PHI UK | Healthy Urban Places

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BORNINBRADFORD

How to make a healthy city

Evidence and recommendations to maximise health co-benefits of urban regeneration

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Healthy Urban Places is a 4-year programme working with communities and local partners – such as Councils and the NHS – in Bradford and Liverpool. We want to understand how local urban places impact health and how this understanding can be used to help cities become healthier and happier places to live. Improving urban places has the potential to improve the health of local people, reduce inequalities in health experienced between different parts of cities and reduce demand for healthcare services. Our approach focuses on generating this understanding with people in a way which can influence policy and practice to make our urban places healthier for everyone.

Healthy Urban Places is part of Population Health Improvement UK (PHI UK), a national research network which works to transform health and reduce inequalities through change at the population level.

Born in Bradford is a world-leading research programme which aims to find out what keeps families healthy and happy. We use this information to work with the local authority, health, education and voluntary sector providers across Bradford district to develop, implement and evaluate ambitious programmes to improve population health. We have a vast 'city of research' infrastructure which includes detailed health and wellbeing information on Bradfordians enrolled in our three birth cohort studies and a connected routine dataset of health, social care and education data for over 700,000 citizens living in Bradford and Airedale. We host a range of initiatives to improve health working with the local authority, health, education, cultural and voluntary sector providers. You can find out more about our research programme at www.borninbradford.nhs.uk.

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Key Evidence-Based Statements

Evidence from Born in Bradford demonstrating the impact of the built and natural environment on health and inequalities has been used to generate these key evidence-based statements.

Click the boxes to see the evidence!

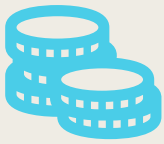
Improving the places in which Bradford communities live will contribute to reductions in mortality and health service use, and will improve health and reduce health inequalities

Reducing air pollution has a high probability of improving a wide range of children's health outcomes, reducing NHS burden whilst contributing to net-zero agenda

Increasing access to high quality green space and safe places for children to play will improve adult and child mental health, particularly in deprived areas; this will reduce inequalities

Making local streets safer and more attractive will improve children's mental well-being and increase physical activity

Ensuring that families have enough money and income security to meet their basic needs can improve physical, mental health, and educational outcomes



Ensuring affordable and decent housing can improve health, wellbeing and reduce NHS burden

Listening to and involving Bradford communities to co-produce plans for improvements is important to ensure they address local priorities and inequalities

Recommendations to maximise health and inequality co-benefits

1. Place communities at the heart of decision-making, involving them centrally to co-produce plans for their area.
2. Reduce outdoor sources of pollution, for example from motor traffic.
3. Promote active transport, including making streets safe for walking and cycling.
4. Create high quality public realm green spaces, and safe outdoor places for children to play.
5. Increase provision of high quality and affordable housing; and create quality jobs that promote income security.
6. Prioritise investments in more deprived neighbourhoods to maximise health gains and reduce inequality.
7. Include a comprehensive evaluation strategy including theory of change and indicators to assess impact.

Purpose

This evidence brief summarises built and natural environment research from Born in Bradford and other relevant research to (i) demonstrate the impact on health and inequalities and (ii) describe the associated priorities of Bradford residents identified from our engagement work. The brief was developed to provide recommendations to maximise the health co-benefits of Bradford's Southern Gateway urban regeneration, however, these are also relevant more broadly to make a healthy city.

Evidence

1. Improving the places where Bradford communities live will contribute to reductions in mortality and health service use, and will improve health and reduce health inequalities

- 10% of mortality in Bradford is attributable to breaching physical activity, air pollution, noise and green space guidelines (1).
- Poorer areas in Bradford have less access to high quality green space, are more polluted, and have a greater density of fast food outlets (2).
- Ill-health of communities increases as the number of unhealthy environmental risks increases (e.g. poor air quality, reduced walkability). A study of 10-year-old children in Bradford (n=4,949) found that children living in areas with at least four environmental risk factors had, on average, an extra 1.5 GP consultations and 4.3 prescriptions per year compared with children living in the healthiest environments (2).
- A study of children from six European birth cohorts (n=1,301) (including Born in Bradford (BiB)) found that indoor air pollution, residence in densely population areas, and areas with fewer facilities were related to overweight and obesity at age 7-11 (3).

2. Reducing air pollution has a high probability of improving a wide range of children's health outcomes, reducing NHS burden whilst contributing to net-zero

2.1 Air pollution increases ill-health in children, affecting longer term healthy and productive life trajectories

- A third of children's asthma cases in Bradford are attributable to air pollution (4).
- High air pollution in Bradford is linked to babies being born with a low birth weight (a predictor of ill-health across the life course) (5); higher blood

pressure (6); poorer cognitive development in children aged 4-5 (7); and to increased biological aging in children's DNA (8).

