

Report of the Director of Place and the Director of Health and Wellbeing to the meeting of Regeneration and Environment Overview and Scrutiny Committee to be held on 18th October 2022

K

Subject: Improving health and wellbeing through green space and green infrastructure.

Summary statement:

This report provides an update on the use of green spaces in the District to improve health and wellbeing, with a focus on communities in areas of high deprivation. The paper outlines the current position, opportunities and challenges.

EQUALITY & DIVERSITY:

People who share some protected characteristics under the Equality Act are more likely to be affected by lack of green space.

- Age; the District's most urban areas have less formal green space and house a higher proportion of children and young people
- **Low-income**; people on low income are more likely to live in urban areas, and to lack gardens or other private outdoor space;
- **Race**; people who share a Black, Asian or Minority Ethnic background, who are more likely to live in urban areas where there is less green space.

Jason Longhurst
Strategic Director - Place
lain Macbeath
Strategic Director - Health and
Wellbeing

Report Contact:

Angela Hutton: Public Health Specialist Mick Priestley: Principal Parks & Greenspace Development Manager Phone: (01274) 437345/432685
E-mail angela.hutton@bradford.gov.uk mick.priestley@bradford.gov.uk

Portfolio:

Regeneration and Environment Healthy People – Healthy Places

Overview & Scrutiny Area:

Regeneration and Environment Health and Social Care

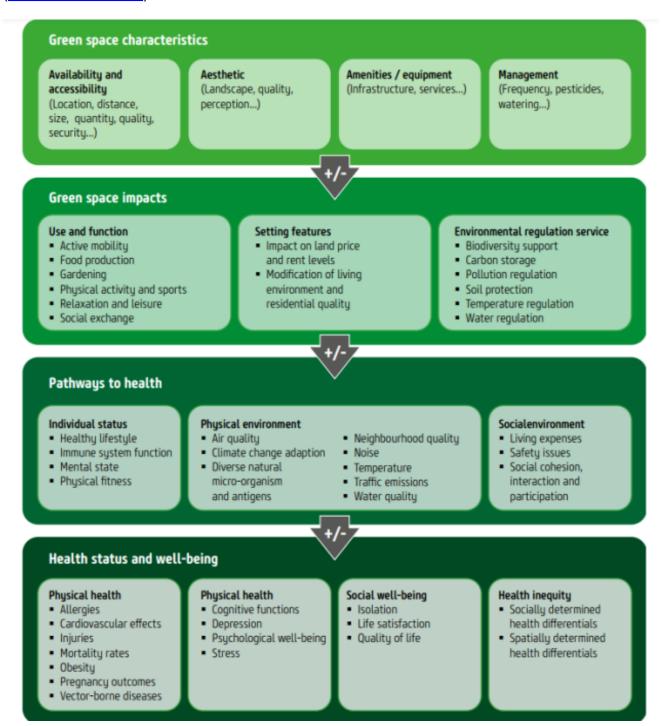
1. SUMMARY

- 1.1 This report provides an update on the use of green spaces for health and wellbeing in the District. It follows a report to Overview and Scrutiny in 2019, listed as a Background Paper and a briefing to the chair in autumn 2020 in lieu the next update.
- 1.2 It is well established that health inequalities are shaped by wider factors such as poverty, insecure employment, unemployment, poor housing and environmental conditions; as well as by lifestyle factors such as levels of physical activity, diet, smoking and excess alcohol. However, lifestyle factors are also shaped and influenced by these wider factors.
- 1.3 It is easier and cheaper for people to keep physically active when there is safe, accessible greenspace to play, walk, scoot, cycle and exercise in, near to where they live. Both physical activity and time spent in greenspace also bring mental wellbeing benefits.
- 1.4 In the 2 years before the Covid-19 pandemic the committee heard evidence from national and local studies to show that:
 - on average the most urban parts of Bradford District have fewer green spaces for leisure and play than suburban or rural areas of the District
 - people living in some of the lowest income areas have less access to green spaces than in higher-income areas
 - Black, Asian and Minority Ethnic communities have less access to greenspace as they are more likely to live in the most urban areas of the district
 - on average people living in low-income areas spend fewer years of their lives in good health and have reduced life expectancy on average
 - the quality, maintenance and perceived safety of local greenspace also influences how willing people are to use it.
- 1.5 In addition to the direct impacts of COVID-19 in terms of illness and deaths, there have been wider impacts on families and communities. These included reduced access to family and friends during times of lockdown and restriction, interruption to social and support activities leading to increased social isolation; increased unemployment and loss of livelihood, increased poverty, restricted access to healthcare and the impact on mental health, particularly increased stress, depression and anxiety.
- 1.6 The paper outlines progress and challenges to develop and maintain green spaces and infrastructure across Bradford District, in order to support wellbeing for members to consider.

