

MAYOR OF LONDON

MAKING LONDON CHILD-FRIENDLY

**DESIGNING PLACES AND STREETS FOR
CHILDREN AND YOUNG PEOPLE**

GOOD GROWTH BY DESIGN

**A
BUILT
ENVIRONMENT**

**FOR
ALL
LONDONERS**

CONTENTS

Deputy Mayors' Foreword	P7
Introduction About this report	P11 P13
Towards a Child-Friendly City	P17
Understanding Independent Mobility Key themes	P22 P27
Assessing Independent Mobility What to measure Mobility indicator checklist Measurement Methods – How to Measure	P34 P35 P36 P38
Policy	P41
Participation	P55
Design and Typology	P69
Management	P89
The Next Steps for London	P101
Resources Precedent Library Glossary of Key Terms	P105 P105 P133
Contributors and Thanks	P138
About Good Growth by Design	P140

1. Greater London Authority, 'The London Plan, Intend to Publish', 2019
2. Greater London Authority, 'Unhealthy weight in London's children. What we know', London's Child Obesity Taskforce, 2019

1

DEPUTY MAYORS' FOREWORD

London is a youthful city, with more than two million residents under the age of 18. With the city's population set to top 10.8 million by 2041¹, this figure will rise further. London's rapid growth and increasing densification pose big challenges for the city as a whole and for young people in particular. These are perhaps most felt in the built environment where the needs of children and young people can be easily overlooked.

As we build new homes and neighbourhoods across London, we must ensure that young people's needs are taken into account and that they can access the city's social and physical infrastructure. This includes opportunities to enjoy cultural activities, parks and open spaces, museums and galleries, as well as being able to move around their neighbourhoods – and the wider city – safely and independently. This is important for supporting young Londoners' health and wellbeing and helping them reach their potential.

There is of course already some brilliant provision for children and young people across London. But at the same time, it's clear that young Londoners face a number of challenges to how they move around the city and access this provision. The increase in youth violence being tackled by the Mayor's Violence Reduction Unit not only blights the lives of victims, perpetrators and their families, but can also critically impede the freedom of children and young people to move around independently.

In addition, nearly 40 per cent of all young Londoners are overweight or obese², which can have serious health consequences. The ambition of the Mayor's Child Obesity Taskforce is for London to become a city where every child can be active and grow up a healthy weight. How we design the built environment is critical to achieving this, creating more active and playful public streets and spaces.



Station Road Harrow, by Europa (Source: Mark Smith)

The Mayor is taking action to tackle these issues and to create healthier and safer physical environments for children and young people to live, learn and play. This includes the School Superzone Pilots as well as broader work to clean up London's toxic air, such as the world-leading Ultra Low Emission Zone.


Independent mobility is vital for the physical, social and mental development and health of young Londoners. It is also intrinsically connected to equality and the everyday freedoms they have to access and occupy public space. To deliver the Mayor's vision for Good Growth, we must provide inclusive access to London's transport, spaces and places. And, we must enable more people to have a say in how the city changes, encouraging a broader mix of voices, from young to old, and from different cultures and backgrounds, to participate.

The Mayor's new London Plan is notable in its provision for children and young people across various policy areas. It highlights the importance for them to be independently mobile within their neighbourhoods and recognises that development proposals must create safe and accessible routes and increase opportunities for play and informal recreation.

This report sets out how we can think differently about the built environment and its effect on how young people develop and behave. It provides a series of indicators, principles, examples of best practice and recommendations to help make London a more child-friendly city. It will be a key piece of evidence that informs Supplementary Planning Guidance on play and recreation.

A London that works well for children and young people will be a London that works well for all of us. Whether at the scale of the street, the neighbourhood or the city, we must move away from an approach that is just about 'play provision' and embrace the potential of London's urban environment to plan and design spaces that put children and young people first.

Joanne McCartney, AM, Deputy Mayor for Education & Childcare, and Jules Pipe, Deputy Mayor for Planning, Regeneration & Skills

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1. UN UNCRC, UN Convention on the Rights of the Child, 1989
 2. Shaw, B, Fagan-Watson, B, and Mocca, E, [Policy Studies Institute] Children's Independent Mobility: an international comparison and recommendations for action, 2015
 3. Shaw et al, 'Children's Independent Mobility'
 4. HSCIC, 'Health Survey for England 2015' Physical activity in children, 2016

2 INTRODUCTION

Why 'independent mobility'?

The independent mobility of children and young people is the freedom they have to occupy and move around the public realm without adult supervision. The United Nations' Convention on the Rights of the Child recognises the rights of people under the age of 18 for rest and leisure, to engage in play and recreational activities, and to participate freely in cultural life¹. The creation of safe outdoor environments that facilitate independent mobility can be considered integral to promoting and encouraging this right.

Whilst independent mobility is of intrinsic value to young Londoners, recent research by the Policy Studies Institute (PSI) demonstrates that it is in decline², with significant consequences for the physical, social and mental development and health of people under the age of 18. Between 1971 and 2010 the number of children in the UK of primary school age allowed to walk to school by themselves fell from 86 per cent to 25 per cent³ and at the same time, childhood obesity rates are increasing⁴.

Several factors, from changing attitudes and the role of technology, to increased concerns over safety, can be referenced to explain the decline in levels of independent mobility. The PSI study also found that the most successful initiatives to improve children's independent mobility focused on transforming the built environment. The independent mobility of children and young people is therefore a key consideration for London's built environment, and an important topic for planners, designers, architects and policymakers.

The Mayor's new London Plan highlights the importance of children and young people being independently mobile within their neighbourhoods, requiring development proposals to create safe and accessible routes and increase opportunities for play and



(Source: TfL Image Library)

informal recreation. Creating these opportunities requires the need to improve the visibility of children and young people in the public realm, normalising their presence and their activities as part of day-to-day urban life.

About this report

This report highlights how the design of the built environment can increase opportunities for young Londoners to be independently mobile within their neighbourhoods and the city. Produced by the Mayor's Good Growth by Design programme, it recognises and consolidates the research, policy and other work that has already been done in this area, defining a set of key principles and best practice approaches to support independent mobility and the creation of a child-friendly city.

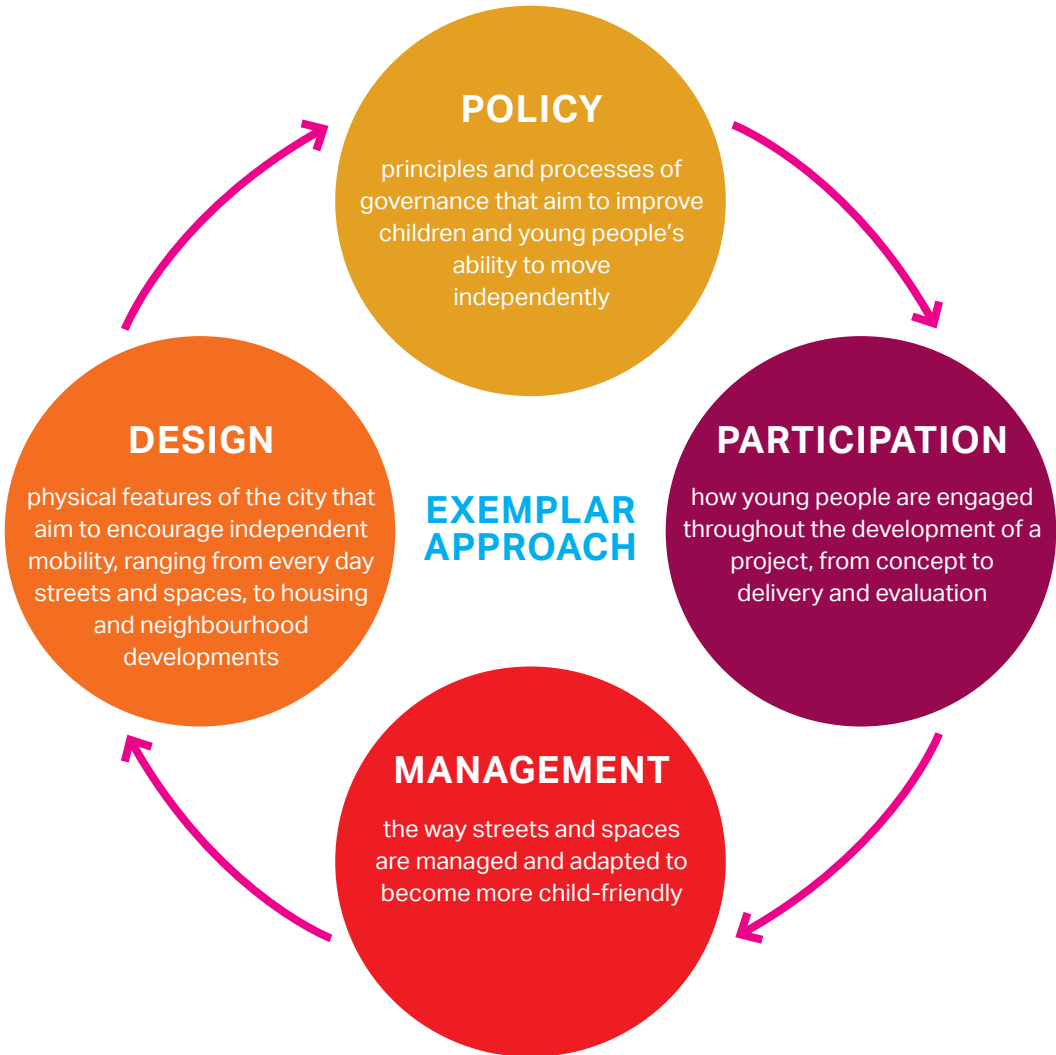
There is a myriad of academic research into child-friendliness, play and mobility, however its influence on the built form of cities has often been limited. The built environment is a key element in either supporting or impeding the independent mobility of young people, from the design of public spaces, roads, crossings and connections between different places, to how we provide for children and young people in residential developments.



As child-friendliness encompasses a wide range of characteristics and interventions, the following research objectives were used to focus the design inquiry:

- What does independent mobility mean for young Londoners and what research has already been carried out in this field?
- What are the features of the built environment that facilitate the independent mobility of under 18s, and how can these be implemented in neighbourhoods?
- At the city-scale, what design guidelines can help London become more child-friendly and enable independent mobility?

The four lenses of the inquiry promote an integrated and holistic approach to independent mobility



Intended as a catalyst for further action, this primer unpacks the key themes, indicators and definitions that inform the independent mobility of children and young people so that the topic can be more easily understood and assessed. A combination of case studies and precedents covering a range of scales are presented within the report to identify diverse and best practice approaches.

The research and case studies have been examined across four lenses (left), with each lens representing a key mechanism of city making. Through a set of key principles and practice, the primer outlines how transforming the built environment can enable children and young people to play, socialise and move around their local neighbourhood more safely and independently. These lenses reflect the UN's definition of achieving children's rights as a multi-faceted process: of being safe and protected, having a high quality and sustainable environment, and being involved in decisions that affect them⁵.

An exemplar child-friendly city, neighbourhood, development, or street would be working well in all four of these areas to ensure a holistic provision of infrastructure and services. Thinking about how children and young people move around a city is a crucial starting point for design and planning.

Who is this report for?

The expansive and multi-faceted nature of this study means there are multiple target audiences, all of whom can play a key role in making London child-friendly. These include: GLA and borough policy teams such as planning, transport and public health; commissioning authorities, clients and developers; and architects, designers and play professionals.

5. UN UNCRC, UN Convention on the Rights of the Child, 1989



(Source: TfL Image Library)

3

TOWARDS A CHILD-FRIENDLY CITY

Dinah Bornat
Mayor's Design Advocate and
'Young People and The City' Sounding Board Chair

Independent mobility is the everyday freedom we all need to get around our local neighbourhood and city as we choose. For children and young people it might be to reach destinations like school and the shops, but it is also about being active outside as part of play, or hanging out with friends. Most people cherish memories of walking home from school or roaming freely at the weekend and recognise that the current generation is unable to enjoy the same freedoms we did. Rather than indulging in nostalgia, we need to focus on improving the independent mobility of young Londoners if we are to reverse the negative trend, and give back their freedom to enjoy spaces, be part of the community, and grow up as happy, healthy people.

Under 18s are a significant minority in society and unique in that although everyone is or has been one, they are not a subset of the voting majority, nor are they homeowners or tenants. Their opportunity to influence decisions is less straightforward and, despite the fact that age is recognised as a protected characteristic under the Equalities Act 2010, there is often little or no mention of children in planning policy or guidance.

For children and young people, the rights to play, to gather and to participate in decisions that influence them are enshrined in the United Nations' Convention on the Rights of the Child. Although it can be helpful to talk about the benefits that their physical presence outdoors might bring to a community, such as reducing obesity and increasing safety, children's independent mobility is a right in itself, rather than a means to other outcomes. There is real value in movement for movement's sake, even if it's just cycling around the block. We need to better understand how children use space to get

around; by ignoring the ways they behave we do them and society a great disservice.

Children need the freedom to get around independently, to call on friends to play, hang out and enjoy their neighbourhood. They are motivated to form a range of friendships, to take risks and to explore their local area. Allowing them to do so offers intergenerational benefits; spaces that are safe for children tend to be safe for everyone.

We should be encouraged that research shows good design and layout are able to support play and independent mobility. The vision should be a city where we are able to see children and young people outside, in small and larger sized groups, on foot, bicycles, scooters or wheelchairs. If we prioritise this desirable goal from the outset we can ensure that it is delivered through a design process which includes appropriate participation and detailed briefing.

In designing for independent mobility, we must cover a breadth of areas and disciplines, from policy and guidance through to briefing, engagement, procurement, delivery and management. It requires a commitment at all stages and a willingness to overcome challenges and conflicts. There needs to be both the will at a leadership level and an understanding from all those involved; clients, architects, engineers, highways, planners and landscape architects that it can be done. It is all at once strategic, specific, nuanced and detailed, and needs to be highly regarded from the outset, thoroughly understood by the team, and cherished throughout the project.

This report provides a structure to draw in all the players, by examining policy, participation, design and management. It recognises and consolidates research, policy and guidance already carried out, identifies gaps and makes a series of best practice recommendations that are highly appropriate and relevant for anyone involved in the physical aspects of our cities at the small, medium or large scale.

The time is right to do this. We can be inspired by international examples, but we must be ambitious and build our own examples in London.

We need to start by advocating for children's rights, of which one is participation. As most in the planning and development industry are unlikely to encounter children in their professional lives, it makes it all the more important that we make efforts to do so and to do it well. We should begin with the lived experiences of children, understanding where and how they use space, how they get around and use this to build a clear picture of a local area. Not only does this provide authenticity, it allows children to operate effectively as stakeholders on their terms, setting up choices that they often are not afforded.

In policy and guidance there needs to be a recognition of how children use space beyond the more straightforward A to B paths of adult pedestrians and cyclists. Younger and older children need to take time to explore, meander and hang out. Giving children, along with older and less independent people, greater protection as road users – above able-bodied pedestrians and cyclists – would allow these activities to flourish.

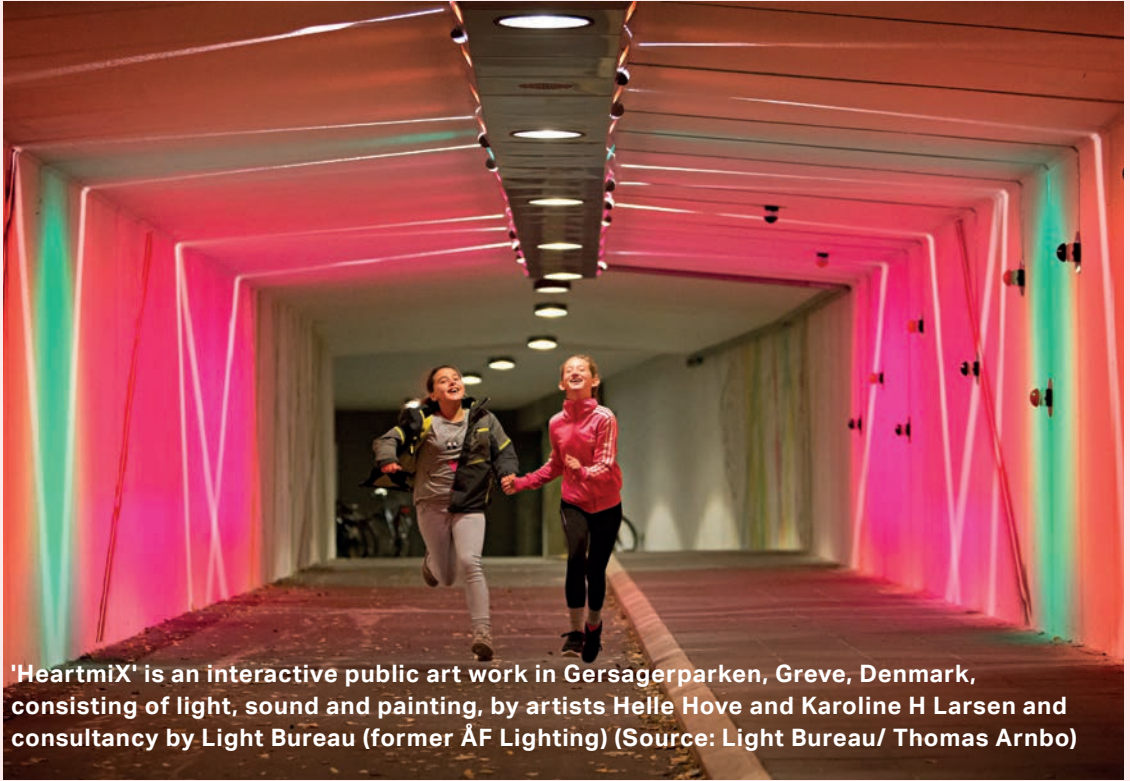
The iterative process of design means that when the first viability tests are applied, we should be mindful of the more specific elements that will support play at a strategic but also a detailed level. It should not be assumed that these will be picked up automatically at a later design stage when the first masterplan and massing moves are being made. We must think first how children might move around a new local area before any buildings are placed.

Sight lines, overlooking and connections in residential developments rely on the exact locations of entrances, on whether apartments or dwellings are single or dual aspect, and on the position of on-street carparking, amongst other things. Anticipating these will help avoid poor outcomes such as car-dominated streets or being unable to see from upper levels into communal courtyards where other children might be playing.