- Across a four-year study period (2018-2021), a third of GP and half of A&E respiratory visits in Bradford were attributable to exposure to nitrogen dioxide above the World Health Organisation thresholds. The costs of these additional healthcare visits amounted to >£2million (9).

2.2 Placing restrictions on polluting vehicles can reduce pollution and healthcare demand, with savings for the NHS

- An evaluation of the Bradford Clean Air Plan, including the Clean Air Zone (CAZ), found that one year after the CAZ launched, there were on average 598 fewer visits to Bradford GPs for respiratory ill-health and 134 fewer visits for cardiovascular health, this equates to a saving to the NHS of at least £30,000 per month (10).
- A scenario modelled in the West Yorkshire Low Emission Zone Feasibility Study, where buses and HGVs are upgraded led to an estimated annual benefit of £2.08 million through healthcare savings and QALYs. A one-off benefit of £3.3 million was also estimated compared with a net present value cost of implementation of £6.3 million (11).

3. Increasing access to high quality green space and safe places for children to play will improve adult and child mental health, particularly in deprived areas, reducing inequality

3.1 Green space is linked to health and wellbeing of adults and children

- Bradford families living in greener parts of the city have children born with healthier birth weights (12), have a 20% reduced risk of severe depression in pregnant women (13), and have better mental wellbeing in children aged 4 (14).
- The impact of green space on health tends to be stronger within more deprived groups in Bradford (12,13).

3.2 It is quality and not quantity of green space that matters

- Satisfaction with local green spaces is important for explaining positive health outcomes: 4 year old Bradford children had greater levels of mental wellbeing when their parents were satisfied with their local green spaces (14); adults who lived close to a park with which they were unsatisfied had higher risk of anxiety (15).
- Satisfaction with local green spaces is dependent on both structural features of the park (16) and the wider social context (17), including the behaviour of other groups who are using the park.

3.3 Having safe spaces to play can improve children's physical activity and improve mental health

- Low levels of physical activity and high sedentary time can affect children's cognitive, social, physical, and emotional development. In Bradford, 68% of girls and 45% of boys aged 7-11 years do not meet physical activity guidelines (18–21).
- A study of Bradford children aged 7-12 (n=2,568) found that more time spent playing outdoors was associated with improved mental wellbeing (22).
- Access to green space is limited - in a survey of 16,000 primary school children in Bradford surveyed between 2016-2019, 31% reported not having a park near their home where they could play, and 13% did not have a garden at home (23).

4. Making local streets safer and more attractive will improve children's mental well-being and increase physical activity

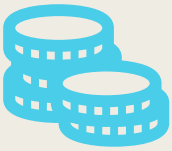
4.1 Parental concern about safety affects children's active travel

- Travelling independently is important for children's wellbeing, confidence and physical activity levels; however, in a survey of 997 children (8-11 years) in Bradford, only 10% travelled to school without an adult (24).
- Concerns about safety deter Bradford parents from allowing their children to travel independently (25).

4.2 An unsafe and poor-quality street environment can negatively affect children's wellbeing, physical activity, and health

- In a survey of >10,000 Bradford teenagers, 13% said that the safety of their neighbourhood was 'poor or very poor' after dark, with 32% rating it as just 'OK' (26).
- In a study of 740 Bradford children aged 8-11, environmental characteristics such as such as traffic safety, sidewalks, crossings and other pedestrian infrastructure, and having pleasant things to see and do, especially around school catchment areas were related to children's wellbeing (24).

5. Ensuring that families have enough money and income security to meet their basic needs can improve physical, mental health, and educational outcomes



5.1 Poverty and financial insecurity are linked to overweight and mental ill-health in mothers and children

- **Poverty** is a significant risk factor for poor mental health with Bradford mothers (27) and children (28). Poor maternal mental health is linked with lower infant growth at 6 months (29) and poor child mental health at 3 years (30).
- Poverty, including fuel poverty and food insecurity, and inequality have more than just financial consequences – they can create barriers to opportunities such as employment and education, and lead to stress and anxiety, which all negatively impacts a person's longer term healthy and productive life trajectory.
- **Fuel Poverty:** Impacts of fuel poverty on children include harm to physical health (e.g. asthma, bronchitis), mental health (e.g. anxiety, poor quality sleep), and increased social exclusion across a range of measures, reduced life chances (e.g. increased risk of truancy, expulsion, trouble with police) and reduced ability to engage with everyday social activities (31).
- 20% of Bradford families live in fuel poverty, the second highest region in Yorkshire and eighth highest in England (32). Bradford families on low incomes, from ethnic minority backgrounds, or living in older houses are more likely to be in fuel poverty (33).
- **Food Insecurity:** Children living with food insecurity experience a range of immediate, as well as long-term and life-changing harms including: lower life-expectancy, earlier onset of disease, weakened immunity, poorer mental health and emotional wellbeing, poorer physical health (across a range of health outcomes, including general health ratings, more emergency visits, asthma, iron-deficiency anaemia, tooth decay, bone mineral density) and poorer educational outcomes (including lower reading and maths scores, more days absent from school) (31).
- In Bradford, mothers facing food insecurity in pregnancy were nearly twice as likely to have poor mental health than those without food insecurity (34), and more likely to be living with overweight (35).
- Also refer to **Section 7.4 and 7.5** where Bradford young people have prioritised access to employment.

