Healthy Ageing in Place Pilots Programme

To better understand the relationship between 'place' and 'healthy ageing' through the lens of different 'types' of places across the UK

UoL + Prosocial Place Research & Practice Programme

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Foreword

Introduction

Prosocial Place were engaged by **Connected Places Catapult** (CPC) to produce a report that helps CPC to better understand the relationship between 'place' and 'healthy ageing' through the lens of different 'types' of places across the UK. The team engaged in this task were:

- **Graham Marshall**, Director Prosocial Place (Practice) and visiting Senior Research Fellow, Institute of Population Health, University of Liverpool;
- **Prof. Rhiannon Corcoran**, Director Prosocial Place (Research) and Institute of Population Health, University of Liverpool;
- **Dr. Frances Darlington-Pollock**, Department of Geography and Planning, University of Liverpool.

Approach

In tackling this task, the team have been engaged in desk-based research, outlined in the Introduction, covering:

- **Conceptual Understandings and Approaches** to Interventions to support healthy ageing in place
- **Identification of the main challenges** for healthy ageing in place (n.b. scholarly review of this substantial literature is beyond the scope of this report)
- **Scope of existing frameworks** from well-regarded organisations that address healthy ageing in place relevant to the UK context

To answer the brief set by CPC, the main body of the report addresses:

- **Scope of open access UK data sources** that provide directly relevant indicators of healthy ageing
- **Examination and discussion of geographical and morphological typologies** that can best support healthy ageing in place
- **Bespoke framework to understand how places can support healthy ageing** with an index to aid the selection of neighbourhoods within local authorities selected by data and physical morphology

The concluding section of the report brings these elements together and suggest areas of the knowledge base where future research and development is needed to build this complex but neglected area.

Conceptual Understandings of Ageing & Approaches to Interventions

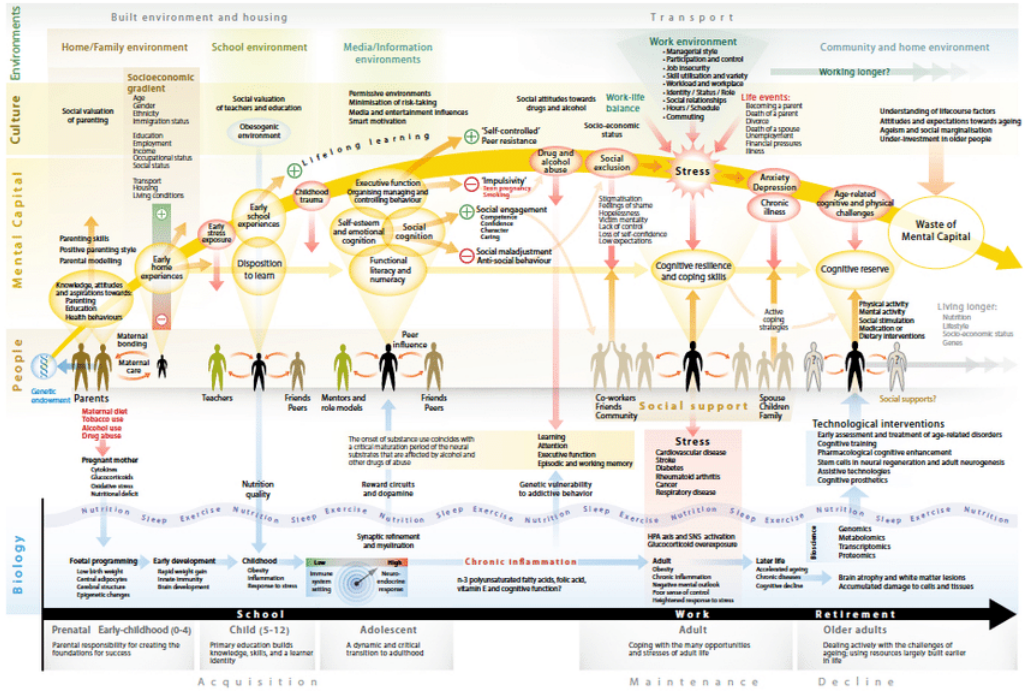
- ‘Lifecourse’ vs ‘Lifecourse Segmented’ approaches to Healthy Ageing

Health is socially determined. The more advantaged your situation, defined by anything from your housing, your income, your education to the type of area in which you live, the better your chances of good health. But health is also cumulative; it isn’t just about where you live now or your current socioeconomic position, it’s about where you have come from. The cumulative, socially determined nature of health is critical when considering population ageing. We are now, on average, living longer than ever before following sustained improvements to life expectancy. But improvements to healthy life expectancy have not kept pace (Jivraj et al., 2020).

Living longer but spending more time in poorer health challenges the fiscal sustainability of existing service provision models and increases pressure on health and social care systems. It is a priority to address the expansion of morbidity in older ages by increasing the proportion of healthy, active older people who can remain independent for as long as possible.

Given the socially determined, cumulative nature of health, maximising good health in older ages cannot focus solely on the context and situation of people in older ages. Social determinants of health are understood as the conditions in which we are born, live, learn, play, work and age (Marmot et al., 2020). Healthy ageing policies must embrace interventions across all ages (Gietel-Basten, 2021), adopting a lifecourse approach without reference to chronological age.

However, existing policy systems are more likely to adopt a ‘life-course segmented’ approach (see Stowe and Cooney, 2015; Gietel-Basten, 2021) by targeting policies at particular age-groups.



Mental Capital & Wellbeing: Making the most of ourselves in the 21st century

Such approaches tend to be politically and economically more practical, with impacts more immediately visible for the targeted age-group. However, where existing policy frameworks and financial infrastructure necessitate an age segmented approach, the evidence base used to inform policy decisions must still be situated within a lifecourse approach to healthy ageing. This will enable a move towards a more holistic and inclusive approach to maximise healthy ageing, whilst also supporting those already in older ages who have varying capacity or potential for good health.

Challenges

Identifying the Main Challenges for Healthy Ageing in Place

Currently, approximately 18.5% of the UK population is >=65 and 50% of those are living with long term health conditions. However, reflecting the general lack of preparedness from policy to action, there seem currently to be more challenges than solutions to address the needs of healthy and independent ageing in UK places.

These many challenges alongside some positive aspects of the narrative are presented in the following boxes. In summary these include a variety of place- and service-related policies such as developing a living environment that can support homes for life to cater for the 85% who, according to RIBA, want to remain in their familiar neighbourhoods; implementing neighbourhood renewal approaches that are age-friendly; ensuring that policy areas within NHS and social care take a preventative, life course, wider determinants approach to halt unequally distributed, unhealthy ageing; addressing the one-size-fits-all mentality of local and national plans that treat the aged demographic as a homogenous unit.

Engaging with the concept of functional as opposed to chronological ageing, alongside the adoption of inclusive, less stigmatising language will go some way to turning the juggernaut. On a more positive note, we already know, in theory, much of what needs to be done to support healthy and independent ageing in place. We know what is likely to work but we do not yet know how to make it happen. Of particular concern in this regard is the mismatch between the speed of the ageing population and the speed with which Homes and Communities policies and the adaptation/ delivery of appropriate housing stock can meet the challenge to support healthy ageing in place.