Most of the city, and people's lives, will continue to be affected by existing places, creating a pressing need to carry out post occupancy evaluation. This should be conducted in both new developments and in the transformation of existing neighbourhoods; it is not difficult to see the unfairness in provision of children's independent mobility if it is only applied to new build projects. There is much to watch and learn from how residents use space, and many social value opportunities to be discovered when re-engaging with communities after 10 or 20 years.

This report is a step change in how we might think about designing our cities for children; giving them a more prominent position and shifting from thinking about play 'spaces' towards a more holistic and strategic approach. If we don't, we risk more lives being impacted by poor provision, with segregated playgrounds being one such example.

One thing we must learn from this work is that there is no one single answer – it is and should be an evolving dialogue. It is our responsibility to make sure that dialogue includes and engages with children.



'HeartmiX' is an interactive public art work in Gersagerparken, Greve, Denmark, consisting of light, sound and painting, by artists Helle Hove and Karoline H Larsen and consultancy by Light Bureau (former ÅF Lighting) (Source: Light Bureau/ Thomas Arnbo)



Aldriche Way project, London Borough of Waltham Forest (Source: Build Up)

4

UNDERSTANDING INDEPENDENT MOBILITY

The independent mobility of children and young people is a multi-disciplinary topic that draws on a range of academic disciplines including public health, environmental and developmental psychology, transport, planning and urban governance. Whilst these themes are relevant to the built environment, they have emerged from several fields of study.

There are common themes in how independent mobility is defined in established research and literature. Recognising freedom, unaccompanied movement, a wide spatial area and a social foundation are common elements.

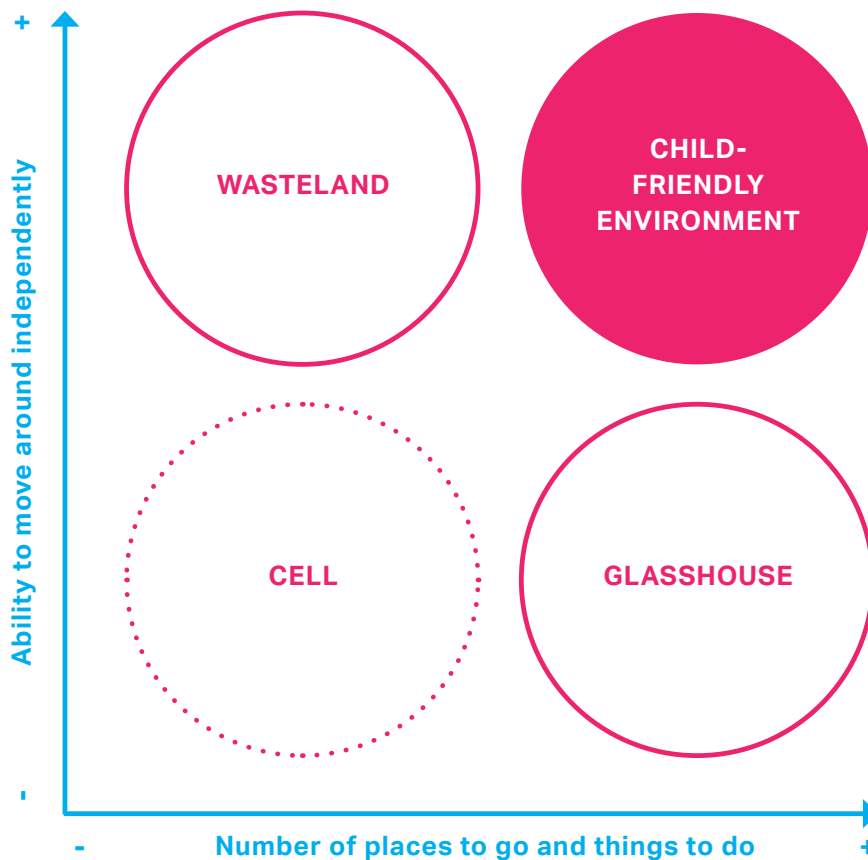
Defining independent mobility for children and young people

In the context of children and young people and for the purposes of this report, independent mobility is defined as a right in itself:

The freedom to occupy and move around the public realm – either alone or with other children – without adult supervision.

A child or young person's independent mobility is established by negotiation between parental / carer permissions and children's wishes, and might include walking, cycling, public transport, as well as playing and socialising. This inquiry predominantly explores the topic through a rights-based agenda, alongside the importance of young people's participation in decision making and authorship of the built environment, advocating for a long-term involvement in the city from which health and developmental benefits will follow.

A child-friendly city has a good balance between children and young people’s ability to move around independently and things to do. It is not enough to just create a lot of activities for children and young people – they must be able to move between these different activities, school and home. Only when children and young people can easily and safely move from place to place, do you have a child-friendly environment.



Interpretation of Kyttä’s matrix of child-friendliness (Arup, 2017) – a child-friendly environment will balance places to go and things to do with a high level of independent mobility

The independent movement of children and young people is determined by multiple factors. Age and play are key elements:

Age

There is a clear expectation that independent mobility increases with age. Schools, institutions and organisations play a role in classifying and providing for different ages, with the distinction between primary and secondary school aged children forming a clear categorisation. 'Children's independent mobility' as a term includes young people who we may not categorise as 'children'. In the literature reviewed, 'children' are often defined as everyone below the age of 11 or 12, whilst those aged 12–18 are defined as 'youth' or teenagers¹, to recognise that different groups have different mobility and recreational needs. This study adopts the definition of children and young people as anyone younger than 18.

Play and playfulness

Play is the process of engaging in activities that involve creativity, imagination and physical exertion. Although not the focus of this report, play cannot and should not be separated from mobility as both contain an element of independence and self-direction. Play and playable space are fundamental elements of creating a child-friendly city with opportunities for all ages. It is important for spaces to offer a range of potential interactions, or 'affordances', so it can be used in different ways by different age groups and needs². 'Playfulness' can also be considered as an approach to research, design and planning, with the aim of generating more imaginative and creative interventions. This report adopts the definition of play that has emerged from the Playwork Principles³:

'Play is a process that is freely chosen, personally directed and intrinsically motivated. That is, children and young people determine and control the content and intent of their play, by following their own instincts, ideas and interests, in their own way for their own reasons.'

1. Bornat and Shaw 2019; Crawford et al. 2017; LLDC 2016; GLA 2012

2. Gehl, J, Life Between Buildings, 1996

3. Playwork Principles Scrutiny Group, Playwork Principles, 2004



'HeartmiX' is an interactive public art work in Gersagerparken, Greve, Denmark, consisting of light, sound and painting, by artists Helle Hove and Karoline H Larsen and consultancy by Light Bureau (former ÅF Lighting)
(Source: Light Bureau / Thomas Arnbo)



**CHILD
DEVELOPMENT**

**MOBILITY AND
PLAY**

PROXIMITY

**A RIGHTS-BASED
APPROACH**

GENDER

SUPERVISION

HEALTH

RISK

**THIRD
PLACES**

**CRIME AND
ANTI-SOCIAL
BEHAVIOUR**

Key Themes

The following themes emerged from a literature review of key texts, and have helped to identify a number of characteristics that influence the independent movement of children and young people.

A rights-based approach

A rights-based approach to independent mobility recognises that it is an intrinsic right for children and young people as active citizens, rather than a means to other outcomes⁴. The 'UN Declaration on the Rights of the Child' and the 'UN Convention on the Rights of the Child' both define children's rights in three components:

- protection of children;
- a high quality and sustainable environment;
- involvement and efficacy in decisions that affect them⁵.

Policy and design interventions should aim to fulfil these components of children's rights, rather than using child-friendliness as a means for urban improvement⁶. This outcome-based understanding risks tailoring child-friendly initiatives to a recognised problem. Several important secondary outcomes do emerge from a rights-based approach, including addressing childhood obesity and improving mental health, developmental health and air quality⁷.



4. Shaw et al, 'Children's Independent Mobility'

5. UN UNCRC, UN Convention on the Rights of the Child, 1989

6. Willow, C. Meeting the obligations of the Convention on the Rights of the Child in England, Children and young people's messages to Government, 2007

7. Gill, T. Building Cities Fit for Children, 2017

Supervision

Play and independent mobility both require some proportion of directly unsupervised time⁸. Natural surveillance enables safety for children and young people without formal monitoring. In design terms, permeability, or a reduction in physical barriers between spaces, can enable places to be naturally overlooked and overheard as well as easily accessed⁹. Urbanist Jane Jacobs argued that an inclusive and successful city is one where people without formal kinship or relations take responsibility for others¹⁰. This culture of care can be facilitated through the design of multi-use space that provides for multiple functions and interactions and therefore a range of age groups, people and active uses¹¹.



Health

[“If we cherish the fun and freedom that comes from playing out, we will be rewarded with health and wellbeing outcomes in abundance”¹².](#)

Physical activity is closely linked to improving children’s physical and mental health¹³. Children’s inactivity and obesity is increasing in the UK, along with diagnosis rates of mental health problems. London’s Child Obesity Taskforce demonstrates the recognition of, and strategic commitment to, addressing poor health of children and young people, particularly in deprived areas of London¹⁴. Ensuring that built environment interventions facilitate greater physical activity is crucial in fulfilling health and wellbeing outcomes, as well as the right to mobility.



8. Bornat, D. Housing Design for Community Life: Researching how residents use external spaces in new developments, 2016

9. Krysiak, N. Making space for play, 2018

10. Jacobs, J. The Death and Life of Great American Cities, 1961

11. Bornat, 'Housing Design for Community Life'

12. Bornat, D. Neighbourhood Design, in Chain Reaction: Do buildings damage your health, 2018b

13. Bornat, D. Between Edges and Hedges. Essay: Designing for Play, 2018a

14. Greater London Authority. The London Health Inequalities Strategy, 2018

Crime and antisocial behaviour

Children, particularly teenagers, are a complicated presence in public space – often stereotyped as proponents of antisocial behaviour, whilst also imposed with mobility restrictions due to perceived dangers of public space¹⁵.

In London, young people's perceptions of safety in their area decrease with age¹⁶. A study conducted by ZCD Architects found knife crime, strangers and adults' negative perceptions to be the most prominent factors for reluctance to go outside¹⁷. Built environment interventions and policy should therefore aim to fulfil a child's right to safety, both actual and perceived¹⁸.



Gender

Girls, particularly teenage girls, are more likely to have restrictions placed on their mobility freedoms¹⁹. Research in different housing typologies in London found that boys are more likely to play out, visit a park and ride a bicycle alone, and have fewer concerns over safety in public spaces²⁰. Design, planning and policy must understand these social and gendered issues when considering how built environment interventions will be experienced and impact on opportunities for mobility. One example would be understanding how suitable a conventional Multi Use Games Area (MUGA) is for girls, as research shows they are less likely to be used by girls²¹.



15. Lacey, L. Street play – a Literature Review, 2007

16. Mayor of London Office for Policing and Crime. What Londoners tell us around knife crime and violence: MOPAC evidence and insight, 2019

17. Bornat, D. and Shaw, B. Neighbourhood Design, 2019

18. ARUP. Cities Alive. 2017

19. Kytta, M. The extent of children's independent mobility and the number of actualized affordances as criteria for child-friendly environments, 2004

20. O'Brien et al. Children's Independent Spatial Mobility, 2000

21. Beebeejaun, Y. Gender, urban space, and the right to everyday life, 2016

Risk

A risk-averse approach to policy and design means the developmental and experiential benefits of risk such as resilience, risk management, independence and self-reliance are being eroded²². Risk is a key part of childhood. A level of risk must be presented to children and young people so they do not seek out dangerous situations in un-provisioned environments. Risks also tend to be outweighed by the health and developmental benefits of playing, especially when this is self-directed²³.

Alternative evaluation and assessment methods, for example Play England's Risk-Benefit Assessment²⁴, consider benefits of design and risk – there is scope to develop this approach for public realm design that incorporates playful features, as this has not yet been explored²⁵.



Third places

Designing for independent mobility needs to create safe and accessible routes between the home and the school, as well as connections to the other places that children and young people use²⁶. 'Third places' are places used away from home and school, such as parks, recreation facilities, libraries and other forms of social infrastructure²⁷. These informal spaces, where important social interactions occur, hold a key functional and symbolic role²⁸.



22. Gill, T. *Playing it Safe*, 2018

23. Gill, T. *Space-oriented Children's Policy*, 2008

24. <http://www.playengland.org.uk/wp-content/uploads/2015/10/psf-risk-benefit-assessment-form-worked-example.pdf>

25. Gill, 'Playing it Safe'

26. Elshater, A. *The Philosophy of Urban Reload*, 2018

27. Oldenburg, R. *The Great Good Place*, 1989

28. Hickman, P. "Third Places" and social interaction in deprived neighbourhoods in Great Britain, 2013

Mobility and play

Play and mobility are often discussed in separate terms, however a key part of play is self-directed movement either within or between different spaces²⁹. Part of being able to move between these spaces is having high-quality and safe streets and public transport for children and young people to use, either dependently or independently of parents or carers. In terms of design and the built environment, interventions that incorporate play into mobility, and mobility into play, are naturally ones that encourage independent and self-directed play. In these instances, the built environment becomes simultaneously safer, full of affordances and navigable for children and young people of all ages and abilities.



Child development

Multi-use and flexible spaces where children and young people are able to play, and other activities can occur, create a process of 'self-reinforcing' behaviours. Visibility of different social groups interacting encourages more groups to join and builds a sense of informal responsibility and safety³⁰. Research has found that younger children who are able to play and move independently show better mental and physical development than children who are not³¹. Child development is also underpinned by a good balance of risks and benefits which a mixed-use space often brings³².



29. Wheway, R, and Millward, A. Child's play: Facilitating play on housing estates, 1997

30. Gehl, 'Life Between Buildings'

31. Hüttenmoser, M. Children and Their Living Surroundings, 1995

32. Gill, 'Playing it Safe'

Proximity

The distance between the home, school, transport and play and social spaces is important in determining the mobility license granted to children and young people. Younger children tend to see larger distances as a greater hinderance to mobility than older children do³³. Closer proximity between different uses and spaces enables greater independence in mobility, supporting the idea of a mixed-use and multi-functional public realm.

Studies in 1997³⁴ and 2013³⁵ both found that children of all ages prefer to play where they can see / hear and be seen / heard from the home or by other responsible adults. Incorporating design elements that maintain sight lines is key, both in public spaces and residential developments, and can inform playable environments with more than one intended use³⁶.



33. Greater London Authority. *Sowing the Seeds, Reconnecting London's Children with Nature*, 2011

34. Wheway, R, and Millward, A. *Child's play*, 1997

35. Barclay, M. and Tawil, B. *Wrexham Play Sufficiency Assessment*, 2013

36. Krysiak, 'Making space for play'



(Source: TfL Image Library)

ASSESSING INDEPENDENT MOBILITY

The importance of being able to evaluate the levels and quality of independent mobility in built and unbuilt projects cannot be underestimated in the production of the built environment. Not only does it assist with more effective planning assessment and decision making, but it fundamentally allows us to better understand the effectiveness of interventions and how this can inform future development.

How and what we measure ultimately defines eventual outcomes, as schemes and developments become tailored to meet assessment criteria. Independent mobility, and wider child-friendliness, is a relatively complex area to measure, dependent on many variables, and therefore it requires both qualitative and quantitative approaches.

International Comparisons

The Policy Studies Institute conducted a longitudinal study between 1971 and 2015, looking at levels of independent mobility across 16 countries. Results found that mobility restrictions are greatest for children below 11, and become more relaxed as children get older¹. Traffic and road safety are the main reasons for restrictions on independent mobility, and improving streets and highways was a key recommendation. Children's independent mobility in the UK ranked in the middle of the countries assessed.

International assessments are useful in identifying trends, drawing out best-practice examples, and understanding global concerns such as the impact that intensive vehicle use in cities has on childhood and development.

1. Shaw et al, 'Children's Independent Mobility'

What to Measure

There are a number of factors that indicate how child-friendly an environment is. It is important to recognise that what gets measured and turned into a policy requirement will define, and potentially limit, outcomes. Some indicators and data are more easily translated into practice. Therefore it is crucial to outline a range of indicators for different audiences and purposes, recognising that children and young people understand and navigate the urban environment in more sensory ways to adults, who often prioritise efficiency over experience for journeys.

Outlining the key components of independent mobility is the first step to understanding what we can assess and measure²:

Mobility licence	The defined rules granted to children and young people, including certain spaces and transport modes they are allowed to visit and use
Territorial range	The distance from home that children and young people can travel independently.
Destination	The specific destinations that children and young people are allowed to visit unaccompanied, or where they actually go, for example school, the homes of peers, sports facilities.
Time	The amount of time a child is allowed to spend away from home.

2. 'Marzi, I. & Reimers, A.K. Children's Independent Mobility: Current Knowledge, Future Directions, and Public Health Implications, 2018

Mobility Indicator Checklist

Different sets of indicators help to understand processes at different scales, across a range of contexts. The urban environment is not purely spatial nor purely experiential, so a combination of both quantitative and qualitative indicators is important when addressing children's independent mobility.

The following key indicators highlight the ways that mobility and the potential impacts of elements of the built environment should be measured.

An extended list of indicators can be found in the accompanying appendix document.

Mobility

- Can a child / young person walk or cycle to and from school alone?
- Can a child / young person walk or cycle to friends' houses, civic and social spaces and activities alone?
- What is the maximum distance a child can travel independently?
- Does a child/young person feel safe walking or cycling to and from school and other destinations and activities alone?
- Can a child / young person play within sight of their home?
- Does a child / young person use public transport independently?
- Can a child / young person travel after dark alone or with friends?
- What is the average time taken for a child to walk / cycle from home to a play space or green space?
- What proportion of children use active modes of transport to and from school?

Features of the environment

- What proportion of children have access to green space and play space within close proximity to their home?
- Do children and young people feel welcome and able to play in public and communal spaces?
- How much formal and informal play space is there in an area?
- What are the air quality measurements around schools and children's infrastructure, including before and after built environment interventions?
- What proportion of outside space is car-free, well overlooked and directly accessible from residential developments?
- What proportion of a local authority's budget is dedicated to encouraging active transport in children and young people, in terms of education, design, improvements and renovation?
- Do children and young people have a high level of input into decision making regarding the built environment?
- Does the environment create conditions for children and young people to be outside after dark?

