Durham University

sixdegrees

Combatting the Decline in Greenspace to Benefit Low Socio-Economic Regions.

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Contents:

"Our parks are precious, and I want to improve access to them for everyone - including the young, isolated and the vulnerable."

Rishi Sunak as Minister for Parks and Green spaces in 2018

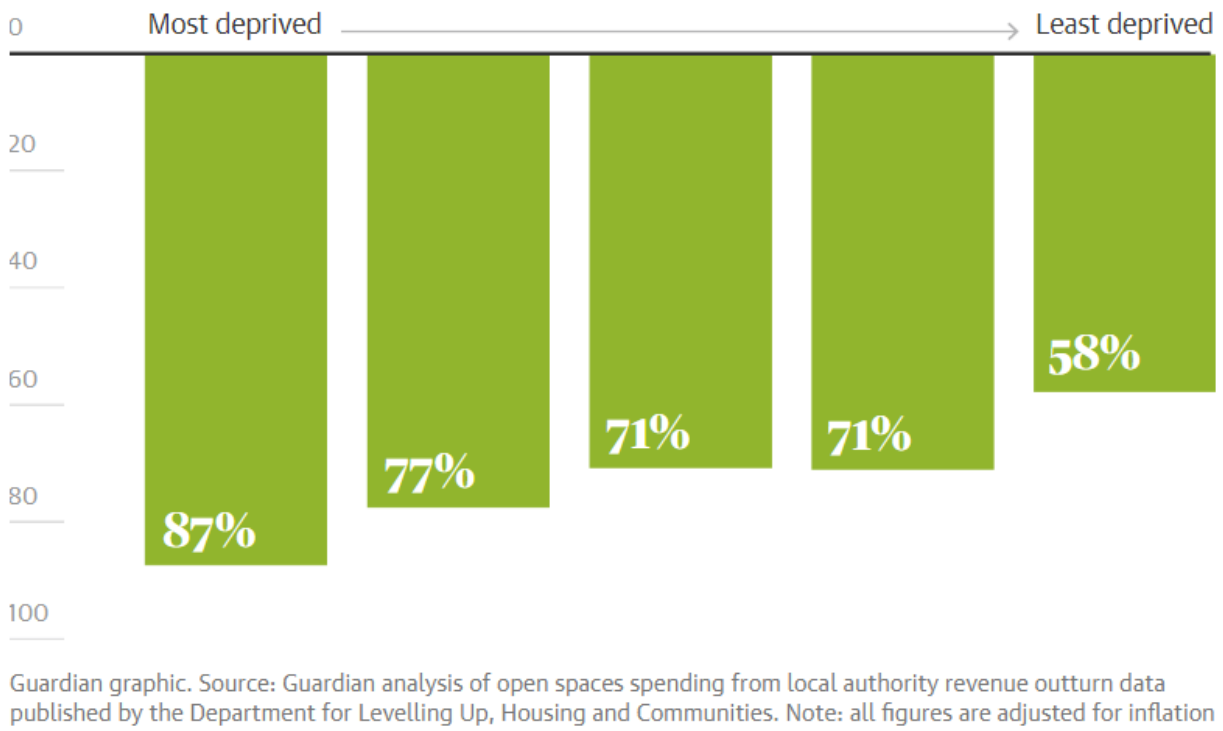
The Decline of Green Space

Throughout this report, green space is considered "undeveloped land, not necessarily provided for formal recreation or public amenity, which makes a positive visual and environmental contribution to the town" (UK.gov, 2016).

The importance of parks and green spaces cannot be overstated, and nature, its conservation, and the provision of unrestricted access are essential to so many aspects of life. However, in modern society there are many problems around green space that need to be addressed. Since "visits to urban parks account for over a third of all visits to the natural environment" (Natural England, 2019), it is imperative that there is equal access to all citizens. About 2.7 million UK citizens do not live within a 10-minute walk of an area of green space and are unable to easily experience the benefits from these spaces (Holland, 2021).

After the global financial crisis and the resulting economic meltdown, the UK public deficit reached its highest levels since the Second World War (Anger and Barker, 2015), resulting in officials imposing an agenda of austerity measures to reduce the financial deficit (Smith, 2020). Many public service institutions were faced with a lack of adequate resources before the crisis, and the 10% reduction in financing took them to breaking point (Smith, 2020). The provision of green space was no exception, with 92% of park managers experiencing budget cuts, 95% facing more reductions, and, according to a survey of 193 councils, parks suffered a further 20% drop in funding in 2020 (Crowe, 2018; Shoari et al. 2020). The scale of cuts implemented on council spending for parks is demonstrated in Figure 1.

Figure 1: Proportion of councils that cut spending on parks between 2010-11 to 2020-21 by deprivation