6. Ensuring affordable and decent housing can improve health, wellbeing and reduce NHS burden

6.1 Damp, cold homes are linked with adverse health outcomes

- Living in a cold, damp, mouldy home can increase the risk of developing respiratory diseases (such as asthma) amongst children, lead to higher hospital admissions and, poor weight gain amongst infants and increase the risk of cardiovascular disease amongst adults (31).
- It is estimated that 21.5% of excess winter deaths are attributable to cold homes (36).
- Bradford has old housing stock - almost 31% of the District's houses were built before 1919 and are primarily occupied by households on low incomes; compared with 21% built before 1919 in England and Wales (37). These older houses are typically located in inner urban areas (37). This may be a contributing factor to Bradford's high levels of fuel poverty (**Section 5.1**).
- Approximately 25% of homes in Yorkshire and the Humber fail the 'decent homes' standard, meaning that about 1 in 4 homes in Bradford do not meet statutory minimum housing standards, are not in a reasonable state of repair, do not have reasonably modern facilities and/or do not provide thermal comfort (38).
- At age 4-5, 15% of the BiB cohort were living in homes that parents reported were damp, and 20% were living in homes with mould (39).
- Emerging research from the Born in Bradford INGENIOUS project which is studying the homes of over 300 families found that households spent approximately 40% of their time exceeding WHO thresholds for internal PM2.5 (one of the most harmful types of air pollution) (40).

6.2 Overcrowded housing negatively affects health, wellbeing, social activities, and education

- Overcrowding increases risk of injury, respiratory disease and spread of infections and has a negative effect on mental health and interpersonal relationships (41,42).
- A survey of over 2000 BiB parents found that 1 in 5 families were living in overcrowded homes (43).
- Overcrowding and overdevelopment is stressful for Bradford children and families and inadequate living space can compromise study, play, and privacy (44).

7. Listening to and involving Bradford communities to co-produce plans for improvements is important to ensure they address local priorities and inequalities

7.1 Interventions that are co-produced with the local community are more likely to be acceptable, successful, and sustainable

- BiB researchers have co-designed over 40 green spaces in Bradford. The community's active participation in decision-making and designing solutions was key to identifying and addressing local needs and priorities, ensuring that any developments were relevant to, and inclusive of, the local community (45).
- BiB research from seldom-heard communities informed the development of the CAZ plans. As a result of this, appropriate mitigation strategies were planned, including obtaining £12 million in grants for taxi drivers to cover up to £10,000 towards the cost of replacing or upgrading a vehicle (46). However, a survey on public attitudes towards the Bradford CAZ found that support had dipped following the launch highlighting that continued engagement and targeted communications campaigns are required (47).

7.2 Community members in Bradford have already identified a range of priorities to improve local environments

- Extensive community consultation and prioritisation has been conducted with Bradford communities to understand their priorities in relation to healthy places (24,48–51).

[1]**2018**: 383 residents and 51 stakeholders from 30 organisations (48); [2]**2018-20**: 588 residents were surveyed (49); [3]**2022**: At least 56 stakeholders and 199 residents (50); [4]**2024**: Natural England survey of over 2200 Bradford Residents (51); [5]**2023**: 997 children aged 8-11 years (24); [6]**2024**: 23 Age of Wonder: Teenage Stories participants aged 12-17 years (52); [7]**2021**: 1949 respondents (53).*Community assets refer to green space, community and sports centres.

7.3 Bradford residents want safe, regular, and accessible public transport and active travel infrastructure

- Bradford Moor and Barkerend were shortlisted to have an Active Travel Neighbourhood scheme in 2024. Research in the area aimed to understand the community's 'readiness' for active travel. The results found that the community had a very low level of readiness for active travel with several barriers identified including that public transport takes too long, cycling is dangerous, and cars are more convenient.
- In 2017, Born in Bradford undertook research to understand parents' experiences of school travel and their choices regarding travel model (25). Distance was the biggest barrier to active school travel. Time constraints were reported as the main barrier to parents accompanying children in active school travel, while concerns about safety deterred parents from allowing children to travel independently.
- As part of Born in Bradford's engagement with the community for the Clean Air Zone in 2021 (53), researchers found that whilst the majority of residents were in favour of improving air quality (67%), some residents felt that public transport was not adequate to replace car travel but others felt that air pollution was so intolerable that they considered moving house.

