Active Design

CREATING ACTIVE ENVIRONMENTS
THROUGH PLANNING AND DESIGN

Theme 1 – Supporting active travel

Supported by

SPORT ENGLAND

Active Travel England

Office for Health Improvement & Disparities

THEME 1
Supporting active travel

Active travel is the simplest and most inclusive way of getting people to incorporate activity into their daily lives, and has numerous benefits for physical and mental health, the environment, the places we live, quality of life and social inclusion.

Many places created in the 20th and 21st centuries have prioritised motor vehicles over people in their design, and created environments that are unsafe, unwelcoming or difficult to undertake active travel in. Conscious effort is required to reverse this, in new and existing places, and to reduce the barriers preventing active travel.

This group of Active Design principles focuses on the creation of places that are easy to get around using active travel, and how to encourage people to do so. They aim to make active travel modes the first choice, and the easiest choice.
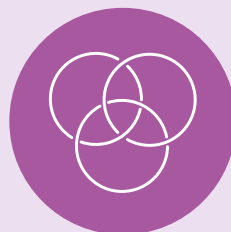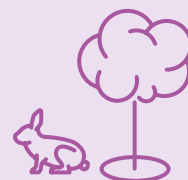
What is 'active travel'?

For the purposes of this guide, active travel is not just walking and cycling. It also includes wheeling, which covers assistive wheeled mobilities such as wheelchairs, mobility scooters or similar. It can also include pushchairs or buggies for children. Different groups may use these in different ways.

Cycling can mean more than the traditional two wheeled bicycle, as it can also include cargo bikes, hand-powered recumbent bikes, bikes with trailers, tricycles and other pedal-powered transport. A full definition of cycles to consider is set out in the Department for Transport's Local Transport Note (LTN) 1/20[14].

The Principles

Walkable communities

Providing connected active travel routes

Mixing uses and co-locating facilities

How does this increase activity?

- People will naturally choose a method of travel that is convenient, quick, safe and reliable. If this is the case for active travel modes, more people are likely to use them, increasing physical activity. The design of active travel routes are key to facilitating this change. If the active routes between origins and destinations are safe, continuous, attractive to use and direct, they will encourage more people to consider and use them.

- Locating homes and places for daily essentials and recreation within easy reach by active travel modes (known as "walkable communities" in this guidance) means people are fundamentally more likely to make the journey as a pedestrian or by other active travel modes, rather than choosing to get in the car.

- Where there are multiple reasons to visit a destination, by locating facilities close to each other, people are more likely to combine trips and use active travel to get there. Routes with more variety and uses mixed along them also reduce the perception of distance, making it more likely that people will use active travel.

What other benefits are there?

Environment and climate change

- Compact, attractive walkable places that encourage activity are more efficient with land use, enabling more land to be retained and enhanced for nature and biodiversity.

- By replacing journeys that would otherwise be made by car, carbon emissions are reduced. This is one of the largest potential personal contributions towards tackling climate change. Noise pollution and poor air quality in urban areas, primarily caused by vehicle traffic, can also be substantially reduced.

- Places that encourage active travel do not need as much infrastructure for vehicles, allowing more space for permeable and natural surfaces that can allow surface water runoff to soak away before causing localised flooding. These spaces can also support biodiversity gain in the public realm.

Tackling inequalities

- Active travel is a free or relatively inexpensive way of getting about (when compared to owning and running a car) and can be more accessible to all socio-economic groups.

- If a neighbourhood is designed to encourage active travel, it can help people to get about independently, without needing lifts or other costly transport options.

- With appropriate inclusive design, people with all levels of mobility are more likely to be active. Good design can reduce or remove the barriers which might prevent people with reduced mobility being active.

- Road safety issues, noise and air pollution from vehicle movements can have an increased impact on more deprived communities, as they are more likely to be located on or adjacent to major roads, exacerbating health and social inequalities. Reductions in traffic can have a particular benefit to these neighbourhoods.

