuated with a gradual decrease since 2012. As noted in the SDG 9 chapter, data on the use of bus services is limited, in part because of the impact of the pandemic on bus patronage. The proportion of people accessing green spaces has grown since 2015, which may have been amplified by the pandemic.

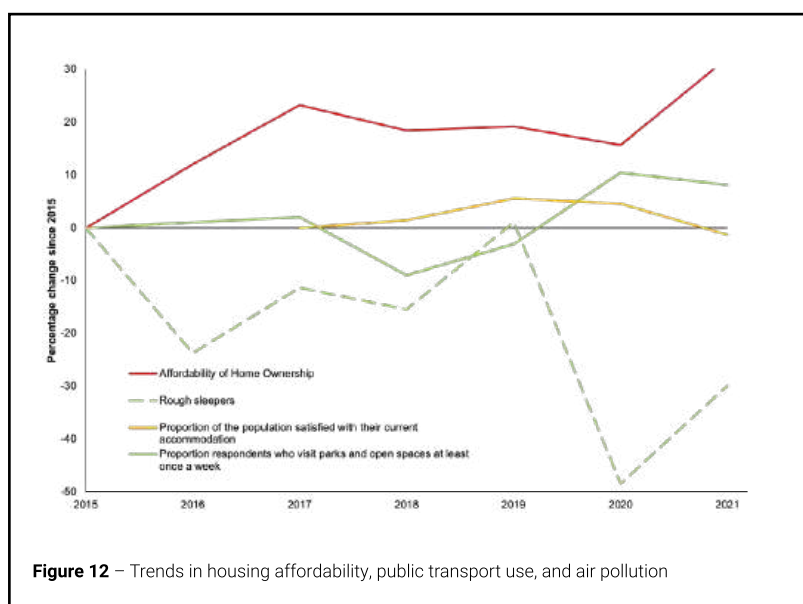


Figure 12 – Trends in housing affordability, public transport use, and air pollution



WHAT BRISTOL IS DOING

Bristol City Council commissions a range of services with partners to ensure tailored provision for those facing and experiencing homelessness. This includes specific services to support women, young people, vulnerable parents, people with mental health issues and those dealing with drug and alcohol abuse issues. Alongside this, there are numerous organisations in the city, such as Help Bristol's Homeless, which attempt to tackle homelessness through community-centred strategies, including accommodation centres that provide temporary housing and food.

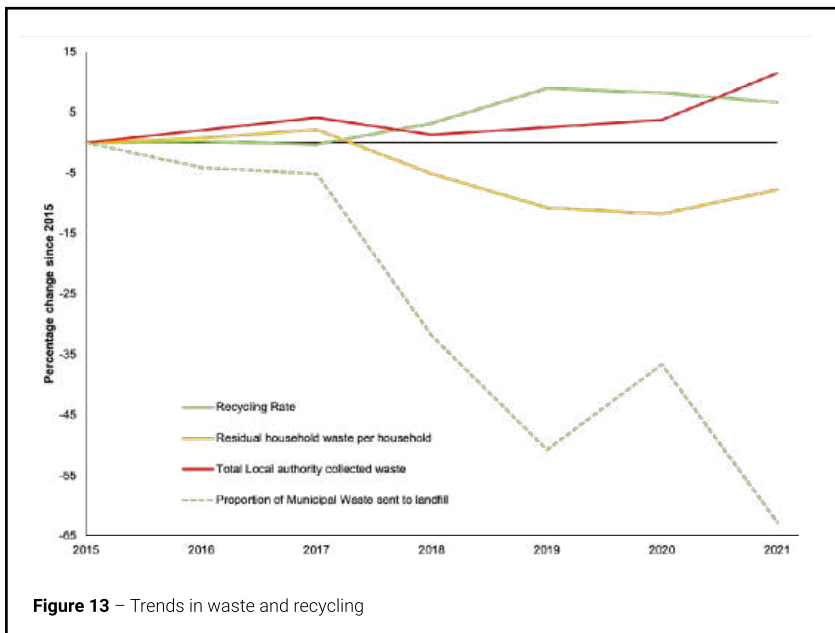
Bristol City Council and the Bristol Housing Festival are working in partnership with UN-Habitat and Nesta Challenges on the Climate Smart Cities Challenge. The challenge aims to convene innovators from across the city, nation and world to find a financial solution to the issue of building affordable and sustainable housing in Bristol. If successful, this project could change the way housing in the city is valued, providing new avenues for delivering sustainable, biodiverse and affordable housing. The Bristol Housing Festival has also partnered with Bristol City Council and YMCA to deliver zero-carbon social rent housing for young people at risk of homelessness. In redeploing space above a car park, this project also helped improve the efficiency of space usage in the city.



SDG12: RESPONSIBLE CONSUMPTION & PRODUCTION

WHAT DOES THE DATA SHOW?

The data generally suggests improvements in Bristol's material footprint over the past three years. While the recycling rate only increased modestly between since the previous VLR, this was accompanied by a 9% reduction in the proportion of Bristol's municipal waste sent to landfill over the same period, from 19.9% in 2018 to 10.9% in 2021. While residual household waste per household has decreased by 12.7kg since 2018, Bristol city's total collected waste has been rising since 2018, from 181,878 tonnes per annum to 197,801, a 10% increase to 2021.





WHAT BRISTOL IS DOING

Partnerships in Bristol are working to reform practices associated with consumption. In recognition of Bristol's efforts in this area, Sustainable Food Places awarded the city with Gold Sustainable Food Places status in 2021. Bristol is one of only two places in the UK to receive this accolade. The Bristol Green Capital Partnership, which consists of over 1,000 partners, aims to reduce carbon emissions with the objective of reforming consumption. The Bristol Food Network has played a part in addressing consumptive practices through numerous community-centred projects which promote consumption of organically grown food, recycling, composting and the sustainable redistribution of food waste. A recent citywide partnership project with Bloomberg Philanthropies and Harvard University has also been working to tackle food waste with collaboration as a key focus of its work.

Bristol City Council also recently opened its third recycling centre. The centre also hosts the third of Bristol's reuse shops. These shops divert good-condition, fit-for-purpose items from the waste stream to be sold as second-hand buying options, reducing the quantity of waste the city produces, helping to shrink the material footprint of the city and encouraging a more circular approach to the city's economy.



SDG13: CLIMATE ACTION



WHAT DOES THE DATA SHOW?

Though Bristol citizens' concern about climate change fell 13% between 2019 and 2021 likely as a result of other competing worries, the past three years have seen some important environmental improvements in the city. While data for per capita emissions in Bristol are only available until 2019, they show a reduction of 31.2%. This is reflected in the city's data for total CO2 emissions, which show a reduction of 577.7 tonnes of CO2 between 2015 and 2021, a 29.4% decrease.

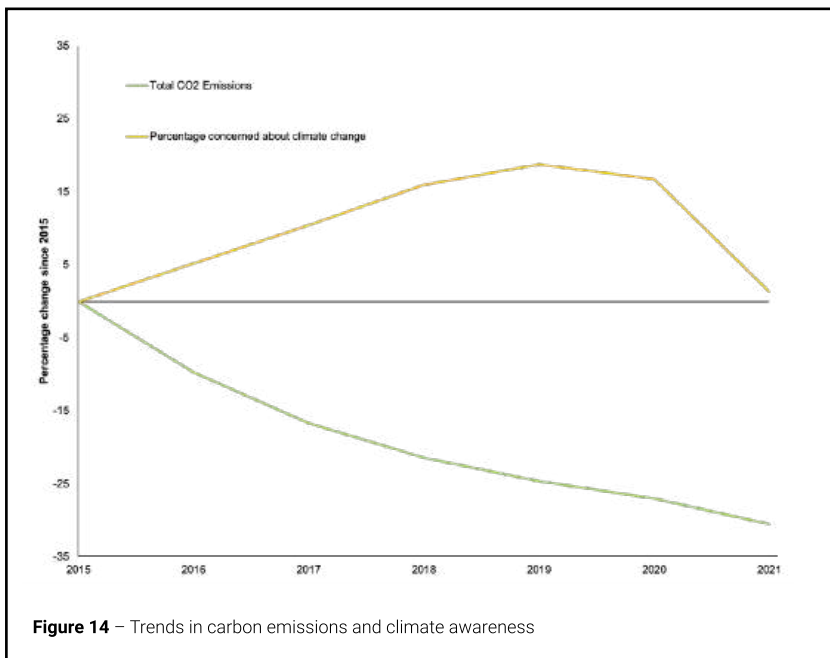


Figure 14 – Trends in carbon emissions and climate awareness





WHAT BRISTOL IS DOING

Bristol has long been known for its history of climate action. It was the first city to declare a climate emergency and has been building on this momentum to cut the city's carbon emissions. In October 2021, Bristol launched new Climate Action branding, a climate hub and a Climate Ask that encourages organisations and individuals to share their stories, understand what they can do to contribute to Bristol's net-zero by 2030 ambition, and make their own net-zero commitments.

There has been continued awareness of the lack of racial and ethnic diversity within the environmental movement across the UK and particularly in Bristol. The Black & Green Ambassadors programme, created in a partnership between Ujima Radio, Bristol Green Capital Partnership and the University of Bristol's Cabot Institute, aims to empower people of colour in Bristol into the environmental sector and hopes to develop more diverse leadership in the climate movement. Bristol Green Capital Partnership has also developed the Climate Leaders Group, a network of organisations that have committed to carbon neutrality by 2030. The Group aims to provide opportunities for organisations to learn from each other and share best practice. The University of Bristol has been deeply involved in the climate movement since Bristol City Council declared a climate emergency in 2018, closely followed by a similar announcement from the University itself and a number of other partners in 2019. Prior to this pledge, the University announced it would divest from all investments in fossil fuel corporations – a promise that was delivered by early 2020 – and set up Climate Action Bristol, utilising student skills and volunteering to help organisations enact their climate action plans.



CASE STUDY – COMMUNITY CLIMATE ACTION PLANS

Following the launch of Bristol's One City Climate Strategy, a number of partners have been working to put communities at the heart of Bristol's Climate Action. The project, coordinated by Bristol Green Capital Partnership and supported by the National Lottery Climate Action Fund, involves enabling six of Bristol's communities (four geographic and two demographic) to play a leading role in shaping Bristol's transition to a low-carbon and climate-resilient city. During 2021, the six community groups (Ambition Lawrence Weston, Heart of BS13, Lockleaze Neighbourhood Trust, Eastside Community Trust, ACH and Bristol Disability Equality Forum) co-produced community climate action plans. These plans aim to both help Bristol become carbon neutral by 2030 and deliver a range of benefits across a number of the SDGs, including tackling fuel poverty, reducing waste and consumption and developing the local circular economy. The project is now moving into phase two where the six leading communities will mentor other communities across the city to develop and implement their own action plans.