Measurement Methods – How to Measure

There are five main ways of measuring the mobility patterns and behaviours of children and young people:

Interviews	These may be unstructured, following the natural direction of the conversation with minimal guidance, or be structured with a pre-determined set of questions ³ . Interviews can provide important insights into mobility licence.
Observations	Often researchers will observe a space, people and their behaviours, to try and generate a picture of what the space is used for and by whom. This may also identify who cannot use the space and what activities are not permitted.
Mapping	Used as a creative engagement tool to understand how children and young people perceive their neighbourhood. Children and young people are invited to draw and annotate a map to provide a greater insight into their relations with and feelings towards particular places.
Soft GIS	Soft Geographic Information Software (GIS) combines both subjective and objective data, enabling a richer insight into spatial understanding, such as the opinion a participant has on a particular place. It can be used to understand qualitative and quantitative aspects of a child's territorial range.
Survey	A standardised set of questions which may be closed (multiple choice) or open (written response). The benefits of this survey method are the possibility of a high number of participants and ease in comparing data.

Independent mobility is multi-faceted and determined by a combination of qualitative and quantitative factors⁴. As the most appropriate methods of measuring it can vary depending on the nature of different contexts, a combination of different methods is advised to allow for a more holistic understanding of the issue.

3. 'Secor, A.J. Social Surveys, Interviews, and Focus Groups in Research Methods in Geography, 2010

4. Bhosale, J., Duncan, S., Stewart, T., Chaix, B., Kestens, Y. and Schofield, G. Measuring children's independent mobility: comparing interactive mapping with destination access and licence to roam. 2017, p679.



(Source: TfL Image Library)

6 POLICY

Introduction

Child-friendly design and urban planning is an emerging field which advocates an approach to planning and designing cities beyond playground provision, to improve the health and physical, social and mental development of children and young people. It recognises the importance of independence and play as part of the built environment as a whole.

Whilst there are issues and concerns in London, there is also a lot of potential for improving the life of citizens of all ages through policy and built environment interventions. Child-friendly policies are those that specifically provide guidance on initiatives and interventions that realise the rights of children. The identification and development of policy that facilitates the transformation of the built environment to address independent mobility of children and young people is a key part of creating a child-friendly city. Policy at both the city and borough level can simultaneously set standards and coordinate the actions of built environment professionals.

At the local level the Play Streets movement is beginning to influence planning and development, with communities reclaiming streets as their own spaces to socialise, gather and play. There are also notable instances of London boroughs such as Tower Hamlets and Hackney are leading the way with child-friendly Supplementary Planning Documents (SPD) in development. However there is still a long way to go, particularly from the perspective of engaging children and young people in policy making itself.

A recent review of child-friendly planning in the UK highlights that 'children's participation in planning is both about participation in the process of planning and in the outcomes of planning', however 'participatory planning processes are regularly criticised for not

giving an adequate voice to communities'¹. The review advocates a three-pronged approach to participatory outcomes and processes with children and young people in planning that supports children's use of space in terms of:

- time to participate
- space to participate
- attitudes to policy development and implementation

At the city level, the new London Plan sets out a city-wide spatial development strategy, underpinned by the concept of Good Growth – growth that is socially and environmentally sustainable and economically inclusive. The Plan sets ambitious planning policies that aim to improve the social, economic, environmental and transportation development of London through various built environment and service interventions. It is particularly notable for its provision for children and young people across a range of services, initiatives and processes. Those of relevance to this inquiry include:

- A plan-led approach to play provision where boroughs are required to carry out assessments and audits of existing play and informal recreation opportunities to assess the quantity, quality and accessibility of spaces.
- That developments should increase opportunities for play and informal recreation to enable children and young people to be independently mobile.
- A tenure-blind approach to playspace provision i.e. that play should not be segregated by tenure in housing developments
- That play space should be stimulating and overlooked to enable passive surveillance, incorporate greenery and form part of the surrounding neighbourhood and be safely accessed from the street by children and young people independently.

1. Wood, J. Bornat, D. Bicquelet-Lock, A. Child Friendly Planning in the UK, A Review, 2019

- The necessity for development proposals to incorporate safe and accessible routes for children and young people to local amenities so that they can move about freely and independently within their neighbourhoods.

In addition, policy D8 Public Realm of the new London Plan asserts that whether publicly or privately owned, public realm should be open, free to use and offer the highest level of public access. These spaces should only have rules restricting the behaviour of the public that are considered essential for safe management of the space. The Mayor will provide a 'Public London Charter' which will set out the rights and responsibilities for the users, owners and managers of public spaces irrespective of land ownership.

These strategic London-wide policies place a renewed emphasis on the importance of understanding what already exists within a given area, to assess how any new development might contribute to it, connect and engage with it. In addition, restrictive street layouts, poor links between spaces for play and informal recreation and the context of busy roads are also all contributing factors in whether neighbourhoods can be classified as 'child-friendly'.

The detail of these contextual issues need to be addressed at the borough level, making the creation of appropriate local policies and departmental agendas with a strategic emphasis on children and young people an intrinsic part of the process.



Bike Around the Borough – a cycling event in Hackney (Source: LB Hackney)

Principle

Policy Approach

An inter-departmental agenda of child-friendliness, particularly with the objective of facilitating independent mobility for children and young people, should be pursued at the borough level and embedded across multiple departments and strategies.

The development of policy affecting children and young people should seek to engage with their views as part of the commissioning process.

This policy principle, alongside those in other chapters, has been identified to assist those involved with city making – local authorities, clients, developers and their design teams – in creating a holistic and strategic approach to enabling better independent mobility in the built environment for children and young people.

Practice

Recommendations for best practice grouped by target audience include:

Local authorities and policy teams:

- Planning policy should prioritise compact distribution of children’s amenities and uses, reducing the number of major roads separating them.
- Qualitative and quantitative criteria and data should be used to inform policymaking, measuring both quantity of spaces, and quality of places and routes provided.
- Local authorities should develop their own Child-Friendly SPDs, also addressing mobility.

- A proportion of a local authority's budget should be dedicated to improving children's infrastructure and active transport.
- New children's amenities should not be located on major roads or areas with poor air quality.
- Street closures, timed closures, School Streets and Play Streets should be consistently implemented around all boroughs.
- Youth cabinets and youth parliaments can provide a means of communication between formal governance structures and an area's young community (refer to 'Participation' chapter).
- Stakeholders including children, tenants' and residents' associations, the local council, and local charities or actors with the agenda of elevating children's rights to mobility can all play key roles in the development of new policy and planning guidance.
- The development of relevant planning policy and Local Plans should be informed and framed by gathering relevant place-based insights from children and young people.
- Engagement with children and young people should be carried out by appropriately qualified professionals who have demonstrable experience in interacting at their level.

Designers, architects and play professionals

- The development of policy, strategies and associated guidance should seek to engage with and respond to the interests and views of children and young people.
- Engagement with children and young people should be tailored accordingly and undertaken on their terms and on their level (refer to 'Participation' chapter).
- The time and space for engagement processes with children and young people need to be carefully planned and allowed for to ensure they are fully able to participate.

Useful References

- Child Friendly Planning in the UK: A Review (Wood, Bornat & Bicquelet-Lock, 2019)
- 'School Streets: Timed Traffic Restrictions, toolkit for professionals' (Hackney Council, 2019)
- 'Place Standard Tool' (Architecture & Design Scotland, 2015) can be used to assess the quality of a place and identify priorities
- Independent mobility indicator checklist (Refer to Assessing Independent Mobility pg36–7)
- London Borough of Hackney case study (Refer to pg48–51)
- Neighbourhood Design case study (Refer to pg52–53)
- Playing Out precedent (Refer to Resources pg108–109)
- Futures London Workshop, Housing Design SPG, Good Quality Homes for all Londoners 2020 precedent (Refer to Resources pg107)
- Mayor of London Peer Outreach Workers and London Youth Assembly precedent (Refer to Resources pg106)
- Oslo, Norway precedent (Refer to Resources pg112)
- City of Toronto precedent (Refer to Resources pg105)
- City of Vancouver precedent (Refer to Resources pg110–111)
- Tirana, Albania precedent (Refer to Resources pg113)

Case Study

London Borough of Hackney

A political commitment to child-friendliness at local authority level is implemented effectively via a cross-policy approach across council departments.

In 2018, the Mayor of Hackney made a public pledge that Hackney would become a child-friendly borough. A range of interventions in green spaces, play spaces and streets were announced and a number of reports, policies and strategies from several different departments address and advocate for a range of child-friendly initiatives. The table (right) highlights the inter-departmental approach that the council is taking.

Hackney Council has also commissioned two research projects that adopt innovative approaches to understanding lived experiences of children and young people in Hackney, and has set a precedent for the way councils can collect information and engage with residents. The borough is currently drafting its Child-Friendly Places SPD.

School Streets

The School Streets scheme creates temporary road closures outside schools during pick-up and drop-off times, where only pedestrians and cyclists are allowed to use the road. Over 250,000 car journeys are created every day by the school run in London, despite the relatively close proximity between homes and schools. Transforming the space outside schools for pedestrians and cyclists is enforced with penalty notices. The initiative was piloted at five different schools in the borough, with three of these pilots now permanent, and another four currently being trialled. The scheme has a series of aims:

- Healthier children and better academic performance through greater physical activity
- Less traffic and pollution
- Safer school zones and better connectivity between spaces

Policy Area

Initiatives	Policy Area					
	Public Realm	Leisure, Libraries and Green Spaces	Strategy, Policy and Economic Development	Public Health	Regeneration	
Parklets	■					
Smarter Travel	■					
Bikeability	■					
Bike around the borough	■					
Quietways	■					■
Cycle to School	■					
School Clean Air Zones	■	■				
Play Streets	■	■	■	■	■	■
School Streets	■					
Safe Transport Teams	■					
Junior Road Safety Officers	■					
Children's Centres		■	■	■	■	
Learning Outside the Classroom			■	■	■	
School Grounds Habitat Action Plan				■	■	
Air Quality Focus Areas	■	■				
Air Quality Impact Assessment	■	■				
Travel Plans	■					
HENRY					■	
Greenways	■	■				
CFC Reports						■

An inter-departmental agenda means initiatives are present across several departments (source: Publica)

In order to assess the effectiveness of the scheme, baseline data was collected for each of these indicators:

- Air quality – concentration of harmful pollutants can be measured using air quality monitoring equipment.
- Volume of traffic using roads outside the school and on nearby roads.
- Modal split of students – how many pupils walk and cycle to school? How many pupils still get driven to school, what are the reasons, and how can this be addressed?

The effectiveness of the timed road closures over the pilot period was then compared to baseline data. For example, over a 15-month period, traffic volume on roads surrounding the Tysson Primary School showed a reduction of 32 per cent, and traffic volumes directly outside the school decreased by 85 per cent.

In 2019, LB Hackney published a detailed School Streets Toolkit which was circulated to all boroughs nationally. It provides examples of information cards, consultation and site selection processes, and best practice examples from within the borough, with a series of steps outlining implementation.

A range of LB Hackney's other child-friendly initiatives can be found in the appendix document.



'Play streets' traffic restrictions on residential roads (Source: LB Hackney)



A School Streets intervention in Hackney (Source: LB Hackney)

Case Study

Neighbourhood Design Working with children towards a child-friendly city

A mixed-method engagement approach helps to understand lived experience, and is a crucial starting point for design and redevelopment interventions.

ZCD Architects' study adopted a participatory approach to assess children's lived experiences in the De Beauvoir Estate in Hackney². Creative participatory methods were used as a way of understanding how children and young people use space, and as a way of understanding their levels of play sufficiency. A mixture of qualitative and quantitative methods included discussions and focus groups, map-making, creative writing, photography and walking tours led by children. The researchers also conducted a set of observations on the behaviours and uses of spaces by children.

Data on mobility and levels of independence were assessed through surveys and diagrams about activities, days and levels of freedom or constraint (from fully constrained to complete agency). Assessments of external areas on the estate collected data on spaces, things, surfaces, edges and the elements that impact them, which were then translated into a map of the space. Children and young people identified points of interest, different routes, and commented about their sense of place, which were elaborated on in focus group discussions and analyses.

Children and young people created a narrative of neighbourhood and play space to evaluate play sufficiency, levels of independence, safety, and capacity for mobility in both qualitative and quantitative terms. Mobility and play were integrated using this mixed-methodological approach.

2. Bornat and Shaw, 'Neighbourhood Design'

The study has created a framework of engagement suitable for replication in other urban areas, and demonstrates how understanding experience is a crucial part of the early stages of the design process. Facilitating young people to create a narrative elevates their voices and right to participate, and allows them to evaluate their levels of independence and capacity for mobility.



7 PARTICIPATION

Introduction

The processes of planning and design are key points at which children and young people can engage with the changes in their neighbourhood. Meaningful engagement should focus on lived experience, recognising that children and young people are active citizens who use and negotiate the city, and who should therefore have a level of responsibility and input into how it is shaped¹.

“Participation needs to be led by children’s experiences of space. The expertise of children to be able to bring life and insight to a place through their stories and descriptions is invaluable to professionals working on urban development. The knowledge of children needs to be paired with the expertise of urban professionals in design and delivery. Engagement of children must focus on the lived experience not abstract concepts of urban design.”²

In addition to developing key life skills such as sharing, collaboration and co-learning³, exemplar approaches to planning and design that engage with children and young people can help to achieve and elevate their rights. This is particularly important as they are often under-represented and overlooked in typical built environment consultation processes⁴.

Efforts should be made to understand how children and young people use and feel about space from the outset of the project and to help inform the design brief. Engagement methods should be tailored to suit the relevant age groups of those participating, to ensure a wide range of input is achieved. In addition, engagement

1. Hart, R. Stepping Back from ‘The Ladder’: reflections on a model of participatory work with children, 2008

2. Bornat and Shaw, ‘Neighbourhood Design’

3. Hart, R. Children’s Participation: from tokenism to citizenship, 1992

4. Hart, ‘Children’s Participation’

should continue throughout the development and delivery of a project, into post-occupancy analysis, to inform management plans and any further interventions required.

A best practice approach for involving children and young people in place-based projects was developed in 2013 by the Children and Young People Commissioner for Scotland. The seven golden rules of participation are written from the perspective of the participant and can be a helpful tool in developing an appropriate strategy⁵.

There are a number of areas that address process and engagement in London policy. The new London Plan encourages boroughs to consult with children and young people when preparing needs assessments of play and informal recreation and states that the views of children and young people should be sought when designing new provision. The Plan supports a wide range of consultation methods, including interactive digital models and 3D Virtual Reality.

This agenda of empowerment is also present in the Mayor's Environment Strategy, where vulnerable stakeholders have a say in the location of developments with the aim of reducing their exposure to poor quality air. Transport for London's 'Small Change, Big Impact' guide helps map out the practical steps to implement small scale interventions, from early feasibility evaluations to formalisation of the initiative.

Children and young people's participation is a fundamental aspect of an inclusive and child-friendly city. In order to engage fully with young people, different creative and flexible methods must be adopted⁶.

5. Children and Young People's Commissioner Scotland, Seven golden rules of participation, 2013

6. Driskell, D. Status of Children's Outdoor Play in Urban Settings, 2002

Principle

Participative Approach

Children and young people should be engaged in the process of design and planning from the earliest possible stages, including pre-design consultation.

Participation needs to be understood as a long-term process; ensuring post-intervention feedback and analysis means co-creation is not limited to the design of a space, but also its management and iterative changes.

This participation principle, alongside those in other chapters, has been identified to assist those involved with city making – local authorities, clients, developers and their design teams – in creating a holistic and strategic approach to enabling better independent mobility in the built environment for children and young people.

Practice

Recommendations for best practice grouped by target audience include:

Commissioning authorities, clients and developers

- Facilitate children and young people to initiate their own ideas and projects, and invite adults into the decision-making process on their own terms.
- Promote and ensure good-quality and appropriate engagement is done through the lens of 'social value', or the 'additional benefit to the community from a commissioning/ procurement process over and above the direct purchasing of goods, services and outcomes'⁷.

7. BuildingSocialValue.org. What is social value?, 2019

- Recognise that the design and development of projects hold value beyond merely financial benefits – this is key in fostering empowerment and social sustainability in project commissioning.
- Introduce pilot projects to test new interventions, in design or consultation, in order to start the process of learning and securing funding for projects.
- Test ideas through meanwhile use programmes for spaces to gather early-stage feedback from residents and young people.
- Undertake post-occupancy evaluations and phase-to-phase learning to identify opportunities to improve future phases of projects and outcomes and promote the testing of new elements and approaches.

Designers and architects

- A focus on understanding the 'lived experience' of children and young people through research is crucial to gain a rich understanding of place. This should be used as a starting point to inform design.
- Major projects should start with mapping and audits of children's infrastructure and routes in a particular place. This process of mapping must engage with, and be led by, children and young people who live in or use the area.
- Engagement should be meaningful – weight and status should be given to feelings, opinions and experiences of children and young people, which should enable them to have an impact on policy, design and development.
- Engagement processes should start with observational research and mapping of both quantitative and qualitative elements of environments, including barriers to independent mobility and wider connectivity and networks.

- Engagement should use creative methods to ensure children and young people are stimulated, including online and digital.

Useful references

- Hart's Ladder of Participation shows how we can measure children and young people's engagement, outlining the key characteristics of genuine participation. (Refer to separate appendix document)
- Seven golden rules of participation Children and Young People Commissioner for Scotland (SCCYP 2013)
- Hackney Quest and Build Up Hackney case study (Refer to pg64–67)
- Rokesly Junior School case study (Refer to pg60–61)
- Room for Art case study (Refer to pg62–63)
- The Amazing Place, Christchurch New Zealand precedent (Refer to Resources pg116)
- Flickrum, Stockholm precedent (Refer to Resources pg114)
- Child-Friendly Rotterdam, The Netherlands precedent (Refer to Resources pg115)
- Growing Up Boulder, Colorado precedent (Refer to Resources pg117)

Case Study

Rokesly Junior School, LB Haringey

A series of workshops with young people to engage them with the built environment and imagine a future without cars.