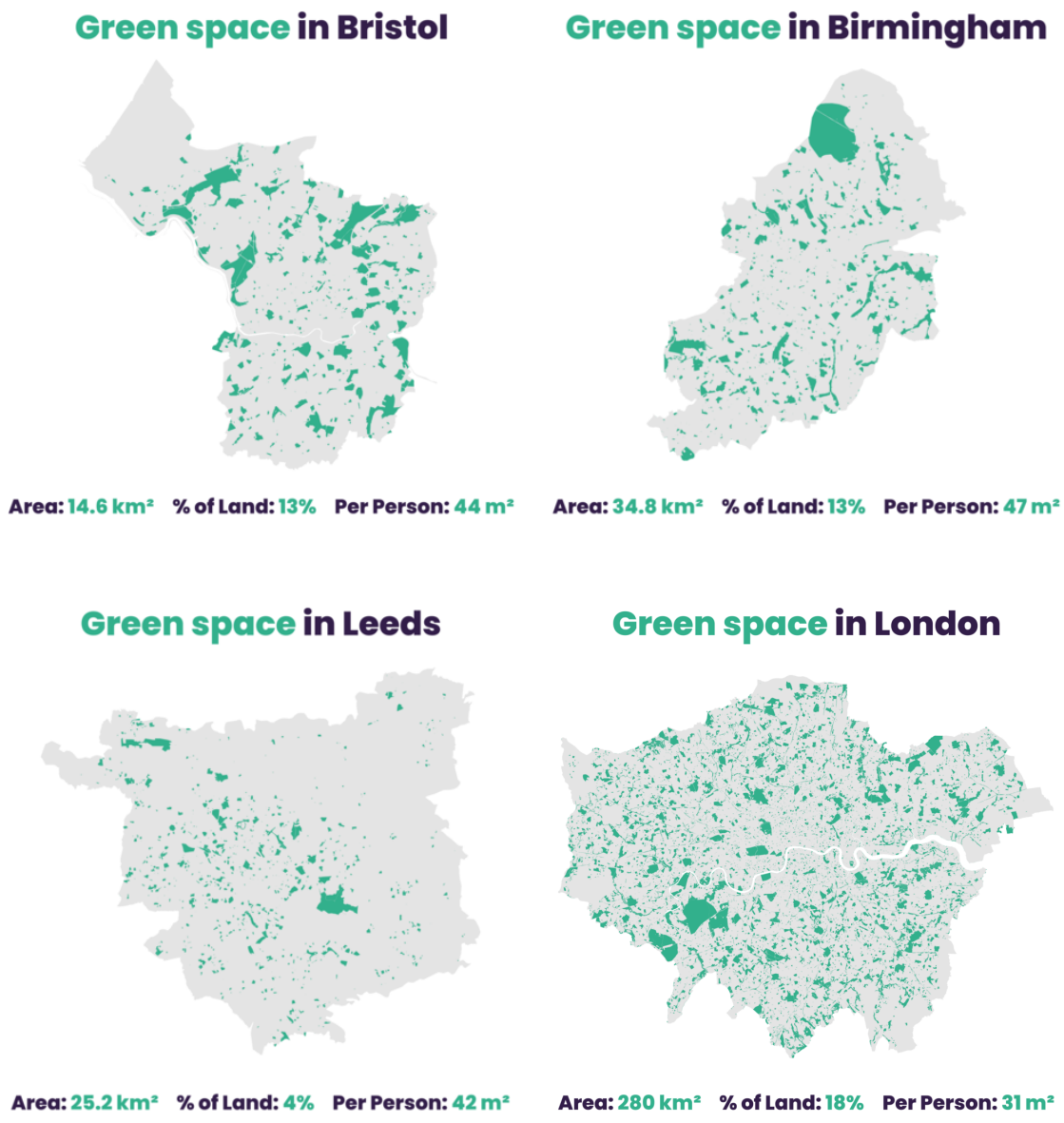


Note: Graph produced by Martinsson, Gayle and McIntyre, (2022)

This drastic reduction in access to funds, other resources (such as personnel), and a continued impact from the climate has widened the gap in the UK's provision and access to green spaces. According to a recent study, people in the North have less access to parks than their counterparts in the South, 1 in 5 Brits lose out on the benefits of quality local green space, and almost 10 million Brits live in areas with very limited access to green space (The Countryside Charity, 2022). As demonstrated in Figure 2 northern cities and less affluent cities such as Leeds have smaller percentages of available land dedicated to green

space than cities such as Bristol, Birmingham, or London, importantly the green space in all these cities is not evenly distributed either.

Figure 2: Maps of green space in 4 major English cities.



Note: maps taken from https://www.wearepossible.org/parklets

Research from a Ramblers report (Ramblers, 2020) and data on gardens from the UK government's Office for National Statistics (ONS) demonstrated that the distribution of green space is now extremely unequal. Whilst 57% of survey respondents in the UK said that they had some form of green space

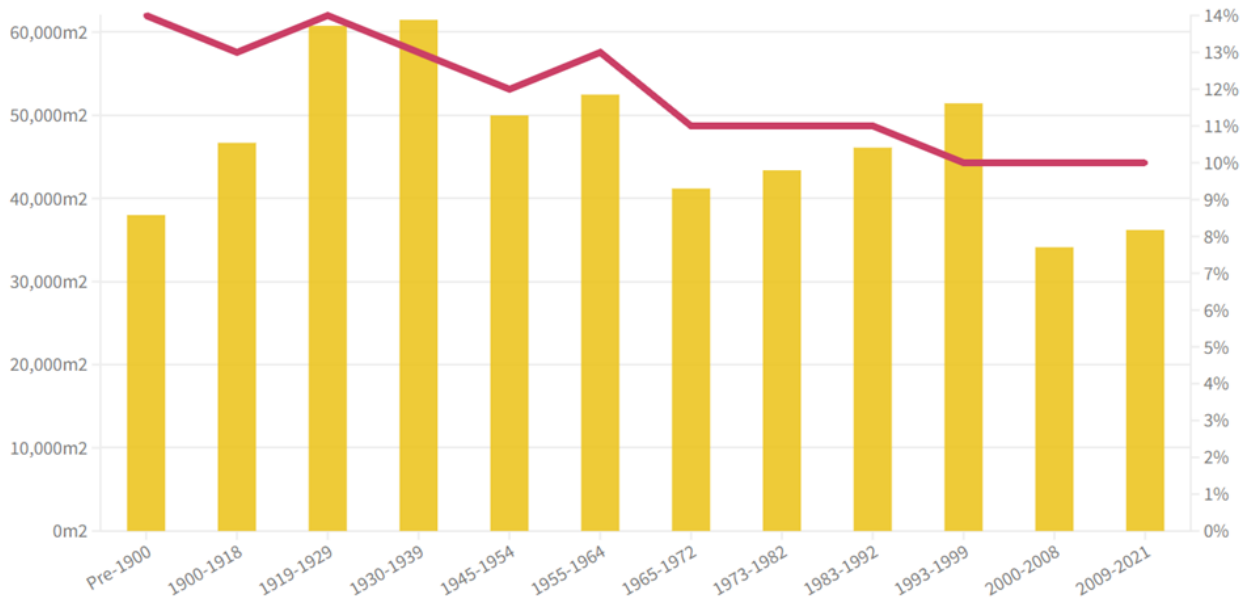
within five minutes' walk from their house, once you look at demographic subgroups, that number drops dramatically. For example, the percentage of Black, Asian, and Minority Ethnic (BAME) individuals living within five minutes of a green space drops to 39%. Furthermore, when looking at the demographic makeup of the most deprived areas in terms of green space provision, almost 40% of Britain's BAME citizens live in the most deprived areas compared to only 14% of White individuals (de Zyla, 2020). Children from the most deprived areas spend 20% less time outside than their counterparts in affluent communities (The Countryside Charity, 2022). Furthermore, if a family's household income is below £15,000, then only 46% live within five minutes of a green space compared to 70% for those earning over £70,000.