SDG14: LIFE BELOW WATER



WHAT DOES THE DATA SHOW?

The River Avon and the River Frome are the two largest rivers flowing through the centre of Bristol, contributing to the bustling harbourside area. Table 1 show how many of Bristol's rivers fall into each ecological status.

There has been no recorded change in the ecological status of rivers in Bristol since 2018. However, other indicators can be used to assess progress. The percentage of the water bodies that showed high ecological standards has increased since 2015. There are more water bodies in high ecological status, and fewer in the good, moderate and bad ecological categories than 2015. Data also shows that phosphorus has declined overall in Bristol rivers since 2017.

Prior to the UK leaving the EU, the EU Water Framework Directive granted legislative protection to waterways in the UK. There are concerns that not all the legislation will be transferred. It will be important to monitor the impact that leaving the EU and changes to legislation have on the standards of Bristol waterways. The Government's 25-year environmental plan, launched in 2018, committed the UK to 'improve at least three quarters of waters' to be 'close to their natural state'.

Ecological Status of Bristol Waters	2015	2016	2019
Water body elements in High Ecological Status	60.7%	64.9%	68.6%
Water body elements in Good Ecological Status	15.6%	13.7%	12.4%
Water body elements in Moderate Ecological Status	18.0%	15.3%	13.1%
Water body elements in Poor Ecological Status	4.9%	5.3%	5.1%
Water body elements in Bad Ecological Status	0.8%	0.8%	0.7%

Table 1 – Trends in ecological status of Bristol's Water bodies





WHAT BRISTOL IS DOING

Water fountains installed by Bristol Water in Bristol city centre in 2019 will save Bristolians an estimated half a million pounds and prevent 50 miles of plastic bottle waste every year. This should help to remove rubbish from waterways (one of the targets in SDG 14), as well as reduce overall plastic consumption. This work has been carried out in partnership with Refill Bristol. Alongside this, a new citywide refill cup scheme has been launched to reduce the amount of plastic pollution from single use coffee cups.

In 2021, Bristol Avon Rivers Trust (BART) organised nine river cleans, collecting over 150 bags of rubbish. It also launched its Yellow Fish campaign, raising awareness of river pollution by stencilling yellow fish next to drains. Sustainable Westbury-on-Trym and BART are now hopeful that after years of effort cleaning the Trym, trout will be able to return.

The Bristol Avon Catchment Market is a scheme run by Avon Wildlife Trust to provide carbon capture and biodiversity-gain credits to organisations and businesses looking to offset their emissions. The scheme will restore upstream habitats in the Avon catchment and, over time, begin to provide biodiversity net gain to the city and its waterways.



SDG15: LIFE ON LAND



WHAT DOES THE DATA SHOW?

The percentage of Bristol people visiting parks at least once per week rose from 49.7% in 2018 to 60.3% in 2020. A small decline to 59% in 2021 suggests that the upsurge may have been related to the lockdowns, which accords with the national statistics. There remains a disparity in the proportion of people from different socio-economic backgrounds who are satisfied with parks. On average, 75% of local residents are satisfied with parks and open spaces in Bristol, but this figure falls to only 53% in the most deprived areas.

Tree canopy cover is complex and time consuming to record, and as such, estimates of the city's tree canopy cover vary. The Bristol Tree Forum estimates that tree canopy cover in 2020 was 17.5%. An alternative estimate from 2018 puts the figure at 18.6%, while a 2018 i-tree analysis by the Forest of Avon, Bristol City Council, Woodland Trust and Forestry Commission arrives at a percentage of just 12%. This last estimate is the value used by Bristol City Council's Cabinet.

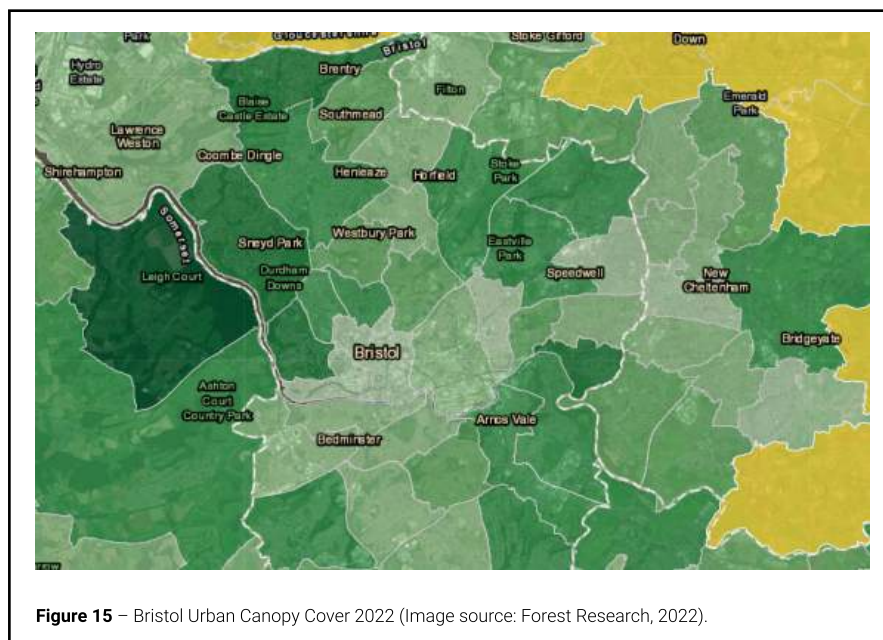


Figure 15 – Bristol Urban Canopy Cover 2022 (Image source: Forest Research, 2022).



WHAT BRISTOL IS DOING

In February 2020, Bristol declared an ecological emergency. This declaration highlighted the decline in local populations of bees, birds and hedgehogs. The emergency has led to the implementation of a number of initiatives, such as the UK's first pesticide amnesty, which aims to remove pesticides from circulation so that harmful chemicals do not end up in waterways or on plants. Rewilding campaigns, such as No Mow May, have also gained traction in parts of Bristol, and areas of the city's central parks, particularly College Green, have been left to grow wild to encourage wildflowers and pollinators.

The One City Plan includes a target to increase Bristol's tree canopy cover by 25% by 2035 and to double it by 2046. Bristol City Council passed a motion encouraging every household to plant a tree to help attain this goal. Alongside this, the council is offering schools in the city mini-orchards as part of The Queen's Green Canopy diamond jubilee initiative, and OVO Energy is creating a Tiny Forest in Southmead.

Currently, around 15% of Bristol is protected as wildlife habitat. The Bristol Green Partnership hopes to ensure that by 2030, 30% of Bristol land is managed for wildlife. The Bedminster Green regeneration project that commenced in 2019 aims to improve green spaces and biodiversity, as well as unearthing and raise the Malago river and restoring its ecological status.



SDG16: PEACE, JUSTICE & STRONG INSTITUTIONS

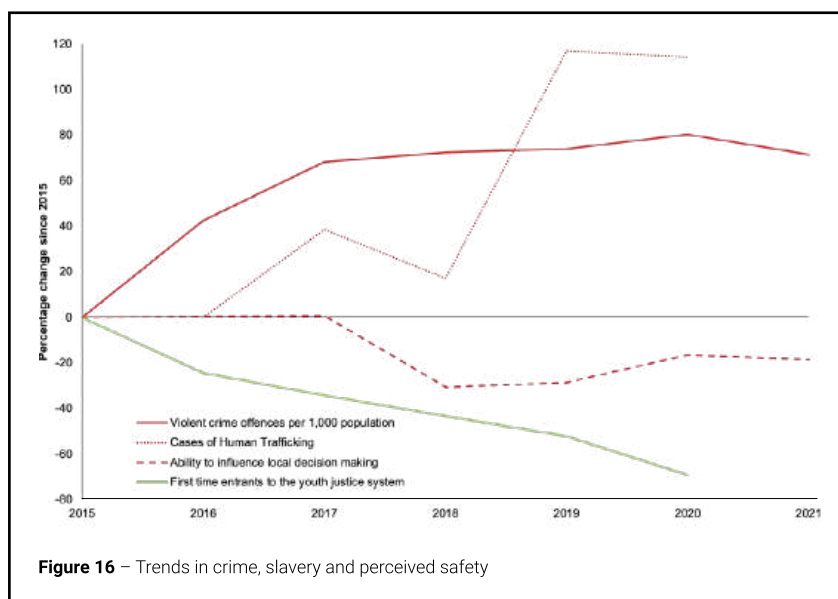


WHAT DOES THE DATA SHOW?

There has been negative performance against several crime indicators, but these results broadly follow a nationwide trend of rising crime rates. Violent crime offences per 1,000 population in Bristol increased from 19.3 in 2015 to 33.1 in 2020/21, above England's average of 29.5. Sexual offences per 1,000 population rose from 1.8 in 2015 to 2.6 in 2020/21, again above England's average of 2.3. Domestic abuse-related incidents and crime per 1,000 increased from 18.5 in 2016 to 25.2 in 2021 but has consistently remained below the national average of 30.3 which has followed a similar rising trend.

In the Avon and Somerset Constabulary there were 551 cases of human trafficking reported between 2016 and 2021. There were 70 cases in 2016, a peak of 152 cases in 2019 and 150 in 2020. The proportion of citizens whose fear of crime affects their day-to-day lives was 12.5% in 2015 rising to 19.4% in 2021. This fear of crime was felt most strongly by women, people from ethnic minorities, and young people aged 16 to 24, highlighting the need for the city to tackle this issue if it is to ensure no one is left behind. The rate of first-time entrants to the Youth Justice System decreased from 699.1 young people per 100,000 in 2015 to 215.7 in 2021. This is still above the England average of 146.9 per 100,000. These two numbers are far closer than in 2015 when the Bristol average (699.1) was nearly double the England average (374.9) and so the Bristol gap has been closing.

The proportion of people who are satisfied with the way the council runs the city increased from 36% to 39.2% between 2015 and 2021. The percentage of those who believe they can influence decisions affecting their local area decreased from 25.3% in 2015 to 20.6% in 2021.





WHAT BRISTOL IS DOING

Bristol's Business Crime Reduction Partnership, established in 2019, is a collaboration between Avon and Somerset Police, Bristol City Council and city businesses that span day and night-time economies. The Street Intervention Service is a multi-agency initiative that strives to tackle anti-social behaviour by providing housing, addressing substance misuse and supporting the health and finances of people living on Bristol's streets.