- Social interaction is more likely when utilising active travel modes, allowing people to feel more connected to their local area and neighbours. On streets with less through traffic, studies have shown that social links between neighbours are more likely[15].

Economic growth

- Studies on schemes such as the Mini Holland[16] approach taken in Walthamstow show that higher footfall and corresponding increases in retail spend occur in places where active travel has been encouraged[17].

- The highest-spending customers for local retailers are those that are close to them, and thus use them regularly. The importance of car parking and accessibility to vehicles is often overestimated. Businesses, residents, developers and visitors all benefit from investment in the public realm and walkability[18].

- Well-planned and marketed leisure trails, when combined with public realm improvements, can encourage tourism and other leisure uses in places, with secondary economic benefits.

- Walkable communities can have a wider variety of employment spaces within them, these can be more suitable and accessible for small businesses and start-ups.

- A range of studies have shown that improvements to active travel and the public realm can increase land values and investment confidence in an area[18]. Value for money assessments of cycling grants have shown very high benefit-cost ratios[19].

PRINCIPLE 2
Walkable communities

The aim
Facilities for daily essentials and recreation should be within easy reach of each other by active travel means, making it more likely that people will make the journey by using active travel modes (defined in Theme 1). Good active travel connections should be provided to extend the range of services accessible while remaining physically active.

How to do it
New development should be designed to be compact, with shops, schools, community facilities, open space and appropriate sports facilities typically within a maximum 800m distance from homes, along streets and active networks.
Existing communities should be assessed for provision gaps, and opportunities to strengthen their mix of facilities within 800m of homes should be prioritised. Communities should have good onward connections to higher-order services and jobs through active travel networks, and public transport.

2.1 Locate facilities, jobs and homes close to each other

- When planning new places, locate day-to-day facilities such as schools, shops, community facilities, healthcare, open spaces and appropriate sports facilities within 800m of all homes.

- Employment and commercial space should be included within communities. Remote or co-working 'hubs', small flexible commercial units and retail units located at local centres can be integrated into lots of contexts.

- Existing communities with a lack of facilities should be identified and prioritised through Local Plan policies to bring forward proposals that could fill the gaps.

- Secure the early delivery of community facilities, local centres, schools, public space and sport facilities in walkable locations. This helps to ensure active travel becomes a habit at an early stage as new places are delivered.

Below: Locating facilities, jobs, and homes within walking distance of one-another encourages active mobility and sustainable behaviours (Hamptons, Peterborough)

2.2 Promote the active travel choice

• Encourage people to take the active travel choice by promoting a Hierarchy of Travel, with pedestrians, cyclists and other active travel users considered first during design to ensure there is a genuine choice of ways of getting about. This should apply to all movement networks, including utility and leisure (see Principle 3). Vehicles are likely to still need to be accommodated, but places and spaces should not be solely designed around them.

• Consider the user journey throughout the design process. When and why might people choose not to make a journey using active travel, and what can your design do to help them? For example, parents of primary school children may need to continue their journey to work after drop-off, so co-location of schools with onward public transport opportunities could encourage active travel (See Principle 4).

• At junctions, crossings and other points where active travel interacts with vehicle traffic, active travel routes should be direct, clear, safe and prioritised. This is supported by the hierarchy of users in the Highway Code. (HWC H1,H2,170).

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Above: Giving vulnerable users priority at junctions and crossings encourages active travel (Castle Boulevard, Nottingham)