2. BACKGROUND

2.1 The benefits of parks and green space for health have been well documented (Twohig-Bennett and Jones, 2018). Figure 1 summarises the vast impact and pathways in which green space can contribute to our health and wellbeing.

Figure 1: Causal model of the impacts of green spaces on health and well-being (Roué-Le Gal, 2020)



- 2.2 In addition to human health, wellbeing and social benefits (as per Figure 1), green space is noted to benefit the physical environment, for example:
 - Helping to reduce flood risks, which has devastating impacts for communities.
 - Improving air quality, and provides less polluted areas for people to spend

- leisure time.
- Reducing the impact of urban heat.
- Reducing the impact of noise 'annoyance' (Lund et al, 2015).
- Mitigation against climate change effects.
- 2.3 Green spaces play a role in how the District secures a long-term future for its people and communities. Importantly, green spaces contribute to the <u>Council Plan priority outcomes</u>, namely:
 - Better Health, Better Lives
 - Safe, Strong and Active Communities
 - A Sustainable District

3 REPORT ISSUES

COVID-19 Pandemic

- 3.1 Throughout the COVID-19 pandemic access to green and natural space has played an important role in supporting the wellbeing of local communities. For example; in July 2020 almost half of the population said they were spending more time outside; 42% of adults reported that 'nature and wildlife' was important to their wellbeing, and 35% reported visiting local green and natural spaces more often than before the pandemic (Natural England, 2021).
- 3.2 A national survey representative of the population noted that inequalities in the use of green space were likely to have been exacerbated during the 'lockdown' phases of the COVID-19 pandemic, and that many of these inequalities have been sustained (Burnett et al, 2021). This work also noted that people from more disadvantaged areas were less likely to visit green spaces both before and after the 'lockdown' periods. We continue to learn about the impact of the pandemic, and will consider the on-going recovery process for our communities.

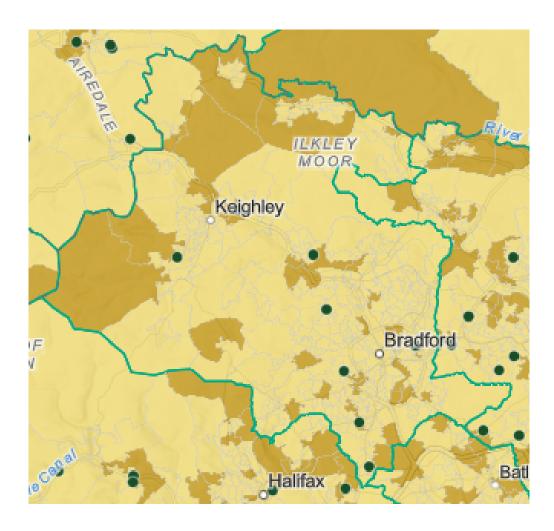
Community views and use of green space

- 3.3 The Council's Open Space Needs and Demands Assessment (Knight, Kavanagh and Page, 2020) sought to identify the views and expectations of residents, communities and stakeholders on the provision of open spaces (including green spaces) across Bradford District. The assessment noted:
 - 80% of respondents reported being either 'very' or 'quite satisfied' with the amount of open space provided in the area where they live
 - 77% of respondents reported being either 'very' or 'quite satisfied' with the quality of open spaces
 - ➤ The top improvements that people would like to see being made to open space sites are: better maintenance (34%), better cleanliness (33%), better security (31%) and more wildlife and habitat promotion (27%).
 - ➤ Of those survey respondents who do not use open space the main barrier to usage is fear of crime/personal safety (41%).
 - Most types of open space are accessible by walking.