The city has also been collaborating to tackle violent crime among young people, and in 2022, held a Youth Summit on Violence Reduction. The summit, supported by the City Office and Bristol's Youth Council, aimed to coordinate collaborative action from communities, youth providers, police and families across the city to tackle the root causes of violent crime.

The Keeping Bristol Safe Partnership (KBSP) consists of Bristol City Council, the NHS Bristol, North Somerset and South Gloucestershire Clinical Commissioning Group, Avon and Somerset Police and community and voluntary groups. KBSP's remit covers child and adult safeguarding, domestic abuse and crisis services. The partnership's collaborative multi-agency approach allows for efficient place-specific responses.



SDG17: PARTNERSHIPS FOR THE GOALS

17 PARTNERSHIPS FOR THE GOALS



LOCAL

Local and international partnerships continue to be crucial to Bristol's progress against the SDGs, and the One City Plan encourages their ongoing creation.

Bristol SDG Alliance is a network of more than 170 organisations across all sectors working to improve awareness, adoption and implementation of the SDGs in Bristol and the city region. The Alliance has been instrumental in increasing alignment to the SDGs across the city and in developing Bristol's efforts to attain the goals.

The City Leap Energy Partnership is integral to Bristol's decarbonisation and infrastructure efforts. Working with two private sector partners, Bristol City Council aims to decentralise the city's energy network and provide cleaner and more democratic energy. The project will utilise up to £1 billion of private investment to help create a renewable energy revolution in Bristol, contributing significantly to Bristol's goal of becoming net zero by 2030 and delivering on a range of other social benefits.

The Bus Deal, confirmed in 2019, is a collaborative venture to increase buses' share of all Bristol journeys to 20% by 2031. As part of achieving this objective, the project partners aim to double the frequency of buses in core corridors of traffic.

From January 2020, Bristol City Council helped convene a Citizens' Assembly to discuss issues concerning health, transport, and climate change. In June 2021, the assembly published a report entitled 'How do we recover from COVID-19 and create a better future for all in Bristol?', containing 17 recommendations directly addressing those key questions.





INTERNATIONAL

Bristol has maintained its reputation as a global city even after the UK exited the EU in 2020. Bristol still makes vital contributions to international groups such as Eurocities, the Resilient Cities Network and the UNESCO Global Network of Learning Cities. The Mayor of Bristol, Marvin Rees, is a member of the Global Parliament of Mayors which continues to establish international connections and partnership between cities. The city was also recently selected to participate in the EU Cities Mission for 100 climate-neutral and smart cities by 2030. This programme aims to connect and support likeminded European cities with an aspiration of becoming net zero by 2030.

Bristol has also worked with many other cities around the world through the Brookings Institution's SDG Leadership Cities Network. The network provides opportunities to learn from other cities adopting the SDGs and helps initiate innovative approaches to delivering the goals.

Mayor Rees has led a campaign across the UK to unlock finance for the decarbonisation of cities, including through partnerships with the World Economic Forum and UK Climate Investment Commission. More recently, Bristol has supported research to calculate how much money would be needed for all the cities in the Commonwealth to decarbonise. This work, conducted in partnership with the Commonwealth Local Government Forum, helped focus discussions on net-zero ambitions at the 2022 Commonwealth Heads of Government Meeting in Kigali, Rwanda.



CHALLENGES AND OPPORTUNITIES FOR LOCAL ACTION

Bristol faces several financial and institutional challenges, that are also shared by other UK local authorities, in its ambition to accelerate local action in pursuit of sustainable development. The city has responded innovatively to these challenges through initiatives such as the One City model, Bristol City Funds and collaborative efforts to improve data sharing and integration.

In an attempt to produce viable and meaningful recommendations for national government that would facilitate better local delivery of the SDGs, we interviewed policy officers from five of the UK's Core Cities (the UK's alliance of 11 cities outside London) as well as the Bristol City Council Policy and Public Affairs team. Several common themes emerged, including the piecemeal nature of devolution in the UK, the financial difficulties of maintaining key services while investing in sustainable development, and barriers to monitoring progress. Yet there were also examples of positive change facilitated by partnerships and community action, which became particularly important in the face of the COVID crisis.

PIECEMEAL DEVOLUTION

Bristol's first Voluntary Local Review highlighted the challenge of jurisdictional complexity. It is often the case that the functional urban areas of UK cities do not correspond with local authority boundaries. In Bristol, for example, the City Council local authority area only contains about 70% of the total population of the Bristol Built-Up Area and less than half of the city-region population of 1.1 million. But critical social, economic and environmental challenges do not disappear at the edge of local authority borders. Flows of people, goods, money and pollution cross the council borders daily. The local authorities within the city region are interdependent with one another.

These interdependencies are complicated by the varied political systems within each local area and the role of the regional administration. While the devolution deals that brought about mayoral combined authorities have brought new local powers in adult education, transport and housing, they have been criticised for not going far enough, leaving "a patchwork of institutions which are still at the mercy of central government."

There are also complexities brought about by the newly forming Integrated Care Systems (ICS). Across England, these systems are being developed jointly by local authorities and the NHS. While many local authorities consulted for this report appreciate this new approach to meaningful devolution, smaller or less proactive local authorities stand to lose out considerably if they are unable to participate in the consultations being carried out as these regional healthcare bodies form. In the case of Bristol, the local authority is one of three in a single system. The Bristol Health and Wellbeing Board acts as an effective bridge between local authorities and the ICS, whereas the formation of the Kent and Medway ICS demands the engagement of 26 borough councils. Conversely, Cornwall County Council has just one council and one ICS, making it far easier for the local government to align its priorities with the ICS as it develops. This contrast between different systems will make it harder for some local authorities to focus on tackling issues of health and, consequently, the SDG agenda. Engaging meaningfully with the ICS formation process requires capacity within local authorities, which has become more difficult to resource post-COVID in the face of significant financial pressures, exacerbated by COVID and the requirement workforce pressures.

In sum, devolution has been piecemeal, undermining coherent and ambitious local and regional action. These challenges have been significantly compounded by fiscal constraints.

AN UNSTABLE FISCAL CONTEXT

Finance is a critical barrier to accelerated local action. Since the introduction of a programme of austerity beginning in 2009, local authorities have been in a persistent state of fiscal triage. The Ministry of Housing, Communities & Local Government (now known as the Department for Levelling Up, Housing and Communities) estimates that national funding for local authorities fell by 49.1% in real terms between 2011 and 2018. As the austerity programme was spatially blind to the varying socio-economic conditions of each local authority, its effects have been experienced unevenly. Cities in the North were particularly affected by the cuts, with Newcastle City Council currently facing a £94 million spending gap in addition to the £305 million reduction in their budget since 2010.

The cuts have resulted in significant restructuring of budgets and strategies as local authorities seek new ways of addressing important issues with increasingly limited resources. Immediate social and economic issues are prioritised over longer-range challenges, including sustainable development. Funding cuts and the lack of large-scale regeneration financing which existed pre-2011 in some cities interviewed, have led to programmes such as statutory sustainable development plans being dropped in order to prioritise critical services.

Due to the burden placed on the NHS and the cost of the Treasury's furlough scheme, the COVID pandemic exacerbated these challenges, forcing further restructuring of city council priorities and budgets, including the suspension of services deemed non-essential. Representatives of the Core Cities reinforce this point, stating that during the initial stages of the pandemic, everything considered business as usual was put on hold. As such, cities' visions for sustainable development were temporarily side lined. Increased funding for local government will be essential to accelerate sustainable development.

However, limited funding is not the only fiscal challenge. Our research revealed widespread frustration with the way critical resources – particularly for investment – are allocated through competitive, time-bound and ringfenced funding mechanisms. Councils are required to bid for funding from Westminster or negotiate a deal to address critical local priorities, which one policy officer deemed a “waste of time and resources,” especially for unsuccessful bids and negotiations. The increasing reliance on “bidding and deal-making rather than capacity building” for local government in the UK undermines the strategic planning that sustainable local development demands.

For example, in 2017, Bristol was awarded funding from Feeding Britain for Feeding Bristol, a pilot to tackle food poverty in the city. However, the city was unsuccessful in its follow-up bid and the project paused. Eventually new funding was secured, but the fundraising activity itself diverted valuable resource from getting on with

the work. This model of competitive funding also means that successful pots of funding for one local authority come at the detriment of others, exacerbating regional inequalities. Under-resourced authorities grappling with protracted austerity have simply been unable to access certain funding opportunities due to capacity constraints (ibid). Such inequalities are compounded by universal reductions in grant funding. Consequently, many of the most deprived local authorities, which relied more heavily on grant funding, faced greater reductions, resulting in local authority budgetary changes ranging from -1.6% to -46% (Gray and Bradford, 2018).

Funding mechanisms are also often ringfenced for particular types of investment, or service improvements dictated by central government, rather than driven by locally defined priorities. For example, the recent Household Support Fund ringfenced spending percentages such that a proportion of the funding had to be spent on pensioners. While not an issue in itself, the funding allocations created complexity. By ringfencing the funds to be spent on pensioners receiving Pension Credit, the local demographics were not considered. In Greater Bristol, falling within the administrative boundary of the West of England Combined Authority, fewer pensioners claim Pension Credit than in many surrounding local authorities. As a result, Bristol's pensioners received disproportionately more funding per person than pensioners in surrounding local areas. It also meant that other vulnerable groups in Bristol received a lower level of support than they would have if the local authority had been able to choose how the finance was spent.

The need for further devolution and increasing council capacity to raise finances independently of Westminster were repeated themes when speaking to council policy leads. Representatives from the Core Cities also stressed the importance of building private-public partnerships. In Glasgow, the SDGs were seen as a key hook for engaging businesses in positive social and environmental action – a message that resonates with Bristol's experience. Similarly, Newcastle shared its commitment to increasing stakeholder engagement, while Belfast is also investigating the opportunities presented by public-private partnerships to deliver its SDG-related ambitions.

Giving local authorities greater autonomy over how regional finance is spent and providing longer-term, less competitive sources of funding would allow

local authorities to better target their work to support the most vulnerable. It would also allow for better recognition of the specific challenges of each local authority and improve equity of funding for areas across the UK that face the greatest deprivation.

DATA DEFICITS

Access to the data required to report on the SDGs remains problematic. Local authorities in the UK are fortunate to have support from the Office for National Statistics (ONS), but not all relevant data is held by the ONS. Some government departments do not share data or do not geographically disaggregate data to the level required for local monitoring. A lack of disaggregated data, or a lack of access to data, can make targeted interventions by local authorities difficult to justify, deliver and monitor. This is particularly true for issues around biodiversity where a lack of concrete data for most local authorities and a lack of resourcing to record new data makes it difficult to target action.