As part of the RIBA Architecture Ambassadors programme, architecture and design practice Freehaus developed a series of workshops with ninety Year 6 students at Rokesly Junior School in Haringey, drawing on the school's existing interest in community and cultural outreach.

The workshops revolved around modes of transport in the city, considering how infrastructure impacts communities and how a city is shaped. The aim was for the students to think about alternative methods of transport and ultimately to imagine London devoid of cars: how would that affect the way we live and the way our streets work? What would we do with the extra space?

In an initial workshop, the students discussed the layout of various cities in relation to the historical evolution of transport. Through the use of collage, the students re-envisaged their own streets and neighbourhoods devoid of cars.

The second workshop saw their concepts come to life. Throughout the day, the cohort built their imagined streetscape from cardboard at a scale of 1:5.

The students worked as a team, negotiating and delegating tasks between them, highlighting the value and efficiency of collaboration. Ultimately, the workshops set out to enthuse the students to consider the positive impact of good design, not only on the way we live but through our interactions with one another and the world around us.

Following the success of the workshops, Freehaus are exploring how these themes could become routed in a real-life scenario in collaboration with Haringey Council's 'Play Streets' programme.



Rokesly School Workshops
(Source: Freehaus)



Rokesly School Workshops
(Source: Freehaus)

Case Study

Room for Art, Poplar, LB Tower Hamlets

A clear process of participation ensures young people can have a say in the spaces and buildings they use every day.

MATT+FIONA is a collaborative venture which exposes young people to the processes involved in design and construction within the built environment. They use live design and build projects to provide children and young people with an understanding of spatial design, through constructive teaching, play and making. Each project has a clear pathway: briefing, design and build, with the children and young people at the centre of every stage.

The Room for Art project was a commission by the Whitechapel Gallery which enabled Year 6 students at Lansbury Lawrence Primary School in Poplar to design, develop and build their own community art room in Poplar.

Situated on the fringes of Canary Wharf and the Olympic Park, the Lansbury Estate finds itself on the margins of rapid redevelopment. Over 12 weeks the children explored the possibilities for their new art classroom with the help of MATT+FIONA. The students set the brief for the space and what they would like to do there. They were then supported through a process of imagining, drawing and model making to create a proposal for the Room for Art.

Chapter 1 of the project concluded with a week-long build at the Whitechapel Gallery where the children fabricated a full scale prototype for part of the Room in two of the gallery spaces. Chapter 2 will be for the students to refine the design of the classroom and then be involved in its fabrication on the school site.



'Room for Art' workshops
(Source: MATT+FIONA, RobHarris)



'Room for Art' installation at Whitechapel Gallery
(Source: MATT+FIONA, RobHarris)

Case Study

Hackney Quest and Build Up Hackney

A co-produced project, from the early concept stages, to final design and construction. Innovative methodologies were used to ensure meaningful engagement and participation, and foster a sense of ownership.

Hackney Quest is a project 'to amplify the voices of young people', recognising them as important stakeholders with concerns and ideas. In 2017, over 400 young people from primary schools, secondary schools and youth clubs in Hackney Wick were engaged with, giving their opinions and experiences. 26 per cent of the local population is 19 or younger, and 19.6 per cent of the population live in deprived households, making Hackney the 7th most deprived local authority in the country⁸. The report 'Hackney Wick Through Young Eyes' outlines what respondents liked, as well as their concerns about their neighbourhood, particularly the sense of dis-empowerment regarding changes to the area.

In 2019, Hackney Quest joined Build Up Hackney to address some of the concerns raised in the report, particularly the negative stereotypes of young people, a sense of dis-empowerment, and poor-quality public spaces in the local area.

Located on a formerly unloved and disused piece of public realm owned by Hackney Council on Flanders Way, the project comprised the design and construction of a new pocket park, featuring a circular fixed-seating area with integrated swings, new lighting, brightly coloured bins, timber signage and an exciting playful border with cast iron artwork. Involving young people aged 10–12 from two local schools, the collective aspiration was to create a community space that could be enjoyed by everyone. Tasks included:

- Mapping the area to find out what the young people like and dislike through photography and identification of meaningful places.

8. Ministry of Housing, Communities & Local Government. The English Indices of Deprivation, 2019

- Identifying ideal characteristics of Hackney and the site that they'd like to see.
- Mapping trees and developing place-specific ecological knowledge of the area.
- Drawing up plans and designs for the space and getting feedback from architects and councillors.
- Co-producing rules of the site and learning to use power tools, both of which fostered and created responsibility through risk.
- Enabling children and young people to reach out to the wider community, culminating in planting and seeding days at the end of October.



Design workshops with young people (Source: Build Up)



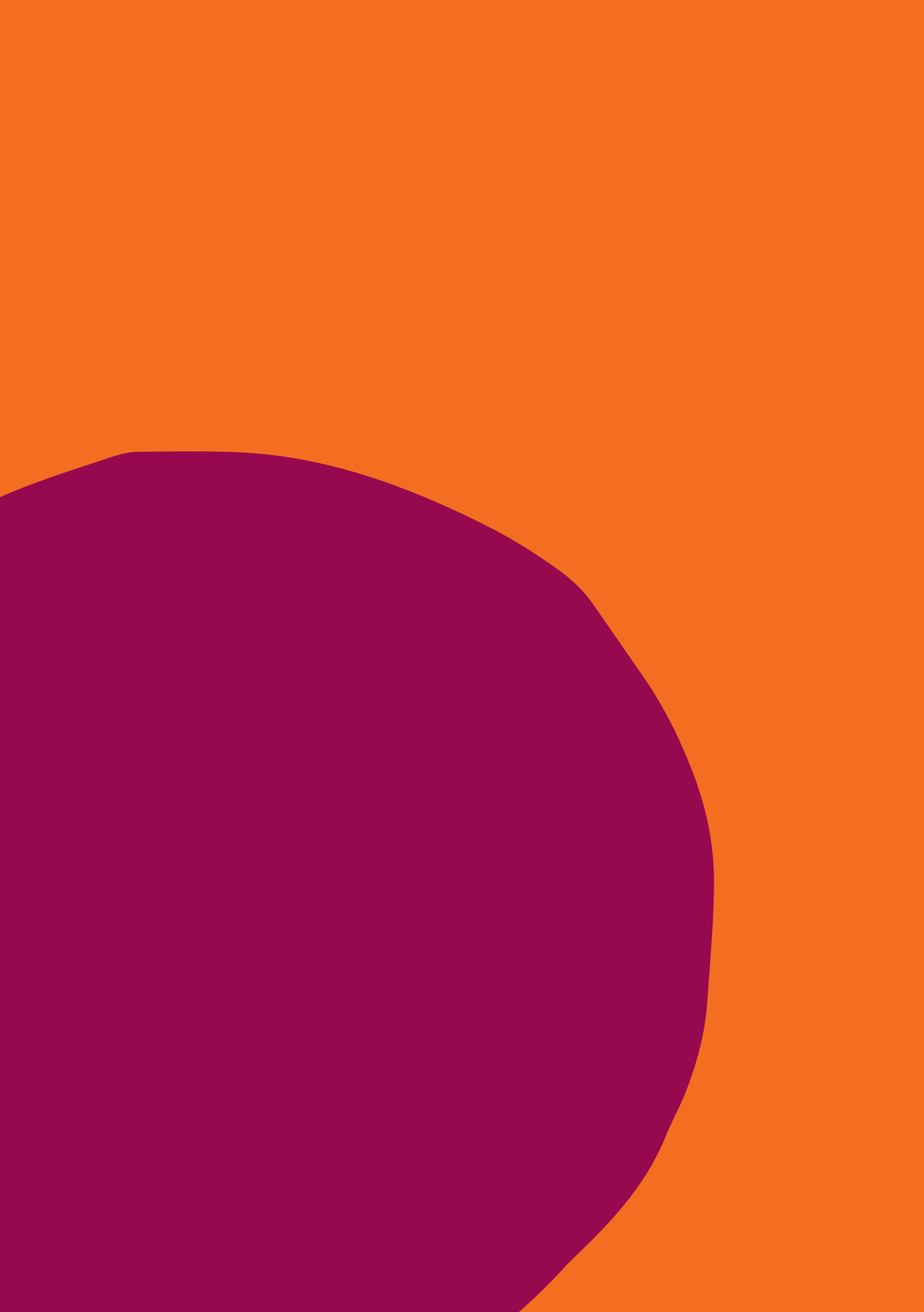
The completed project at Flanders Way, Hackney (Source: Build Up)



Young people identifying sites of interest and developing designs at the Build Up Hackney site (Source: Build Up)



Construction of the Flanders Way pocket park with young people (Source: Build Up)



8 DESIGN AND TYPOLOGY

Designing Streets and Public Spaces

Fulfilling children and young people's right to mobility means creating a safe and accessible urban environment with many places to go and options for things to do. Streets and spaces are a key element of children's infrastructure. They provide a means for children and young people to move around their neighbourhood, and interact with friends and other members of the community. Identifying and improving routes between different children's amenities is key in making the connections between different places.

In terms of safety, design interventions should aim to remove danger from the environment rather than remove children from a dangerous environment¹. Perceptions of road safety are related to levels of children's independent mobility, and therefore focusing on street design and the measures designers can take to improve it is a key element of facilitating children's independent mobility². Laws in Denmark that forced authorities to protect and safeguard children and young people against traffic translated into a range of design and planning practices, focusing on prioritising cyclists and pedestrians³. Between 1970–2008, road deaths decreased by 70 per cent, from 24.62 to 7.37 per 100,000 people⁴. Similar patterns in Holland followed the rollout of the Woonerf or 'living street' design intervention⁵. Cities in Denmark and Holland are regarded as being some of the most child-friendly in the world.

1. Shaw et al, 'Children's Independent Mobility'

2. Forman, H. Residential Street Design and Play, 2017

3. Gill, T. Space-oriented Children's Policy: Creating Child-friendly Communities to Improve Children's Well-being, 2008

4. OECD/ITF IRTAD Road Safety Annual Report 2009, 2010

5. Krishnamurthy, S., Steenhuis, C., Reijnders, D. and Stav, T. Child-Friendly Urban Design: Observations on public space from Eindhoven (NL) and Jerusalem (IL), 2018

Public spaces play a similar role to streets, in that they enable movement and social interaction. Child-friendly spaces will integrate play into other functions, encouraging a multi-generational mixture of uses. Making spaces more child-friendly is based on the expectation that children should be visible when playing in or moving around the public realm. In terms of design, a combination of fixed and temporary features makes a space more flexible in how it is used, particularly in response to changing needs and environmental conditions.

The Mayor's Healthy Streets for London initiative is a set of policies and strategies that encourage decision-making, planning and design to prioritise the provision of high-quality streets and services for active travel and public transport. Through 10 Healthy Streets Indicators, the programme outlines the ideal characteristics that a street will have for it to be sustainable and benefit pedestrians and cyclists.

Two indicators are particularly relevant when considering designing for independent mobility:

- Things to see and do – designing amenities, art and other objects that provide 'affordances' for interaction transforms the street into a space for play and interaction. The 'Parklet' initiative is one example, and the Parc Rives de Seine precedent on page 119 illustrates this indicator.
- Easy to cross – removing physical barriers when crossing roads is key in pedestrian and active travel. Ensuring routes flow well helps to prioritise the mobility of pedestrians and reduces the obstacles between different spaces.

Designing Housing and Residential Developments

The way housing and residential developments are designed impacts on the ability of children and young people to move between domestic, playable and social spaces. A good physical housing environment will incorporate and consider children's activities and play spaces as necessary elements from the outset, creating formal and informal provision for multiple ages, and safe mobility routes to amenities in the wider area. Designing in multiple uses encourages social activities and social interactions, enabling a form of overlooking and passive supervision⁶. It is important that children and young people feel welcome and able to play and socialise in public and communal spaces.

Some studies have found that high-rise living leads to less outdoor play by young residents⁷. However, there is a lot of potential in the planning and design of new developments to unlock opportunities to create child-friendly housing typologies. Blocks of flats hold potential if shared space is well utilised, creating more social and community space than private gardens would for residents⁸.

Research into children's independent mobility in different housing typologies has found that maximising the quality of shared spaces, both interior and exterior, is fundamental to facilitating children and young people moving between spaces freely and safely⁹.

There are differences in the typologies of inner-city and suburban areas in London, meaning the requirements for communal spaces, routes and mobility vary greatly¹⁰. Suburban low-density neighbourhoods may require a greater focus on improving active travel opportunities and encouraging a behavioural shift away

6. Gehl, 'Life Between Buildings'

7. Nitta, K. Effects of living floors on children's play in Takashimadaira high-rise housing project, Tokyo, 1980

8. Sim, D. Soft City: building density for everyday life, 2019

9. Bornat, 'Housing Design for Community Life'

10. ZCD Architects and NHBC Foundation. Making Spaces for Play: On new suburban and town developments, 2017

from car use. On the other hand, high-density inner-city areas may require overlooking of play spaces and communal areas from every floor in a building¹¹, making the orientation of play and recreation spaces and buildings central to achieving good quality spaces.

In the context of London governance, there are several policies that address housing provision and the needs of children and young people. In the new London Plan, a quota for outdoor space per child is specified for all new developments, and in the Mayor's Housing Strategy, the notion of well-designed and sustainable housing is emphasised. The new Housing Design SPG, Good Quality Homes for all Londoners (2020), will provide further detailed guidance to aid the implementation of the housing and design policies of the new London Plan, helping to ensure Good Growth for the creation of successful, inclusive and sustainable places. This includes guidance to:

- support quality design across a range of sites and housing typologies, through qualitative guidance, technical standards and examples of best practice;
- optimise site capacities through a design-led approach; and
- guidance to assist boroughs to facilitate the delivery of small sites via the preparation of design codes

As part of the development of the new SPG, a draft of the guidance was reviewed by Mayor's Design Advocate Dinah Bornat to ensure that principles of children and young people's independent mobility were embedded into the guidance for each typology.

Housing is a crucial lens through which to understand the independent mobility of children and young people. The immediate area outside the home is one that children and young people will use every day, so ensuring that it is high quality and safe is crucial. Indoor spaces must also provide opportunities for play and socialisation when outdoor spaces are unusable, such as when it rains.

11. Ferry, K. – between edges and hedges. 13 ideas for a better Harrow. 2017



King's Crescent Play Street, London Borough of Hackney (Source: MUF Architecture)

Principle

Design and Typology Approach

New developments, renewal projects and public realm improvements should encourage and facilitate the independent mobility of children and young people. Wider connectivity should be provided for to access nearby streets, cycle lanes, bus stops and train stations. If this is not possible, nearby child-friendly routes should be identified and efforts made to ensure access between the development and the route.

This design and typology principle, alongside those in other chapters, has been identified to assist those involved with city making – local authorities, clients, developers and their design teams – in creating a holistic and strategic approach to enabling better independent mobility in the built environment for children and young people.

Practice

Recommendations for best practice grouped by target audience include:

Local authorities and policy teams

- The quality of spaces and routes for children and young people should be assessed, alongside the quantum of space.
- Widened pavements and shared surfaces should be key considerations in street design to allow for the non-linear, meandering movement patterns of children.
- Safe routes should connect children and young people's amenities through well-marked and playfully designed streets and public transport provision, including suitable lighting.

- Streets should be designed to reduce the speed of drivers in residential areas where possible.
- Multi-modal journeys should be encouraged through closely positioned transport hubs, for example cycle racks near bus stops.
- Where possible and appropriate, cycle lanes should be segregated from the road with a significant buffer between the two carriageways.
- Thinking 'beyond the redline' should be a routine consideration in housing redevelopments and refurbishments. Improvements to public realm and infrastructure beyond the boundary of the project should always be sought, for example improving connectivity of social or children's infrastructure in a neighbourhood.

Commissioning authorities, clients and developers

- Independent mobility and child-friendly criteria should be integrated into vision, brief and procurement processes for masterplan, housing renewal, large-scale housing, and public realm projects, with all new development plans specifically formalising provisions for independent mobility.
- A multi-actor governance approach is essential to project commissioning. Stakeholders including children, tenants' and residents' associations, the local council, and local charities or actors with the agenda of elevating children's rights to mobility can all play key roles. This harnesses local knowledge, practical assistance and more bureaucratic knowledge¹², as well as cross-project learning and knowledge transfer.
- The involvement of children and young people in shaping new spaces should start from the outset, with engagement at the beginning of projects – continuing all the way through to post-occupancy analysis (see also Participation chapter).

12. Gill, *Playing it Safe*

- Play and independent mobility should be recognised as important elements when measuring 'social value'. This will enable a holistic and wider audit of provision within development proposals, where quantifiable improvements must be proposed.
- Building on the new London Plan policy to prohibit segregated play spaces, it is important that public spaces in housing developments are designed with the understanding that children will be free to play within them.
- A rigorous approach to post-occupancy analysis and learning between phases and between developments, should be used to define project briefs and aims.
- Developments should incorporate a mixture of uses, such as play space, allotments, social spaces and commercial space.
- Gender differences in how spaces are used and experienced should be considered by questioning the continued relevance of traditional play features such as MUGAs.

Designers and architects

- Developments should be considered in their wider context – for example proximity to nearby schools, transport links and civic / social uses. In large developments these should be mapped and understood from the outset.
- Design focus should be given to the quality of space and the mobility networks connecting them to demonstrate a more integrated approach to independent mobility.
- Both formal and incidental play space should cater for a range of ages and abilities and incorporate good levels of risk.
- Spaces should have multiple functions and land uses to invite a range of people and activities, fostering social interaction and informal supervision.

- Designing with flexibility and adaptability at the street scale is important when considering sustainability – in terms of changing uses and a changing climate.
- It is important to ensure that different spaces in neighbourhoods and housing developments are connected by safe and navigable routes that encourage incidental play.
- Providing spaces suitable for different age groups and genders is important. Older children may require more informal design and recreational features.
- Evening and night-time conditions should be considered and provided for, including lighting along routes and play spaces to enable wayfinding and mobility for children and young people into the evening during winter months.
- The use of urban greening should be considered to create a buffer zone between pedestrians and the carriageway, potentially also improving drainage and air quality.
- Biodiversity and greenery should be incorporated into the design of streets and spaces, to increase climate resilience whilst fostering an understanding of ecology in everyday mobility contexts.
- Designing for children’s mobility and play infrastructure should always consider future possible demographic change.
- For suitable typologies, front doors should face each other across a street or open social space to increase passive surveillance.
- Minimum play space requirements should not be the default maximum open space provided. The amount of any dedicated play space provision should be matched with alternative open space provision to encourage flexible recreational uses.