Policy

- NHS Long-term Plan – limited mention of housing (Healthy New Towns initiative)
- 65% of local authorities lack policies
- Need innovation for healthy living between Gov and private sector
- Regulating Built Environment Healthy Homes Bill – homes & neighbourhoods
- Lifetime Neighbourhoods missing from political agenda
- Integrated 'solutions'
- Upgrading existing housing stock – policies/funding ?
- Regulating rental accommodation
- Reforming planning system – current focus on new development
- Updating obsolete housing standards (?)
- Economics of ageing – cost/benefit
- Homes (Fitness for Human Habitation) Act 2018
- Neighbourhood Planning Act 2017
- Specialised supported housing identified in Government policy
- Equality agenda – gives leverage to address exclusions
- One lens of older people in planning is as a problematic cohort – nimby; having special needs
- Planning is economic – aimed at 'breadwinners'

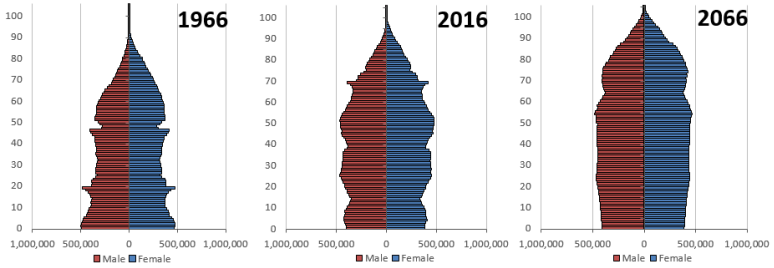
Challenges

Population:

- 18.5% of population over 65 and growing
- 50% of people over 65 living with long-term illness/disability
- Urban populations denser and younger – but masks hotspots (QU – do they die younger in urban areas)
- Most people wish to stay in their homes and communities
- Women and ageing – women live longer and left behind

Changing age profile:

- Not reflected in residential development profile or policy making.



Diverse needs:

- Age – one of "4 grand challenges"
- Healthy inclusive ageing
- Income - affordability
- Health and care requirements
- Care blackholes
- Personal preference
- Assisted living
- Framing of vulnerability
- Exclusion is complex and multi-faceted – some can build up equity for later life
- Ill health and disability is progressive with age; curtails independence and impacts feeling of value

Language:

- Many documents seeing later life as a societal 'problem'
- Tendency to talk in generalisations
- Chronological age vs functional age
- 'Later life' better than 'old age'

Exclusion:

- PSI – 'The way in which older people experience more than one form of exclusion from…. services and facilities that many take for granted'
- Location relevant – remote or disadvantaged areas
- Exclusion from friends, relatives, services, facilities exist independently from, as well as because, of lack of financial resource
- Insufficient income to be able to participate in society
- Women in more rural areas experience some of highest rates of exclusion (also disadvantaged urban housing)
- Discrimination affects access to services & independent income
- 65% of people over 65 cannot use public transport without assistance
- Age discrimination is a barriers to participation – treated differently or the same when distinctive priorities should be taken account
- Cost and access to transport impacts access to volunteering
- Why would a person move? - Advice to people moving (affordable homes in a service/ facilities/ connections desert its not affordable) – loss of social capital
- Ageism, overlapping vulnerabilities and equity in the COVID pandemic

Challenges

Homes

Moving home – choice?

- Right sizing ? (overcome 'emotional ties to home or community' – conflicts with other advice)
- Adapting homes - difficult to find information on home adaptation
- Wealthy & sheltered well catered for; remainder (80%) not/ restricted from choice
- Specialist housing exclusively costly
- Difficult to meet decent home standards/accessibility
- Accessibility/ community
- No dedicated use class in planning
- Over 65's own 40%+ of housing stock
- Peoples last home should be seen as pinnacle of housing ladder not a compromise
- Age/sex structure – differing housing need
- Senior co-housing
- Intergenerational housing (?)
- Smart homes
- Many fail to consider later life housing choices until too late

Place

- RIBA – 85% prefer to stay in familiar neighbourhoods
- Spatial aspects of vulnerability
- Distance to health services
- Participation in civic life - engaging people in co-design
- Naturally occurring retirement communities
- Community based approaches – social isolation & loneliness
- Age friendly living environment – safety/ security - local community safety initiatives
- Places compromise different demographic structures
- Lack of access to transport – vital to access services & facilities
- People feel unsafe after dark, rising with age – personal security inside & outside home – significant gender difference
- Enhance neighbourhood renewal to tackle specific needs
- Independent living – mobile clinics etc
- Transport strategies – include walking, cycling, buses taxis
- Access to cultural facilities – libraries etc
- 'Sedentarianism'
- Cresswell – examining mobility – break down into constituent parts – mobility and immobility

Reference Points for Challenges

- CPC - Homes for healthy ageing: Understanding the challenges
- CPC - Homes for Healthy Ageing Report – Housing Innovation Programme
- CPC - Ageing population in the UK
- CPC - Podcast – Episode 9: Health is made at home, a conversation with Lord Nigel Crisp
- CPC- Homes Fit For The Future
- RIBA - A Home for the Ages: Planning for the Future with Age-Friendly Design
- LGA - Meeting the home adaptation needs of older people
- Housing LIN - Housing our Ageing Population
- OFMDFMNI - Ageing in an Inclusive Society
- Frances Darlington-Pollock - Progress in the study of health inequalities and selective migration: Mobilising the new mobilities paradigm
- Town Planning Review - Ageism, overlapping vulnerabilities and equity in the COVID-19 pandemic

Existing Healthy Ageing in Place Frameworks

- The WHO Age-Friendly Communities Framework

The WHO Age Friendly Communities Framework identifies 8 interconnected domains of urban life and within these it makes specific recommendations to illustrate what characteristics would best support successful ageing in place.

Domain 1 - Community & Healthcare. The framework stresses accessibility and affordability of both community and health care resources to support independent and active seniors.

Domain 2 - Transportation. The framework emphasises the accessibility and affordability of public transport while also focussing on the needs of senior drivers including accessible parking.

Domain 3 - Housing. The emphasis in this framework is on safety, affordability, a range of options and the ability to satisfy conveniently daily needs close to home. Consistent with the 'homes for life' policy push, the framework stresses accommodations within the home such as elevators and wide corridors that can help seniors to stay living in their homes.

Domain 4 - Social Participation. This domain stresses the need for connectedness to others and meaningful pursuits as ways of reducing social isolation. Again, key words within this domain variety, affordable and accessible. Activities including leisure, social, cultural and spiritual need to be well communicated. Importantly, the intergenerational nature of interactions is emphasised because these kinds of activities are regarded as being mutually beneficial across age groups.

Domain 5 - Outdoor Spaces & Buildings. Well maintained and stewarded, safe and secure outdoor environments are regarded the key characteristics to help senior residents get out beyond their homes. Stable, flat walking surfaces and the stewarding of the increasingly problematic issue of pavement parking are prioritised. Also stressed is the need to provide rest places and public facilities.

Domain 6 - Respect & Social Inclusion. The framework stresses the need to address negative myths about being old through formal education. This can promote engagement with the wisdom and learning of older age groups so that they can maintain meaningful and purposeful roles in society.

Domain 7 - Civic Participation & Employment. Continued training for older age people and a strong system for communicating voluntary opportunities to older age groups is an important aspect of an inclusive society. The need to be involved in local decision-making is also stressed.

Domain 8 - Communication and Information. Areas need to provide communications in a way that does not exclude certain groups of older people. Those who already find themselves in the ageing demographic, by and large, prefer to access information in the more traditional formats, including word-of-mouth. So, it becomes a duty of local government to ensure that the things that older people need and want to know about are accessible to them in timely and low-cost ways.