One of the primary reasons for the decrease in urban green spaces is the change in development priorities when constructing residential neighbourhoods. The New Economist conducted research in which they combined data from the ONS, Datadaptive and Natural England to compare and evaluate experiences with green space across England and Wales against the policies for housing construction and neighbourhood design that exists in those areas. This research demonstrated that housing developments since 2000 contain only 9% green space compared to 13% for estates built in the early 20th century (Chapman, 2022). Further evidence demonstrates that houses built between 2009 and 2021 have up to 40% less green space in their local area than homes built in the late 19th and early 20th century. This is partially exacerbated by the reduction in park size: the median size of a neighbourhood's nearest park has fallen from 61,500m^2 between 1930 and 1939 to 36,200m^2 in housing built after the millennium (See Figure 3). Not only do newer housing developments have less dedicated green space but people who live in more modern housing estates also have to travel further to reach their nearest green space (Chapman, 2022).

The New Economist Foundation's research also highlighted that this reduction in green space extends beyond public parks and into private gardens. Through analysis of the People and Nature Survey they identified that people living in housing built in the 21st century are nearly twice as likely to have no garden nor access to a garden compared to those living in housing built before the turn of the millennium. These individuals also report themselves as being 30% more likely to dislike their garden, indicating it may be smaller or less green than those in old housing developments (Chapman, 2022).

Figure 3: Green Space in neighbourhoods in England and Wales over time.

Neighbourhood (ie, lower layer super output area – LSOA) green space provision in England and Wales, in percent of the local surface area within a 1000m radius (right), and by average size (m2) of nearest park (left), grouped by the median age of the neighbourhood's housing stock, pre-1900 to 2009-2021.



Source: NEF analysis of Office for National Statistics and Valuation Office Agency

Note: The red line represents the percentage of green space in neighbourhood builds and the yellow bars represent the median sizes of the parks created.

Green space access is increasingly under threat and recent analysis exposed the significant socioeconomic disparities in green space provision and access. These disparities are ill-afforded if we aim to bridge inequalities and "level up" socioeconomically challenged communities. The Global United Nations Sustainable Development Goal 11.7 explicitly tasked countries to provide "universal access to safe, inclusive and accessible, green and public spaces" (UN, 2015), however in the UK access to green space has decreased and there is a pressing need to not only reinvest in councils green space funds but also for citizens to generate greener communities independently if governments continue defunding local authorities.

The Consequences of this Decline

Whilst there is evidently an unequal distribution of green space and a general decline nationally, the reasons why this might be important were perhaps not necessarily initially evident. Several reports note the UK's growing obesity problem, which has led to congestive heart failure becoming one of the highest non-communicable disease threats in the country (GlobalData Healthcare, 2021). In addition, mixed anxiety and depression has been documented as the most common mental disorder in Britain as of 2020, occurring in approximately 8% of the population (Mind, 2020). A growing body of empirical evidence is relaying that 'nature experience' also has a positive effect on cognitive functioning, emotional well-being, and other dimensions of mental health, which ultimately highlights the necessity of green spaces (Bratman et al., 2019; Mayer et al., 2008).

The COVID-19 lockdowns certainly highlighted at least the division of green space as well as the value of having easily accessible green spaces, and therefore the consequences of unequal access to green space. Issues resulting in physical, mental, and emotional distress were exacerbated amidst fears of becoming ill, feelings of isolation and financial concerns, for example. A study funded by the UK government reported that the number of people suffering from high levels of anxiety and depression grew by more than a third during the pandemic (Bawden, 2022). It found a 29% increase in the number of people with psychological distress from April to June 2020, compared to before the pandemic. This then rose to 36% compared to pre-pandemic levels during the second lockdown period from October 2020 to February 2021. There is, however, a wealth of evidence which suggests that regular exposure to nature aided in many people's ability to cope with the immense uncertainty caused by the pandemic. One such study reported that nature exposure throughout the pandemic was associated with less depression, anxiety, stress, and more happiness and life-satisfaction, but that "frequency of visits to outdoor natural areas (i.e., public parks) depended on lockdown severity and socio-cultural contexts" (Labib, Browning, Rigolon, Helbich and James, 2022). For those who were able to make frequent contact with the outdoors, another study found that this served as a mental health "buffer" during the pandemic, specifically among low-income and minority ethnicity populations (Pearson et al., 2021). However, this study also noted the importance of quality green space, in that low-quality green space limited the ability for views of nature to sufficiently protect against mental health impairments during the pandemic lockdowns.

The pandemic had also widened the green space inequality gap, which potentially compounds physical and mental health problems (Groundwork, 2021). More than usual these spaces "played a huge role in supporting people's wellbeing during lockdowns and have the potential to be central to our recovery, but only if those who most need their restorative benefits feel able to use them" (Duxbury, 2021). Researchers have become particularly concerned to discover that the heightened levels of anxiety and depression remained consistent following the lifting of lockdown restrictions, suggesting that the elevated levels of mental health issues are likely to persist into the future. One explanation could be the onset of the "work-from-home revolution", and how this has perpetuated an individual's tendency to remain indoors. As the transition to remote working and/or learning becomes more normalised, it would seem likely that the impetus to create additional quality green space in urban areas is being replaced by the desire to construct more spacious and comfortable residential dwellings to accommodate for the additional time spent at home. Under this scenario, the issues associated with declining green space would have detrimental effects on the health and wellbeing of individuals who remain indoors, as well as the wellbeing of the climate/environment which would be surrendered to the continued urbanisation of densely populated areas. Counteracting this shift by supplying opportunities for the public to interact with, and therefore preserve, green spaces will not only improve the viability of the general population, but will also aid the UK in its efforts to become a more sustainable and prosperous nation.

It is widely acknowledged that green space is an essential part of a good city or neighbourhood. Within cities, green space takes many forms such as public parks and gardens and are "a key ingredient of attractive, healthy and economically competitive places" (Beck, 2016) With higher quality green spaces, benefits are bestowed to citizens at a much higher level than those spaces without upkeep and consistent attention, importantly it is essential to have high quality and quantity. Cuts to funding for parks and other public green spaces, as well as lacklustre management negatively impact the quality of these spaces. Due to the importance of both quantity and quality of green spaces it is essential to invest in their development and maintenance in all regions. Looking deeper into the UK's urban sprawl, which is continually eroding and crowding out green space, it is also imperative to consider that these spaces "contribute social and environmental value and play a crucial role in promoting individual wellbeing" (Beck, 2016).