Below: A hierarchy of movement to support active travel

PRIORITY

Active travel   **Public transport**   **Private vehicles**

TRIP DISTANCE
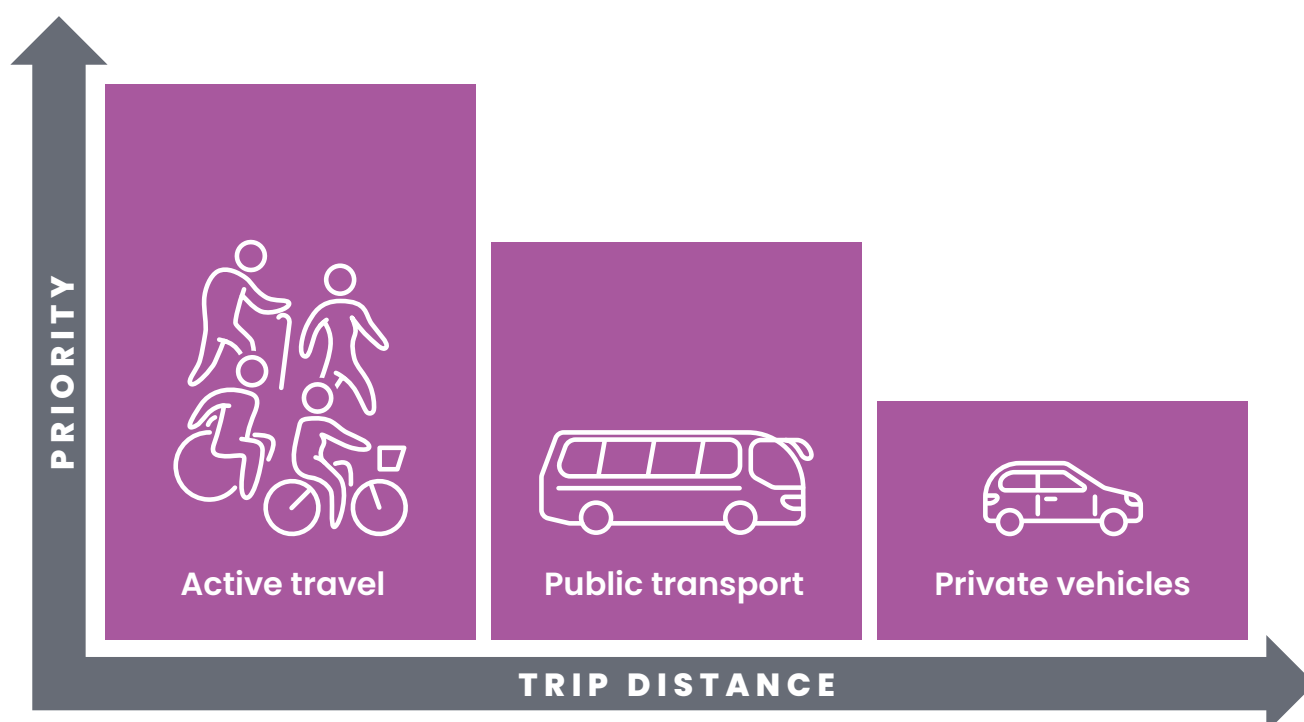
2.3 Use filtered permeability to make it easier to use active travel rather than drive

- The principle of filtered permeability is that active travel networks should form a continuous and connected grid in a development, whereas private vehicle movement should be less direct and longer, with breaks, either real or perceived, created by design interventions such as street planting, bollards, materials changes or similar. Active Travel connections should have good natural surveillance from buildings for safety.

- The same principle can be used to support direct public transport routes through communities, which support active travel networks by providing onward connections. Bus connections through communities should be direct and uninterrupted, with the use of bus gates at key locations to provide an advantage over private vehicle traffic.

- Existing communities should explore options to reduce through traffic within residential neighbourhoods through retrofit of filtered permeability measures.

- Modern mobile app navigation has increased the use of side streets as cut-throughs for motor vehicles[20]. Filtered permeability removes these options and puts traffic back onto main streets, which are designed to be able to accommodate through vehicle movement. This can make smaller streets more attractive and safer for active travel.

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Two approaches to creating filtered permeability:
Top: Filtering large vehicles but allowing residential access and active travel using a permanent installation (Shoreditch, London)
Bottom: Filtering private vehicles but allowing buses and active travel using CCTV cameras (Canal St, Nottingham)

2.4 Utilise residential and employment travel planning

- Travel Plans can be useful tools to help people make active travel part of their daily life. These should audit existing travel patterns and travel culture, map options available, and set out an action plan of measures that will result in a shift to more active and sustainable means.