Existing Healthy Ageing in Place Frameworks

- United Nations Economic Commission for Europe (UNECE) Active Ageing Index

This influential Index includes sections on Employment (rates for older age groups); Participation in Society; Independent Healthy and Secure Living; Capacity and Enabling Environment for Active Ageing.

The **Employment** section examines rates of employment in older age groups and likely reflect local economy and prospects for part time work

Participation in Society covers, voluntary and caring activities as well as political participation.

The section on **Independent Healthy and Secure Living** focusses on access to health care services, ability to exercise and learn and to live independently in a financially secure and safe manner.

In the category **Capacity and Enabling Environment for Active Ageing**, the emphasis is on life and healthy life expectancy, wellbeing and social and digital connectedness.

- Age UK: Guiding Principles & Key Objectives

In its wide ranging and well-established role of supporting older UK residents, Age UK endorses 6 policy areas: Money Matters; Health & Wellbeing; Care & Support; Housing & Homes; Active Communities; Cross cutting themes.

Under the heading of **health and wellbeing** the policy paper emphasises the need for strategic preventative approaches to support ageing well. Loneliness and mental health are highlighted with equal access to support for mental and physical health care services and continued social connectivity stressed.

The policy area on **Housing and Homes** states the right to live in age-friendly environments that afford fulfilment and independence. The need for new and existing homes to be flexible and adaptable to accommodate ageing associated needs is accompanied by a position paper as do statements relating to retirement homes, the older homelessness and those who age in rural locations with accessibility to services a particular concern in the latter regard.

The Age UK policy area of **Active Communities** includes foci on moving around places by public transport and by driving, active citizenship, social and digital inclusion, learning, skills acquisitions and maintaining sense of agency

The **Cross-cutting Themes** broadly deal with matters of social justice and rights including age equality, age friendly governance and the re-shaping of public services.

Existing Healthy Ageing in Place Frameworks

- Summary of Areas Emphasised in these Existing Frameworks

Although WHO, in its Outdoor Spaces & Buildings domain mentions the need for decent pavements and lack of obstructions and fall hazards, what appears markedly missing in these frameworks is any depth of consideration of what characteristics an age-friendly public realm would need. There is some emphasis in WHO and Age UK on getting around by transport but not by walking. This seems somewhat at odds with the need to build physical exercise into daily routines. Walkability for senior residents therefore requires rather more emphasis when we consider the question of an age-friendly public realm.

	Healthcare	Transport	Social Capital	Housing/ Independence	Neighbourhood	Employment	Education/ Training	Digital Inclusion
WHO	✓	✓	✓	✓	✓	✓		✓
UNECE	✓		✓			✓		
AGE UK	✓	✓	✓	✓		✓	✓	✓

2 Open Access Data on Healthy Ageing in Place

- Indicators of Healthy Ageing: an area level perspective

Longer term approaches to achieve healthy ageing in place will require interventions across the lifecourse because the adverse life events that happen to us all in different measure from 'cradle to grave' impact our health and ultimately lead to the chronic health conditions so characteristic of the latter years of life for so many. However, for those already reaching older ages and suffering declining health, targeted interventions are required to address current needs.

Such interventions are likely to have most individual and cumulative impact in places where poorer health in older age is more common. This means that a detailed understanding of the context in which ageing plays out is needed. To direct intervention to the right places we must understand what features of the local social, economic and physical environment support healthy ageing in an already older population and which prevent it. While it is unrealistic to assume that entirely bespoke interventions for individual localities can be delivered, place-based typologies can help identify geographical areas that have similar conditions and outcomes (Lupton et al., 2011) which may therefore benefit from similar interventions.

- Using data to inform place selection

No existing typologies of place explicitly focus on older people (though work in this area funded by The Nuffield Foundation is underway). However, there are a range of indicators, indices and classifications that cover features of the local environment pertinent to healthy ageing and older people. When considered together these datasets can be used to help target interventions to maximise good health in the already older age groups while also informing initiatives founded on the lifecourse approach.

To focus on the challenges and opportunities within the already older population, demographic dependency ratios should be used to identify areas which have an older age-structure. These ratios quantify the proportion of older people to those of working age. This is usually defined as the ratio of people aged 65 and over to those aged 15-64.

The **Older People Ratio (OPR)** - widely referred to as the ***Old Age Dependency Ratio*** - can be used in combination with other local indicator sets as a first step in establishing where targeted interventions may have most impact (See table below and full data in supplementary EXCEL spreadsheet). For example, to target those already in older ages priority areas can be further identified, beyond OPR, using statistics of Healthy Life Expectancy at 65 **(HLE)**. Both OPR and HLE are freely available at local authority level.

2 Open Access Data - Older Persons Ratio in Place

Prosocial Place
evidence based design

- 20 Lowest UK OPR

Local Authority	Older Persons Ratio	OPR Decile	Total: 65+	65+ (%)
Tower Hamlets	8.63	1	20,859	6.42
Hackney	10.62	1	21,692	7.72
Newham	10.82	1	27,228	7.71
Lambeth	11.21	1	27,500	8.43
Southwark	11.54	1	27,130	8.51
Islington	11.65	1	21,484	8.86
Manchester	13.02	1	51,441	9.30
Wandsworth	13.12	1	31,626	9.59
Lewisham	13.35	1	28,988	9.48
Barking & Dagenham	14.34	1	19,780	9.29
Haringey	14.76	1	27,993	10.42
Greenwich	15.37	1	30,359	10.54
Hammersmith & Fulham	15.38	1	20,369	11.00
Slough	15.70	1	15,204	10.17
Waltham Forest	15.84	1	29,980	10.82
Nottingham	16.51	1	38,779	11.65
Camden	16.80	1	32,463	12.02
Westminster	17.45	1	32,628	12.49
Oxford	17.66	1	19,042	12.49
Leicester	18.03	1	43,121	12.17

- 10 Either Side of UK OPR Mean

Local Authority	Older Persons Ratio	OPR Decile	Total: 65+	65+ (%)
Bedford	28.65	4	30,925	17.85
South Derbyshire	28.66	4	19,689	18.36
Plymouth	28.80	4	48,530	18.52
Warwick	28.97	4	27,067	18.83
Renfrewshire	29.01	4	33,887	18.92
Bath & NE Somerset	29.07	4	36,682	18.98
Cherwell	29.09	4	27,493	18.27
West Dunbartonshire	29.10	4	16,731	18.81
Causeway Coast & Glens	29.13	4	26,654	18.40
Three Rivers	29.13	4	17,002	18.22
Reigate and Banstead	29.20	4	27,068	18.20
Falkirk	29.27	4	30,449	18.93
Halton	29.34	4	23,812	18.40
Bury	29.35	4	35,025	18.34
Stockton-on-Tees	29.42	4	36,423	18.46
Epsom and Ewell	29.48	4	14,730	18.27
Redditch	29.54	4	15,751	18.47
Spelthorne	29.58	4	18,545	18.57
Stirling	29.63	4	18,264	19.39
South Gloucestershire	29.67	4	53,697	18.83