- 3.4 In terms of usage of green space, research by the Born in Bradford team shows that, in Bradford South Asian children spend less time playing in green spaces than white British children do. This is likely to be because South Asian families have less green space in their local environment, and the green space that is there is of poorer quality.
- 3.5 An interesting finding from Born in Bradford's research is that it is the **quality** of green space that is a better predictor of wellbeing, than the quantity of green space (McEachan et al, 2018). They have also conducted research looking at which park characteristics improve satisfaction the most, these included amenities such as seating, litter bins, shelters, picnic tables, drinking fountains and public toilets. The absence of anti-social behaviours was also important, such as an absence of vandalism, littering and dog mess (Roberts et al, 2019).
- 3.6 The main issues relating to quality of provision included:
 - > Litter
 - Dog fouling
 - > Site maintenance
 - Toilet provision
 - Creative play options (including provision for older ages including teenagers)
 - Inclusive play equipment for all including wheelchair users
 - Changing facilities in parks

Unequal access to green places and spaces

- 3.7 Green infrastructure such as street trees, planters, and rain gardens collect water and can support biodiversity. They also help to make our streets and neighbourhoods greener and provide shade which is an indicator of a Healthy Street. These things can encourage people to use local facilities and o see their street in a positive light. Providing 'Green Streets' is one of the priorities of our neighbourhood design guide for planners and developers.
- 3.8 Map 1 below, based on the <u>Green Space Index</u> shows us whether people live within the recommended ten minute walk of green space. The lighter shaded areas show areas where this standard is not met, and the darker shaded areas show areas with the recommended standard of a 10 minute walk or less. The map demonstrates that large parts of the Keighley urban area and the Bradford city area are lighter in colour, providing less than the minimum standard of access.



Parks and Woodland

- 2.1 The council manage and maintain across the District:
 - ➤ 37 public parks, one more than previously reported as Kashmir Park in Toller ward opened last year.
 - ➤ 118 recreation grounds, some of which include outdoor sports facilities which are being enhanced and developed as part of the council's Sports Pitches Investment Programme which includes the newly built Wyke Community Sports Village multi-sports hub, opened in September this year.
 - > 116 Woodlands
 - > 25 cemeteries and 45 closed churchyards
- 2.2 New woodlands have been created, with 85,000 woodland trees planted since 2015. An additional 540 street trees have also been added in the same time period. As part of Bradford Council's plan to plant a tree for every child in the district, 55,000 trees will have been planted by March 2023, this will include the creation of 40 new school orchards.

Open countryside and rights of way

2.3 The Council currently manages approximately 1300 Hectares of "open country" (principally moorland) across Ilkley, Baildon, Harden Moors and Penistone Hill. We are also responsible for the practical maintenance, legal management and promotion of 1000 kilometres of public rights of way.

Small urban pockets of informal greenspace

- 2.4 The Countryside and Rights of Way (CROW) team manages a range of smaller natural greenspaces, many of them within the more urban parts of the District some of which are recognised and formally designated for their biodiversity value as well as public access. These include:
 - Bingley South Bog Site of Special Scientific Interest (SSSI)
 - > Trench Meadows SSSI
 - Bingley North Bog
 - Keighley Tarn
 - Boars Well Nature Reserve
 - Ryeloaf Meadows
 - Reevy Mill Dam
 - Raw Nook Local Nature Reserve
 - > Toad Holes Beck
 - > Haycliffe Meadows
 - Damems Country Park
 - Baildon Floodable Meadow.
- 2.5 In addition, green infrastructure such as street trees, urban planting and rain gardens are being designed into improvements in town and city centres, for example in paved areas and alongside road schemes. These help to soften the appearance of urban environments, provide some urban greenery and help to absorb rainwater to reduce surface flooding.

Improvements and developments since 2019

- 2.6 Many groups use our green spaces on both a formal and informal basis. They include:
 - 'Friends of' groups and Community Orchards
 - Bradford Forest Schools Network
 - Brass bands and musicians
 - > A wide range of sport and leisure activities:
 - Park runs, orienteering, cross country, keep fit challenges, tai chi, forest voga.
 - Organised competitive sports (football, bowls, cricket, tennis, rugby etc)
 - > Active Travel for leisure and commuting: cycling, walking, equestrians
 - > Fun fairs, galas and events
 - Organised play including Holiday Activity Fund (HAF) events and activities for children with a particular focus on children entitled to free school meals. This programme has seen a major expansion over the past two summers, through government funding for activities and food provision for children and young

people as part of COVID-19 recovery. In summer 2021 Living Well and the local Sport England pilot scheme 'JU:MP' sponsored the 2021 HAF events as a 'Summer of Fun' Play in Parks led by Bradford Council Sport and Leisure Services. During all 42 days of the school summer holidays in 2021, local communities were provided with healthy and creative experiences across 30 parks and community green spaces, prioritising areas of Bradford district with a higher proportion of children registered for free school meals. The free active play sessions were delivered to over 14,000 children across the district during the summer holidays. Figures for the 2022 programme are being finalised.