Socioeconomic status correlates with access to green space (Holland, 2021), which facilitates a dangerous feedback loop for those who do not have the opportunity to reap the benefits from these public spaces. Equal and shared access to public space is protected under the law through the Equality

Act (Holland, 2021), yet there is clear evidence that "almost 40% of people from ethnic minority backgrounds live in the most green space deprived areas" (Holland, 2021). At the same time, "29% of people living with a long-term illness or disability had not visited a natural space in the previous month" (Groundwork, 2021).

The lack of green space for those with less social and economic opportunities is not only dangerous for the concept of an equal society but also selectively provides the benefits of nature. Green space in urban environments provides a variety of benefits to both individuals, society, and the planet, however these benefits are only felt with easy access to, and good quality of, green space. Furthermore the decline in green space within residential and urban environments within the UK means that the influence of good access will be more sincerely felt by some compared to others.

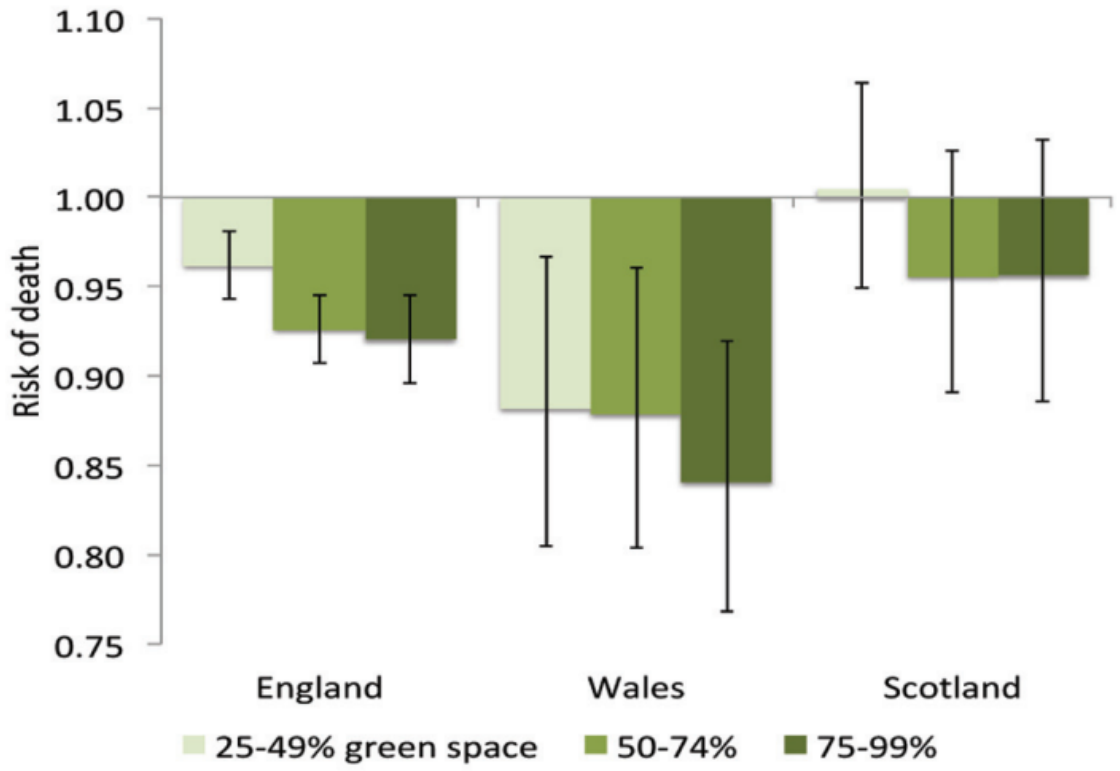
Benefits of Green Spaces

Health

The World Health Organisation (WHO) is definitive in its evaluation of the value of green space for public health. In a report published in 2017 the WHO concluded that "urban green space is a necessary component for delivering healthy, sustainable and liveable cities. Urban green space interventions can deliver positive health, social and environmental outcomes for all population groups, particularly among lower socioeconomic status groups. There are very few, if any, other public health interventions that can achieve all of this" (World Health Organisation, 2017). This assessment is supported by Thompson (2016) who conducted a cross-sectional survey which identified that alongside physical activity, and quality of views from people's windows, how often individuals visited green spaces in winter months predicted better general health.

Another incredible statistic published in the Lancet (Barboza et al., 2021) is that it is estimated there are over 7000 deaths a year due to the lack of green space and the associated health problems that are caused by living in spaces deprived of nature. In a more specific study performed by the James Hutton Institute (Mitchell, 2012), when comparing different nations in the UK on the relationship between mortality and urban green space it was found that, amongst working age men, the risk of death decreases in England and Wales when there is more green space. Interestingly this is not replicated in Scotland (See Figure 4).

Figure 4: Risk of mortality by amount of green space in the area (urban areas and working aged men only)



Note: Error bars represent 95% confidence intervals. The closer to the 1.00 line the bar, the greater the risk of death. Graph produced by Mitchell (2012)