- Travel Plans should incorporate an ambitious but achievable set of mode share targets prior to a robust monitoring and evaluation process, which sets out what further measures and investment are required from the applicant/occupier in the event that those targets are not met.

- New residential developments should develop and implement a Travel Plan, agreed with the local planning authority, to provide information and support for new residents as soon as they move in, to help them find active travel local routes to and from key facilities and destinations.

- Many developments subsidise bus services during the early phases until there is enough patronage to support a commercial service, and may provide free or subsidised bus passes to new residents. Details of active travel options should be provided in welcome packs and digital technology (such as Apps) provided for new residents.

- As part of Travel Plan measures, employers can help their employees have a more sustainable range of choices to get to work. This can include implementing a Cycle to Work scheme, support for public transport fares, creating a Car Share scheme, and publicising active and sustainable travel choices in the workplace.

- Active travel options can also be publicised through community events such as local group walks or cycling events (see Principle 10).

Useful resources

Lifetime Neighbourhoods, published by the former **MHCLG**, is a piece of research on how future neighbourhoods can accommodate the changing and ageing needs of the population.

The Government provides implementation guidance on their website for the cycle to work scheme[21].

Active Travel England publish a Planning Assessment Toolkit and User Guide for the assessment of the Active Travel, connectivity and the co-location of uses within Planning proposals and masterplans.

PRINCIPLE 3
Providing connected active travel routes

The aim
Encourage active travel for all ages and abilities by creating a continuous network of routes connecting places safely and directly. Networks should be easy to use, supported by signage and landmarks to help people find their way.

How to do it
A comprehensive network of safe, high quality and easy to find active travel routes should connect destinations and provide feeder routes to homes. This should create a range of clearly signed routes for all potential or existing users, including a choice between busy and quiet, leisure and utility focused options, and should limit conflict between different transport modes.
Existing networks (including Rights of Way) should be mapped and opportunities identified, and connected with high quality provision, with active travel prioritised. Providing connections and interchange to public transport enhances the utilisation and effectiveness of such networks.

3.1 Create a direct network of routes which connect to places, along routes people want to use

- Proposals for new places should create networks of active travel routes within a development site, clearly connecting to nearby places and routes. These routes should be effectively signposted allowing new users to know where they are located, and how to travel along them.

- As networks become stronger and increasingly more useful as they expand, proposals should add connections that can benefit more than a development site, but also the wider population, e.g. by responding to Local Cycling & Walking Infrastructure Plans and connecting to existing Public Right of Way networks and extending them with new routes.

- 'Pinch points', where there may be insufficient space to accommodate all modes should be identified and design proposals should address them positively and clearly. This can include prioritising active travel over vehicle traffic and considering the opportunity to implement modal filters, where motor vehicles cannot proceed but active travel modes and potentially buses are allowed to.

- 'Desire lines', which are the most direct connections between where people want to go, should inform the design of public spaces, and help define spaces where people will move through (transit space) and where people can stay and linger (staying space).

- Leisure routes should be included in proposals and should include wayfinding and signage for activities of different lengths. Opportunities should be taken to make the route engaging for all users, using interpretation materials, activities for children, and places to rest and relax en route.

Above: A direct network of walking and cycling routes (East Village, London)

3.2 Provide high quality, safe, routes with a clear role and purpose

- Routes should be designed to be of the highest quality, with suitable widths, treatments and topography which are reflective of their function and purpose. Street furniture, trees, signage or other items should not impact on the use of active travel routes.

- Routes should be safe for all users, including vulnerable pedestrians. The use of tactile paving, lighting and natural surveillance can help to provide a safe environment. Active building frontages consisting of doors and windows can provide the necessary natural surveillance, activity and visual interest. If routes run through dark or quieter open spaces and there is no opportunity to add lighting, natural surveillance or other improvements, then alternative routes should be provided to ensure the network can still be used by all at night or in the winter months.