Sports and fitness

- 2.7 A new-build multi-sports hub, Wyke Community Sports Village opened in September. This provides closed loop and cyclo cross cycle tracks, an artificial grass football pitch and grass pitches.
- 2.8 A public, open access cricket practice facility with nets has been completed at Myra Shay Recreation Ground, with a further facility scheduled to go on site this autumn at Marley Activities and Coaching Centre in Keighley. In addition, 7 artificial cricket wickets have been installed in parks and recreation grounds across the District.
- 2.9 Nine new outdoor gyms have been installed. In Keighley these are in Devonshire and Victoria Parks and at Surrey Street. In Shipley at Crowgill, Northcliffe and Windyhill Parks and at Hirstwood Recreation Ground. In Bradford at Lister Park and at Bradford Moor Park.

Play and Leisure

- 2.10 In addition to the replacement playground in Lister Park opened last summer as part of the Playable Spaces Refurbishment Programme, an additional 35 play areas across the District are being refurbished, 33 of these in the current phase of the funding programme with completion on all sites to be achieved by early 2023.
- 2.11 There has been installation of play equipment aimed at 0-3s, playful sculptures, seating for parents and grandparents with planting to invite wildlife in Jane Binns Pocket Park. Bowling Park has a new wheelie track (balance bikes, bikes, scooters and prams), natural play area, story trail, beautiful new wooden sculptures installed and improved access to paths and entrances.
- 2.12 The Mayfield Centre, Horton Park natural play area and Burnett Avenue pocket park have also had play improvements made. Kettlewell Snicket has new paving for better access, engraved alphabetic and numerical stepping-stones and lovely stone sculptures a ladybird and snail. A toddler play area has been added at the Woodroyd Centre including specific toddler play equipment to an existing pocket park and added off-street access via shallow steps to avoid the only other access through a busy car park.
- 2.13 Partner organisations such as Join Us:Move Play (JU:MP) who are delivering our Sport England pilot programme and the Lottery funded Better Place programme are involved in community engagement and design and delivery some schemes.

2.14 22 large trees have been planted and bat and bird nesting boxes have been installed. Seven new outdoor gyms have been installed in parks across the District. Three parks in Shipley and Keighley now have new activity trails and new Arts Courts, created through refurbishment of existing courts. An exercise route pathway has been refurbished at Hirst Wood Shipley.

Active Travel

2.15 As part of the Department for Transport Active Travel Fund programme (now led by Active Travel England) new footpaths have been added across Silsden Park, to link to the new Silsden school and across the green space adjacent to Ashlands School, Ilkley to provide a route for children and families to walk to Ashlands and Sacred Heart primary schools. Footpath improvements have been made in Pitty Beck. All these additions are being well used.

Community Safety and Accessibility Improvements

2.16 Lighting has been added to the path across the top of Myra Shay from Killinghall Road and Beechgrove Greenway. Additional bike racks have also been added at the following parks and green spaces: Myrtle Park, Bingley; Riverside Gardens, Ilkley; Northcliffe Park, Shipley; Harold Park, Low Moor; Lister Park, Manningham and Shipley Glen Baildon.