- Outdoor spaces in residential developments should be pedestrian priority (and car-free where possible), well overlooked, and accessible, inviting children and young people to play and move around the safe communal spaces.
- Playable and shared amenity spaces in residential developments should be overlooked where possible, either by active rooms within family units or from corridors and walkways, to enable opportunities for informal community supervision.
- Stairwells, lobbies and corridors should be designed to allow for unsupervised use by children and young people, with natural lighting, generous widths and differentiated designs to enable intuitive wayfinding.
- Networks and connections between both private and shared spaces should be safe and car free where possible. Footpaths should connect open spaces and have playable features.
- Segregating security measures such as high fences should be avoided where possible.
- Designers and governance bodies must recognise that physical spaces and social relations between residents on housing estates are different from those of conventional street residences.¹³
- Clear sightlines should be maintained throughout developments and ensure children and young people can observe all routes, and consider the heights of enclosures.
- Corridors and decks should be wide, allowing for indoor play and safe storage of bicycles, scooters and pushchairs.

13. Gill, T A Natural Thing: Supporting outdoor play on housing estates in Hackney 2018b

Useful references

- Small Change, Big Impact: A practical guide to changing London's public spaces (TfL, 2017)
- Transport for London Streetscape Guidance
- Transport for London Healthy Streets Toolkit. Available at: <https://tfl.gov.uk/corporate/about-tfl/how-we-work/planning-for-the-future/healthy-streets>
- Designing Child-Friendly High Density Neighbourhoods, Natalia Krysiak 2019
- GLA SuDS guidance series 'Reimagining Rainwater' (2020)
- Mini Hollands case study (Refer to pg80–82)
- Kings Crescent Estate case study (Refer to pg83–87)
- Precedent studies: (Refer to Resources)
 - Liveable Neighbourhoods, London pg118
 - Parc Rives de Seine, Paris pg119
 - Superkilen, Copenhagen pg120
 - Superblocks, Barcelona pg121
 - Aldgate Gyratory, London pg122
 - Brotorget Square, Bollnäs pg123
 - Freiburg, Germany pg124
 - The Musicon Path, Roskilde pg127
 - Giraffe Playground, Uppsala pg126
 - Hupisaaret Park, Oulu pg125
 - Bridget Joyce Square, White City pg128
 - Marmalade Lane, Cambridge UK pg129
 - Mehr Als Wohnen, Zurich Switzerland pg130
 - Sutherland Road, Waltham Forest UK pg131
 - Goldsmith Street, Norwich UK pg132

Case Study

Mini Hollands, LB Waltham Forest

Extensive provision of active transport infrastructure across a neighbourhood can encourage significant behavioural change.

The Mini-Hollands programme was initiated in 2013 by Transport for London, offering three London boroughs significant grants to improve their cycling infrastructure. Proposals from the outer London boroughs of Waltham Forest, Enfield and Kingston won funding to transform the areas into cycling hubs with high-specification cycling infrastructure.

The London Borough of Waltham Forest focused on improving cycle and pedestrian connectivity in the borough. The works included a major cycleway along Lea Bridge Road, cycle storage hubs at major stations, vehicle restrictions on Orford Road, and widespread crossing and pedestrian improvements. Improvements since 2013 have created a network of safer and cleaner streets, putting active travel and the potential for social interaction first.



Healthy Streets

The Mini Hollands programme is part of the Mayor's Healthy Streets agenda, to help Londoners walk, cycle and use public transport more. The Healthy Streets Approach promotes the creation of safe, low-pollution, quiet routes between schools, parks and amenities, with a focus on improving street conditions for children and other vulnerable groups.

Healthy Streets indicators (Source: Lucy Saunders)



Children using the pedestrianised Mini Holland roads in Waltham Forest
(Source: Publica)

Mini Hollands Interventions in Waltham Forest

- 37 road filters
 - Two timed road closures
 - 22km of segregated cycle lanes
 - 104 improved pedestrian crossings
 - 15 new pocket parks
 - 660 new trees
 - 20mph speed limits
 - 250 Bikehangars
 - Removal of 800 car parking space
-



The Mini-Holland scheme on Orford Road in Waltham Forest, showing pedestrian and cyclist priority. (Source: Publica)

Using baseline data from 2013, Kings College London undertook a study analysing the effects of the Mini-Holland scheme in Waltham Forest¹. Researchers at the University of Westminster also conducted a study to identify modal change². This is a combination of findings from King’s College London and the University of Westminster Reports:

<p>Impacts in 2019</p>	<p>Increase of 41 minutes more walking and cycling per person per week.</p> <p>More positive attitude towards cycling.</p>
<p>Impacts expected in 2020</p>	<p>Reduce NOx exposure in the borough by 25 per cent.</p> <p>Reduce particulate matter exposure by 13 per cent.</p> <p>1.5 month increase in life expectancy for children born since 2013</p>

1. Dajnak, D., Walton, H., Stewart, G., Smith, J.D. and Beevers, S. (Kings College London). Air Quality: concentrations, exposure and attitudes in Waltham Forest.

2. Aldred, R., Croft, J. and Goodman, A. Impacts of an active travel intervention with a cycling focus in a suburban context: One-year findings from an evaluation of London’s in-progress mini-Hollands programme. 2019.

Case Study

Kings Crescent Estate, LB Hackney

Inter-phase learning that puts children and young people at the centre of a mixed-tenure, non-segregated housing development.

The King's Crescent Estate in Hackney is being transformed over two phases, with 492 new homes built and 101 refurbished, a significant number of which are for social rent and shared ownership. The new blocks enclose and face existing ones, creating new courtyards and shared amenity spaces, including play spaces. This case study provides insight into the process of a two-phase redevelopment, including renovations of existing homes, development of new homes, and the improvement of shared amenity and communal space, all with the embedded project consideration of making the development child-friendly.

The two phases are separated by a permanent part-pedestrianised play street, which will open onto a new central square in Phase 2. This street is strategically located to provide a connection between the Blackstock Road area and Clissold Park. Post-occupancy evaluation following Phase 1 enabled feedback from residents about the process of consultation, construction and the design features, providing an improved brief for Phase 2 and modification works to Phase 1.

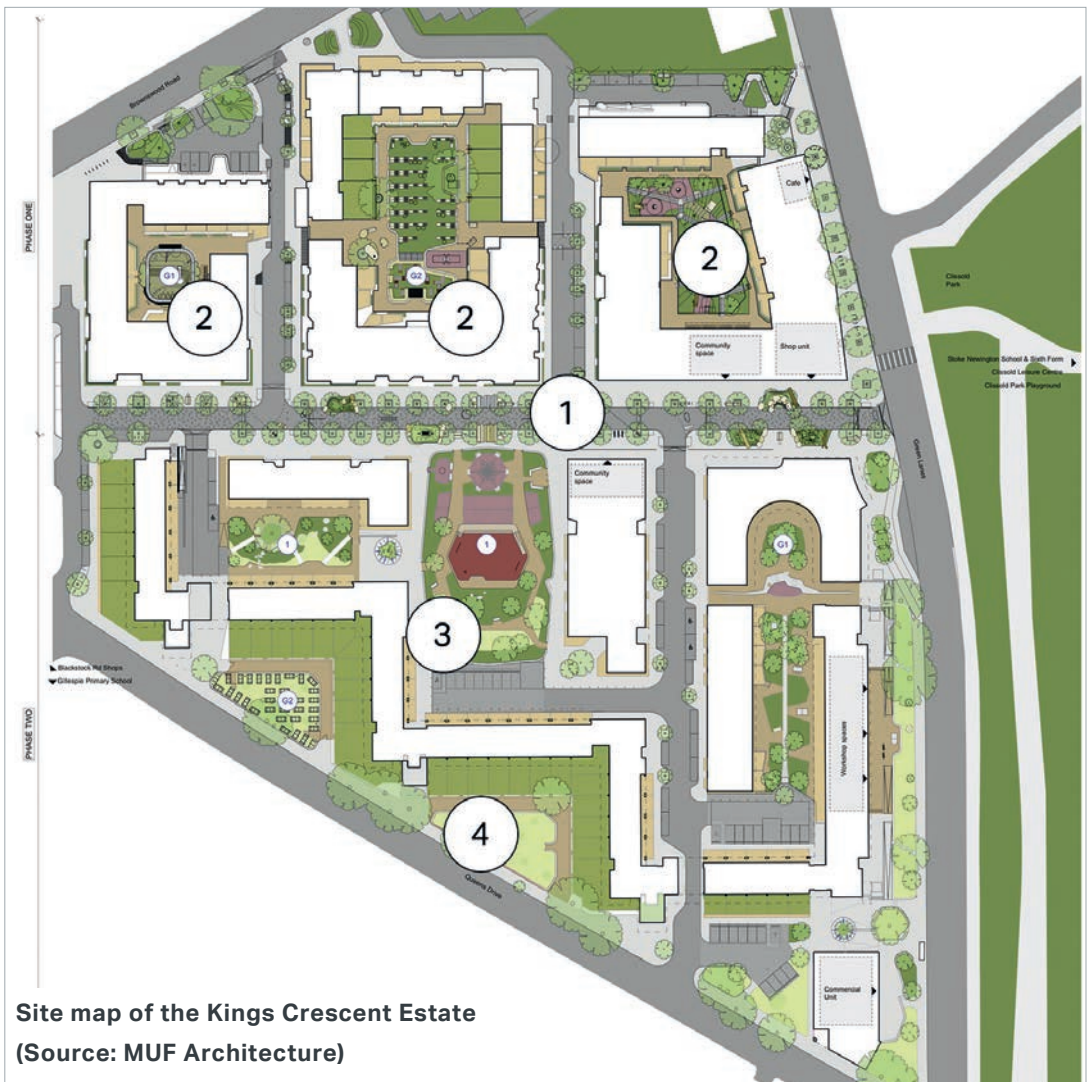
The site plan (overleaf) shows Phase 1, consisting of three blocks, contained courtyards and a play and partial access street (Murrain Road) completed in 2017. Phase 2 covers the new blocks, public square and refurbishment works South of Murrain Road.

"Murrain Road makes space for a multitude of recreation types: traditional play equipment combined with natural elements such as logs, rocks and water; props for imaginative play such as a theatre and a large table; and amenity areas for all ages such as bespoke seating that caters to the elderly as well as it does to teenagers."

– MUF Architecture

Key

1. Play Street (Phase 1): Pedestrianised and pedestrian priority sections, with play and socialising opportunities integrate the estate into wider network. Play opportunities developed in response to consultation, e.g. teenagers wanting informal spaces to hang out.
2. Courtyards (Phase 1): Three resident courtyards, with fob access. The three courtyards provide a range of landscape qualities with a variety of community spaces such as community gardens and playable structures.
3. Central Square (Phase 2) Provision of formal play spaces and multi-use games areas with performative play opportunities.
4. Apple Orchard: Publicly accessible planting areas that borders the south of the masterplan.

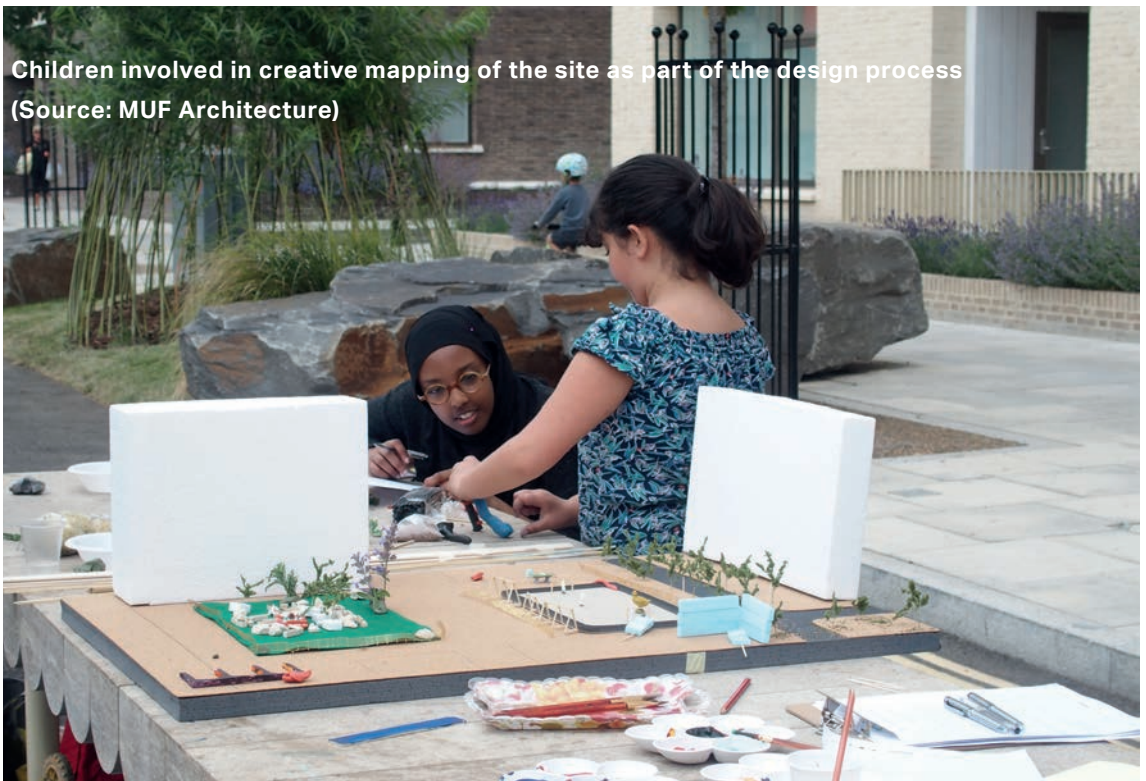




Use of the play street
(Source: MUF Architecture)



Use of the play street
(Source: MUF Architecture)



Children involved in creative mapping of the site as part of the design process
(Source: MUF Architecture)

Kings Crescent Estate Key Features

- A play street with playable street furniture also creates connections between other local neighbourhoods, the estate and a nearby zebra crossing providing direct access into Clissold Park.
 - Much of the play street is pedestrianised with social and play opportunities along its length. It acts as both a route and a destination.
 - The play street is overlooked by balconies.
 - Optimised ground-floor uses ensure visual permeability from active rooms onto courtyard spaces.
 - Ground floor units have direct connection to courtyards or the play street. Height of enclosures around gardens are reduced to allow views into the courtyards.
 - Winter garden balconies have been added to existing blocks, overlooking courtyards – all with visually permeable elevations,
 - Entrance lobbies have large windows, creating views from the courtyards to the streets.
 - Playable features are multi-use and multi-age, and include seating and socialising opportunities for older children and young people.
 - The design team created a temporary garden on site, as a meanwhile use, from the start of the redevelopment, creating a new public space, and a place for engagement from a very early stage.
 - There was a review by a child-friendly city and play expert post Phase 1, which informed the design of the second phase.
-



All entrance lobbies offer views out to streets or courtyards. (Source: Publica)



Play features are integrated within the landscape design. (Source: Publica)



Easy connection between ground floor doors and courtyard play spaces. (Source: Publica)



Food and plant growing as intergenerational activity. (Source: MUF Architecture)



Presence of well-used planters, a waiting list exists, and standards are kept high. (Source: Publica)



Play features and planting combined – edible maze with blackcurrants, now matured. (Source: MUF Architecture)



9 MANAGEMENT

Introduction

The way that spaces and developments are managed has a critical impact on how they are used by children and young people, determining whether independent mobility is hindered or facilitated. Management is a key lens to understand and address how designs can be sustained and supported as part of a long-term plan through custodianship and maintenance. Without appropriate management, even the best designed spaces will fail their users.

Management plans and agreed uses should be considered at the early stages of a project and should be informed by an understanding of the site and the awareness of any long-term capital funding required for the governance and maintenance of the proposal. In addition, the long-term management should enable lasting flexibility of use and continued access to shared and communal spaces. Approaching a street, space and housing development with the notion of adaptability and flexibility is a key way to think about management plans, and ensure that good design is maintained over the life of a building, street or space.

Children have a right to be present and visible in public, shared and communal spaces, and their movement and play should always be regarded as a legitimate activity. Expectations that children should not be seen or heard, or that they are limited to certain areas supports the notion that spaces can be segregated or children's mobility constricted.

Segregated play spaces in mixed-tenure London housing development sparked widespread debate in early 2019. At the Lillian Baylis Estate in Lambeth, planning permission was granted in 2013 with equal access to play areas. Access was then changed by the management company without approval that created barriers between social housing properties and the communal play areas. Policy S4 of the new London Plan sets out a commitment to banning

segregated play spaces, supporting inclusivity, accessibility, and the free movement of children and young people around residential developments.

Additionally, the work-in-progress Mayor's Public London Charter will set out principles for the management of new public spaces, including those that are privately owned. This will ensure that they are inclusive places that all Londoners can enjoy, and that any rules or restrictions are only those that are essential for the safe management of the space.

Principle

Management Approach

Residential building management should ensure that children and young people are able to move between private, communal and public spaces (from the home to the street) without relying on adult presence.

This management principle, alongside those in other chapters, has been identified to assist those involved with city making – local authorities, clients, developers and their design teams – in creating a holistic and strategic approach to enabling better independent mobility in the built environment for children and young people.

Practice

Recommendations for best practice grouped by target audience include:

Local authorities and policy teams

- A proportion of local authorities' budgets should be dedicated to managing and maintaining the quality of children's play and mobility infrastructure.
- The proposed uses of open spaces should not be changed from that approved by the local planning authority as this can fundamentally alter management, operation and access.
- Flexibility should be encouraged in the uses of social infrastructure, particularly schools and school playgrounds, for alternative purposes outside school hours.

Commissioning authorities, clients and developers

- Amenity spaces in residential developments should be tenure blind, with no differentiated access to any communal spaces.