Climate Change

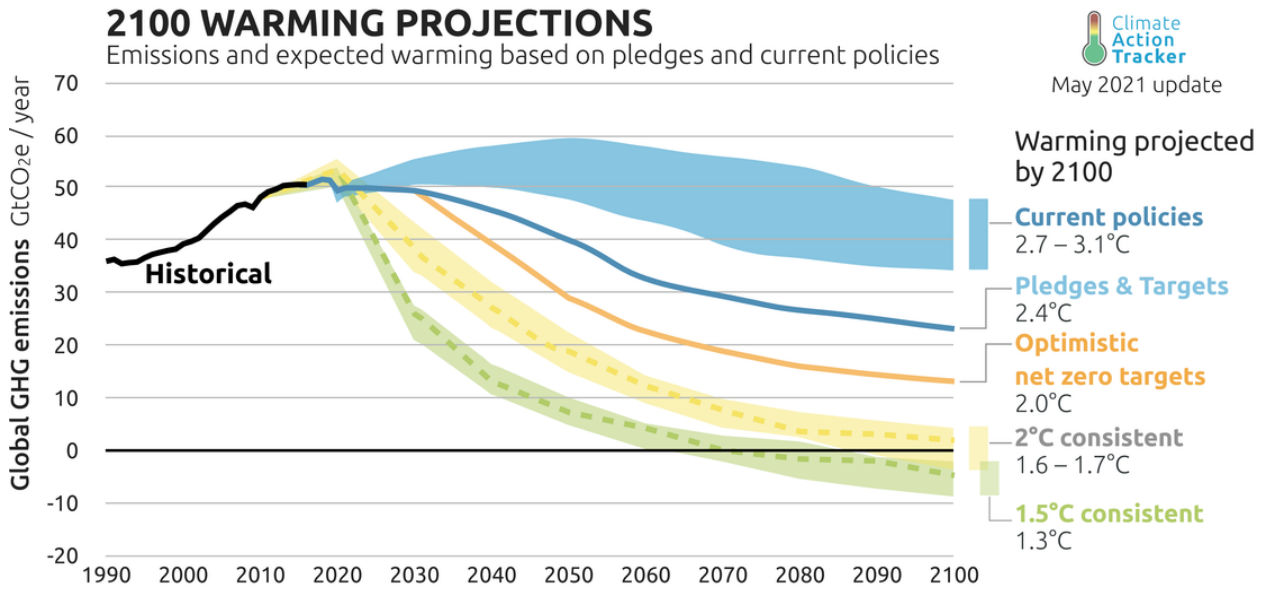
Abundant green space has been credited with several benefits related to the state of the environment and global climate agenda. A report by Friends of the Earth entitled *England's green space Gap* (de Zylva, Gordon-Smith and Childs, 2020) finds that, "the role and value of quality green spaces…also…[contribute] to increased resilience to environmental pressures, including those linked to a changing climate and declining nature." In particular, the report describes the effect of green space in helping to:

- Reduce noise pollution
- Reduce flood risk

- Moderate temperatures and harm from heat waves
- Absorb and store carbon
- Mitigate air pollution
- Support and boost wild animal and plant species
- Maintain and restore healthy functioning natural ecosystems

As net zero policies are increasingly ascending within the UK government's list of priorities, green space advisory boards have begun advocating their importance in achieving net zero targets. According to a statement released by *Futures Housing Group* (Theobald, 2022), "we need nature to achieve the UK's targets of net zero emissions by 2050 and to meet the Paris Agreement, which aims to prevent global temperatures increasing by 1.5 degrees Celsius." As much as 30% of the total emissions that must be eliminated within the UK are expected to come from restoring ecosystems thereby allowing for greater carbon absorption and storage (Theobald, 2022). Despite this, nature-based solutions currently receive only 3% of funding towards climate change mitigation efforts (Theobald, 2022). Without ample green space, we risk limiting the necessary ground effects that would otherwise aid in spurring the restoration of environmental viability.

Figure 5: Projected warming under different policy aims.



Note: Pledges and Targets is what is expected if adhering to the Paris Climate Agreement.

Stress

In a cross-sectional survey study, it was found that the more green space that is present in an area the lower the stress levels of individuals living in that area (Thompson et al., 2016). This is supported by research by Barboza et al. (2021) which has shown that the amount of green space in a neighbourhood significantly predicted a decrease in residents' stress levels when there was an increase in accessible green space. Importantly the relationship between green space and stress, health, and wellbeing is especially significant in populations on low incomes and living in deprived urban neighbourhoods (Mitchell and Popham, 2008, Maas et al., 2009, Mitchell et al., 2015). There is even direct physiological evidence from studies performed in Japan directly connecting lower concentrations of cortisol, reduced blood pressure and sympathetic nervous activity, and increased parasympathetic nervous activity with access to forested spaces compared to city environments (Park et al., 2007; Park et al., 2010; Lee et al., 2011)

According to a 2022 study, “there is now substantial evidence that points to the importance of green space for human health and wellbeing” (Adams, 2022). With ample access to these spaces, citizens have more opportunities to exercise and socialise, which provides physical and psychological benefits. With equal access to quality green space, citizens interact with others within the community which provides a higher sense of belonging; they “offer a wealth of physical and mental health benefits, particularly for people who have the most to gain from them, including disabled people” and those struggling with long-term health conditions (Denham, 2021).

Education

One perhaps unexpected benefit recently identified by University College London is that children living in areas with improved access to green space may have improved spatial working memory (Flouri et al., 2018). Interestingly this relationship was found regardless of whether comparisons were done within deprived or non-deprived areas. A similar study carried out in Barcelona found that not only did improvements in green space lead to improved working memory but also in behaviour and a marked drop in inattentiveness (Dadvand et al., 2015). In follow up research the impact of exposure to nature and green space was extended into neurological benefits, with a positive association being found

between grey matter volume in the prefrontal cortex on both the left and right side and in the left premotor cortex. Furthermore, positive associations have been found in the volume of white matter in the prefrontal region and in both cerebellar hemispheres. The significance of these neurological findings is that these areas show strong correlations with improved cognitive test scores and predict superior working memory and reduced attentiveness, further demonstrating the psychological value of providing green spaces to the public (Dadvand et al., 2018).

Ample evidence suggests that outdoor classrooms offer numerous benefits towards young people's education and development (Children and Young People Now, 2020). In particular, a study from the University of Swansea found that outdoor learning ultimately improves children's understanding, skills, engagement, personal and social abilities, behaviour, as well as their capacity and motivation to learn. The study even recorded additional mental and physical benefits to the health and well-being of both pupils and teachers (Marchant et al., 2019).

The implications of these improvements are highlighted by research from Massachusetts which identified links between green space provision and school-based performance. In this research 905 schools were studied and students with more access to green space demonstrated better academic performance in English and Maths. The strength of this relationship is highlighted by the fact that these interactions were even stronger during the spring when nature is more prominent (Wu et al., 2014).