Remaining Challenges/Barriers

- 2.17 At a strategic level, further work needs to be done to collect data on the *quality* of green spaces to add to our understanding of how much greenspace there is within the District. This could then be used to pull together a programme of action to improve and enhance spaces of poor quality.
- 2.18 Safety in parks and greenspace particularly in regards to anti-social behaviour relates to policing and monitoring to enable public and users to feel safe and confident in accessing. These have resource implications, as would use of CCTV provision and lighting to extend daily and seasonal usage. There is a potential conflict with wildlife and biodiversity if artificial lighting is deployed at most sites.
- 2.19 There are some barriers to handing over further control and ownership of appropriate sites and facilities to community groups and the third sector. This relates to the skills base in parts of the sector, and the need to grow this from its current capacity to take on and manage sites.
- 2.20 There is a general lack of resource within the Council to properly manage, maintain and develop the potential of the District's existing sites as staff resource, skills base and revenue funding is currently limited and spread thinly. As a direct impact of this, the day to day management and maintenance of sites suffers. Managing natural and semi-natural habitats alone requires specialist conservation expertise and equipment and sufficient resource to ensure that sites and habitats do not degrade. Simple repairs, the removal of litter and fly-tipping are examples of activities that are neglected as a result. For example, the CROW team manages the approximately 1300 Hectares of natural and semi-natural greenspace and 1000kms of public right of way mentioned

- above with 5 full time equivalent (FTE) trained staff, and the Play Team manage and maintain 292 play facilities with 2.6 FTE staff.
- 2.21 Delivery of the council's current and future funding programmes including the Sports Pitches and Playable Spaces improvement programmes is subject to pressure due to rising costs of materials and delivery and the short-term nature of some funding streams. The Playable Spaces programme is not supported by any specific external capital funding programmes. Some activities are supported by grant funding either capital or revenue but these are generally time-limited and will not provide long term revenue funds to enable high standards of maintenance. One example is the Lottery funded joint "Bradford Urban Discovery" project with the Yorkshire Wildlife Trust (YWT). This funded two YWT staff for 3 years to carry out practical conservation work on a number of CROW managed sites, and to engage local people in these activities whilst encouraging their use for recreation, play and learning. This comes to an end in October 2022 and at present it is not clear whether this successful project can carry on beyond the cessation of funding.
- 2.22 Anti-social activities which impact on sites and communities (fly-tipping, litter, vandalism, anti-social use of vehicles etc). There are regular reports of fly-tipping, and at certain sites, this happens at least monthly. This diverts staff resource from more productive work to dealing with these anti-social activities.
- 2.23 There is an increasing rate of climate emergency related events (e.g. wildfires and flooding). The impacts can be significant, for example a large wildfire event such as the one which affected Ilkley Moor in May 2019 required significant resource from Fire and Rescue Service, Police, Council. The environmental impacts of these events include loss of water, worsens air quality, biodiversity loss, carbon release into atmosphere, erosion, loss of amenity and visitor economy, and potential damage to domestic and commercial property.

Upcoming opportunities

- 2.24 The emerging Greenspaces Strategy will help to bring together the different datasets which have been collected over the last few years. This will provide a comprehensive review of the District's green spaces and provide a better understanding as to how they are used and how they can be better managed in the future. In addition, the strategy could also be used to explore options for how the management and maintenance of these green spaces are to be funded in the future.
- 2.25 The third and final phase of the council's Playable Spaces Refurbishment Strategy will refurbish and improve the remaining play areas that require improvement.
- 2.26 The council's Sports Pitches Investment Programme will, in conjunction with each individual's sport's National Governing Bodies, continue to look to provide funding to improve the sports pitches and their facilities across the District.
- 2.27 As a District we have been selected to receive £85k total from the Department for Levelling Up, Housing and Communities (DLUHC) for the creation of a new or significantly refurbished urban green space within the district.

- 2.28 There may be opportunities from the introduction of Biodiversity Net Gain on all planning approvals (due November 2023) to help fund the management of some greenspaces for biodiversity enhancements.
- 2.29 Further moorland restoration works (subject to funding) will expand the approaches already tested and completed on likely Moor to other moorland assets.
- 2.30 Landscape-scale nature recovery project (funded by Natural England) to commence further detail awaited but this could support the habitat bank/net-gain aspirations of the Council.
- 2.31 There is an appetite amongst our many 'Friends of' groups and volunteers to engage with a Bradford Parks Forum in order to safeguard current provision and help shape the future.
- 2.32 The council applied for, but unfortunately did not receive any funding for further improvements to green space and green infrastructure through Tranche 3 of the Active Travel Fund. The team will apply for Tranche 4 funding, and we will be looking at bidding for funding for further footpath improvements through greenspaces to improve access to schools, to be funded from 2023/24.