- A hierarchy approach should inform the design of streets and routes, considering their role in the wider network. The built infrastructure for active travel should respond to the anticipated use levels on those routes, with the consideration that better provision will raise usage levels.

- The potential role of a route must be considered when planning and designing the route. Utility routes (convenient, quick, reliable) should be direct routes, segregated on main streets, and connecting to quieter streets. Leisure routes (fun, interesting, relaxing) may be less direct, through parks or segregated on quieter streets, and

should be attractive and fit-for-purpose. These leisure routes, which include open space and play streets, are also useful for learning to cycle and becoming more confident.

- Routes to school should ensure they are safe and usable by children and their guardians through reductions in vehicle traffic, use of dropped kerbs and continuous footways, verges or green infrastructure to separate carriageways from footways, and clearly defined, physically segregated cycling routes. Streets or open space networks that link to primary schools offer the opportunity to include play features en route.

- Streets should be designed and retrofitted to enable children's independent mobility and active travel from a reasonable age.

- Routes for leisure purposes are also important. Nature, art and heritage trails can bring places to life, and give everyone a reason to go outside and enjoy spaces. When coupled with information boards or artwork en route they can be very popular. Opportunities to connect to and enhance active travel routes in the surrounding countryside should be considered.

- Dog walking routes should be integrated within open space networks, to allow a loop or choice of loops to be taken.

- Routes for recreational horse riding, including off-road links and bridleways, should be included or enhanced where appropriate.

3.3 Enable interchange between active modes and onward sustainable travel

- Active travel networks should enable easy onward interchange with public transport. This extends the effective range of active networks by allowing people to continue on longer onward journeys. The design of places should ensure that nearly every public transport trip starts and ends using active travel.

- Bus stops and other interchanges should provide ample, secure and visible cycle parking, which is overlooked, covered and adjacent to the bus stop/interchange. All bus stops and interchanges should provide shelter and seating, and aim to provide real-time timetable information and lighting.

- Major bus stops and other interchanges should aim to provide cycle hubs, with secure parking and basic maintenance facilities.

- Pedestrian and cycle crossings should be clear and integrated in the design of all interchanges.

Potential components of a mobility hub, depending on scale of provision, could include:
Left: Secure cycle parking (Hackney, London) **Middle:** Bus shelter with real-time information (Stevenage) **Right:** Local facilities (Hampton Vale, Peterborough)

3.4 Include wayfinding signage aimed at active travel modes and consider digital approaches

- Much of the directional signage on streets is aimed at vehicle traffic. Active travel users should be considered and provided for equally, with signage appropriate to the routes they would choose, sized appropriately and tailored for all users, including children and disabled people.

- Wayfinding signage should be sensitively sited to ensure it does not contribute towards street clutter. It should be concentrated at key nodes in networks, to help unfamiliar users navigate to key destinations easily.

- Signage can be supported by stencil-painted numbers, colours or lines on the surfaces of routes that match the signage. Although the use of mobile location apps has increased, there is still a need for effective signage and wayfinding to ensure inclusive activity throughout the public realm[22].

- As well as providing the direction on signage, indicating the time and distance to key locations and facilities, can be a useful way of improving people's confidence to use and navigate active travel routes. Detailed guidance on signage is contained within Local Transport Note (LTN) 1/20 Chapter 13[23].

- Digital wayfinding, such as route-finding mobile apps, can be tailored for different audiences and needs. For example, neurodiverse users may want certainty about what they will experience en route and at their destination, whilst those with limited mobility may want a route that maximises accessible public realm and streets.

- On-street traffic signing and road markings must comply with the Traffic Signs Regulations and General Directions, which include signs for walking and cycling routes.

3.5 Look beyond the boundary of a site and connect to the wider area

- Identifying active travel connections to likely popular destinations and surrounding networks should be the first stage of any design and should inform the layout of proposals to make active travel distances, and gradients, as small as possible. This should also take into account adjacent sites which are either allocated within local planning policy or anticipated to come forward for development, and existing and proposed Public Rights of Way networks.