- 20 Highest UK OPR

Local Authority	Older Persons Ratio	OPR Decile	Total: 65+	65+ (%)
Fylde	47.70	10	22,282	27.58
Scarborough	47.93	10	29,940	27.53
Chichester	48.07	10	33,201	27.41
Wyre	48.31	10	31,131	27.77
East Suffolk	48.36	10	68,549	27.48
Torridge	48.48	10	18,934	27.74
West Devon	48.92	10	15,609	27.98
Conwy	49.08	10	32,732	27.93
South Lakeland	49.31	10	29,936	28.49
Malvern Hills	49.47	10	22,176	28.18
South Hams	49.59	10	24,584	28.26
Isle of Wight	49.62	10	40,186	28.35
Arun	51.58	10	46,384	28.85
Dorset	51.73	10	110,049	29.07
New Forest	52.32	10	52,707	29.27
East Lindsey	53.88	10	42,539	30.01
Tendring	54.45	10	43,702	29.82
East Devon	55.57	10	44,415	30.36
Rother	59.82	10	30,886	32.15
North Norfolk	61.54	10	34,772	33.17

2 Open Access Data on Healthy Ageing in Place

- Using data to inform place selection

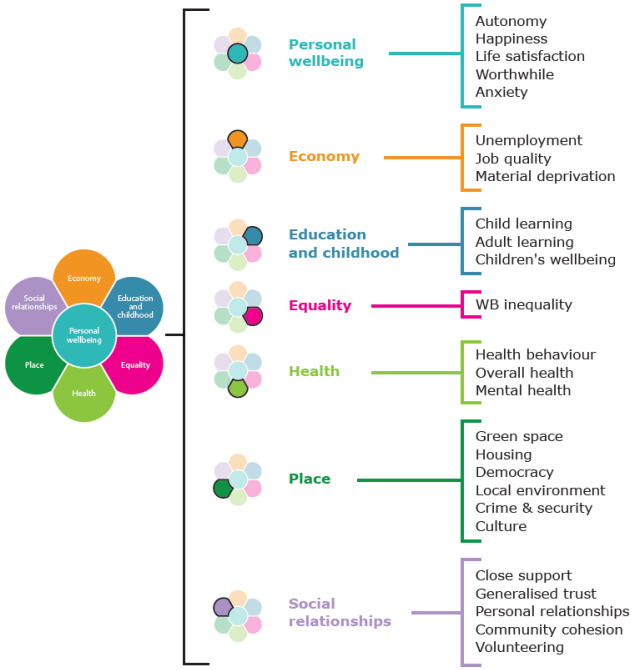
Having established areas potentially exhibiting greater need using **OPR and HLE**, more granular spatial data can offer further insight into the context of ageing in place. When these data are considered collectively alongside a narrative about what factors are most important for localities, neighbourhoods appropriate for specific interventions can be objectively identified.

The tables below lists key open access datasets with a summary of their importance for identifying pilot places where interventions to support healthy, independent ageing may best be implemented. Some of these datasets explore indicators of place (i.e. features of the local environment which may enable or constrain healthy ageing). Others capture indicators of people (i.e. the attributes of the people who live there and their likely capacity for healthy ageing). For some of the datasets, subjective but informed decisions will need to be taken about what thresholds should be applied. For example, what percentage of the local older population would need to be providing 20 or more hours of unpaid care to be considered at risk of poor health?

When selecting potential areas for intervention, we recommend considering classifications that explicitly draw attention to age-relevant features. For example:

- Consumer Vulnerability Index identifies 'Vulnerable Pensioners';
- Internet User Classification differentiates between 'Digital Seniors' and 'Settled Offline Communities' who are notably older
- ONS Output Area Classification has a number of relevant groups including 'Ageing rural industry workers' and 'Retired city hardship'.

In addition to datasets which can be explicitly understood in relation to healthy ageing, place typologies that differentiate between areas according to settlement type or population density can offer additional insights into ageing in place. For example, rural areas tend to have higher proportions of older people. This means that differentiating between rural and urban areas is important when intervening to maximise good health while also maximising impact.



Whatworkswellbeing: find your areas wellbeing scores

2 Healthy Ageing in Existing Data

Name	Geography & Availability	'Healthy Ageing' relevance
Mid-year population estimates	**United Kingdom: local authority** ONS Population Estimates - CS : V/excel	Derive the Older Person Ratio (OPR) to establish age-structure of locality. Indicative of type of 'healthy ageing' policies needed in that locality (younger population suggests more interventions to achieve better conditions in later life; older populations suggests more interventions maximising opportunities for good health amongst those already in older ages) $$OPR = \frac{Number\ of\ people\ aged\ 65+}{Number\ of\ people\ aged\ 15-64} * 100$$
Sub-national population projections	**United Kingdom: local authority** (2018-base latest available for UK) England: ONS - Projections by local authority and higher administrative area, 5-year age group: excel Wales: Stats Wales - Projections by local authority, single year of age: excel Scotland: NRS - Projections by council area, single year of age: CSV Northern Ireland: NISRA - Projections by Local government Districts, single year of age: excel	Identify areas with largest increases in proportion/ absolute numbers of older people
Rural Urban Classifications	**England & Wales**: lower super output area; middle super output area; wards local authorities → Rural Urban Classification (2011) ONS Open Geography Portal - CSV/excel **Scotland:** postcodes, census output areas, data zones (at local authority, describes according to proportion of population assigned to each of the categories identified) → Scottish Government Urban Rural Classification (2016) Scotland Scottish Government - CSV **Northern Ireland:** based on Settlement Development Limits (SDLs) and Super Output Area Northern Ireland NISRA – CSV	Well established differences in availability of public service and transport infrastructure between urban and rural areas; Older populations more likely in rural areas

2 Healthy Ageing in Existing Data

Name	Geography & Availability	'Healthy Ageing' relevance
City & Town Classification of Constituencies & Local Authorities	**Great Britain:** output area; constituency; local authority House of Commons Library - excel	Expands upon RUC in how we can interpret social and economic health outcomes between different types of places
Office for National Statistics Output Area Classification (2011)	**United Kingdom:** output areas (England, Wales, Scotland); small areas (Northern Ireland) Consumer Data Research Centre – CSV; Shapefile (Registration needed, but data are openly available)	Level two (groups) and three (subgroups) include specific categories relevant to older populations: for example, captures areas where older people may be living in strained financial circumstances and how that varies between city dwellers, more (sub)urban spaces, and rural areas.
Access to Healthy Assets and Hazards	**Great Britain:** lower super output area (England, Wales); data zone (Scotland) Consumer Data Research Centre - CSV	Multi-dimensional index capturing access to: • Retail environment (fast food, pubs, off-licences, tobacconists, gambling outlets) • Health services (GPs, hospitals, pharmacies, dentists, leisure services) • Physical environment (Blue space, green space- active, green space- passive) • Air quality (Nitrogen Dioxide, Particulate Matter 10, Sulphur Dioxide) Poorer performing areas are more likely have higher levels of pollution; poorer access to health services, parks and green or blue space; and better access to retail outlets that may encourage poor-health related behaviours. Scores can be disaggregated across the four domains.
Index of Multiple Deprivation	**United Kingdom:** lower super output area (England [2019], Wales [2019]; data zone (Scotland [2020]); Super Output Area (Northern Ireland [2017]) Data packs provided by the Consumer Data Research Centre. Additional subnational data packs at individual Local Authority District, Local Enterprise Partnership or Combined Authority also available. Can also obtain from respective statistical authorities.	Small area measure of relative deprivation across multiple domains. The most deprived area has the lowest rank (1) and the least deprived area has the highest rank. An additional London specific is available from the CDRC, reranking the English IMD but only for LSOAs in London.