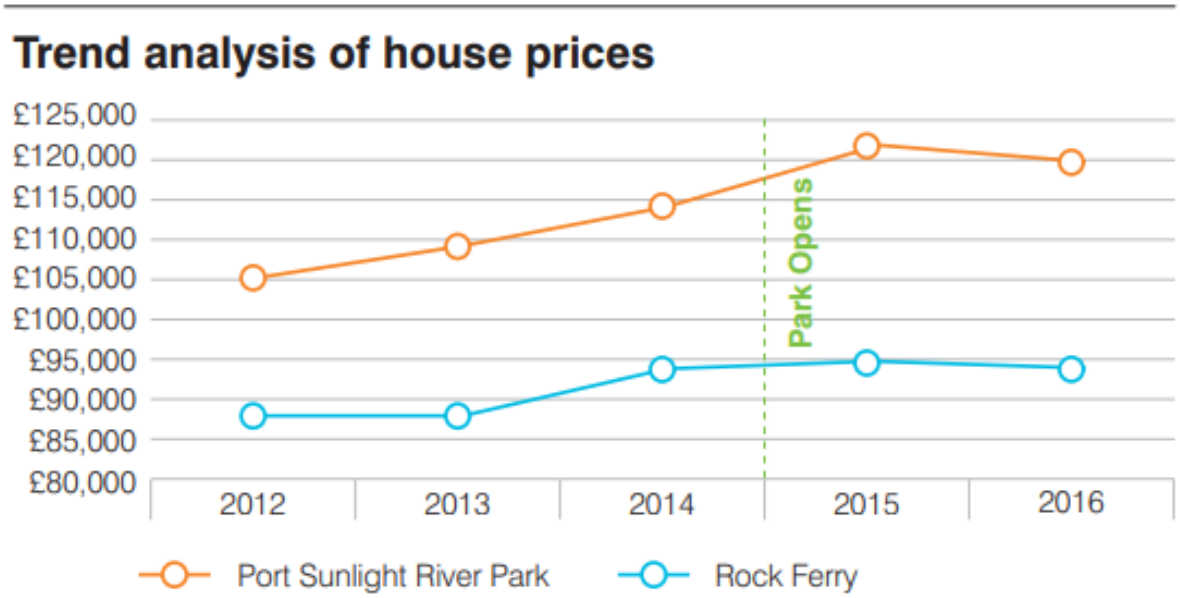
In the UK this relationship has been further demonstrated by a correlation between outdoor spaces and Ofsted ratings. An Ofsted report in 2014 explicitly stated that "pupils also enjoy an increasing range of opportunities for outdoor education, which broadens their horizons and enhances their progress in classroom work. These activities contribute to pupils' improving spiritual, moral, social, and cultural development" (Ensel, 2018).

Wealth

The provision and use of green spaces is not just beneficial for individual users of the areas but has also been shown by Fields in Trust to be worth over £30 billion a year to the UK population. Furthermore, the health benefits translate to savings of more than £100 million a year due to the reduction in GP visits (Fields in Trust, 2018).

In a report by The Land Trust they evaluated the impact of good quality maintenance of a green space to identify how much value the provision of good green space is. In the case study of Port Sunlight River Park it was demonstrated that good green space added £7.8million to the value of the houses within a radius of 500 metres around the park. When averaged out the report identified an £8,674 increase in value per property. High quality proximal green space not only profoundly improves the wealth of residents and individuals through the inflated value of assets but also improves the economic opportunities of businesses. As demonstrated in Figure 6, in both areas included in the case study, even before the uptick in maintenance the simple addition of a park generated an improved boost in house prices (The Land Trust, 2018).

Figure 6: Increases in house prices over time



Note: Green line represents the opening of the park in the residential area.

Businesses operating in the park saw a dramatic improvement in revenue when the park was well maintained. With £48,000 annual revenue generated for those small businesses that operated within the park. The improvement of the park did not just affect businesses that operated within the park, it also generated an additional £38,000 revenue per year for businesses that operated near the park. green space also has other knock on effects that increase the wealth and economic value of an area. For instance, a 2005 study from the Center for the Advancement of Health found that walking and cycling as a form of transportation was positively linked to parkland acreage in urban areas (Center for the

Advancement of Health, 2005). Several years later a Toronto think tank reported that converting a single automobile parking space into a bicycle corral increased the potential revenue generation for close-proximity retailers by up to 150% (Arancibia, 2013). Their cumulative findings suggest that more sufficient green space may also affect the general economic development within a region, whereas future declines in green space may discourage the motivation to supply more cycling infrastructure, which could also limit their economic effect.

Methodology and Results

We used databases from the Office for National Statistics (ONS) measuring wellbeing metrics in the UK population and the green space Index data produced by Fields in Trust (2021) to retrieve relevant statistics and subsequently performed Pearson correlations (r) to find patterns between the datasets. The correlations used in this report with their P-values are found in Table 1 below.

2021		Anxiety	Life satisfaction
Greenspace index score	r	- 0.725	0.735
	p	0.024	0.024

Table 1 – 2021 correlation statistics for the green space index score against anxiety and life satisfaction values.

Table 1 shows that the green space index score negatively correlates with anxiety and positively correlates with life satisfaction. Therefore, access to green spaces reduces anxiety and increases life satisfaction. All the results are within the 2.5% confidence interval ($p<0.025$) and are therefore statistically significant.

An important caveat of these datasets is that the correlations were done between regions. Green space index data was only available on a regional level meaning that this report can only identify correlational

differences between large geographic areas such as London, the North East, and the East of England as a few examples. The full list of regions includes:

- North East
- North West
- Yorkshire & Humber
- London
- East of England
- South East
- South West
- East Midlands
- West Midlands

Green space is therefore evidently beneficial to the life satisfaction of residents living in proximity to the green space. When combined with the other benefits cited in this report it is evident that there is significant value to extending and expanding on the UKs green space. Despite having the highest GDP, the poorest areas in the country are located in the largest cities (World Bank, 2020), and often access to green spaces in cities is reduced (World Bank, 2020). The problem therefore is to maximise the amount of, and the access to, green spaces especially for those in deprived areas whether that refers to economic deprivation or green space access deprivation.

Solutions

The majority of reports regarding the necessity of green spaces focus predominantly on ways to develop and preserve the green space itself. Less attention is often given to discovering ways of motivating individuals to interact with the green space by way of community initiatives. The following suggestions offer small-scale solutions that would easily be implemented at the regional and local level. In doing so, we aim to address the number of health and wellness issues that can be attributed to a lack of access to ample green space. Without a sufficient supply in green space, it seems inevitable that the myriad of associated benefits would not be able to manifest within contemporary society. All of the physical, mental, emotional, environmental, and even economic wellbeing linked to consistent interactions with nature would experience a decline, with a disproportionate effect on lower socio-economic communities.