4. FINANCIAL & RESOURCE APPRAISAL

As set out above, budgetary pressures and pressures due to cost-inflation may affect delivery of planned Council programmes outlined in the report.

The neighbourhoods Parks and Greenspaces (operational) service is devolved to the area committees which direct the revenue spend to meet the needs of the service. The overall budget for P and G maintenance for the district is £ 2.66 million net a reduction of over 50 % from 5 years ago.

Parks Technical manage the capital programme as well as the recreational section 106 /Cil deposits on behalf of colleagues in planning. Current projected budgets include. Sports Pitch Improvement Programme at £ 15 million, Playable Spaces at £ 6.4 million and other capital programmes in the region off 2.5 million

5. RISK MANAGEMENT AND GOVERNANCE ISSUES

The upcoming strategic work outlined in the report will ensure that governance arrangements benefit from close working between different parts of the council, and with partners, so that priorities are aligned. Risk management relates to the risk to programmes from the current budgetary pressures and cost inflation outlined in the report.

6. LEGAL APPRAISAL

- 6.1 The Open Spaces Act 1906 provides a duty on any local authority which has an interest in open space or burial ground which has been acquired under or pursuant to the Act to hold and administer the open space or burial ground in trust to allow the enjoyment thereof by the public as an open space and for no other purpose.
- 6.2 The authority is also under a duty to maintain and keep the open space or burial ground in a good and decent state. Section 164 of the Public Health Act 1875 also provides the Council with authority to acquire and maintain public open spaces, "public walks and pleasure grounds" and to make byelaws which govern how these are accessed and used.
- Byelaws which regulate conduct and activities within the Council's parks and open spaces are variously made under provisions of Section 164 of the Public Health Act 1875, Section 15 of the Open Spaces Act 1906, and Sections 12 and 15 of the Open Spaces Act 1906. Public spaces protection orders enforced under the Antisocial Behaviour, Crime and Policing Act 2014 in respect of dog fouling apply to all of the Council's parks and green spaces and other dog control requirements including in relation to dogs on leads in certain parks or in certain parts of parks (for example near some water courses and ponds), number of dogs and proper control of dogs are similarly controlled by public spaces protection orders which the Council is responsible for enforcing. There are numerous duties and functions which impact upon the proposed strategy for parks and green spaces and any implementation thereof due to their volume, these are not addressed below.
- 6.4 In seeking to implement specific plans, specific legal advice will need to be obtained by the relevant officers to ensure that associated risks and implications are addressed, including ensuring that the relevant statutory processes are adhered to, before proposals are progressed.
- 6.5 Section 111 of the Local Government Act 1972 provides powers for a local authority to do anything (whether or not involving the expenditure, borrowing or lending of money or the acquisition or disposal of any property or rights) which is calculated to facilitate, or is conducive or incidental to, the discharge of any of their functions. However, in relation to proposals to generate income from parks and green spaces, attention is specifically drawn to the restrictions on what the Council may charge for in relation to discretionary services. Section 93 of the Local Government Act 2003 provides that the Council may charge for discretionary services provided that taking one financial year with another the income from charges for discretionary services does not exceed the cost of provision. In other words, the Council may not make a profit from the delivery of these discretionary services and to the extent that the strategy relates to charging for services which the Council does not have a statutory duty to provide – in other words those which the Council may provide rather than must provide – this restriction applies unless there is a separate statutory charging regime within the governing legislation for that service or discretionary function.
- Officers are most aware of Part 1 of the Health and Social Care Act 2012 (the Act) places legal responsibility for Public Health within the Council, specifically Section 12 of the Act which created a new duty requiring local authorities to take such steps as they consider appropriate to improve the health of the people in its area. Council

officers are consequently working closely with colleagues to support them to shape and deliver programmes that will improve the health and wellbeing of local communities and help to reduce health inequalities, which in general are more concentrated in the urban areas of Bradford District.

7. OTHER IMPLICATIONS

7.1 SUSTAINABILITY IMPLICATIONS

Each of the funding streams, applications and plans for the work areas outlined above address sustainability, seeking to have a positive impact on the environment. The interventions outlined in the paper have a positive impact, making spaces more attractive to communities by seeking to improve the quality, accessibility and public experience of our green spaces and infrastructure.

Green spaces contribute to the Sustainable Development Goal 'Make cities and human settlements inclusive, safe, resilient and sustainable', noting the target that by 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities.