- Improving active travel connections from developments to the surrounding countryside should be included in proposals to encourage activity for leisure purposes.

- Providing active travel connections through existing adjoining residential areas is important to access destinations beyond a development and to assist with integration with existing communities.

Wayfinding for Healthy Lives, Oxfordshire

The Kidlington wayfinding project was conceived to improve the health outcomes of primary school children in the Oxfordshire conurbations of Kidlington and Gosford. A key focus of the project was engagement and interaction with the community and various groups throughout the co-design process, involving community and disability user groups, the parish councils, the police, schools and local authorities at all levels.

The outcome of the design process saw the installation of five zoo themed activity trails inspired by the zoo located in the village in the 1930s. The trails range from 1.5km to 5km in length taking in almost every part of the community, passing each school, visiting the majority of green spaces available, joining the canal and linking community amenities and shops.

The circular routes can be joined at any point. Easily visible footprints painted on the surface of the routes at regular intervals make following the routes simple whilst minimising visual intrusiveness. Fingerpost, lamp post and bollard signs are used to bolster easy wayfinding.

The project was evaluated in two ways: an assessment of its social value by surveying key demographic users (young families) before and after installation; and infrared pedestrian counters located on the trails prior to and post installation. Using the WELLBY scale[24], the summary of these studies show an increase of 0.275 in life satisfaction from trail users which corresponds to a monetary value at the time of the project (2020), of £3,575 per monthly trail user per year. Using the extrapolated trail user data this yields a social return on investment of £18.23 for every £1 invested.

Useful resources

The Chartered Institution of Highways and Transportation (CIHT) hold a library of resources related to Active Travel and Public Transport including best practice, monitoring and design examples[25].

The Department of Transport publishes **Inclusive Mobility**, a guide to best practice on improving access to public transport and creating a barrier-free pedestrian environment.

For technical guidance on appropriate standards for cycling infrastructure, refer to Local Transport Note 1/20 'Cycle Infrastructure Design' (LTN 1/20), published by the **Department for Transport.**
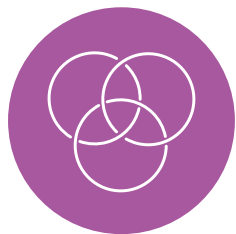
PRINCIPLE 4
Mixing uses and co-locating facilities

The aim
People are more likely to combine trips and use active travel to get to destinations with multiple reasons to visit. Places with more variety, higher densities and a mix of uses also reduce the perception of distance when travelling through spaces and generate the critical mass of travel demand to better support public transport services.

How to do it
Place schools, shops, community facilities, healthcare facilities, sports and leisure facilities, principal public open spaces and suitable employment close together at key locations within active travel and public transport networks. Ensure residential populations have convenient access by active travel means to a good mix of uses and co-located facilities. This will not only provide greater opportunities to local communities but also increase the population that can access the uses and facilities, potentially in turn boosting their viability.

4.1 Avoid uniform 'zoning' of large areas to single uses

- Ensure land uses are successfully mixed considering active travel networks and the accessibility of locations. Places with more active travel and public transport connections should have more facilities, uses and higher densities to make them as accessible as possible to the most people. Single use 'zones' of land dedicated to only one function increase the distance between homes, work, leisure and other facilities, meaning that trips are more likely to be made in the car. It makes it more difficult to undertake several tasks with a single journey.

- Ensure that conflicts between land uses (e.g. noise, overlooking or smells) are successfully mitigated or prevented through successful design and layout and via the planning application process.

- High density residential schemes can generate a large amount of active travel movements within a small area and therefore opportunities for co-locating other uses should be explored e.g. the use of ground floors of buildings for retail or leisure uses.

Below: Mixed-use local centres can act as a hub for a community (Princesshaye, Exeter)

Below: Mixed uses should be focused on connected focal points within a place (Town Square, Stevenage)

4.2 Create mixed use, connected focal points in prominent places within a community

- Locations where lots of active travel routes meet are likely to be highly accessible and should be the focus of where key community facilities are located, such as schools, shops, sports facilities, gathering spaces and play spaces (also see Principle 3).