Disaggregated data allows local authorities to compare regional and national contexts and therefore identify issues that may need prioritisation. With funding so tightly controlled, this is particularly important to justify any resourcing needs. It also allows local authorities to identify and learn from others that have successfully tackled similar challenges.

The importance of timely, locally disaggregated data was made plain by the COVID pandemic. The absence and inaccessibility of data was identified as hindering the initial local and national pandemic response, and ministers have been called on to address 'structural, legal, and cultural impediments to data-sharing'. Addressing data deficits and mapping local data onto the SDG monitoring framework across UK local authorities could enhance intercity communication, coordination and the monitoring of progress.

THE POWER OF PARTNERSHIP COORDINATORS

A key reason Bristol has been able to take more action on the SDGs than most UK local authorities is the development of a coordinator role within the Council, initially funded by the University of Bristol but now institutionalised within the City Office. This role has ensured sustained capacity for cross-sectoral dialogue through regular SDG Alliance meetings and has acted as a stable point of contact for national and international partners engaging with the SDGs. Glasgow and Liverpool, two of the other main UK cities that have taken direct action on the SDGs, have had similar experiences. Glasgow has had an SDG officer funded by URBACT and Liverpool has hosted the Liverpool 2030hub, which has provided a constant external advocacy point of contact.

GIZ, the Deutsche Gesellschaft für Internationale Zusammenarbeit, has taken the resourcing of local action for the global goals a step further, deciding that the best way to ensure sustainable development globally is to make sure that German cities are also developing sustainably. The department funded sustainable development coordinators in cities across the country to coordinate action, strategies and delivery of the SDGs. This model could easily be replicated across the UK and would provide hubs for national and global partnership activity. Coordinators could also raise awareness about the SDGs, provide information on what it means to take action on the goals, and support greater decentralised effort towards the goals across the UK.

MOVING FORWARD

Despite the many challenges local authorities and organisations face in advancing sustainable development locally, there is clear and growing momentum for the adoption of the SDGs. Other UK local authorities, such as Liverpool and Glasgow, have recently incorporated some elements of the UN SDGs into policy. The COVID crisis has propelled innovation through cross-sectoral collaborations and laid the

foundations for long-term change. Belfast City Council described the pandemic as a ‘reset moment’ for the city with hopes that priorities can be reassessed to guarantee a future in which no one is left behind. A representative from Glasgow City Council highlighted improvements made to active travel infrastructure using COVID-response funding. Over the next three years, Liverpool City Council has pledged £10 million to make the city greener by investing in parks and green spaces, with £3 million set aside for retrofitting public buses to reduce nitrogen dioxide levels and air pollution in congested areas of the city.¹⁴³ In Nottingham, local councillors found that the reduction of mowing during lockdown helped change attitudes to rewilding. Greater numbers of wildflowers and more natural green spaces showed citizens the benefits of protecting biodiversity.

The COVID pandemic also inspired an increase in grassroots and community action. Surges in volunteering schemes demonstrate the power of community in building sustainable urban futures. In Bristol, many communities organised food deliveries, prescription pick-ups and neighbourhood befriending. These groups serve as critical social infrastructure, often filling gaps in local authority and voluntary, community and social enterprise provision. The Community Champions scheme introduced in Newcastle in response to COVID has focused on improving community education on healthcare and mitigating lower vaccine uptake in some demographic groups. The hope underlying schemes such as this is that the momentum generated during the pandemic can produce an inclusive form of sustainable development, centred around ethical, social and environmental principles.

The empowerment of communities, local organisations and city governments is essential to accelerate progress. This can be achieved by devolving more powers, simplifying devolved structures, providing a stable funding environment and facilitating local partnerships. Finally, greater awareness and alignment with the UN’s SDG framework among Core Cities could improve intercity coordination and generate productive dialogue on shared challenges that inspires creative solutions.

CHAPTER SOURCES



INTRODUCTION

SDG history from Townsend and Macleod (2018) *Driving the SDGs agenda at the city level in Bristol*, Bristol Green Capital Partnership. First VLR from Fox and Macleod (2019) *Bristol and the SDGs: A Voluntary Local Review of Progress 2019*, University of Bristol. On European Green Capital see BCC (2017) Review of Bristol Green Capital. For economic productivity stats see ONS (2021) *Subregional productivity: labour productivity indices by UK ITL2 and ITL3 subregions and Subregional productivity in the UK*. COVID impact on and response from see Bristol City Council (2020) Bristol's response to coronavirus. Global resonance of Black Lives Matter protests from Silverstein, J. (2021) *The global impact of George Floyd: How Black Lives Matter protests shaped movements around the world*, CBS News online. *Bristol transatlantic trade in enslaved Africans and toppling of Colston statue from CBS News (2020) George Floyd protest: Edward Colston statue thrown into Bristol harbor*, CBS News online. Counter protests information from Waite (2020). Statue wars documentary from BBC (2021) *Statue Wars: One Summer in Bristol*, BBC Two. *The Outlaws* from BBC One. For Mayoral referendum, BCC (2022) *Referendum on how Bristol City Council is run*. On the development of the SDG Alliance Townsend and Macleod (2018); on the SDG adoption see Fox and Macleod (2019). On Bristol Economic Recovery Strategy Bristol City Office (2020a). On the development of the SDG Alliance see Townsend, I., Macleod, A. (2018). Bristol and the UN Sustainable Development Goals report see Carden Noad, S., Macleod, A., Skidmore, T., Turner, E. (2017). Full plan from Bristol City Office (2021) *Bristol One City Plan 2021*.

SDG 1: NO POVERTY

Child poverty before housing costs are from Department of Work and Pensions, *Children in low income families: local area statistics 2014-2021*. Child poverty rates after housing costs are from End Child Poverty (endchildpoverty.org). Deaths attributed to natural disasters from Nomis (2022) *Exposure to forces nature*. Living Wage information from Living Wage Foundation (2020) *Making Bristol a Living Wage City*. Communal warm places information from Farrell-Roig, E. (2022) *Latest on Bristol's communal 'warm places' for people who can't afford heating bills*, Bristol Live, 13 July 2022; Seabrook (2022) *'Warm places' planned in Bristol for people who cannot afford to heat homes*, ITV online, 8 June 2022.

SDG 2: ZERO HUNGER

Data on food insecurity for the UK and Bristol are from Bristol City Council (2022) *JSNA Health and Wellbeing Profile 2021/22 – Food Security*. For food parcel uptake see Kendall, E., and Lumby, T. (2022) "Thousands of food parcels handed out to struggling Bristol families," Bristol Live, 27 April 2022. For data on free school meals see Open Data Bristol, accessed July 2022. For data on underweight and overweight children (ages 4-5 & and 10- 11) see Public Health England. For Food Equality Strategy see Bristol City Council (2021) *A One City Food Equality Strategy for Bristol 2022 – 2032*, available online.

SDG 3: GOOD HEALTH AND WELLBEING

Data on “New HIV diagnoses among adults (aged 15 years+)”; “TB Incidence (three year average)”; Under 75 mortality rate from causes considered preventable”; “Diabetes: QOF prevalence (17+)”; “Under 75 mortality rate from cardiovascular diseases considered preventable (2019 definition) (Persons, 1 year range)”; “Under 75 mortality rate from respiratory diseases considered preventable (2019 definition) (Persons, 1 year range)”; “Suicide rate (persons)”; “Under 75 mortality rate from cancer considered preventable (2019 definition) (Persons, 1 year range)”; “Alcohol-related mortality: New method (persons)”; “Deaths from drug misuse (persons)”; “Smoking Prevalence in adults (18+) - current smokers (APS)”; “Inequality in life expectancy at birth (male)”; “Inequality in life expectancy at birth (female)”; “fraction of mortality attributable to particulate air pollution (new method)” were drawn from Fingertips Public Health data, accessed online July 2022. Conceptions rate of under 18s from ONS “Quarterly conceptions to women aged under 18 years”. Below average mental wellbeing from Bristol City Council (2022) *Joint Strategic Needs Assessment*.

SDG 4: QUALITY EDUCATION

Average educational performance of Bristol, girls and boys in English and Maths Key Stage 1 from Department for Education. Average educational performance of Bristol, girls and boys in English and Maths Key Stage 2 from Department for Education. Percentage of students achieving expected standard (9-4 grade) in English and Maths from Statistics: GCSE (Key Stage 4). Absence rate of students total from *JSNA Health and Wellbeing Profile 2022/23 - Pupil Absence*. “Proportion of children under 5 years of age who are developmentally on track” from Department of Education, *Statistics: early years foundation stage profile*. “Proportion of population with high education degrees (NQV4)”, “Proportion of population with Level 2 Qualifications (NQV2)” and “proportion of adults who have participated in education or training in the last four weeks” from Nomis Annual Population Survey. Proportion of entries at GCSE level achieving a pass grade for Bristol, Girls and Boys from Department for Education, *Statistics: GCSE (key stage 4)*.

SDG 5: GENDER EQUALITY

BCC Gender pay gap data came from the BCC data team. “Gender pay gap (by workplace location)” from

Fingertips Public Health database. Data for those who “live in elsewhere” from Office for National Statistics *Gender pay gap dataset*. “Domestic Abuse related incidents and crimes” and “Violent crime – sexual offence per 100,000 population” from Fingertips Public Health data. Proportion of local councillors who are female calculated from the Local Elections Project.

SDG 6: CLEAN WATER AND SANITATION

Annual average data for Bristol and the surrounding region and water reduction targets are provided through statutory reporting from the local water company, Bristol Water in their Annual performance reports. Water stress rates from Environment Agency “Water Stressed Areas – final classification 2021.”

SDG 7: AFFORDABLE AND CLEAN ENERGY

Trends in installed capacity of renewable energy capacity and generation from the Department for Business, Energy & Industrial Strategy (BEIS) (2021) *Regional Renewable Statistics*. Electricity consumption from BEIS (2021) *Total final energy consumption at regional and local authority level: 2005 to 2019*. Fuel poverty data are from BEIS (2022) *Fuel poverty sub-regional statistics*. Household energy bills increases from End Fuel Poverty Coalition (2022).