- Outdoor shared and communal spaces should maximise space for play and avoid bans on playful activities.
- Spaces where play is provided for should undergo ongoing risk-benefit analysis to ensure the environment is stimulating.
- Children and young people should be given time and permission to play in streets, public spaces and shared and communal spaces in residential areas where appropriate. Children and young people are affected by adult behaviours in the environment, so adults must actively support and enable independent mobility and play in everyday contexts.
- Management plans should be developed early in residential and mixed-use schemes, particularly in mixed-tenure developments, to ensure that all children and young people have access to the same public spaces for movement, play and socialising.
- Maintenance plans should be developed in recognition that indoor and outdoor public spaces will be used independently of adults for play and socialising.
- Key fobs providing access between private and communal spaces should be avoided, as these can prevent children and young people moving freely through developments.
- A shared residential agreement protecting the rights of children and young people to play and freely socialise should be drawn up at the earliest stage for tenants and homeowners in residential developments.

Useful References

- Bourne Estate case study (Refer to pg94–96)
- Alexandra and Ainsworth Estate case study (Refer to Pg97–99)
- Marmalade Lane, Cambridge UK (Refer to resources pg129)
- Goldsmith Street, Norwich UK (Refer to resources pg132)



Bourne Estate, Camden UK
(Source: Erect Architecture)

Case Study

Bourne Estate, LB Camden

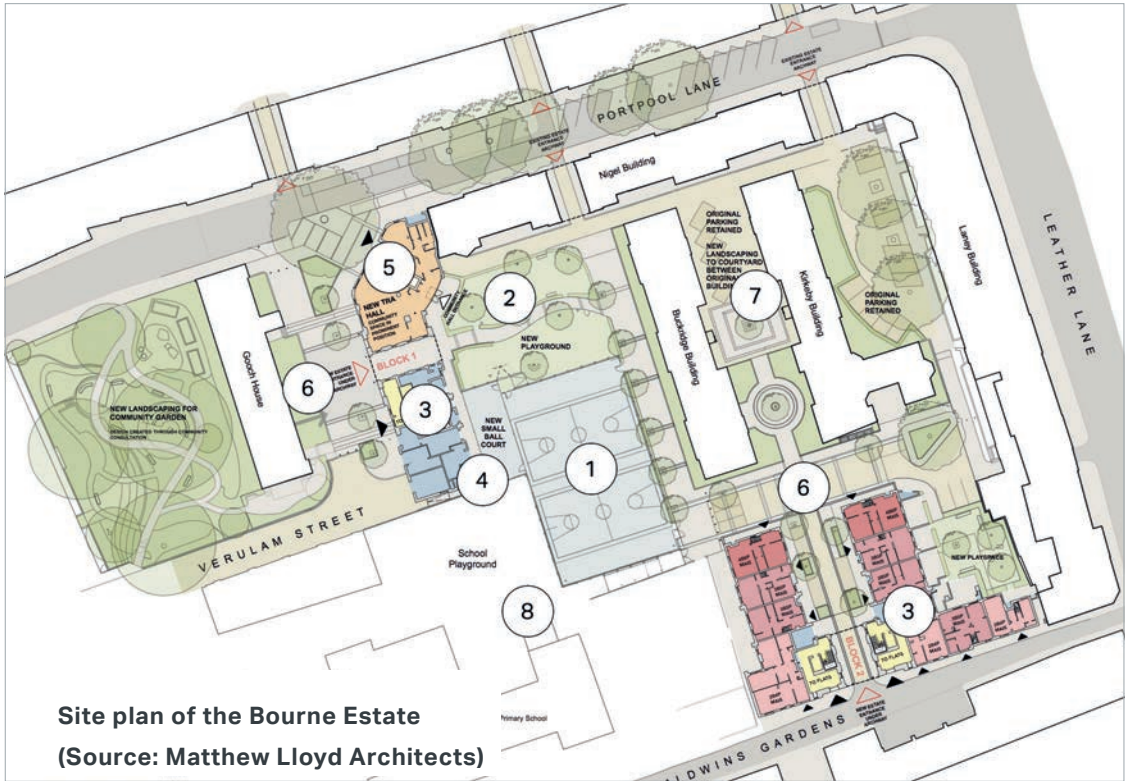
The regeneration of an existing estate and the incorporation of a new management plan balances issues of permeability with safety.

The Bourne Estate was originally built in the early 1900s. In 2013, LB Camden identified it as a site that could benefit from redevelopment as part of its borough-wide Community Investment Programme (CIP). An additional 55 homes were added to the existing estate, as well as a new tenants' hall, and improved public realm and play spaces to connect existing and new residences. A new public route was introduced to support wider connectivity and access to non-residents, whilst also maintaining enclosed and safe facilities for residents, putting play at the heart of the scheme.

The site plan shows the two-stage masterplan, the first stage has been implemented with the green space to the west currently in progress. It also shows the direct sightlines and new connections between communal spaces on the estate to the wider neighbourhood.

Key

1. MUGA relocated to estate centre.
2. New fenced and age-specific play spaces straddle a key access route.
3. New tenure-blind block of high architectural merit and build quality encloses main outdoor space.
4. Shared access decks with permeable balustrades overlook play spaces and MUGA.
5. TRA community hall relocated to prominent location overlooking play spaces.
6. Resurfacing works re-balance hierarchy of pedestrians and vehicles.
7. New social seating and planters.
8. Relationship to school unchanged. Direct access from courtyard maintained.



Site plan of the Bourne Estate
 (Source: Matthew Lloyd Architects)



New ground and first floor windows create sightlines across courtyards, rebalancing public realm towards pedestrians (Source: Matthew Lloyd Architects)

Bourne Estate Key Features

- A new direct route from the courtyards to the adjacent primary school.
 - Relocation of the Multi-Use Games Area (MUGA) to the heart of the estate, putting children and young people's recreation at the centre.
 - The new building reinforces the existing street pattern, clearly defining boundaries and promoting natural surveillance of outdoor space.
 - Relocation of the community hall to open into a well-supervised play area.
 - The new buildings have secure shared access visually-permeable balconies and balustrades with clear sight lines.
 - Large windows and access balconies overlook outdoor spaces.
 - Routes and parking areas are re-landscaped as shared surfaces to slow traffic and prioritise pedestrians. Public realm is activated with entrances and doors facing one another, linked and visible to the shared spaces.
-



The relocated MUGA in the centre of the Bourne Estate
(Source: Matthew-Lloyd Architects)

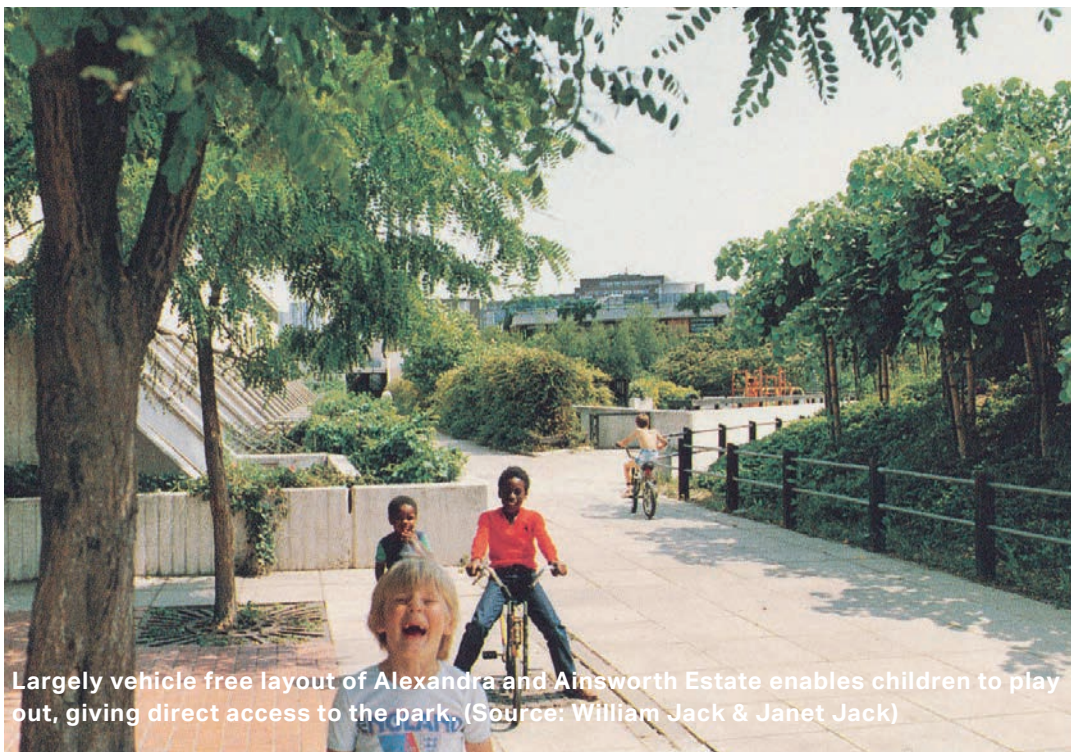
Case Study

Alexandra and Ainsworth Estate, LB Camden

A long-term management and maintenance plan for existing estates can improve the sense of safety in play spaces, and the quality of public realm for all residents.

The Alexandra and Ainsworth Estate was part of a large public housing masterplan designed by Neave Brown, with landscape by Janet Jack, built by Camden Council from 1966 to 1975. The key organising element of the scheme is two parallel pedestrian streets, separated by a park and play spaces. The two streets are overlooked by dwellings, with Rowley Way further activated with front door access.

The original park was completed in 1979, and was designed as a playable landscape consisting of five linked sunken play areas conceived as 'outdoor rooms'. The park is Grade II* listed and was



Largely vehicle free layout of Alexandra and Ainsworth Estate enables children to play out, giving direct access to the park. (Source: William Jack & Janet Jack)

the first 20th century landscape to be listed in the UK. Over time the landscape and open spaces of the estate became underused by residents due to issues with lack of maintenance and deterioration. There was no long-term management or maintenance plan in place and a number of the landscape features were damaged and play equipment had been removed.

In 2015 the estate received Heritage Lottery funding to repair, conserve and restore the estate as an integrated modernist-designed playable landscape, improve management of trees and planting, replace lost features, and revitalise the park as the focus of community activity. In addition to the landscape and play improvements, the scheme crucially improved accessibility, permeability and legibility within the park and restored key sightlines across the play spaces and with adjacent homes. A 10 Year Management and Maintenance plan was also devised to ensure the ongoing preservation of the landscape.

Alexandra and Ainsworth Estate Key Features

- Engagement and consultation with residents highlighted a strong desire for involvement in the future of the park, to help shape activities and allow resident participation in caring for the landscape.
 - Tree management was used to re-instate key sight lines across the landscape and play areas to improve the feeling of safety in open spaces.
 - The importance of a long-term management and maintenance plan for the landscape, with capital budget for replacing damaged features.
 - Modifications made in the playgrounds raised levels in places to provide better visibility and further access points to improve permeability.
 - The provision of a variety of play opportunities for different age groups.
 - Develop activities to promote greater understanding of and engagement with the park to a wide range of audiences.
 - Site specific improvement and strategy for dealing with dog fouling.
-



Visual connections created between dwellings and raised new play spaces
(Source: Erect Architecture)



Extensive non vehicular path network and long views
(Source: Erect Architecture)

10

THE NEXT STEPS FOR LONDON

A call to action

This design inquiry is intended as a first step and catalyst for a longer-term process of making London's built environment more child-friendly, accessible to, and navigable by children and young people. Each of the principles outlined in this document require further research and policy development to implement them most effectively at both city and local levels, including the development of dedicated design guidance.

Borough & neighbourhood scale

Both the neighbourhood and borough scales are crucial ranges for intervention and transformation, encompassing streets, public spaces, public transport and housing. The neighbourhood scale in particular is one at which children and young people of various ages can move independently.

London also has many different types of neighbourhoods; independent mobility looks very different in outer London where there are greater distances between destinations but potentially more access to open space, than in a more densely built central area. This is an area which has been studied in less detail in the consideration of children and young people's lives in cities.

Areas that require further consideration and development at the borough scale include:

- The development of contextual and place-based knowledge and policy related to independent mobility, to help promote a variance in child-friendly social, physical, cultural and infrastructural agendas.
- The ways in which children and young people can best participate in neighbourhood planning and development

- Co-ordination with boroughs and youth groups to foster engagement in built environment design, planning and policy development
- Research and analysis of different management plans for a variety of housing and spatial typologies relevant within a borough, which could be used to inform standardised borough approaches for new developments
- Additional research into independent mobility in lower density, outer London boroughs will provide greater insight into the relationship between different housing typologies, streets, transport and independent mobility.

The city scale

London's density and housing typologies are changing, and the full impacts of how these affect children's and young people's access to amenity, play and wider mobility networks is not yet fully understood. Equally, more technical infrastructure elements such as highway and street features need to be better understood in terms of how they perform to either enable or hinder the independent mobility of children and young people.

The areas at the city scale that require further scoping and consideration as part of new design and planning guidance include:

- Meaningful and in-depth evaluation of built environment interventions, including public realm and housing typologies at different densities, to understand how they perform in terms of access, use, overlooking and acoustics
- Dedicated guidelines on the size, type and quality of children and young people specific infrastructure. For example, details on successful features of mobility routes that connect children's amenities and spaces around a local area
- Research into alternative methods of measuring and providing space for children and young people, beyond the current square metre approach of spatial planning.

Next steps

Following this design inquiry, and to further assist with the implementation of new London Plan policies related to children and young people, the Mayor has made a commitment to develop a new SPG. This new planning guidance will cover child-friendly approaches to city making, including independent mobility, play and recreation. The Good Growth by Design 'Making London Child-Friendly – Designing Places and Streets for Children and Young People' report will form an important part of the evidence base for the development of the new SPG.

It is clear from the research undertaken within this design inquiry that there are some boroughs, commissioning authorities and designers who are already leading the way in this subject area. As part of the development of the new SPG, the GLA teams are keen to learn from live projects to ensure the emerging guidance can benefit from real world testing and knowledge sharing. This will help shape a city where children and young people's rights are addressed and fulfilled, in both the process of transforming the built environment and the day-to-day lived experiences of London's neighbourhoods and places.

If you are working on a relevant built environment design or policy project with a commitment to child-friendly design and / or urban planning principles, please get in touch at:

goodgrowthbydesign@london.gov.uk

11

RESOURCES – PRECEDENT LIBRARY

This precedent library presents a series of international and UK examples of projects that address the independent mobility of children and young people in the built environment.

City of Toronto, Canada

Design guidelines focusing on the neighbourhood scale provide an integrated approach to local design and planning.

In 2017, the City of Toronto published a set of design guidelines based on an inclusive vision for new medium and high-density urban living¹. Twenty-four guidelines across the scales of neighbourhood, building and unit ensure a holistic approach to the design and planning of a well-connected and child-friendly city. Mobility guidelines are arranged in five key areas: Children's Independent Mobility; Safe Routes; Active Transportation; Walking/ Cycling to School; Streets as Open Space. Relevant examples of neighbourhood scale guidelines are:

- 1.5 Shared Use and Integrated Co-Located Community Services & Facilities: these encourage the integration and sharing of space by people of different backgrounds, age, and socioeconomic conditions.
- 1.6 A Complete Community to Meet Daily Needs: land-uses should promote an active street life, with a mix of community services and fine-grained retail spaces, allowing for informal supervision of children.
- 1.9 Civic Engagement: engage children as active citizens in the planning and design process through the school curriculum. This shapes their perspective, engendering civic engagement and a sense of ownership.

Building-scale guidelines recommend locating a critical mass of large units at the lower levels of buildings to enable informal overlooking and surveillance. The guidelines also recommend that the design of amenity spaces should encourage social interaction, with a defined proportion specifically for children.

The Mayor of London's Peer Outreach Workers and the London Youth Assembly

Including young people in different parts of city governance creates opportunities to participate in decision making.

The Peer Outreach Workers (POW) are a team of 30 young people who help young Londoners to get involved in the decisions that shape the capital. Their work helps shape policies, strategies and services, from regeneration, environment and transport, to culture, health and violence reduction. They are drawn upon to represent planning teams and developers to reach larger quantities of young people, so that their views can be heard. In addition to the POW, the London Youth Assembly is a new body which brings together representatives from different youth forums across the city to create positive change for young people. Getting young Londoners engaged and involved in the running of their city is an important objective for the London Assembly and these young Londoners are enthusiastic about having their say on issues that matter to them.



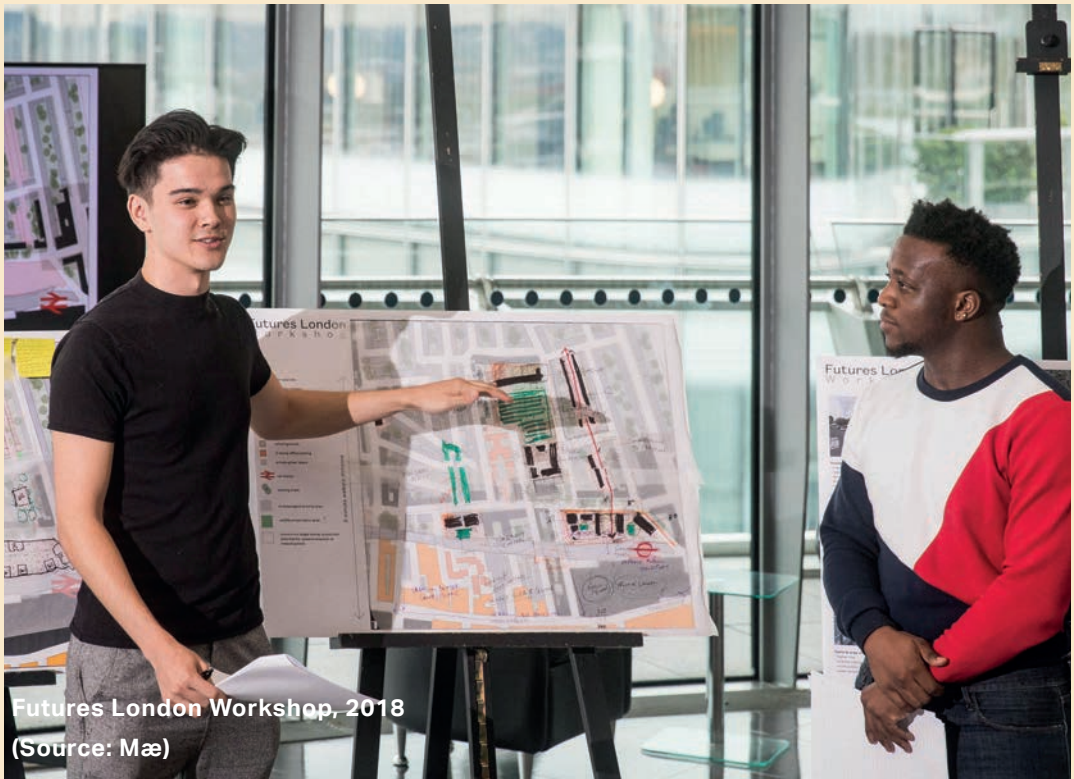
Peer Outreach Workers 'Mayor for the day' event
(Source: Greater London Authority)

Futures London Workshop, Housing Design SPG 2020

Pro-actively engaging young Londoners is used as a fundamental step of the research process to develop new design guidance to support London-wide policy.