- Within existing places, map out the locations with the highest accessibility by active travel and public transport to understand places which should have an intensification of mixed land uses.

- Consider the time dimension in co-locating uses to bring day-long activity to streets and spaces. Facilities such as schools have particular hours where they are busy, and they can be co-located with complementary facilities that have different characteristic hours to ensure activity in the public realm throughout the day.

- Consider the form of traditional mixed-use streets such as High Streets as a way of designing places. These can maximise accessibility to surrounding places and encourage movement along them.

4.3 Co-locate sport and recreation facilities alongside complementary uses

- Playing fields including sports pitches and other sports facilities (e.g. bowling greens, tennis courts, cycle tracks) can be integrated amongst green infrastructure and open space networks at key locations to maximise accessibility.

- Visibility of sports and recreation facilities near commonly-visited destinations can raise their profile and ensure more people in the community are aware of and can access them, helping them become a focal point for the community and social interaction.

- Careful design, through subdividing spaces, seating and other approaches should ensure the users of more formal sports pitches in multi-functional open spaces do not dominate the whole space. Design, function and location of spaces should ensure informal surveillance, so that they can be used by diverse groups (ages, ethnicities, gender and abilities).

- Facilities that are required to support sports such as changing rooms and toilets should be designed where appropriate to be multi-functional so that they can support other physical activities on open spaces (if possible, even when the sports facilities are closed[26]). For example, pavilions can be designed to include café, social and toilet facilities to support use throughout the week which can improve their sustainability and viability. Further guidance can be found on this, and the use of Community Use Agreements, in Principle 9.

- Through good design, any potential conflicts between nearby residents or other uses of open space can be avoided or appropriately mitigated (for example lighting requirements and other servicing needs and natural habitats).

- For some sports and activities, integrating more frequent smaller scale provision amongst streets, homes and other uses may be a better way of increasing people's access to physical activity opportunities in some contexts, rather than larger combined facilities, which may only be accessible by car for many people, and be more expensive to provide and deliver. This provision may be more informal and could focus on specific local activity or health needs in an area (see Principle 1).

Below: Britannia Leisure Centre sits adjacent to parkland and natural open space (Hackney, London)

4.4 Use the public realm to create informal activity at sports/recreation facilities

- Sports and leisure facilities (and many other public buildings), due to their size and need for enclosure and security can act as barriers to active travel and appear unwelcoming. Designs should make the public realm, connections and greenspace a part of the facility, enabling their use for informal physical activity such as outdoor gyms, nature or trim trails, or programmable, flexible spaces for events linked to the sports facility.

- The co-location of sports facilities with community facilities such as community centres, health centres and libraries can help when combining use of the public realm outside a building as it encourages a range of activities at a location, allowing users to experience spaces differently. This may also help their running costs and third-party income.

- The periphery of playing fields provide opportunities to encourage informal physical activities where this can be done without compromising the requirements of the sports users e.g. sensitively designed nature and trim trails along with active travel routes. Creative re-imagining of the areas around sports facilities, making them more social spaces and the facilities feel less fenced in, can make them more welcoming for many, especially girls[27], increasing their sport and recreational value for a greater proportion of the local communities.

- Parks and open spaces can be great places to locate the front entrances of sports facilities, creating a focal point in the space and allowing events such as parkrun, or other group recreational or instructional activities, such as cycle training, to co-locate with the formal sports facility, where space permits.

Top: Sports facilities should be designed to encourage informal activity in the public realm (Hackney, London)
Bottom: High-quality space around facilities can support activity independent of using that facility (Britannia Leisure Centre, Hackney, London)

Useful resources

The **Town and Country Planning Association's 20-Minute Neighbourhood Guidance** reviews in detail the importance of creating complete compact neighbourhoods[28]. A pilot programme of the 20-minute neighbourhood concept was undertaken in Melbourne (Australia), with detailed reporting on its outcomes[29].