SDG 8: DECENT WORK AND ECONOMIC GROWTH

Gross Domestic Product (GDP) data are from ONS (2022) *Regional gross domestic product: local authorities*. GVA per hour and per job filled from ONS (2022) *Subregional productivity: labour productivity indices by local authority district*. Unemployment from Nomis (2022) Model-based estimates of unemployment. Data on employment by gender and ethnicity, as well as wages, are from Nomic (2022) *Annual Population Survey*. Business stock per 100,000 from Centre for Cities (2022).

SDG 9: INDUSTRY INNOVATION AND INFRASTRUCTURE

Annual park-and-ride trips, bus passenger journeys, and proportion cycling to work data are from Bristol City Council data team. GVA in manufacturing are from ONS (2022) *Regional value added (balanced) by industry*. CO2 per unit of GDP is calculated from BCC data team CO2

emissions and total GDP reported in SDG 8. Employment in manufacturing is from Nomis (*Annual Population Survey*). Internet usage calculated from ONS Internet users dataset.

SDG 10: REDUCED INEQUALITIES

"Gender pay gap (by workplace location)" from Fingertips Public Health England. Gap in weekly earnings between the highest and lowest workers was calculated from Nomis, *Annual Survey of Hours and Earnings*, 10% and 90% Earner Resident Analysis, accessed July 2022. Male Gap in weekly earnings between the highest and lowest workers was calculated from Nomis, *Annual Survey of Hours and Earnings*, 10% and 90% Earner Resident Analysis, accessed July 2022. Council gender and race pay gaps and cases of hate crime reporting from BCC data team. "% Victims of racial discrimination or harassment in last year" from BCC *Quality of Life Survey 2021/22*.

SDG 11: SUSTAINABLE CITIES AND COMMUNITIES

Affordability of home ownership from ONS (2022) *Housing affordability in England and Wales 2021*. Homeless statistics are from Department for Levelling Up, Housing and Communities, and Ministry of Housing, Communities & Local Government (2022) *Rough sleeper count and Statutory homelessness*. Satisfaction of accommodation and proportion of residents who visit parks and green spaces weekly from *Bristol Quality of Life Survey 2021*. Air pollution fine particulate matter from Defra (2022) *Annual Mean Concentrations of PM10 and Annual Mean Concentrations of PM2.5*. Bus patronage see SDG 9.

SDG 12: RESPONSIBLE CONSUMPTION AND PRODUCTION

Recycling rate, residual household waste, total local authority collected waste, and proportion of municipal waste sent to landfill all from Department for Environment Food and Rural Affairs (2022) *ENV18 - Local authority collected waste: annual results tables*. Bristol Gold Sustainable Food City Award from BCC website ("Bristol's Gold Sustainable Food Places award"), accessed July 2022. UN Habitat Climate Smart Cities Challenge information from Bristol Housing Festival website, accessed July 2022.

SDG 13: CLIMATE ACTION

For Figure 14, concern about climate change is from *Bristol Quality of Life Survey 2021/22*. Total CO2 emissions is from the BCC data team. The Black and Green Ambassadors (2022). Climate Emergency Action from the University of Bristol website, accessed July 2022. Community Climate Action plans from Bristol Green Capital Partnership website, accessed July 2022.

SDG 14: LIFE BELOW WATER

Data for proportion of water body elements in different ecological status from Environment Agency Classifications data for Avon Bristol Urban Operational Catchment. Phosphate levels in rivers from Bristol Open Data Platform. The Government's 25-year Environment plan from the Department for Environment Food and Rural Affairs. For information on Bristol Avon Rivers Trust campaigns see Bristol Avon River Trust 'Can you help clean up the Trym' and 'River Cleans 2021'. The Bristol Avon Catchment Market from their About Us website.

SDG 15: LIFE ON LAND

Forest Canopy image from Forest Research, 'GB Ward Canopy Cover WebMap'. 'Percentage of people who visited parks at least once per week' and 'Percentage of residents satisfied with parks and open spaces in Bristol' from *Bristol Quality of Life Survey* with demographic disaggregation also from the same source. Tree Canopy cover from Bristol Tree Forum "Tree Canopy Cover – a Strategic Solution?" and "Bristol's Tree Canopy" and BCC "Tree Strategy and Tree Planting Plan". Bristol Ecological Emergency from Bristol City Office strategies page. Rewilding College Green from Avon Wildlife Trust. Resident tree planting from Bristol Live "Bristol residents will be asked to plant trees in their garden to help council reach target". Bedminster Green Redevelopment from BCC and Ovo Energy tiny forest from Earthwatch "Bristol's first Tiny Forest planted".

SDG 16: PEACE JUSTICE AND STRONG INSTITUTIONS

"Violent crime – violent offences per 1,000 population" and "First time entrants to the youth justice system"; "Domestic abuse related incidents and crimes";

"Violent crime – sexual offences per 1,000 population" from Fingertips Public Health Data. Cases of human trafficking from Avon and Somerset Police "Human Trafficking 2015-2021". "% who feel they can influence decisions that affect their local area"; "whose fear of crime affects their day to day lives", "% satisfied with the way the council runs things" and demographic disaggregation of these indicators from the *Bristol Quality of Life Survey*. Information on the Keeping Bristol Safe Partnership from their website.

SDG 17: PARTNERSHIP FOR THE GOALS

Bristol SDG Alliance information is from the "SDG Alliance" on the Global Goals Centre website. "City Leap Partnership" from Bristol Energy Service. "Bus Deal" from BCC. Bristol Citizens Assembly information Burnett (2022) *The power of Community Learning from Bristol's COVID-19 pandemic*. EU Horizon 2030 Cities from "Commission announces 100 cities participating in EU Mission". Brookings Institute SDG Leadership Cities Network from Pipa and Bouchet (2022) *Local Leadership Driving Progress on the Sustainable Development Goals: Lessons from three years of the Brookings SDG Leadership Cities Network*. "UK Climate Investment Commission" from Connected Places Catapult website.

CHALLENGES AND OPPORTUNITIES FOR LOCAL ACTION

For information on city funds see bristolcityfunds.co.uk. On jurisdictional complexity in Bristol see Fox and Macleod (2019). For success of devolution deals and mayoral combined authorities see Fransham, M., Herbertson, M., Pop, M., Morias, M. B., Lee, N. (2022) *Level best? The levelling up agenda and UK regional inequality*, Working Paper 80, London School of Economics, International Inequities Institute; and Ayres, S., Flinders, M., & Sandford, M. (2018). Territory, power and statecraft: understanding English devolution, *Regional Studies*, 52(6), 853-864. For more on the Health and wellbeing board see SDG 3. For ICS variation see Kent and Medway CCG (2022) "Our integrated care system" accessed online, July 2022; and Cornwall and Isles of Scilly "Integrated Care System" accessed online, July 2022. For Local government finances and real term funding see Ministry of Housing, Communities and Local Government, *Departmental Overview, October 2018*.

Inequality in austerity measures and spending gaps from Kenyon (2021) "Councils face £3 billion budget shortfall" in *Local Government Chronical*, 25 August 2021. Information on the Levelling Up bids from UK Government (2021) *Levelling Up Fund: Frequently asked questions*, accessed online July 2022. Feeding Bristol pilot from feedingbristol.org. Impact of competitive funding from Fransham et al (2022) and Gray, M. & Bradford, A. (2018) The depths of the cuts: the uneven geography of local government austerity, *Cambridge Journal of Regions, Economy and Society*, 11(3), 541-563. Household Support Fund from UK Government (2022) *Household Support Fund: guidance for local councils*, accessed online, July 2022. Reflections from Bristol's SDG localisation from Fox and Macleod (2021) Localizing the SDGs in Cities: Reflections from an action research project, *Urban Geography*, 1-4. ONS data sources see ONS, *17 goals to transform our world*, accessed online July 2022. Lack of biodiversity data see Fox and Macleod (2019). Impact of data sharing on COVID-19 pandemic response from Lewis (2021) *Public services: impact of Covid-19 pandemic*, UK Parliament, accessed May 2022. Impact of Partnership coordinator role see Fox and Macleod (2021). Liverpool 2030 Hub from 2030Hub website, access July 2022. URBACT network information from urbact.eu/sdg-network. German International Development local partnership coordinators information from Engagement Global website, accessed July 2022. Liverpool and Glasgow SDG incorporation from Team Liverpool (2021) and Glasgow City Council (2019) *Glasgow's Climate Plan: Our Response to the Climate and Ecological Emergency*. Details of Liverpool's commitments in Team Liverpool (2019) *City Plan*, accessed July 2022. Pandemic response in Belfast from Belfast City Council (2020) *Agenda item – Recovery Programme*, accessed July 2022. Bristol grassroots action Burnett (2022) *The Power of Community*, accessed on the Voscur website July 2022. VCSE participation in COVID-19 responses Hambleton (2020) *Cities and Communities Beyond COVID-19*, Bristol University Press.

APPENDIX 1

METHODOLOGY

This report contains both quantitative and qualitative data. A team of researchers at the University of Bristol, supported by staff at Bristol City Council, compiled an updated set of measurements for as many of the original 140 indicators that were collected for Bristol's 2019 VLR as possible. The qualitative data came from desk-based research, interviewing council staff and surveying Bristol's Sustainable Development Goals Alliance. Further information on both the statistical and interview components of the research can be found below.

STATISTICAL REVIEW

The indicators for the statistical review were selected to as closely reflect the indicators used in the 2019 VLR as possible. The majority of the datasets were publicly available through the Office for National Statistics, Public Health England, Department for Environment, Food and Rural Affairs, Nomis, and Bristol City Council. The remaining data that was not publicly available was accessed via the Bristol City Council data team. For the small minority of datasets that could not be accessed, closely related alternative datasets were used to give an indication of the trend. There were some methodological issues with sourcing up-to-date data. Several datasets were not regularly reported, particularly during the COVID-19 pandemic. The data annex showing the data sources and trends between 2011 and 2022 can be found in the appendices. Since the 2019 Voluntary Local Review, a number of the statistical boundaries for indicators from Public Health England have changed. Changes in boundaries from unitary authority to clinical commissioning groups meant that there were significant differences as a wider area was incorporated into the datasets.

INTERVIEWS

In order to better understand the challenges faced by local authorities and cities in adopting and delivering the SDGs, interviews with council officers from a number of the UK's Core Cities and other local authorities active on the SDGs were undertaken. The information from these interviews provided key insights that shaped some of the recommendations drawn from this report about how local authorities could be better supported to deliver on the SDGs.

Alongside these interviews, to better understand the range of partnership approaches being used to deliver on the SDGs, a survey of SDG Alliance members was undertaken. Combined with desk-based research by the student team, the survey provided information on projects operating independently of Bristol City Council that also adopted a partnership approach to delivery.