Organising trips for people to green space for days out who cannot otherwise get there:

https://tfl.gov.uk/fares/free-and-discounted-travel

There are currently several programs which offer free or discounted travel services to eligible groups, which we believe could easily be organised in tandem with outdoor events to incentivize **recreational** and **educational** trips to green spaces. For instance, Transport London offers reduced rates on publicly-owned buses, tubes, trams, the DLR, London Overground, Elizabeth Line, most National Rail services within London Zones 1-6, and National Rail services outside of London between Amersham and Moor Park. Eligible groups include:

- Children of various age groups
- Students aged 18+
- Apprentices
- Veterans
- Individuals aged 60+
- Those with disabilities
- Unemployed job-seekers, etc.

Such programs already target subgroups of the population typically known to have lesser means and/or mobility. This would imply that these same groups are less inclined to frequent green spaces than those with comparably greater means and options for travel. As a potential remedy, we would advocate for further subsidised transport initiatives aimed at disadvantaged groups in low socioeconomic areas, and the expansion of the initiative to areas outside London. Communities could organise similar initiatives within their own local areas. In addition, we would recommend that special rates/schemes be introduced and publicised when notable outdoor events are ongoing. If recreational events were to be organised and marketed together with discounted offerings on public transportation services, we believe this would offer greater incentives for lower socioeconomic regions, in particular, to visit more green space.

Pairing Public Transport Services with Recreational Events:

Coordinating the operation of recreational outdoor events with discounted public transport service programs also point to the underutilisation of green spaces. Green space may be incredibly beneficial and valuable, but oftentimes there needs to be incentive to promote engagement with the spaces. Therefore green spaces should not just be big empty green spaces but should be bustling areas of activity. Individuals with access to green space should discuss with their councils the possibility of hosting events and activities to promote usage. Whether making a local park an outdoor tour of biodiversity for kids, turning a field into a fun run location, converting a parking space into a parklet with a coffee morning, or putting on a free outdoor festival there are a multitude of ways to incentivise the public to take advantage of their green space. Creating more communal opportunities to visit green spaces may encourage individuals to engage more with the outdoors, especially when paired with the prospect of lesser travel expenses. In particular, the added incentive would likely allow for those with financial and/or physical limitations to reap the benefits of accessing green space, such as lowered anxiety and greater overall life satisfaction.

Other initiatives could employ British charitable organisations to coordinate private travel to and from local green spaces for groups who would otherwise not have the means. These might include organising special outings for long-term care homes to assist the elderly with limited mobility, foster homes to provide isolated youths greater recreational opportunities, and possibly even funding individual community projects focused within lower socioeconomic areas of urban city centres. Any or all of these initiatives would aim to increase the amount of access and enjoyment that disadvantaged groups would receive from utilising green spaces.

Pairing Public Transport Services with Educational Events:

To encourage greater time spent outdoors, public entities such as Transport London offer free off-peak public transit for school group visits to educational, cultural, and sporting venues in London. This paper would encourage that school visits to green spaces for specified outdoor educational settings (or even recreational purposes) be added to the list of discounted travel. Studies are confident that taking steps

to ensure youth engagement with the outdoors will have strong implications for educational outcomes, future employment prospects, and health and well-being during adulthood (Marchant et al., 2019).

Petitions:

Wildlife trust are petitioning the government to "make equal access to nature a core test of levelling up; make it a legal requirement in new Levelling Up laws for developers and public bodies to provide access to nature-rich local spaces for everyone; provide funding for locally-accessible nature-rich spaces by extending the Levelling Up Fund to green infrastructure projects."

https://action.wildlifetrusts.org/page/97830/petition/1

The Ramblers are demanding access to nature for all "Everyone should have easy access to nature no matter where you live or your walk of life. Right now, the UK Government is passing key legislation in England relating to the environment and planning laws that will shape our local green spaces and access to the countryside for generations to come. Help us to show there's popular support for ensuring everyone, everywhere can enjoy walking in nature by signing our petition."

https://e-activist.com/page/88462/petition/1?locale=en-GB

And remember if there is no petition that fulfils your wishes you can always create and publish your own petitions.

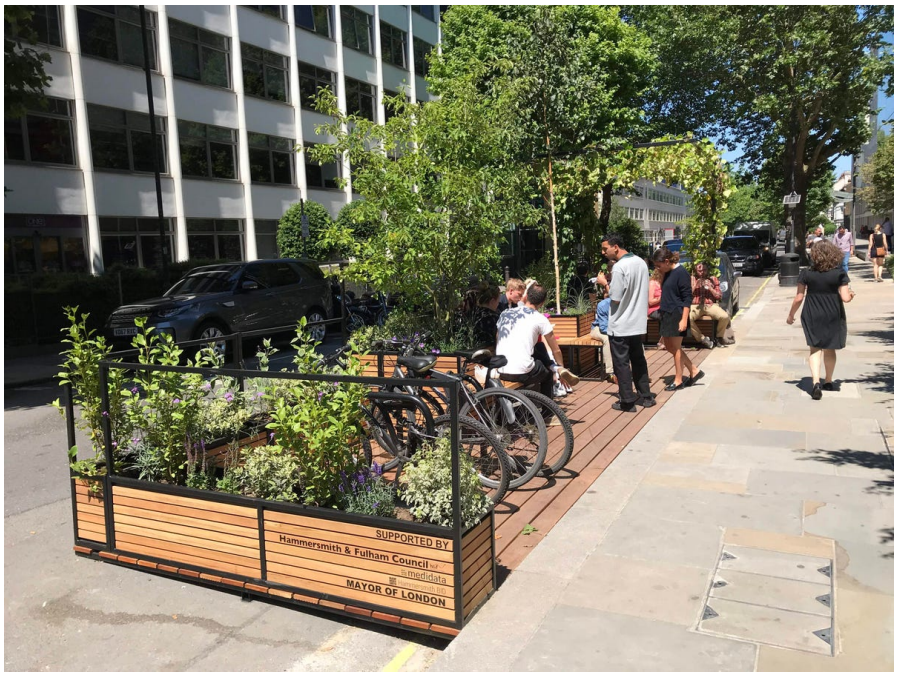
Parklets:

Whereas most imaginations of what a green space looks like involves the image of large parks or wild areas along rivers, there are also other ways to improve green space, especially in cities where space is limited. There are significant barriers to producing more of these spaces when there is very little available land and in the case of London where if there is such space its valuation makes it hard for local and national authorities to earmark it for anything other than development.

One solution is not to focus on large scale green space provision but on a significant number of small-scale green spaces. The latest innovation within this field is the implementation of 'parklets' in city streets. Parklets are "small green spaces [that] provide somewhere for people to sit, chat and relax" (Living Streets, 2020). Essentially the concept involves taking a parking space and reinventing it as a

communal green space. Through this method every street could have a local communal green space at nothing more than the cost of one parking space.