2 Healthy Ageing in Existing Data

Name	Geography & Availability	'Healthy Ageing' relevance
Internet User Classification	**Great Britain:** lower super output area (England, Wales); data zone (Scotland) Consumer Data Research Centre - CSV	Digital connectivity and digital capability key drivers of inequality, shown to be particularly important in context of COVID. Older people less likely to use the internet which may have implications for experience of social isolation and loneliness, and ability to access current or future online services, including shopping and e-healthcare. Clusters differentiate between type of user according to socioeconomic attributes and internet usage. Of particular importance in context of health ageing are: •e-Veterans: affluent families, mainly middle-aged, high levels of use for information seeking, online services, and shopping •e-Rational Utilitarians: mainly rural or semi-rural areas at fringe of cities; high demand for internet use constrained by poor infrastructure; middle-aged or elderly; internet is a utility, not a conduit for entertainment •Digital Seniors: ageing, predominantly White British; infrequent but capable users; infrastructure provision often limited – within semi-rural or coastal areas •Settled Offline Communities: elderly, White British, retired, tending to live in semi-rural areas; limited engagement with internet •e-Withdrawn: though not necessarily older, of interest as geography follows that of more deprived urban regions with least engagement with internet
Residential Mobility Index	**United Kingdom:** lower super output area Consumer Data Research Centre - CSV	Ratio of the households that have changed LSOA for each year between 1998 and 2016. Higher levels of churn in a local area associated with lower levels of social and community cohesion, which in turn matter for health and healthy ageing. May also act as a proxy indicator for potential / capacity for participation in society within an neighbourhood: a more stable population assumed to be associated with more potential/capacity for participation in local society.
Health	**United Kingdom:** local authority ONS: Life expectancy; Healthy life expectancy - CSV/Excel	Life expectancy at birth and at age 65; and healthy life expectancy from 50 and up (in 5 year age bands): indicator of health potential in a local authority.

2 Healthy Ageing in Existing Data

Name	Geography & Availability	'Healthy Ageing' relevance
Consumer Vulnerability Index	**United Kingdom:** output area Consumer Data Research Centre - CSV	Metrics developed to map geography of consumer vulnerability across the UK. Consumer vulnerability defined as the risk that a consumer's mental, physical or financial welfare may be damaged when engaging in a market interaction. Vulnerability increases according to particular individual-level attributes, including age. Clusters of particular importance in context of healthy ageing are: • Well Established: contains larger proportion of older people. Low level of vulnerability identified, but notable that contains relatively high proportion of single person households aged 65+, and relatively high proportion providing unpaid care • Vulnerable Pensioners: Age range of 60-90, including high proportion of single person households aged 65+. Cluster characterised by socially rented flats, lack of car access, poor health, retired and long-term sick.
Local Census Characteristics	**United Kingdom** (various) England and Wales Scotland Northern Ireland	Local census characteristics available from Office for National Statistics (ONS); National Records of Scotland (NRS) and Northern Ireland Statistics and Research Agency (NISRA). Draw out key features of local older population to understand educational attainment (indicator of socioeconomic position when in employment, but must be interpreted cautiously for older people given different context of labour market entry and opportunity); economic activity, provision of unpaid care and household composition. Rates of employment, single person households and care provision constrain or enable opportunities for healthy ageing within local populations. However this involves quite a few steps to get more than just the absolute numbers. Weigh up value of individual indicators when in discussion with local authority service providers – local knowledge may negative value of these indicators. However, where used these indicators may offer useful insights of the extent to which individuals in a locality can maximise opportunities for good health, they must be considered alongside factors such as degree of socioeconomic deprivation (IMD) or health hazards in the local environment (AHAH).

Note. Additional datasets of interest include: Dwelling Ages and Prices available at Lower Super Output Area level for England and Wales; Broadband speed at output area level for United Kingdom; e-Food Desert Index at LSOA / Data Zone level for Great Britain; Classification of Multi-Dimensional Open Data of Urban Morphology at output area level for England and Wales. It should also be noted that a wider array of open-source data are available than listed in the Table including crowdsourced open data in OpenStreetMap for example.

2 Using Data Sources to Begin Selection of Pilot Places

A Suggested Selection Approach

To select priority areas for targeted interventions, we propose the following series of steps noting that these proposed steps should be considered as a starting point for dialogue with local authority partners.

DECISION STEP 1: The ONS 2019 mid-year population estimates shows that the *Older People Ratio* (OPR) for the UK is 29.14. This means that there are 29.14 people aged 65 and over per 100 of the UK working age population.

THEREFORE:

EITHER

Consider all local authorities with a higher OPR than the UK average as potential pilot areas for interventions.

OR

Consider all local authority areas in the top 20%-10% highest OPR for the UK.
These decisions can be made using the OPR data table included in supplementary material.

DECISION STEP 2: After identifying OPR strategy in DECISION STEP 1, target local authorities which have the fewest years of *Healthy Life Expectancy* (HLE) at 65.

DECISION STEP 3: Further refine the choices by considering the *Rural-Urban Classification* of the local authority.

DECISION STEPS 1-3 may provide enough information for discussion with candidate Local Authorities to begin. However, a more fine-grained selection can be achieved by taking further decision steps.

DECISION STEP 4: Decide which place or people attributes from typologies which seem most pertinent to healthy ageing in place. This decision may well be informed by the work conducted by the Helen Hamblin Centre for *Work Package 2*.

Also consider if different planned interventions would be best informed by particular place or people attributes. For example, the *Internet User Classification* might be particularly relevant for interventions focussed on digital initiatives. Check out if detailed statistics on the chosen attribute are broken down by age in the dataset. Use *Output* Areas Classification (OAC) from Census Data to inform choices further.

DECISION STEP 5: The identification of pilot neighbourhoods within local authority areas needs to be collaboratively taken with LA partners. It should be accompanied by use of the tools detailed below - the Healthy Ageing in Place Index (HAPI) and the District Profile Tool (DPT) but can be informed further using performance detailed within these data sets:

- Index of Multiple Deprivation: showing the degree of socioeconomic deprivation at ward level
- Access to Healthy Assets and Hazards (GB only): degree of access to healthy environments (consider restricting to health service domain if preferred).
- Residential Mobility: degree of residential stability in local area

3 Geographical Typologies Relevant to Healthy Ageing in Place

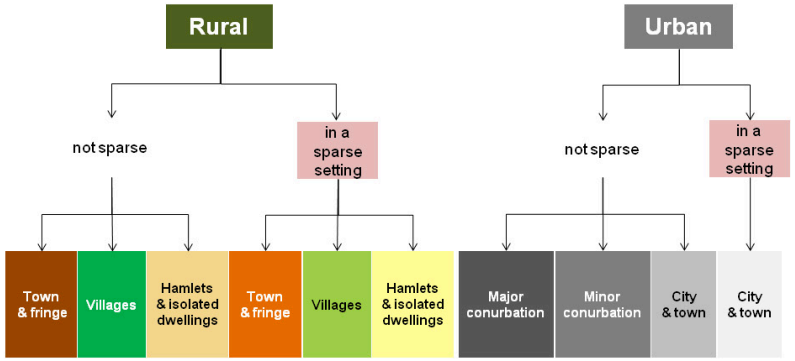
Geographical Typologies

At the constituency and local authority level, urban and rural areas are classified to present definitions for policy purposes in England and Wales. Since 2004, UK Government (for census/ statistical purposes) has defined areas as rural if "they fall outside of settlements with more than 10,000 resident population".

Identifying areas with older age structures using demographic dependency ratios will present administrative wards boundaries. They will not be meaningful in terms of the neighbourhood issues that impact quality of life like accessible movement, services and facilities for daily needs, social connectivity or perceptions of safety and sense of belonging.