The Futures London Workshop held at City Hall in 2018 was organised by architecture practice Mæ and the Stephen Lawrence Charitable Trust as part of the development of the London Housing Design Supplementary Planning Guidance (SPG), 'Good Quality Homes for all Londoners' (2020). The workshop was attended by 10 young people aged 16 and above, and formed an opportunity for Mæ to understand the priorities of young Londoners to inform the quality indicators within the new SPG. It was also used to test a very basic form of typological methodology for assessing site capacity.

A particular area of note was the distinction that the notion of 'safety and security' for the attendees was fundamentally about 'seeing and being seen'.



Futures London Workshop, 2018
(Source: Mæ)

Playing Out, UK

Simple but effective local interventions can become formalised as policy and scale-up to a wider network when supported by local authorities.

Playing out is a non-profit organisation that aims to fulfil the rights of children across the UK to play and move around their neighbourhoods safely. In 2009, several neighbours in Bristol came together to close roads to through traffic for several hours after school, one day a week. The objective was to enable children to play and move around outside more spontaneously and without parental supervision, but the scheme has also enabled social interactions and strengthened the community fabric at the street and neighbourhood scales.

Bristol City Council supported the scheme, providing funding and launching a procedure called a Temporary Play Street Order (TPSO), allowing residents to close their road for three hours a week. Bristol University undertook research and found measurable quantitative improvements in physical activity and time spent outdoors following the formalisation of the TPSO in city policy, setting a precedent for the policy support and enabling of street closures.

Playing Out is registered as a Community Interest Company. This process of formalisation has enabled the steering and operational support to upscale from the street and neighbourhood level to the national scale, and financial support to be redirected where necessary.

The scope and benefits have been far reaching, from improvements to health and well being, to the social implications of normalising children's presence and behaviour in public space. 63 councils across the UK now have a Playing Out policy in place.

The organisation illustrates how a grassroots movement can influence policy and expand to a nationwide movement.

Playing Out is now exploring how different housing typologies can benefit from the Playing Out model. In tower blocks and estates there is often existing car-free space, but it is underutilised.

Facilitating children to use these spaces through DIY changes and creating a sense of ownership has been found to be the most effective way to encourage Playing Out, and sets a precedent for designers, play professionals and policy-makers to consider how implementation may differ between different residential typologies.



A 'Playing Out' street closure in Bristol
(Source: Playing Out)

City of Vancouver, Canada

Policy can set specific design standards across different stages of the design process for child-friendly housing and mobility.

The City of Vancouver was an early adopter of child-friendly design and planning. In 1992 it adopted a series of objective criteria for all new high-density housing (75 or more units per hectare)². Seventeen guidelines covering a range of aspects from site selection to pedestrian circulation routes and storage were published.

Developments were required to dedicate 25 per cent of units for families and provide a range of safe mobility and play opportunities, including opportunities for social interaction for all ages. These housing design guidelines and standards are currently being updated.

The policy conceptualises housing in three stages: project planning, project design and unit design. Examples of some key guidance relating to mobility include:

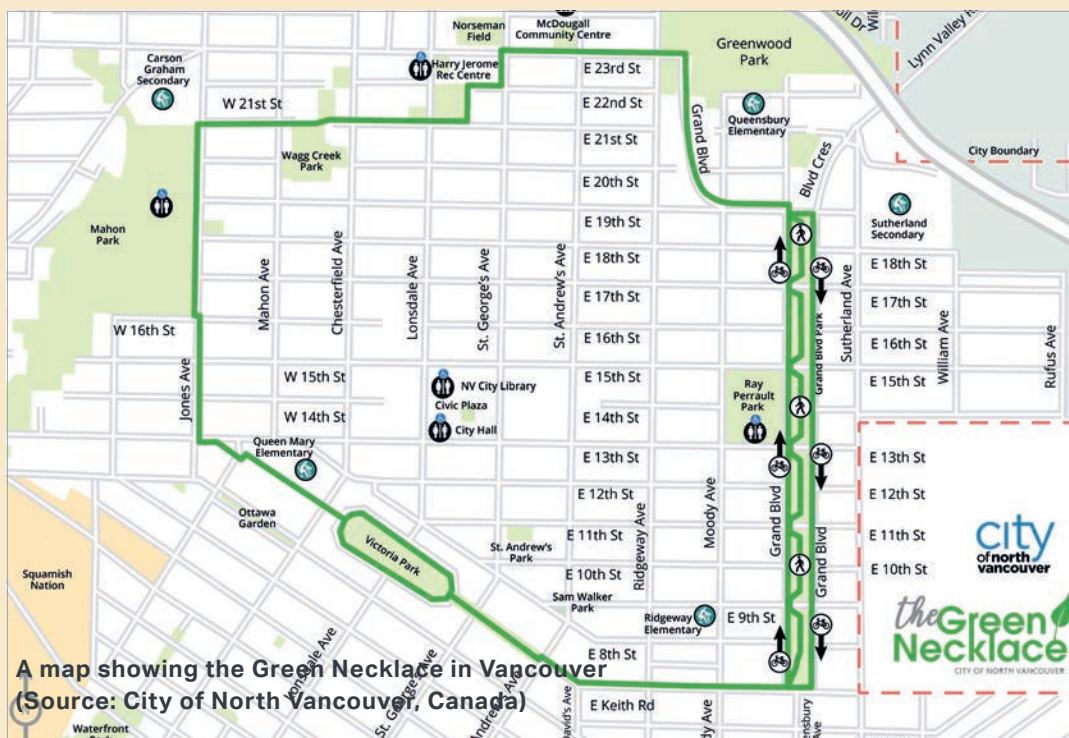
- Distance guidance for site selections specifies new residential developments should be at most 0.8km from a school, play area, child-care centre, community centre and grocery shop, and at most 0.4km from a playground and public transport stop. Where these guidelines cannot be met, on-site amenities should be provided.
- A minimum of 20 family units should be provided in each development to ensure sufficiency of children's peers.
- Family units should be on lower floors that overlook common outdoor spaces, be closest to facilities and recreational amenities, and have minimal exposure to non-residential land and busy roads.

2. City of Vancouver. High-Density Housing for Families with Children Guidelines, 1992

Greenways for Children's Independent Mobility

The CNV4ME project in Vancouver (2015) is an inter-departmental project to elevate and fulfil the independent mobility rights of children and young people in the city. The strategic child-friendly pedestrian and cycle trails aim to connect child-specific amenities through the 'Green Necklace' circular greenway. This provides a safe, segregated route for cyclists and pedestrians and borders six schools, four parks and a library, providing a safe route between different amenities. Public art, signage and information about local wildlife have all been added to the route to add more things to do along the way.

The Green Necklace improves safety by removing traffic danger, but also offers a range of health and wellbeing benefits in terms of encouraging active travel and reducing exposure to air pollution.



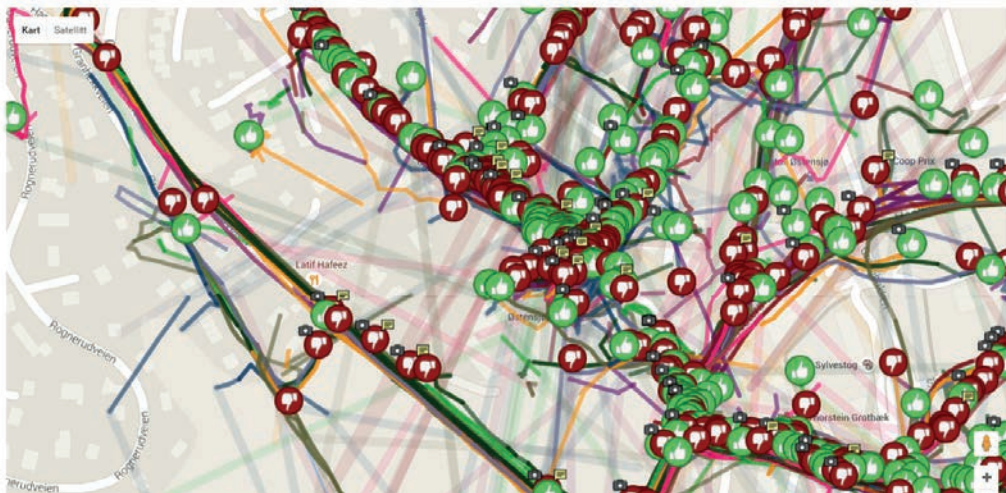
Oslo, Norway

'Smart' planning incorporates digital technology in the process of consultation, widening methods of engagement through simple online GIS tools.

The Norwegian Planning and Building Act 2008 states that municipalities must engage with and involve children and young people in planning and design processes to fulfil their rights and needs. The 'Children's Tracks' programme allows young people to identify areas in the city, signify what they are used for, and evaluate them, letting planners know if they like the place or not³.

'Traffic Agent' is an online platform also used by young people in Oslo to report traffic and safety problems on their neighbourhood routes, as well as express general concerns and ideas. The app has proved successful in encouraging faster intervention from the local authority and improving traffic safety, which in turn should increase parental permissions for children to be more independently mobile.

3. Hanssen, G.S. The Social Sustainable City: How to Involve Children in Designing and Planning for Urban Childhoods?, 2019



An example of 'smart planning' consultation in Oslo through the Traffic Agent app.
(Source: Mister Trafikkagenten)

Tirana, Albania

Ambitious projects for urban change and sustainability can be driven by a child-friendly focus to local policy.

The City of Tirana's 'Local Plan 2030' identifies that urban change can be facilitated by focusing on the needs of children and young people. Coordinated investment into education and 40+ play spaces is also a key part of the commitment to city-wide child-friendliness. By rejuvenating green and blue corridors with active travel routes and creating an orbital forest around the city with two million trees, a series of high quality pedestrian and cycle routes have been provided between outer and inner urban areas. The orbital forest is used as an educational tool to teach children and young people about ecological kinship and care for the natural environment.

The integration of green space with urban space demonstrates how guiding policy and planning through a child-friendly agenda can simultaneously address social and environmental sustainability⁴.

4. Gill, T. Why one city is undergoing a child-friendly revolution, 2019



Planting the orbital forest in Tirana
(Source: Albanian International School)

Flickrum, Stockholm, Sweden

Alternative modes of engagement are effective in addressing overlooked experiences of the city.

Swedish architecture practice White Arkitekter undertook a research project in 2015 and found that as age increases, so does disparity in use of public space between genders⁵. From the age of 8, an 80 / 20 boy / girl imbalance in parks, and a 70 / 30 split in youth clubs shows how the urban environment is often unequal and does not correspond to the needs and preferences of teenage girls, who feel ten times more unsafe in public spaces⁶.

A collaborative project called 'Places for Girls' included interactive street performances and design workshops to address issues around mobility and safety for teenage girls. It was underpinned by inclusivity and collaboration. Features creating social proximity, good sightlines, weather protection and user interaction were highlighted as desirable through a series of model-making workshops with young people.

5. White Arkitekter. LFA: Flickrum – Places for girls. 2018

6. <https://whitearkitekter.com/project/places-for-girls/>



Child-Friendly Rotterdam, The Netherlands

A multi-phase approach to neighbourhood transformation that uses information collected to inform further interventions.

Two neighbourhood projects in Rotterdam aimed to transform the city from the least attractive to raise children, to the most child-friendly. 'Child-friendly Rotterdam' consisted of a new urban planning agenda focused on housing provision, youth facilities and services, public space and child-friendly routes⁷.

In 2014, the 'Promising Neighbourhoods' project was launched, including the resident-led 'Droomstraat' interventions which integrated play within streets rather than limiting it to parks or playgrounds⁸. The 'Safe Traffic Routes' element of the project puts an emphasis on independent mobility. New public amenities are positioned along the street for natural surveillance and overlooking. The focus on the neighbourhood scale has led to Rotterdam now being regarded as the most child-friendly city in the country.

7. Van den Berg, M. City Children and Genderified Neighbourhoods: the new generation as urban regeneration strategy

8. Gill, 'Building Cities Fit for Children'



A 'droomstraat' intervention in Rotterdam where residents have transformed their road into a space for socialising.

(Source: <https://www.facebook.com/pg/pleintjebekelselaanrotterdam/posts/>)

The Amazing Place, Christchurch, New Zealand

Scale of ambition is a key element of the design process. Starting with restoring children's infrastructure is a declaration that children and young people's needs are on the top of the agenda.

Following the Christchurch earthquake in 2011, child-friendliness was identified as a crucial element to incorporate into the rebuilding and redesign of the public realm in city. The council consulted the local community through a design competition called 'The Amazing Place' which engaged young people through the school curriculum, inviting them to design a playground and social space inspired by geographies of the region. The resulting 'Margaret Mahy Playground' was completed in 2015 and is the largest recreational space in the Southern Hemisphere.

Amazing Place was also used to establish an ongoing engagement platform for future consultation, community champions, curriculum resources and long-term support from different groups in the city.



The Margaret Mahy Playground in Christchurch, designed by and for children
(Source: Berliner Play Equipment)

Growing Up Boulder, Colorado, US

The process of engagement is important to understand children's concerns and opinions for improving infrastructure.

The 'Growing Up Boulder' programme in Colorado engages with children and young people to ensure they are extensively consulted, and their perspectives are integrated into planning and design. The 'Whittier HOP Bus Transit Study' found that local children would like to take the bus independently, but identified issues such as inaccessible signage, no places to sit, and dull bus stop designs. Following engagement, benches, legible signage and playful murals were added to bus stops.

Other consultation examples include the 'Youth Engagement in the Transportation Masterplan' for the city. Interviews, mapping and walking audits collected children's knowledge and ideas for improving their independent mobility, for example play and recreation spaces connected to the city's cycle route, and segregated cycle lanes near schools.



Classroom engagement process in the Growing Up Boulder scheme
(Source: Erika Chavarria/Growing up Boulder)

Liveable Neighbourhoods, London, UK

Implementing Healthy Streets principles across neighbourhoods.

Liveable Neighbourhoods is a £139m funding programme that aims to implement Healthy Streets principles and help meet the Transport for London target of 80 per cent of all London journeys by foot, bicycle or public transport by 2041. The scheme builds on the Mini-Hollands programme by expanding the focus onto public transport, as well as cycling and walking, at a neighbourhood scale. Hard and soft landscape features have been implemented across several London boroughs, with the aim of reducing single-occupancy journeys and encouraging modal shift to active travel.

The project is taking place over three phases informed by these aims:

- Creation of parklets and play streets in vehicular filtered and semi-pedestrianised roads.
- Local consultation – engagement and sharing information between citizens and the local authority is key throughout the entire process, from planning and design to implementation and evaluation.
- Prioritising bicycles and pedestrians over cars, either through prioritisation measures, vehicular filtered roads, or full pedestrianisation.
- Densifying and networking cycle infrastructure – joining up existing and new cycle infrastructure to make bicycle journeys more appealing. This includes cycle lanes, bike hire schemes, bike hubs and parking hangars.
- Good design – consistent palette decisions and uniformity within the cycle and pedestrian network, with rain gardens and planting boxes along carriageways and footways. Resilience is incorporated into the new interventions through sturdy and robust materials.
- Flexible interventions – streets must be designed for different uses and different users.
- Using soft landscaping interventions when needed – for example protecting cycle lanes using green infrastructure.
- Incorporating data and technology – for example, the City Planner GIS tool can identify areas with untapped walking and cycling potential and high car ownership, which can then be designated as action areas for pedestrian and cycling interventions.

Parc Rives de Seine, Paris, France

A bold and ambitious intervention which pedestrianised the banks of the Seine river, creating a 7km walking and cycling route with fixed and movable play features along its length.

In 2017, the city of Paris set out a strategy to improve urban spaces whilst improving the city's climate resilience, as only 9.5 per cent of city surfaces are green⁹. A 7km stretch of the bank of the River Seine was transformed from an expressway into a public space, with playful design features along the route including climbing walls, football pitches, playgrounds, sandpits and cafes. The combination of pedestrianisation and playful design has created a safe and child-friendly route through the centre of Paris. All the items in the park are designed to be moved easily in response to a flood warning. Schoolyards are also being converted into 'islands of cool' with green walls, planters and drainable surfaces, with a plan to open them up to the public outside school hours, incorporating schoolyards into a network of climate resilient social infrastructure.

9. Clement, M. Green space in every schoolyard: the radical plan to cool Paris, 2018



Superkilen, Copenhagen, Denmark

Creating a park in the centre of the city offers opportunities for greater connectivity between neighbourhoods through improved active travel and a multi-functional public space.

Superkilen is a public park in the Nørrebro neighbourhood of Copenhagen. It was designed by BIG, Topotek1 and Superflex as part of a neighbourhood improvement plan. Superkilen simultaneously serves as mobility, play and social space, with a cycle route providing connectivity between two neighbourhoods, but also between amenities in a multifunctional and mixed-use public realm.

The square provides a range of activities, from a community centre with a café, indoor sports area and climbing wall, to traditional play features such as swings and climbing frames. Striped markings run down from the top of a hill and spread out across the park, integrating play and mobility. The park is divided into three sections, each with a different design and intended use.



The Superkilen Park in Copenhagen. The park provides recreational space but also active travel infrastructure across the city (Source: BIG / Bjarke Ingels Group)

Superblocks, Barcelona, Spain

Large scale vehicular restrictions can create green and play spaces, improve air quality, and make streets safe for children to navigate and play out.