APPENDIX 2

DATA ANNEX

GOAL 1	NO POVERTY	ERADICATE POVERTY IN ALL ITS FORMS EVERYWHERE										
TARGET	INDICATOR	SOURCE	UNIT		2015	2016	2017	2018	2019	2020	2021	TREND
	Percent of children in low income families (relative)	UK Government / ONS	%		18	18.1	15.8	16.7	17.6	18.5	17.8	
1.2	Average % of children in poverty, after housing costs	End Child Poverty	%		30.1	30.2	30.2	30.6	31.3	33.5	32.6	
1.5	Number of deaths, missing persons and directly affected persons attributed to disasters	Nomis	per 100,000 population		0	0	0	0	0	0	0	
GOAL 2	ZERO HUNGER	END HUNGER, ACHIEVE FOOD SECURITY AND IMPROVED NUTRITION AND PROMOTE SUSTAINABLE AGRICULTURE.										
TARGET	INDICATOR	SOURCE	UNIT	2015	2016	2017	2018	2019	2020	2021	2022	TREND
2.1	Proportion of children receiving free school meals	Bristol Open Data Platform	%		20.3	19.2	18.2	20.3	23.1	23	27.6	
2.2	% underweight children (4-5 years old)	PHE	%	0.7	0.8	0.5	0.9	0.8	0.8			
2.2	% obese and overweight children (4-5 years old)	PHE	%	23	22.9	24.2	21.7	22.2	23			
2.2	% obesity and overweight in children 10-11 years old	PHE	%	35	35.6	33	34.5	31.5	33.9			

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GOAL 3	GOOD HEALTH & WELLBEING	ENSURE HEALTHY LIVES AND PROMOTE WELLBEING FOR ALL AT ALL STAGES										
TARGET	INDICATOR	SOURCE	UNIT		2015	2016	2017	2018	2019	2020	2021	TREND
3.2	Deaths of 0-1 year old per 1000 live births	ONS	Deaths per 1000 live births		3.8	4.1	2.3	3.8	1.4	2.8		
3.3	New HIV diagnoses among adults (aged 15 years+) per 100,000 population	PHE	New diagnosis per 100 000		14.8	12.8	10.8	9.4	11.8	6.8		
3.3	Incidence of TB (3 year average)	PHE	Per 100 000		20.6	18	15.1	12.7	11.4	10.1		
3.4	Mortality rate from cause consider preventable	PHE	Per 100 000		155.9	175.2	169.2	173.3	160.6	159.5		
3.4	Prevalence of diabetes	PHE	Per 100 000		5	5.2	5.5	5.5	5.5	5.5	5.5	
3.4	Mortality rate from Cardiovascular disease	PHE	Per 100 000		28.4	32	29.7	27.7	25.8	29.5		
3.4	Mortality rate from respiratory disease	PHE	Per 100 000		17.9	29.6	21.7	22.5	23.1	18.2		
3.4	Suicide rate	PHE	Per 100 000		12.8	12.6	10.6	11	11.4	12.3		
3.4	Mortality rate from Cancer	PHE	Per 100 000		63.9	68.4	66.3	69.7	63	63.8		
3.5	Alcohol related mortality	PHE	Per 100 000			39.8	43.9	45.9	42.2	43.6		
3.5	Drug misuse	PHE	Per 100 000		6	7.2	6.7	7.4	7.6	8.9		
3.5	Smoking Prevalence in adults (over 18yo)	PHE	%		18.1	16.3	11.1	16.3	18			
3.8	Gap in Healthy Life Expectancy between most deprived and least deprived (male)	PHE	Years		9.6	9.6	9.6	9.8	9.6	9.9		
3.8	Gap in healthy life expectancy between most deprived and least deprived (female)	PHE	Years		7	7.3	7.1	7.7	7.2	6.9		
3.9	Fraction of Mortality Attributable to particulate air pollution	PHE	%		4.4	5.3	5.1	7.4	6.9	6.1		

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GOAL 4	QUALITY EDUCATION	ENSURE INCLUSIVE AND EQUITABLE QUALITY EDUCATION AND PROMOTE LIFELONG LEARNING OPPORTUNITIES FOR ALL										
TARGET	INDICATOR	SOURCE	UNIT		2015	2016	2017	2018	2019	2020	2021	TREND
4.1.4.5	KS1 attainment Mathematics (Boys)	DfE	% reaching expected standard		91*	69	74	74	76			
4.1.4.5	KS1 attainment Mathematics (Girls)	DfE	% reaching expected standard		94*	72	73	75	74			
4.1	KS1 attainment Mathematics	DfE	% reaching expected standard		92*	70	73	75	75			
4.1.4.5	KS1 attainment Reading (Boys)	DfE	% reaching expected standard		87*	67	71	70	71			
4.1.4.5	KS1 attainment Reading (Girls)	DfE	% reaching expected standard		93*	76	76	77	76			
4.1	KS1 attainment Reading	DfE	% reaching expected standard		90*	71	73	73	74			
4.1.4.5	KS2 attainment Mathematics (Boys)	DfE	% reaching expected standard		84*	69	73	75	77			
4.1.4.5	KS2 attainment Mathematics (Girls)	DfE	% reaching expected standard		86*	67	73	73	78			
4.1	KS2 attainment Mathematics	DfE	% reaching expected standard		84*	68	73	74	78			
4.1.4.5	KS2 attainment Reading (Boys)	DfE	% reaching expected standard		84*	62	67	70	66			
4.1.4.5	KS2 attainment Reading (Girls)	DfE	% reaching expected standard		89*	69	75	75	76			
4.1	KS2 attainment Reading	DfE	% reaching expected standard		86*	66	71	73	71			
4.1	KS4 attainment English and Maths	DfE	% reaching expected standard		53.4*	59*	58.6	61.6	59.4			
4.1	Secondary school absence rate	PfE	%		5.1	5.4	5.26	5.35	5.28		5.73	
4.2	Proportion of children under 5 years of age who are developmentally on track	DfE	%		60.2	64.2	65.4	67.7	69.6			
4.2.4.5	Proportion of children under 5 years of age who are developmentally on track (Girls)	DfE	%		68.2	73	71.3	73.9	76.4			

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GOAL 4	QUALITY EDUCATION	ENSURE INCLUSIVE AND EQUITABLE QUALITY EDUCATION AND PROMOTE LIFELONG LEARNING OPPORTUNITIES FOR ALL										
TARGET	INDICATOR	SOURCE	UNIT		2015	2016	2017	2018	2019	2020	2021	TREND
4.2, 4.5	Proportion of children under 5 years of age who are developmentally on track (Boys)	DfE	%		53.1	56.6	59.1	61.9	63.1			
4.3	Proportion of population with higher education degrees	Nomis	%		47.9	48.5	54.1	49.3	51	52.1	56.5	
4.4	Proportion of adults without a full Level 2 qualification (NVQ2) or are in training (equivalent to 5 GCSEs)	Nomis	%		76.1	80.4	82.1	81.1	79.4	83.5	83.8	
4.4	Proportion of adults who have participated in education or training in the last four weeks	Nomis	%		11.2	11.1	15.5	14.2	17.4	13.6		
4.6	Proportion of entries at GCSE level English and Mathematics achieving a pass grade (all)	DfE	%		56.1	59.5	59.3	61.8	59.7			
4.6	Proportion of entries at GCSE level English and Mathematics achieving a pass grade (Boys)	DfE	%			56.1	53.9	56.4	55.6			
4.6	Proportion of entries at GCSE level English and Mathematics achieving a pass grade (Girls)	DfE	%		59.4	62.9	64.7	66.9	63.9			
GOAL 5	GENDER EQUALITY	ACHIEVE GENDER EQUALITY AND EMPOWER ALL WOMEN AND GIRLS										
TARGET	INDICATOR	SOURCE	UNIT		2015	2016	2017	2018	2019	2020	2021	TREND
5.1	Gender pay gap, BCC	BCC data team	%			4.07	4.1	3.99	4.08	4.26	4.55	
5.1	Gender pay gap, live in local	ONS	%		15	16.4	14.2	13.8	8.8	7.5		
5.1	Gender pay gap, live in elsewhere	ONS	%		11.6	17.4	17.6	17.9	12.7	9.6		
5.1	Proportion of elected councillors who are women	LocalElections Archive Project	%		35.7	42					44.3	
5.2	Domestic abuse related incidents and crimes	PHE	Per 1000		18.5	19.3	20	19.9	22.4	25.2		
5.2	Violent crime: rate of sexual offences	PHE	Per 1000		1.8	2.6	2.8	3.3	3	3	2.6	

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GOAL 6	CLEAN WATER & SANITATION	ENSURE AVAILABILITY AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL										
TARGET	INDICATOR	SOURCE	UNIT		2015	2016	2017	2018	2019	2020	2021	TREND
6.4	Total daily water usage per person per day	Bristol Water	L per capita per day		141.1	143.5	146.3	150.7	146.6	152.9	154.7	
GOAL 7	AFFORDABLE & CLEAN ENERGY	ENSURE ACCESS TO AFFORDABLE, RELIABLE, SUSTAINABLE AND MODERN ENERGY FOR ALL										
TARGET	INDICATOR	SOURCE	UNIT		2015	2016	2017	2018	2019	2020	2021	TREND
7.1	Proportion Living in Fuel Poverty (%)	PHE	%		12.9	10.8	11.7	9.8	13.8	14.4		
7.1	Total Electricity Consumption	BEIS	Ktoe		159.5	155.2	156.4	155.6	152.1			
7.1	Average domestic electricity consumption (Ktoe)	BEIS	Ktoe		60.1	59.6	58.3	57.3	57.1			
7.2	Installed Capacity of Renewable Energy (MW)	BEIS	MW		79.6	86.1	86.7	87.6	94.1	129,207		
7.2	Generation of installed energy (MWh)	BEIS	MWh		156,878	157,281	138,535	189,430	197,871	174,056		
GOAL 8	DECENT WORK & ECONOMIC GROWTH	PROMOTE SUSTAINED, INCLUSIVE AND SUSTAINABLE ECONOMIC GROWTH, FULL AND PRODUCTIVE EMPLOYMENT AND DECENT WORK FOR ALL										
TARGET	INDICATOR	SOURCE	UNIT		2015	2016	2017	2018	2019	2020	2021	TREND
8.1	Gross Domestic Product (CVM, real)	ONS	Emillions (CVM)		16,114	16,887	17,680	17,116	17,599	16,053		
8.1	Gross Domestic Product per capita		£ (CVM)		35,758	37,036	38,498	36,935	37,980	34,458		
8.2	GVA per filled job	ONS	£ (current prices)		47,843	49,431	50,677	51,392	51,753	51,928		
8.2	GVA per hour worked	ONS	£ (current prices)		29.9	30.9	31.6	32.3	33	33.6		
8.3	Bristol Unemployment rate (model based)	ONS/NOMIS	%		5.3	5.0	4.1	3.8	3.9	4.7	4.0	
8.3	Businesses Stock per 10,000 population	Centre for cities	Stock per 10,000			380	377.5	377.7	397	388		
8.5	Average Male wages per hour (£)	NOMIS / Annual Population Survey	£		14.38	14.62	14.25	15.60	15.96	16.28	17.19	
8.5	Average Female wages per hour (£)	NOMIS / Annual Population Survey	£		12.78	12.79	13.31	14.22	15.31	16.20	16.42	
8.5	Employment rate (male)				80.2	77.9	82	80.1	80.3	80.6	80.4	
8.5	Employment rate (female)				73.2	73.3	74.3	75.7	75.3	76.1	77.2	
8.5	Employment rate (total)	NOMIS / Annual Population Survey	%		76.8	75.6	78.1	77.9	77.9	78.4	78.9	
8.5	Ethnic minority employment rate	NOMIS / Annual Population Survey	%		64.5	65.1	62.6	66.8	70.1	67.6	68.2	