To get to this level of understanding requires a sieving process through geographical typologies and built morphologies. In part, there are data sources available to shape this approach, but at the more granular level, Local Authorities will need to undertake bespoke urban appraisals.

Urban & Rural Area Definitions for Policy Purposes in England and Wales: Methodology (v1.0) (2014) | ONS



Rural-Urban Classification

Constituency & Local Authority Level

- **12 Core Cities:** twelve major population and economic centres *(e.g. London, Glasgow, Sheffield)*
- **24 Other Cities:** other settlements with a population of more than 175,000 *(e.g. Leicester, Portsmouth, Aberdeen)*
- **119 Large Towns:** settlements with a population between 60,000 and 174,999 *(e.g. Warrington, Hemel Hempstead, Farnborough)*
- **270 Medium Towns:** settlements with a population between 25,000 and 59,999 *(e.g. Gravesend, Jarrow, Exmouth)*
- **674 Small Towns:** settlements with a population between 7,500 and 24,999 *(e.g. Falmouth, New Romney, Holbeach)*
- **6,116 Villages and small communities:** settlements with a population of less than 7,500 *(e.g. Chapel-en-le-Frith, Cottenham, Menai Bridge)*

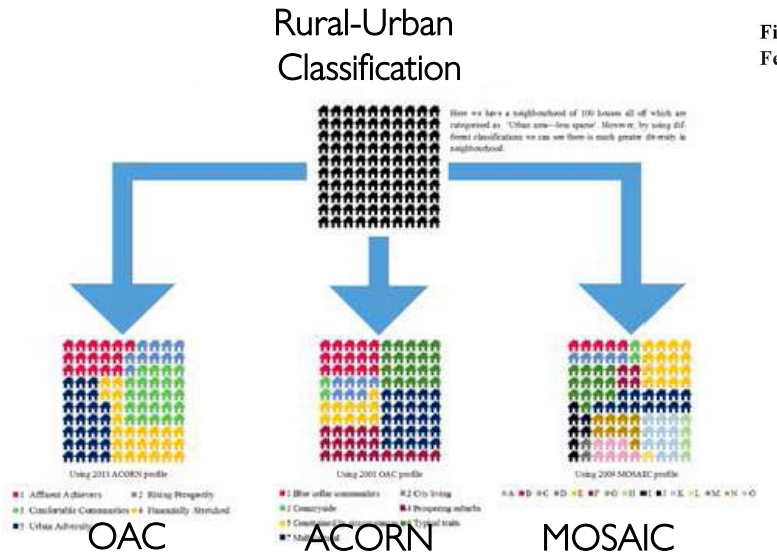
3 Output Areas Classifications

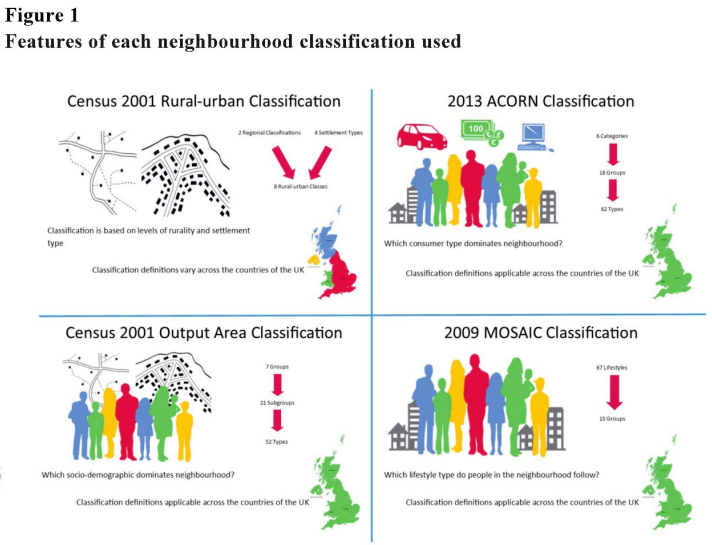
- Increasing Granularity in Place

Census 2001 OAC	ACORN 2013
1. Blue collar communities 2. City living 3. Countryside 4. Prospering suburbs 5. Constrained by circumstances 6. Typical traits 7. Multicultural	1. Affluent Achievers 2. Rising Prosperity 3. Comfortable Communities 4. Financially Stretched 5. Urban Adversity 6. Not Private Households

MOSAIC 2009 (dominant group)

A. Residents of isolated rural communities
B. Residents of small and mid-sized towns with strong local roots
C. Wealthy people living in the most sought-after neighbourhoods
D. Successful professionals living in suburban or semirural homes
E. Middle income families living in moderate suburban semis
F. Couples with young children in comfortable modern housing
G. Young, well-educated city dwellers
H. Couples and singles in small modern starter homes
I. Lower income workers in urban terraces in often diverse areas
J. Owner occupiers in older-style housing, typically in ex-industrial areas
K. Residents with sufficient incomes in right-to buy social housing
L. Active elderly people living in pleasant retirement locations
M. Elderly reliant on state support
N. Young people renting flats in high density social housing
O. Families in low-rise social housing with high levels of benefit need





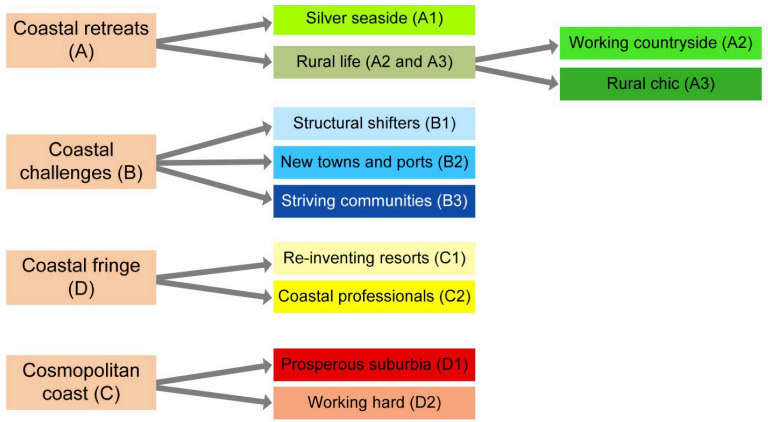
Exploring the Value of Understanding Society for Neighbourhood Effects Analyses

3 10 Coastal Typology Categories

- Typologies Approach

  Cluster analysis was used to create a set of ten typology categories following steps outlined in the DCLG places typology toolkit 1 to be used at national level as a starting point to understanding socio-economic circumstances of coastal communities.