In response to challenges in Barcelona such as air pollution, traffic congestion, dangerous roads, childhood obesity and the lack of play and green spaces, the Superblocks project is a tool to reorganise the city so that pedestrian movement is prioritised, followed by cycling and public transport. The Superblock Mobility Plan 2016 aimed to reduce traffic by 21 per cent in the city, and to free up nearly 60 per cent of the streets dominated by cars. The superblocks are configured of several blocks closed off to through traffic, where the streets within are greened and calmed to 10km/h to recover public space for pedestrians, and to favour play and recreation. The wider network of these superblocks results in long, linked corridors of green, public space. There are currently nine blocks, with scope to expand to over 500.



A Superblock play area in Barcelona
(Source: Confederación de Talleres de Proyectos de Arquitectura)

Aldgate Gyratory, London, UK

Major projects can create much better conditions for children and young people, improving air quality and opportunities for mobility

The redevelopment of Aldgate Public Realm in the City of London involved the re-routing of the existing gyratory to create one of the largest open spaces in the Square Mile. The congested roads were replaced with pedestrian and cycle-friendly streets and a central main square.

The square is the centrepiece of the scheme and unites two heritage-listed buildings: Sir John Cass's Foundation Primary School and the St Botolph without Aldgate Church. The completion of the square has improved air quality in a key location adjacent to a primary school.



The Aldgate Gyratory transformation. A new green space with cycle infrastructure replaced the previous dangerous roundabout (Source: Gillespies/ John Sturrock)

Brotorget Square, Bollnäs, Sweden

A multi-generational public space, including multiple play and social opportunities in its design for a 'public living room'.

Brotorget Square accommodates a range of activities in the centre of the city among seating areas, planting and trees lining the square. The public space, designed by Karavan Landskapsarkitekter, is based on an open and flexible surface with capacity for activities – including market stalls, concerts, lectures, performances and events, with an open stage at the centre of the square. The square has been designed to give access to all residents in the city and was conceived as a 'public living room'. The playground in the square includes playable features such as a slide, water fountain, trampolines and imaginative home-like play objects.



The brightly coloured playful design features in Brotorget Square
(Source: Alex Giacomin)

Freiburg, Germany

A balance of high-quality transport provision has elevated the rights of pedestrians, particularly children, through high-quality streets and networks.

The city of Freiburg in Germany saw a transformation in planning and design to address the declining population of families with children¹⁰. Over 180 city zones now have 30km/h speed limits and other traffic calming measures that prioritise pedestrians and cyclists¹¹. Adaptation has been key, with existing roads retrofitted with traffic calming measures and signage. Vauban, a suburban neighbourhood in Freiburg, has incorporated play features into green spaces and public spaces. Homes and neighbourhood amenities are connected by high quality walking, cycling and public transport infrastructure, and car ownership is low at 16.4 per cent¹². An adventure playground and animal park, and well-connected kindergartens and primary schools, put education, play and children and young people's amenities at the heart of the neighbourhood¹³.



Hupisaaret Park, Oulu, Finland

Intelligent technologies can incorporate flexibility to lighting design, able to adapt to different uses and seasons.

The city of Oulu in Finland installed an intelligent lighting system to light up paths, trees and play spaces in Hupisaaret Park. Motion detectors and adjustable brightness means the lighting can adapt to different uses and weather conditions to provide an engaging and safe play space and wayfinding in the park.

10. Zimmerman, M. An almost car-free suburb, where kids roam free. 2017.
11. Gill 2017
12. Heydon, R. 'Let's create more car-free developments'. 2019.
13. Coates, G.J. The Sustainable Urban District of Vauban in Freiburg, Germany. 2013.

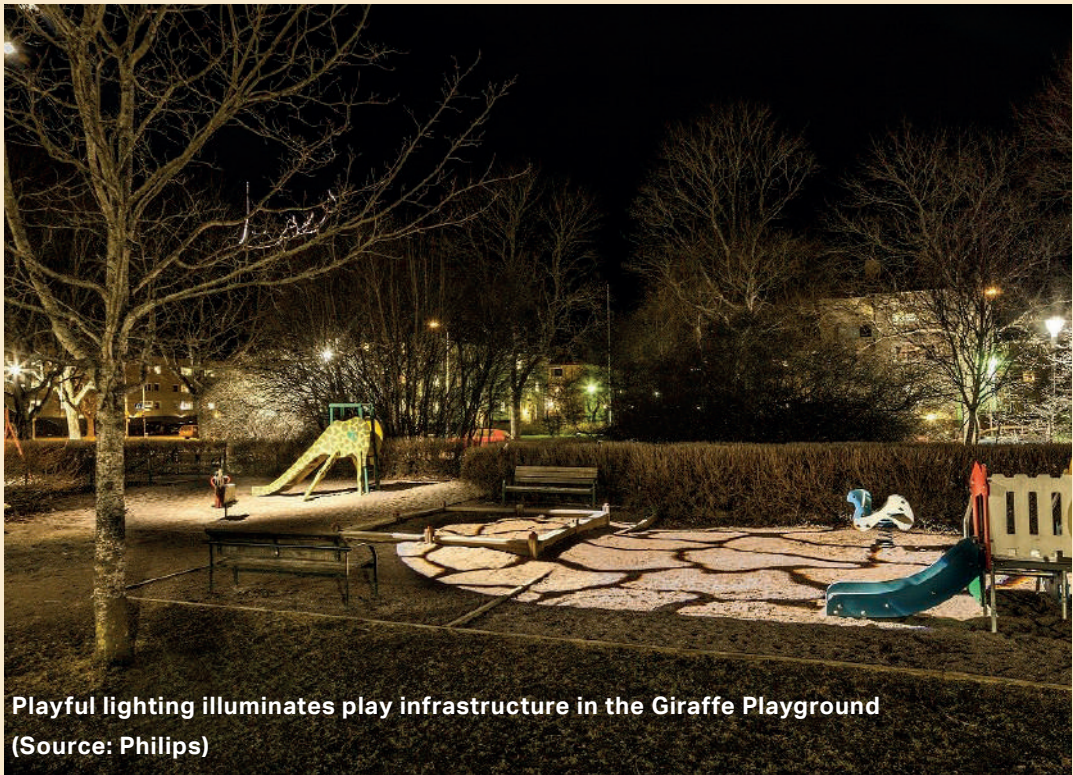


Giraffe Playground, Uppsala, Sweden

Lighting can enable children and young people to play out during winter months.

To address the decreased hours of daylight during winter, the city of Uppsala in Sweden installed an outdoor lighting system at the Giraffe Playground. Lighting illuminates play features and routes through the park. Surveys of children who live locally found a 37 per cent increase in outdoor play compared to the previously unlit playground, and a 15 per cent reduction of screen time¹⁴. Parents also reported improvement in children's moods after being able to play out for longer after school.

14. Halper, M. Swedish city makes kids healthier by lighting up the playground. 2015.



The Musicon Path, Roskilde, Denmark

Playful and interactive design can enliven the lighting of the public realm and routes.

Lighting design is a key consideration when addressing the mobility of young people, particularly so that they can move around their neighbourhoods later into the evening. The Musicon Path is a new cycle track and lighting installation in the creative quarter of Roskilde, Denmark. Playful lighting follows the theme of flowing water, as blue lights responds to the movement of a cyclist or skater as they move along the path. LIDAR laser technology incorporates a playful design element to this mobility route. The installation is part of a 1km path that links the creative quarter of Musicon to the nearby train station. Other design features of the path also incorporate playfulness through creative lighting to create a sense of flow towards different park spaces. The technology can be modified for different cultural events, and also contribute to 'smart city' measurement of activity and footfall.



"The Musicon Path" interactive pump track lighting by Simon Panduro and Light Bureau (former ÅF Lighting) (Source: Tomasz Majewski / Light Bureau)

Bridget Joyce Square, White City, UK

An innovative street transformation for community events and daily use, with improved access to a school and playground, and exemplary SuDS design.

This regeneration project incorporated a sustainable drainage system (SuDS) into a new traffic-free public space to improve road safety for the nearby school and playgrounds. The design creates an informal social space for events, improves connectivity, and also aims to improve the biodiversity and flooding resilience of the area through water retention and absorption by the basins and raingardens. A path across the SuDS provides a playful wayfinding route across the square, as well as an encounter with urban nature. A nearby Early Years Centre and housing estate benefit directly from the pedestrianised space that provides connectivity and helps to foster ecological literacy in children.



Playful wayfinding features are integrated into a SuDS
(Source: Hammersmith and Fulham Council)

Marmalade Lane, Cambridge, UK

High quality housing arranged around car free shared spaces, promotes social interaction.

Marmalade Lane is a 42 house co-housing development in Cambridge. A large shared garden occupies the central area, and the entire development is car free, creating a large space and network for safe playing out and wayfinding. Houses face each other, and a 'common house' means socialising, interaction and mixed-use is designed into the development.



Mehr Als Wohnen, Zurich, Switzerland

Creating accessible connections between buildings with a network of paths and public spaces.

320 apartments with shared amenities are arranged in a series of smaller, independent buildings and connected through a network of public spaces, paths and parks. Ground floor tenancies contain workspaces and community rooms. A central public zone makes the area accessible and connects the city to the north with the park in the south.



Sutherland Road, Waltham Forest, UK

Deck access creates visual permeability and natural surveillance.

New residential blocks and a terrace are positioned around an open courtyard. Innovative deck access to residential units enables longer distances and visually permeable balustrades for greater visibility and overlooking. An additional second floor external amenity space is connected to access decks and enables additional outdoor play for those furthest away from courtyard.



The deck access at Sutherland Road enables a sense of openness and longer overlooking distances (Source: Levitt Bernstein / Tim Crocker)

Goldsmith Street, Norwich, UK

Locating parking at the perimeter to prioritise pedestrians and activating back streets with high quality public realm.

A simple series of seven terrace blocks are arranged in four dense lines and parking provision is located on the perimeter, making streets safe for pedestrians. Bin stores at the front of gardens act as a buffer between the public footpath and front doors.

A landscaped 'back street' includes gardens and a pathway with a wavy course, creating an interesting space for young children to play in.

The Goldsmiths Street project won the Royal Institute of British Architects 2019 Stirling Prize as an eco-development with 100 per cent social housing units and over 25 per cent of the site assigned to communal space.



RESOURCES – GLOSSARY OF KEY TERMS

This glossary defines several key words related to independent mobility that appear in this report and the accompanying appendix document.

Active travel

Moving from place to place by walking, running, cycling, scooting, or any other form of travel that doesn't use a vehicle.

Affordance

An opportunity for action in an environment. Objects 'afford' interactions such as climbing, jumping and running. Design should incorporate flexibility to provide a range of affordances for a range of age groups and requirements¹⁵.

Child-friendliness

This is a process or approach where children's needs, development, accessibility and mobility are ensured through inclusive design and planning practices that are oriented towards achieving the rights and elevating the status of children as laid out by UNICEF and the UNCRC¹⁶. In terms of planning and design, a child-friendly city will have good provision for independent mobility, and a range of affordances.

Children's infrastructure

This is the network of child-friendly spaces, streets and amenities that connect to create a child-friendly city. This considers both spaces and the means of moving between them, so a high-quality public realm is key to making the everyday experiences of the city child-friendly¹⁷.

15. Kyttä, M. 2004

16. Gill, T. Building Cities Fit for Children. 2017

17. Arup. 2017.

Co-creation

Engaging stakeholders and knowledge holders in the entire process of planning, design and implementation. Stakeholders may include children of various age groups, families and local community groups. Co-creation helps understanding the needs of stakeholders, as well as establishing trust and a sense of ownership of the space or project.

Destination

The specific destinations that children are allowed to go unaccompanied, or where they actually go, for example school, the homes of peers, sports facilities, are an indicator of independence.

Dependent mobility

Moving around but relying on someone else to facilitate and enable this movement. For example, a child without access to a bike or a bus may rely on their parents to drive them to school in a car.

Everyday freedoms

A child's capacity to play and level of independent mobility interact to create a particular level or set of 'everyday freedoms'. Greater everyday freedoms result from play being embedded into everyday spaces, as well as children's capability to move around an area unsupervised.

Free action

A characteristic of an environment where children can move and create situations away from those imposed on them by adults. These may be uncertain situations, or situations where needs and desires are met, either way requiring some sort of navigation through this 'field' of free action¹⁸.

Free play

Play that occurs outside of formalised or prescribed environments. It is more spontaneous and requires greater imagination than in a formal setting such as organised sports activities¹⁹.

18. Kytä, M. Children in Outdoor Contexts: Affordances and Independent Mobility in the Assessment of Environmental Child Friendliness. 2003

GIS

A Geographic Information System is something that can collect, manipulate and analyse spatial data across multiple layers of information and display it in a map.

Home zone

A residential street where all users (drivers, cyclists, pedestrians, children) share the street safely and equally. Street design should be such that quality of life, leisure and recreation take precedence over traffic, through loosely prescribed mixed-use design.

Independent mobility

Moving around without the supervision by someone else. This may be with friends or alone, but there is no one actively monitoring the movement.

Incidental play

Play that does not take place in formal play space or with formalised play equipment. Playful and whimsical elements of the built environment can provide affordances that are convenient, interesting and welcoming for children to interact and play with.

Mobility infrastructure

The networks and systems that enable people to move around a city. This includes the modes of travel, the roads and cycle lanes, public transport services, and anything else that is involved in moving people around.

Mobility licence

The licence that children are granted from a parent or carer to independently move around their environment. The license involves a set of defined rules such as permission to cross main roads, to visit shops, or to cycle on pavements or roads.

19. Hart, R. Containing children: Some lessons on planning for play from New York City. 2002.

Pedestrian priority

An advisory term to indicate that other modes of transport should give way, or priority, to pedestrians. Other modes of transport still have access to the road, and therefore it is not a particularly strong or enforceable term.

Play on the Way

The idea that children's mobility and play cannot be decoupled. Children should be simultaneously encouraged to play as they move along the street, and move through and across playable space²⁰.

Play streets

A play street is a resident-orientated initiative supported by local councils. It enables residents to close their road to through traffic for several hours, creating a safe and convenient communal space for children in the neighbourhood to play, and adults to interact.

Play sufficiency

This concept was developed from a methodological approach by Barclay and Tawil in Wrexham. It can be understood as the point where children are satisfied by their access to opportunities to play where only minor concerns or changes are expressed. Play sufficiency alludes to the idea that play should not be limited to formal play spaces such as playgrounds, but instead take place in more everyday spaces and environments where children can and do play.

Public realm

The spaces between and within buildings where daily life happens. It is simultaneously functional, symbolic and social. A successful public realm is one that is liveable, inclusive and accessible for all.

Safe loops

Mobility routes that connect children's amenities and spaces around a local area.

20. Barclay, M. and Tawil, B. Wrexham Play Sufficiency Assessment. 2013

School Streets

A traffic restriction initiative where roads near a school are closed during pick-up and drop-off times. The idea was developed in Italy but is becoming increasingly common in the UK following the measurable improvements in air quality and wellbeing of pedestrian and cyclist school children²¹.

Self-reinforcing behaviour

Jan Gehl's theory states that when there is a centre of activity, with people 'doing' things such as playing, other people are inspired to join the centre of activity, increasing the range and scope of activities²².

Social infrastructure

Covers facilities such as health provision, early years provision, schools, colleges and universities, community, recreation and sports facilities, places of worship, policing and other criminal justice or community safety facilities, children and young people's play and informal recreation facilities.

Territorial range

This is the distance from home that children can travel independently. This is measured in distance and previous studies have collected data using questionnaires, GPS and different forms of mapping.

Urban citizenship

The idea that those who use, engage and participate in urban space are its citizens and therefore have some input into the planning, design and transformation of urban space. It differs from the formal notion of citizenship to a particular nation state.

Woonerf

A Dutch 'living street' based on the concept of mixed-use planning. Bikes, cars and pedestrians can co-exist, but cars must drive slowly. On quieter roads, the woonerf can function as a play space.

21. Sustrans. Sustrans School Streets. 2019

22. Gehl, 'Life Between Buildings'

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ABOUT GOOD GROWTH BY DESIGN

The Mayor's Good Growth by Design programme seeks to enhance the design of the built environment to create a city that works for all Londoners. This means development and growth should benefit everyone who lives here. As such, it should be sensitive to the local context, environmentally sustainable and physically accessible.

The programme calls on all involved in London's growing architectural, design and built environment professions to help realise the Mayor's vision.

Good Growth by Design uses the skills of both the Mayor's Design Advocates and the wider sector. This includes teams here at City Hall, the London Boroughs and other public bodies.

The programme covers six pillars of activity:

SETTING STANDARDS

Using design inquiries to investigate key issues for architecture, urban design and place-shaping, in order to set clear policies and standards in support of the London Plan and other Mayoral strategies and initiatives.

APPLYING STANDARDS

Ensuring effective design review and scrutiny across the GLA and London more widely, including the establishment of the London Review Panel.

BUILDING CAPACITY

Enhancing the GLA Group's and boroughs' ability and resource to shape new development to deliver good growth.

SUPPORTING DIVERSITY

Working towards a more representative sector and supporting the design of a more inclusive built environment

COMMISSIONING QUALITY

Ensuring excellence in how the Mayor and other public- sector clients appoint and manage architects and other built environment professionals.

CHAMPIONING GOOD GROWTH

Advocating best practice to support success across the sector.

THE MAYOR'S DESIGN ADVOCATES

The Mayor's Design Advocates are 50 built environment professionals. They were chosen for their skill and experience to help the Mayor support London's growth through the Good Growth by Design programme. They are independent and impartial, and provide support, advice, critique and expertise on London's built environment. The group includes practitioners, academics, policy makers and those from community-led schemes. Fifty per cent of the advocates are women, and one in four are from a BAME background.

SETTING STANDARDS: YOUNG PEOPLE AND THE CITY

The Mayor's Design Advocates and City Hall's Regeneration and Economic Development, Environment and Planning teams have been developing research related to the implementation of the draft London Plan policy S4. This work has been led by the Regeneration and Economic Development team, with support from a number of GLA Group teams including GLA Planning, Health, and Education and Youth, and TfL Public Health and Streetscape Guidance.

This document is a call to action for the built environment sector to join the Mayor of London in applying new design approaches to projects, with the aim of making London an inclusive city for all Londoners.

FOR MORE INFORMATION

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London SE1 2AA**

www.london.gov.uk/what-we-do/regeneration/advice-and-guidance/about-good-growth-design

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**A
BUILT
ENVIRONMENT**

**FOR
ALL
LONDONERS**