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GOAL 9	INDUSTRY, INNOVATION & INFRASTRUCTURE	BUILD RESILIENT INFRASTRUCTURE, PROMOTE INCLUSIVE AND SUSTAINABLE INDUSTRIALIZATION AND FOSTER INNOVATION										
TARGET	INDICATOR	SOURCE	UNIT		2015	2016	2017	2018	2019	2020	2021	TREND
9.1	Annual Park and Ride trips	BCC Data Team	Total single journeys		1,329,386	1,533,679	1,533,679	1,716,174	1,716,174	1,687,558	N/A	
9.1	Passenger journeys on buses originating in Bristol	BCC Data Team	Total single journeys		36,779,218	38,575,102	39,676,021	42,216,084		40,776,023	N/A	
9.1	Proportion of population who cycle to work	BCC	%		14.6		20	15.9	16.5	15	18.2	
9.1	Proportion of population who walk to work	BCC	%		18.9		24	20.2	21.9	21.6	20.5	
9.2	Manufacturing GVA	ONS	£Million (CVM)		457	477	509	527	547	471		
9.2	Proportion of total employment in manufacturing	NOMIS / Annual Population Survey	%		3.10	3.09	3.15	3.39	3.42	3.20		
9.4	CO2 emissions per unit of value added	BCC and ONS	Kt CO2/ £million GDP		0.122	0.105	0.093	0.09	0.085	0.09		
9.c	Percentage of population who have used the internet in the last 3 months	ONS	%		91.3	94.9	89	92.8	95.4	94.7		
GOAL 10	REDUCED INEQUALITY	REDUCE INEQUALITY WITHIN AND AMONG COUNTRIES										
TARGET	INDICATOR	SOURCE	UNIT		2015	2016	2017	2018	2019	2020	2021	TREND
10.1, 10.2	Average Weekly wage for bottom 10% full time workers (resident)	Nomis	£ per week		299.7	311.9	330	341.8	366.1	350	378.8	
10.1, 10.2	Average Weekly wage for top 10% full time workers (resident)	Nomis	£ per week		928.4	957.3	998.8	1044.8	1054.1	1101.4	1151.3	
10.1, 10.2	Gap in earnings between the top 10% and bottom 10% of wages (resident)	Nomis	£ per week		628.7	645.4	668.8	703	688	751.4	772.5	
10.1, 10.2	Average Weekly wage for bottom 10% full time workers (male) (workplace)	Nomis	£ per week		338.9	334.1	358.9	373.9	389	358	402.4	
10.1, 10.2	Average Weekly wage for top 10% full time workers (male) (workplace)	Nomis	£ per week		1,107.70	1,136.40	1,151.70	1,251.80	1,260.70	1,267.90	1,375.00	
10.1, 10.2	Gap in earnings between the top 10% and bottom 10% of wages (male) (workplace)	Nomis	£ per week		768.8	802.3	792.8	877.9	871.7	909.9	972.6	
10.1, 10.2	Average Weekly wage for bottom 10% full time workers (female) (resident analysis)	Nomis	£ per week		273	295.9	310.7	323.1	347.4	339.5	365.9	
10.3	Victims of Racial Discrimination or Harassment	BCC/QOL	%		4.9		6.5	6.2	6.5	6.8	4.9	
10.3	Total Number of Hate Crimes	BCC/ASC				1830	1993	1863	1902	1940	2353	
10.3, 10.4	Race Pay Gap in Bristol City Council	BCC data team	%			15.38	12.96	12.62	12.06	9.78	8.7	
10.3, 10.4	Gender pay Gap (by workplace location) (Median?)	PHE			15	16.4	14.2	13.8	8.8	7.5		

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GOAL 11	SUSTAINABLE CITIES AND COMMUNITIES	MAKE CITIES AND HUMAN SETTLEMENTS INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE										
TARGET	INDICATOR	SOURCE	UNIT		2015	2016	2017	2018	2019	2020	2021	TREND
11.1	Affordability of Home Ownership	ONS	Ratio of median house prices to median workplace-based annual earnings		7.34	8.22	9.04	8.69	8.75	8.49	9.7	
11.1	Rough sleepers	DLUHC/MHCLG	Number of rough sleepers		97	74	86	82	98	50	68	
11.1	Households assessed as homeless	DLUHC/MHCLG	Per 1000						5.85	7.69	11.68	
11.1	Statutory Homelessness	PHE	Per 1000		4.6	5.3	5.1	3.7				
11.1	Proportion of the population satisfied with their current accommodation	BCC/QOL	%				83.1	84.3	87.7	86.9	82	
11.2	Annual Park and Ride trips	BCC data team	Total single Park & Ride journeys into Bristol		1,329,386	1,533,679	1,533,679	1,716,174	1,716,174	1,687,558	N/A	
11.2	Passenger journeys on buses originating in Bristol	BCC data team	Total single bus passenger journeys		36,779,218	38,575,102	39,676,021	42,216,084	40,420,512	40,776,023	N/A	
11.2	Proportion of the population satisfied with the local bus service	BCC/QOL	%		50.3		40	43	48	57	49	
11.3	Voter Participation in last municipal elections	BCC	% of eligible voters			44.8					41.01	
11.6	Annual Mean Concentrations of PM2.5	DEFRA	µg/m³		10.25	11.66	9.65	12.04	10.8	9.66	8.33	
11.6	Annual Mean Concentrations of PM10	DEFRA			14.9	15.4	14.7	15.9	16.0	17.3	15.7	
11.7	Proportion respondents who visit parks and open spaces at least once a week	BCC/QOL	%		54.6		55.7	49.7	52.9	60.3	59	

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GOAL 12	RESPONSIBLE PRODUCTION & CONSUMPTION	ENSURE SUSTAINABLE CONSUMPTION AND PRODUCTION PATTERNS										
TARGET	INDICATOR	SOURCE	UNIT		2015	2016	2017	2018	2019	2020	2021	TREND
12.5	Recycling Rate	DEFRA	% of waste recycled		43.5	43.6	43.4	44.9	47.4	47.1	46.4	
12.5	Residual household waste per household	DEFRA	Kg/household		488	492	498.5	462.9	435.7	430.9	450.2	
12.5	Total Local authority collected waste	DEFRA	Tonnes		177414	181101	184753	179798	181878	184142	197801	
12.5	Proportion of Municipal Waste sent to landfill	DEFRA	% sent to landfill		29.2	28	27.7	19.9	14.4	18.5	10.9	
GOAL 13	CLIMATE ACTION	TAKE URGENT ACTION TO COMBAT CLIMATE CHANGE AND ITS IMPACTS										
TARGET	INDICATOR	SOURCE	UNIT		2015	2016	2017	2018	2019	2020	2021	TREND
	CO2 Emissions per capita	Centre for Cities	Tonnes of CO2		4.99	4.68	4.54	4.35	4.19			
13.3	Percentage concerned about climate change	BCC/QOL	%		74		81.7	85.8	87.9	86.4	86.7	
	Total CO2 Emissions	BCC data team/NAEI	K tonnes		1967.7	1777	1640	1547	1491	1,447	1390	
GOAL 14	LIFE BELOW WATER	CONSERVE AND SUSTAINABLY USE THE OCEANS, SEAS AND MARINE RESOURCES FOR SUSTAINABLE DEVELOPMENT										
TARGET	INDICATOR	SOURCE	UNIT		2015	2016	2017	2018	2019	2020	2021	TREND
14.1	Proportion river in High ecological status	Environment Agency	%		60.7%	64.9%			68.6%			
14.1	Proportion river in Good ecological status	Environment Agency	%		15.6%	13.7%			12.4%			
14.1	Proportion river in Moderate ecological status	Environment Agency	%		18.0%	15.3%			13.1%			
14.1	Proportion river in Poor ecological status	Environment Agency	%		4.9%	5.3%			5.1%			
14.1	Proportion river in Bad ecological status	Environment Agency	%		0.8%	0.8%			0.7%			
14.1	Proportion of river with no data	Environment Agency	%		0.0%	0.0%			0.0%			
GOAL 15	LIFE ON LAND	PROTECT, RESTORE AND PROMOTE SUSTAINABLE USE OF TERRESTRIAL ECOSYSTEMS, SUSTAINABLY MANAGE FORESTS, COMBAT DESERTIFICATION, AND HALT AND REVERSE LAND DEGRADATION AND HALT BIODIVERSITY LOSS										
TARGET	INDICATOR	SOURCE	UNIT		2015	2016	2017	2018	2019	2020	2021	TREND
15.1	Tree Canopy Cover	Bristol Tree Forum	%			17		18.6/17.9		17.5		
15.1	Proportion respondents who visit parks and open spaces at least once a week	BCC	%		54.6		55.7	49.7	52.9	60.3	59	