An easy and cheap parklet in Stoke



A more costly parklet in London

The information and an example of an action plan for building parklets in local neighbourhoods around the UK is available through the Living Streets campaign group:

https://www.livingstreets.org.uk/media/4590/parklets_tool_kit.pdf

Green up your neighbourhood:

Community members can work together to transform run-down urban areas into flourishing green spaces. An example is provided below, where a community in Belfast transformed a weathered alley into a community garden for all citizens to enjoy. Previously, these alleys were filled with old furniture and rubbish, and also provided spaces for "anti-social behaviour" (Ruddy, 2022). Bríd Ruddy, the leader of the project, mentioned that "this has really transformed our area into a natural habitat. Small projects like this, we've shown, can make a massive difference" (Ruddy, 2022). By cleaning up the alleys, painting backdoors vibrant colours and adding pots of plants, they positively impacted their community in multiple ways. This has inspired other projects in the area (Mannion, 2022) and provides a blueprint for communities across the UK.

Belfast Alley Garden

More information on this particular transformation is available here:

https://www.rte.ie/news/2022/0427/1294644-belfast-alley-garden/

Campaign and kickstart for improvement and protection of green spaces:

Green space is an essential aspect of healthy, happy, and sustainable living, whether in urban environments or rural districts. The key issue highlighted by this report is that green space is not equally distributed and there are not adequate attempts to rectify this disparity. Ensuring that green space is

available for people of all backgrounds is crucial and easily achievable with funding. Living in a neighbourhood with little to no green space need not be a permanent feature of the area. Residents are capable of forcing local authorities to hear them, so it is important to campaign tirelessly for improved green space access. Furthermore, communities know far more about their areas than the local authorities who manage them. Therefore, being loud and actively engaged leads to improvements that are more tailored to the community's needs. This bespoke knowledge combined with independent fundraising, whether through fundraising websites or door knocking for donations from the street, will help to facilitate changing councils minds and convincing them of the value, but also the feasibility of altering urban design to incorporate more green space.

One simple yet crucial solution is the protection of existing green space. County councils hold a significant amount of green space under their jurisdiction and ensuring that the land remains public and unsullied is essential as a first step towards improving green space provision. There are multiple programmes for protecting green space and lobbying councils to preserve these spaces will go a long way to allowing the benefits of green space to be enhanced. green space protection programmes include the Fields in Trust's Green spaces for Good programme (Green Spaces for Good, 2018).

On a similar note, individuals, community groups, activist groups, and councils should be campaigning for specific rules about the amount of green space that should be required in urban and residential areas so that the provision matches both the demand and the benefits are maximised. The National Trust is just one group recommending that some streets should be closed, or turned into low traffic neighbourhoods, in order to allow for increased nature installation. Szulczewska el al (2013) identified that in order for a neighbourhood to reach basic thresholds of successful environmental features the area needs to be a minimum of 45% green space. More specifically what this research showed is that less than 45% of the land being devoted to green space lead to excessive air temperature and humidity, dangerously low levels of biodiversity for both flora and fauna, and insufficient amounts of natural drainage to prevent flooding (known as surface outflow). Therefore the provision of greater and improved green space will not just benefit people psychologically and physiologically but will also improve living conditions.

Talk to your MP and Council:

Contacting your local MP can help to kickstart any or all of the aforementioned proposed solutions. As your official representative within parliament, your MP wishes to support their constituency on matters

that are currently afflicting you and your local community. Their support may range from directing you to the proper authority on the matter, putting you in contact with individuals within their network, drawing greater attention to the issue, or possibly making confidential inquiries with officials on your behalf. As noted within the UK Parliament website, even initial steps "can often go a long way to providing a solution" (2022).

Find out who your MP is and how to get in contact with them through the parliamentary website.

https://members.parliament.uk/members/commons

Community led green space:

Local governments should aim to put the power in the hands of the citizens by allowing community ownership of green space. By adding project managers from the community and utilising input from citizens, these spaces will cater to the wants and needs of these people. Green spaces "should be intentionally designed to meet needs that the community has identified so that residents will be comfortable using them" (Cartier, 2021). This will increase community engagement and allow them to experience the long list of benefits from these spaces. Including a diverse group of community members as stakeholders will also allow for social equity to be at the forefront of these conversations surrounding green space.

https://eos.org/features/growing-equity-in-city-green-space

Events, activities and interactive installations:

Green space may be incredibly beneficial and valuable but oftentimes there needs to be incentive to promote engagement with the spaces. Therefore green spaces should not just be big empty green spaces but should be bustling areas of activity. Individuals with access to green space should discuss with their councils the possibility of hosting events and activities to promote usage. Whether making a local park a outdoor tour of biodiversity for kids, turning a field into a fun run location, converting a parking space into a parklet with a coffee morning, or putting on a free outdoor festival there are a multitude of ways to incentivise the public to take advantage of their green space.

Practical Implications:

Any source of intervening action produces the risk of knock-on effects. While the aforementioned recommendations for enhancing the utilisation of green spaces were designed around ease of implementation, they still carry a moderate risk of positive or negative disruption to British daily life. Some of the potential effects are listed below:

- Enhanced use of public transit, but limiting discounted offers to off-peak hours for targeted groups should balance against increasing congestion.
- Encouraging travel by walking and riding bicycles within local areas would reduce the amount of road traffic, although it could also raise the rates of pedestrian and cycling accidents. However, ensuring the proper maintenance of crosswalks, road signage, and public safety awareness campaigns (e.g., within schools, television/online advertisements, etc.) will help to limit the potential for harm.
- Increased social interaction due to higher utilisation of green spaces. This may lead to a more tight-knit community, yet there is a wide range of potential interactions between community members.
- More greenery as a result of preserving and developing green spaces may also aid in the reduction of atmospheric carbon, which would help the UK to reach its climate emissions targets.
- Demonstrating/marketing the importance of green spaces may also lead to more of the UK public becoming politically engaged in local issues. As the salience of diminishing green space increases, more attention and resources from the government would possibly need to be directed towards addressing the public's concerns.
- Most notably, we would expect the physical/emotional health and well-being of the UK population (across all ages and socioeconomic groups) to improve based on all available scientific estimates.

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