  Coastal typologies: detailed method and outputs (2011) | Marine Management Organisation



Category	Characteristics
A1 Coastal retreats: Silver seaside	Retirement areas primarily located in smaller, less developed resorts
A2 Coastal retreats: Working countryside	Predominantly rural areas, sparsely populated or in smaller settlements , with people employed in lower skill occupations
A3 Coastal retreats: Rural chic	Predominantly rural areas, sparsely populated or in smaller settlements, with a well qualified population
B1 Coastal challenges: Structural shifters	Towns and cities which have lost their primary markets, and are facing the challenge to find new ones. This group includes a range of single industry coastal towns, including seaside resorts, mining areas, industrial heartlands and former agricultural centres
B2 Coastal challenges: New towns and ports	Challenges relating to poor skills and high levels of worklessness, but counterbalanced by relatively strong economy and often located close to areas of economic growth
B3 Coastal challenges: Striving communities	High levels of deprivation across all indicators, and a very high proportion of people living in social rented accommodation
C1 Cosmopolitan coast: Reinventing resorts	Primarily tourist economies with high levels of deprivation, but diversifying to attract a more highly skilled population
C2 Cosmopolitan coast: Coastal professionals	City and market town service centres with highly skilled populations and dynamic economies
D1 Coastal fringe: Prosperous suburbia	Affluent areas predominantly on the edge of towns and in satellite towns around larger coastal cities
D2 Coastal fringe: Working hard	Towns characterised by high levels of employment typically in industrial sectors and a stable population

3 10 Coastal Typology Categories

- Typology A1 – Coastal Retreats: Silver Seaside

3.6 'Silver seaside' areas have the highest proportion of people of pensionable age of all the typology groups, with approximately 30% of the population of pensionable age on average, compared with 22% across coastal areas as a whole and 20% across England.

3.7 The areas are relatively sparsely populated, with low population density and a high proportion of people living in detached accommodation. The vast majority of housing is owner-occupied.

3.8 A higher proportion of jobs in the areas are connected with tourist industries than across other typology groups, with fewer jobs in knowledge industries. Part-time employment is also more common than across coastal areas as a whole.

3.9 The proportion of people receiving benefits is lower than the seaside and coastal average for all major types of benefit, and benefit claimants are more likely to be older than across other typology groups, with 41% of working age people receiving DWP benefits aged 50+.

3.10 These areas are relatively peripheral, with higher travel times to employment centres than the coastal average. Related to this, home working and self employment is more common in these areas than the coastal average.

Typology group A1 Coastal retreats - Silver seaside

Retirement areas primarily located in smaller, less developed resorts

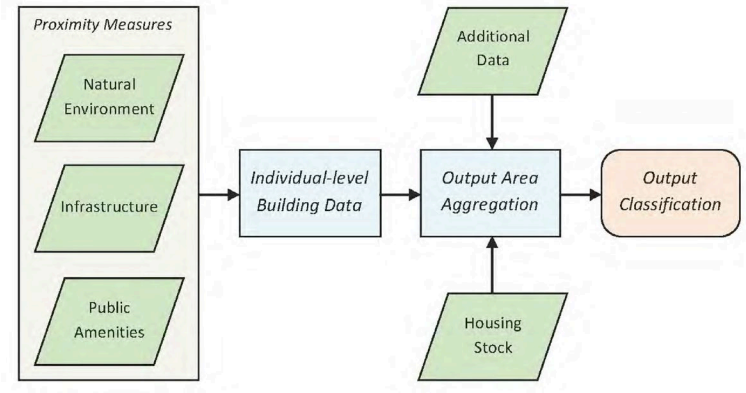
Example locations
Areas in and around: Sidmouth, Seaton, New Romney (Greatstone/Littlestone-on-Sea), Selsey (south), Emsworth/Southbourne, Frinton-on-Sea. Some concentrations in larger coastal resorts Scarborough (Osgodby), Clacton (Burrsville, Little Clacton), Torbay (Goodrington, Broadsands, Churston Ferrers), Herne Bay (Beltinge, Broomfield)
Locations in the East
Areas in and around: Sheringham, Halesworth, North Walsham (suburbs) Bridlington (North and Sewerby)

3 Multi-Dimensional Open Data of Urban Morphology (MODUM)

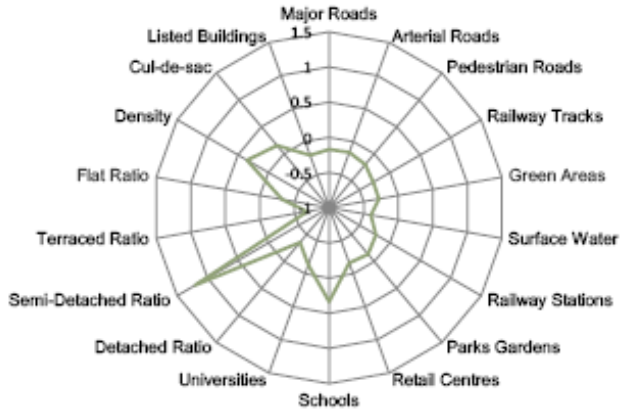
- Area Classifications/ Typologies

  MODUM provides:

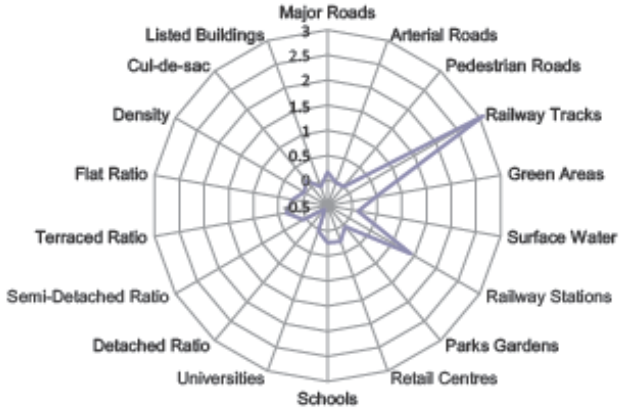
  - a simplified structure of the physical properties of place
  - a finer grained morphology. It can be used to explore correlations with other spatial phenomena, potentially in a variety of applications, including health and wellbeing, and offers the ability to update data as they become available, while keeping the same model infrastructure intact.



- 1. Suburban Landscapes
  - Typically semi-detached houses
  - Access to parks
  - Tend to be distant from town centres
  - Primarily residential areas
  - Close to schools
  - Cul-de-sacs relatively common



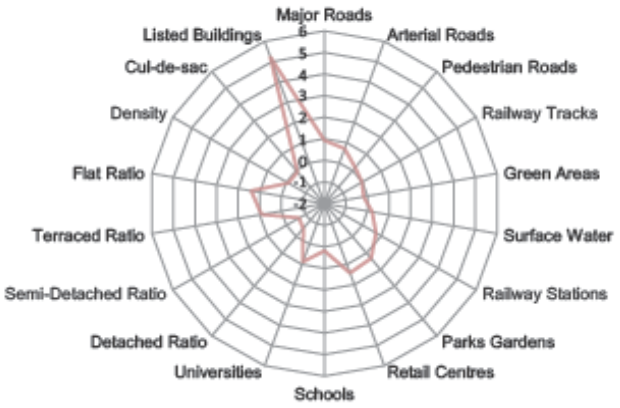
- 2. Railway Buzz
  - Areas are dominated by railway tracks and railway stations
  - No other major distinguishing attributes which suggest a heterogeneous physical structure



A Classification of Multi-Dimensional Open Data of Urban Morphology (2018) | ESRC Consumer Data Research Centre

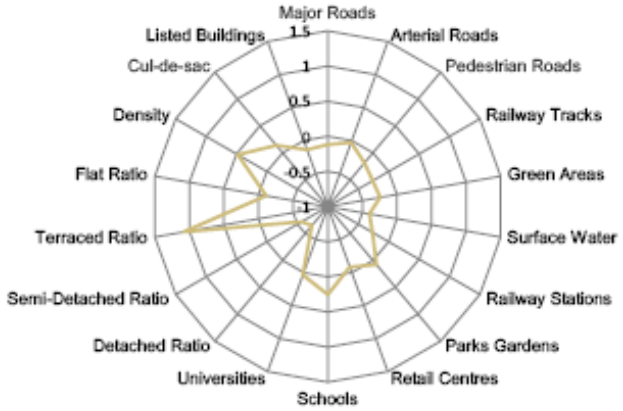
3. The Old Town

- Traditional town centre
- Close to main high street
- Public transport hubs
- Critical mass of recreational facilities
- Administrative & public service buildings
- Considerable number of flats though densities can be low