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GOAL 16	PEACE JUSTICE & STRONG INSTITUTIONS	PROMOTE PEACEFUL AND INCLUSIVE SOCIETIES FOR SUSTAINABLE DEVELOPMENT, PROVIDE ACCESS TO JUSTICE FOR ALL AND BUILD EFFECTIVE, ACCOUNTABLE AND INCLUSIVE INSTITUTIONS AT ALL LEVELS										
TARGET	INDICATOR	SOURCE	UNIT		2015	2016	2017	2018	2019	2020	2021	TREND
16.1	Proportion of the population who's daily life is affected by fear of crime	BCC	%		12.5		10.3	18.1	15.7	15.7	19.4	
16.1	Violent crime offences per 1,000 population	PHE	Per 1000		19.3	27.5	32.5	33.3	33.6	34.8	33.1	
16.1	Sexual crime offences per 1,000 population	PHE	Per 1000		1.8	2.6	2.8	3.3	3	3	2.6	
16.2	Rate of Domestic abuse per 1000	PHE	Per 1000			18.5	19.3	20	19.9	22.4	25.2	
16.2	Cases of Human Trafficking	Avon and Somerset Police	Cases reported per year			70	97	82	152	150		
16.6	Proportion satisfied with the way the council runs things	BCC	%		36		26.8	35.2	42.8	47.4	39.2	
16.7	Ability to influence local decision making	BCC	%		25.3	25.4	25.5	17.6	18.1	21.1	20.6	
	First time entrants to the youth justice system	PHE	Per 100,000		699.1	516.9	443.7	383.4	337.2	221.9	215.7	

KEY

-  - Getting worse
-  - No change or inconclusive
-  - No new data since previous VLR
-  - Getting better

APPENDIX 2

- i. [Bristol City Council \(2021a\). 'JSNA Health and Wellbeing Profile'. Accessed July 2022.](#)
- ii. [Nomis \(2022\) Mortality statistics – underlying cause, sex and age. Accessed July 2022.](#)
- iii. [Open Data Platform \(2022\) Pupils Receiving Free School Meals by ward. Accessed July 2022.](#)
- iv. [Public Health England \[PHE\] \(2022\) NCMP and Child Obesity Profile. Accessed July 2022.](#)
- v. [ONS \(2020\) Deaths registered by area of usual residence, UK. Accessed April 2020.](#)
- vi. [Public Health England \[PHE\] \(2022\) Sexual and Reproductive Health Profiles. Accessed July 2022.](#)
- vii. [Public Health England \(2020\) TB Strategy Monitoring Indicators: TB incidence \(3 year average\). Accessed April 2019.](#)
- viii. [Public Health England \[PHE\] \(2022\) Mortality Profile. Accessed July 2022.](#)
- ix. [Public Health England \(2021\) Public Health Profiles: Diabetes Quality and Outcomes Framework prevalence, Patients aged 17 years and over with diabetes mellitus. Accessed July 2022.](#)
- x. [Public Health England \[PHE\] \(2022\) Public Health Outcome Framework. Accessed July 2022.](#)
- xi. [Public Health England \(2021\) Public Health profiles – OHID: Under 75 mortality rate from respiratory diseases considered preventable. Accessed July 2022.](#)
- xii. [Public Health England \[PHE\] \(2022\) Mortality Profile. Accessed July 2022.](#)
- xiii. [Public Health England \(2022\) Public Health profiles - OHID: Under 75 mortality rate from cancer considered preventable. Accessed July 2022.](#)
- xiv. [Public Health England \(2022\) Local Alcohol Profiles for England: Alcohol related mortality. Accessed July 2022.](#)
- xv. [Public Health England \[PHE\] \(2022\) Public Health Profiles: Accessed July 2022.](#)
- xvi. [Public Health England \[PHE\] \(2020\) Local Tobacco Control Profiles. Accessed July 2022.](#)
- xvii. [Public Health England \(2020\) Public Health Outcomes Framework: 1.10 Killed or Seriously Injured \(KSI\) casualties on England's Roads. Accessed July 2022.](#)
- xviii. [Office for National Statistics \(2022\). Quarterly conceptions to women aged under 18 years, England and Wales. Accessed July 2022.](#)
- xix. [Public Health England \(2022\) Public Health Outcomes Framework: 0.2iii Inequality in Life Expectancy at Birth \(Male\). Accessed July 2022.](#)
- xx. [Public Health England \(2022\) Public Health Outcomes Framework: 0.2iii Inequality in Life Expectancy at Birth \(Female\). Accessed July 2022.](#)
- xxi. [Public Health England \(2022\) Public health profiles – OHID: Fraction of Mortality attributable to particulate air pollution \(new method\). Accessed July 2022.](#)
- xxii. [GOV.UK \(2020\) Statistic: Key Stage 1. Phonics screening check and key stage 1 assessment: Accessed July 2022.](#)
- xxiii. [GOV.UK \(2020\) Statistics Key Stage 2. National Curriculum assessment at Key Stage 2. Accessed July 2022.](#)
- xxiv. [GOV.UK \(2020\) GCSE and equivalent results. Accessed July 2022.](#)
- xxv. [Public Health England \(2022\) Wider Determinants of Health: Pupil Absence. Accessed July 2022.](#)
- xxvi. [GOV.UK \(2020\) Statistics: early years foundation stage profile. Accessed July 2022.](#)
- xxvii. [Nomis \(2022\) Annual Population Survey: T19 Qualification by age – NVQ: Proportion of Bristol's population with a Higher Education certificate \(NVQ4\). Accessed July 2022.](#)
- xxviii. [Nomis \(2022\) Annual Population Survey: T19 Qualification by age – NVQ: Proportion of Bristol's population with NVQ2 and above. Accessed July 2022.](#)
- xxix. [Nomis \(2022\) Annual Population Survey: Table T22a Job related training. Accessed July 2022.](#)
- xxx. [Department for Education \(2022\) Key stage 4 performance, Methodology – Explore education statistics. Accessed July 2022.](#)
- xxxi. [Public Health England \(2022\) Wider Determinants of Health: Gender Pay Gap \(by workplace location\). Accessed July 2022.](#)
- xxxii. [Office for National Statistics \(2021\). Earnings and working hours: Gender pay gap. Accessed July 2022.](#)
- xxxiii. [Local Elections Archive Project \(2017\) Local Elections Archive Project: Index of Councils. Accessed June 2019.](#)
- xxxiv. [Public Health England \(2022\) Public Health Outcome Framework: 1.11 – Domestic Abuse-related incidents and crime – current method. Accessed July 2022.](#)
- xxxv. [Public Health England \(2022\) Wider Determinants of Health: Violent crime \(including sexual violence\) - rate of sexual offences per 1,000 population. Accessed July 2022.](#)
- xxxvi. [Bristol City Council \(2019\) Health and Wellbeing in Bristol 2018: Joint Strategic Needs Assessment 2018 data profile. Accessed July 2022.](#)
- xxxvii. [Bristol Water \(2021\). Annual Performance Report-2020/2021. Accessed July 2022.](#)
- xxxviii. [UK Government \(2021\). Fuel Poverty Sub-Regional Statistics. Accessed July 2022.](#)
- xxxix. [Department for Business, Energy & Industrial Strategy \(2021\). Renewable electricity by local authority 2014-2020. Accessed July 2022.](#)
- xl. [UK Government \(2021\). Sub-national total final energy consumption data. Accessed July 2022.](#)
- xli. [Office for National Statistics \(2022\) Regional gross value added \(balanced\) local authorities by NUTS1 region. Accessed July 2022.](#)
- xlii. [Nomis \(2019\) Annual Population Survey: Economically Active – Time Series – All People – Economically Active - In Employment. Accessed April 2019.](#)
- xliiii. [Nomis \(2022\) ONS Annual Population Survey: Economically Active – Time Series: All People – Economically active – Unemployed \(Model Based\) Accessed July 2022.](#)
- xliv. [Centre for Cities \(2022\) Bristol | Centre for Cities. Accessed July 2022.](#)
- xlv. [Nomis \(2022\). Earnings by Workplace-Time Series. Accessed July 2022.](#)
- xlvi. [Nomis, \(2022\). Annual Survey of Hours and Earnings – resident analysis; Query Data: Full Time Workers; Weekly Wages 10 percentile; 90 percentile. Accessed July 2022.](#)
- xlvii. [Bristol City Council \(2022\) Quality of Life Survey 2021-21. Bristol City Council. Accessed July 2022.](#)
- xlviii. [Nomis \(2021\) Employee Jobs- Time Series. Accessed July 2022.](#)
- xlix. [Office for National Statistics \(2021d\). Internet Users. Accessed July 2022.](#)
- l. [Centre for Cities \(2019\) Cities Data Tool: Gini Coefficient. Accessed April 2019.](#)
- li. [Nomis, \(2022\). Annual Survey of Hours and Earnings – resident analysis; Query Data: Full Time Workers; Weekly Wages 10 percentile; 90 percentile. Accessed July 2022.](#)
- lii. [Nomis, \(2022\). Annual Survey of Hours and Earnings – workplace analysis; Query Data: Full Time Workers; Weekly Wages 10 percentile; 90 percentile. Accessed July 2022.](#)
- liii. [Public Health England \[PHE\] \(2022f\) Affordability of Home Ownership. Accessed July 2022.](#)
- liv. [Homeless Link \(2021\). 2020 Rough Sleeping Snapshot Statistics. Accessed July 2022.](#)
- lv. [Office for National Statistics \(2022\). Statutory homelessness: Detailed local authority-level tables: financial year 2020-21. Accessed July 2022.](#)
- lvi. [Bristol City Council \(2021b\) Local councillors elections 2021: turnout and results. Accessed July 2022.](#)
- lvii. [Public Health England \(2020\). Wider Determinants of Health: Air pollution: fine particulate matter. Accessed July 2022.](#)
- lviii. [Bristol City Council \(2020\). 'Air Quality Annual Report 2020'. Accessed July 2022.](#)
- lix. [Department for Environment, Food and Rural Affairs \(2021\). Local Authority Collected waste generation \(from April 2000 to March 2021 \(England and Regions\) and local authority data April 2020 to March 2021. Accessed July 2022.](#)
- lx. [Environment Agency \(2022\) Avon Bristol Urban Operational Catchment | Catchment Data Explorer. Environment Agency. Accessed July 2022.](#)
- lxi. [Bristol Tree Forum \(2018\) Tree Canopy Cover – a strategic solution? Accessed July 2022.](#)
- lxii. [Bristol Tree Forum \(2021\). Bristol's Tree Canopy. Accessed July 2022.](#)
- lxiii. [Public Health England \[PHE\] \(2022d\) Public Health Profiles: Accessed July 2022.](#)
- lxiv. [Avon and Somerset Police \(2022\) Human Trafficking 2015-2021. Accessed July 2022.](#)
- lxv. [Bristol City Council \(2022\) Joint Strategic Needs Assessment \(JSNA\). Bristol City Council. Accessed July 2022.](#)