7.4 Bradford Teenagers are aspiring for good jobs, money, safety and health

- 23 Age of Wonder: Teenage Stories participants (11 male, 11 female, 1 non-binary) aged 12-17 took part in group discussions about Bradford and their local neighbourhood (52). They identified the following priorities to improve their local areas:
  - Measures to improve feelings of safety when 'playing out'
  - Continued efforts to tackle traffic and air pollution in the city (e.g. school buses to reduce school run traffic and pollution)
  - Protecting local green space against quad bikes, motorbikes, and grazing horses
  - An increase in the number of bins and Household Waste Recycling Centres to reduce litter and fly-tipping
  - More equitable distribution of council resource for the cleanliness and maintenance of different postcode areas.
- When sharing personal aspirations for the future, money, safety, and health are the main hopes of teenagers in the Age of Wonder: Teenage Stories cohort. These hopes manifest as the desire for a good job, enough money to live on, and an awareness of needing sufficient funds to live in the neighbourhood of their choice (52).

7.5 Young people, and adults, want the redevelopment in the Southern Gateway to bring opportunities and things to do, cleaner air, ensure families have more money, make sure Bradford is better connected and improve Bradford's image

- Specific Southern Gateway Engagement led by Healthy Urban Places (54) with Bradford Youth Ambassadors highlights that young people, South Asian

women, and refugees/asylum seekers, would like the Southern Gateway development to deliver:

(1) Interconnected, accessible and easy to use public transport,
(2) Attractive, clean and open spaces, with a mix of modern and old architecture, that celebrates local culture and has green spaces,
(3) Accessible spaces, with inclusivity considered throughout redevelopment,
(4) Facilities in which people feel safe, with mixed use, with lots of information about getting around and includes a homelessness and welfare center,
(5) Offices that attract quality employers (e.g. technology and finance companies), and,
(6) Educational and social opportunities.

7.6 Children want an urban environment that encourages active travel and play

- In 2023, 997 children (age 8-11 years) in Bradford were asked what would make it easier to walk or cycle to school, and what would make the streets on their journey to school nicer (24); the top 4 suggestions:

What would make it easier to walk or cycle to school?	What would make the streets on their journey to school nicer?
Fewer parked cars, less traffic and slower traffic speed (18%)	Places to play (39%)
Access to bikes and cycling infrastructure (13%)	More greenery (26%)
Living closer to the school (13%)	A cleaner environment with less rubbish (11%)
More and better-quality walkways and cycle lanes (13%)	More, and better-quality walkways (8%)

7.7 Residents in areas adjacent to the Southern Gateway want the new development to be visually appealing with natural and social spaces while remaining well connected in terms of public transport

- Recent engagement with three minoritised groups (n=18) in Barkerend, an area adjacent to the proposed Southern Gateway site, explored the redevelopment of the train station and the surrounding Southern Gateway (54).
- Co-location of a train and bus station was identified as a priority to retain connectivity. Any route to the new station should be accessible, safe and pleasant for pedestrians and cyclists, in close location to the city centre.
- The station and the area surrounding should be aesthetically appealing, with a reflection of Bradford's heritage and a place to relax and socialise. An open, natural aspect was important, with grass or planters and trees. Apartments with private play/sport areas were desired. Multi-functional spaces were thought to be practical, allowing for things such as open markets, play and social spaces. City Park was praised for its multi-functionality, the aesthetically pleasing water and open feeling.

- **A Natural England Survey** also identified a desire for more urban green space (51). In late 2023 Natural England announced that it was working with Bradford Council to designate part of the district as West Yorkshire's first National Nature Reserve. A public engagement survey ran between December 2023 and February 2024 to gather opinions of over 2000 residents in the district. Whilst it primarily aimed to understand how people would like to access and benefit from the reserve, the survey also found that residents wanted more green space and nature in urban areas

7.8 Citizen scientists in four Bradford neighbourhoods are working to improve their areas

- In 2024, the COPPER project developed a co-production and peer research network which conducted co-produced research in four neighbourhoods with 200 participants in Bradford. Issues identified included affordability, reliability and safety/cleanliness (bus stop) concerns about public transport (buses) and dangerous driving. Preliminary results are expected in April 2025 with final results in Autumn 2025. Research was carried out in Girlington/Manningham, Holme Wood, East/West Bowling, and Great Horton/City.

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