7.2 GREENHOUSE GAS EMISSIONS IMPACTS

District green spaces contribute to cleaning air pollution and reducing greenhouse gas emissions and its impacts.

7.3 COMMUNITY SAFETY IMPLICATIONS

It is important that people feel safe in their local green spaces, that they are well-lit and well-maintained. Local evidence indicates that this is integral to communities' willingness to use and to allow their children to use local green spaces and assets. The programmes, activities and improvement works outlined above make a positive contribution to community safety.

7.4 HUMAN RIGHTS

Article 24 of the UN Convention on the Rights of the Child includes '... the right to a clean and safe environment to live in.' Article 31 states that 'Every child has the right to rest, relax, play and to take part in cultural and creative activities.'

7.5 TRADE UNION

None

7.6 WARD IMPLICATIONS

The Parks and Greenspaces team will be contributing to the five emerging neighbourhood plans to ensure that these reflect and draw on the potential for local parks and greenspace assets to contribute to the health and wellbeing of local communities at both neighbourhood and ward level.

7.7 AREA COMMITTEE ACTION PLAN IMPLICATIONS (for reports to Area Committees only)

N/A

7.8 IMPLICATIONS FOR CHILDREN AND YOUNG PEOPLE

The report refers to national and local evidence on the importance of green space for health, including for children and young people, of whom some will be children and young people where the Council has corporate parenting responsibility. Age is identified as one of the protected characteristics potentially affected by unequal access to green space. Children have the right to play

7.9 ISSUES ARISING FROM PRIVACY IMPACT ASSESMENT

N/A

8. NOT FOR PUBLICATION DOCUMENTS

None

9. OPTIONS

To note the link between health and wellbeing, and the provision of quality green spaces.

10. RECOMMENDATIONS

For members to consider the health and wellbeing value of green space.

11. APPENDICES

None

12. BACKGROUND DOCUMENTS

Overview and Scrutiny reports

Agenda Item 5- Improving health and wellbeing through green space and green infrastructure with a focus on areas of high deprivation (Public Pack)Agenda Document for Regeneration and Environment Overview and Scrutiny Committee, 09/10/2019 17:30 (moderngov.co.uk)

Sources and Academic Papers

Dadvand P, Wright J, Martinez D, Basagaña X, McEachan RRC, Cirach M, et al.

Inequality, green spaces, and pregnant women: Roles of ethnicity and individual and neighbourhood socioeconomic status. Environ Int. 2014;71.

Ferguson M, Roberts HE, McEachan RRC, Dallimer M. Contrasting distributions of urban green infrastructure across social and ethno-racial groups. Landsc Urban Plan. 2018;175:136–48. doi:https://doi.org/10.1016/j.landurbplan.2018.03.020

McEachan RRC, Yang TC, Roberts H, Pickett KE, Arseneau-Powell D, Gidlow CJ, et al. Availability, use of, and satisfaction with green space, and children's mental wellbeing at age 4 years in a multicultural, deprived, urban area: results from the Born in Bradford cohort study. Lancet Planet Health. 2018;2.

Mueller N, Rojas-Rueda D, Khreis H, Cirach M, Milà C, Espinosa A, et al. Socioeconomic inequalities in urban and transport planning related exposures and mortality: A health impact assessment study for Bradford, UK. Environ Int. 2018.

Roberts H, Kellar I, Conner M, Gidlow C, Kelly B, Nieuwenhuijsen M, et al. Associations between park features, park satisfaction and park use in a multi-ethnic deprived urban area. Urban For Urban Green. 2019;46.

Takano, T. Nakamura, K. and Watanabe. (2002). *Urban residential environments and senior citizens longevity in megacity areas: the importance of walkable green spaces.* Journal of epidemiology and community health. 56 (12) 913-8.

Twohig-Bennett, C. and Jones, A. (2018). The health benefits of the great outdoors: A systematic review and meta analysis of greenspace exposure and health outcomes. Environmental Research. 166: 628-637.

Villeneuve, P.J., Jerrett, M. Su, J.G. Burnett, R.T., Chen, H. Wheeler, A. J., and Goldberg, M. S. (2012). *A cohort study relating urban green space with mortality in Ontario, Canada.* Environmental Research. 115: 51-8.