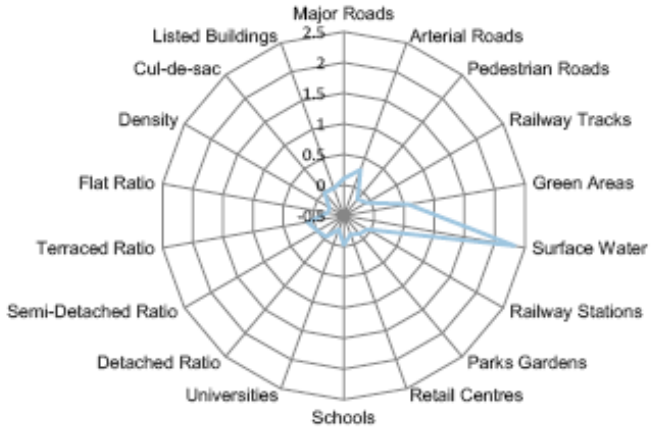
4. Victorian Terraces

- Typically neighbourhoods with terraced housing
- Average densities
- Some access to amenities.
- A morphology that can be found anywhere.



5. Waterside Settings

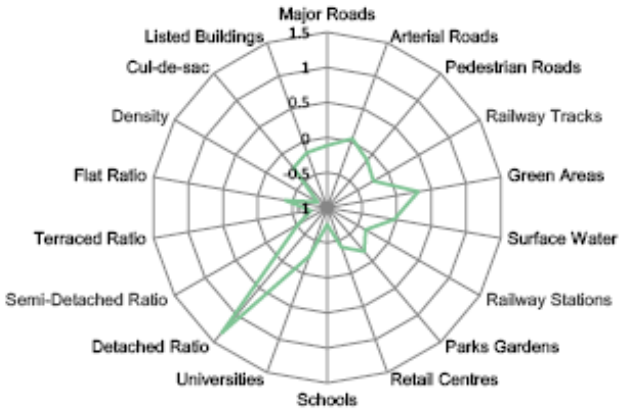
- Defining attribute is proximity to water such as rivers, canals or sea
- Some areas are ports, industrial or post-industrial sites
- Distinctive infrastructure is arterial roads, i.e. roads wide enough to be used by lorries for the distribution of goods



A Classification of Multi-Dimensional Open Data of Urban Morphology (2018) | ESRC Consumer Data Research Centre

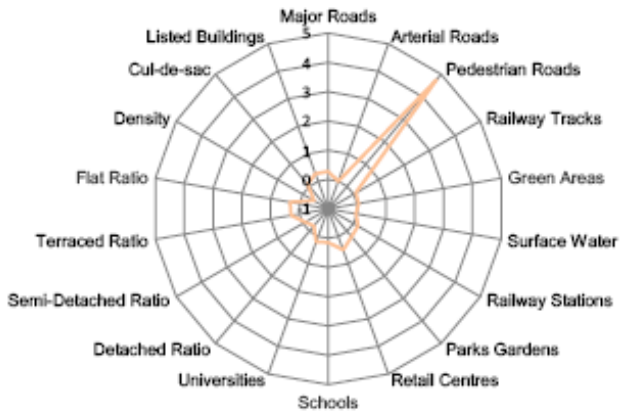
6. Countryside Sceneries

- Predominance of detached houses located near or within open countryside
- Rural villages fall into this category, along with some city fringe developments beyond the classic suburbs



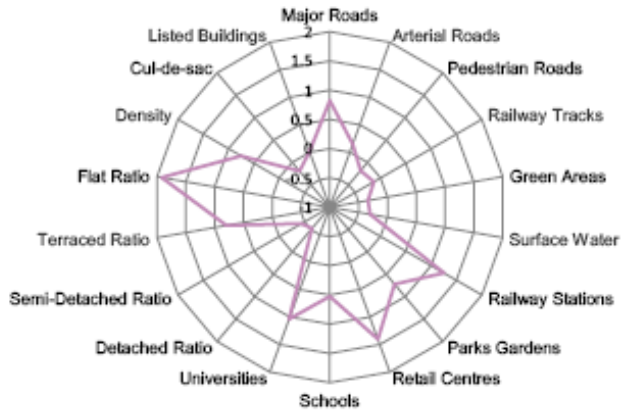
7. High Street & Promenades

- Clearly depicted areas representing main retail centres of urban regions located along the main commercial streets
- Cluster also includes areas with significant pedestrianised street network, especially along seafronts, where a lot of recreational and leisure venues can be found.



8. Central Business District

- Typically, high-rise buildings with a lot of commercial and office spaces
- Relatively low net population density
- Proximity to the majority of public amenities and facilities, with access to major transport

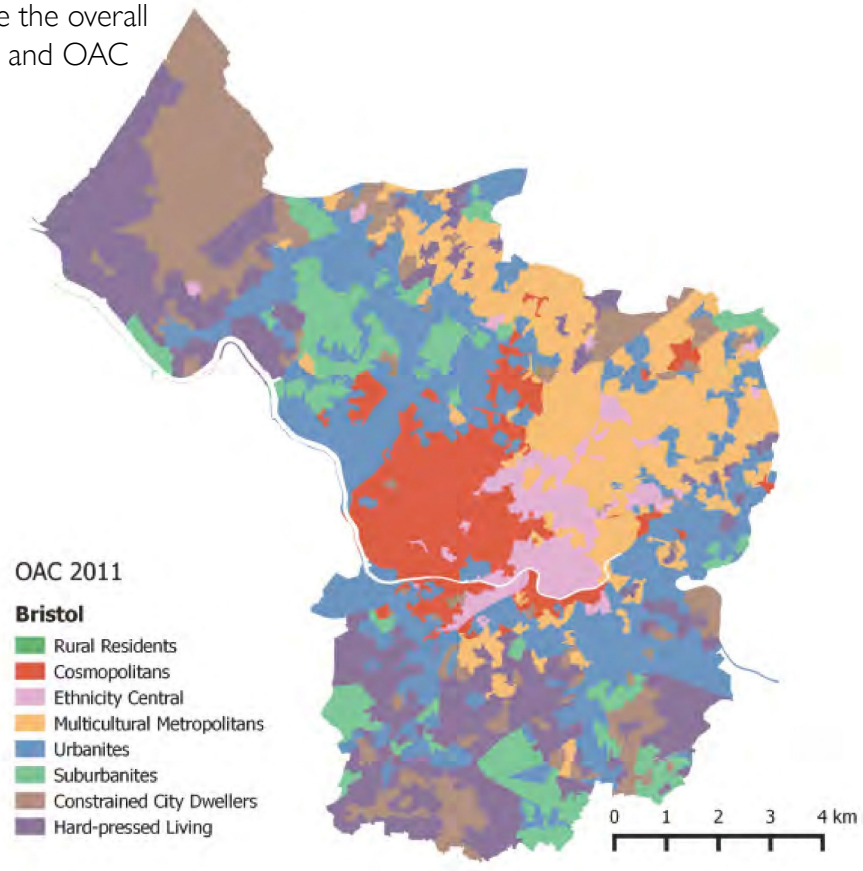


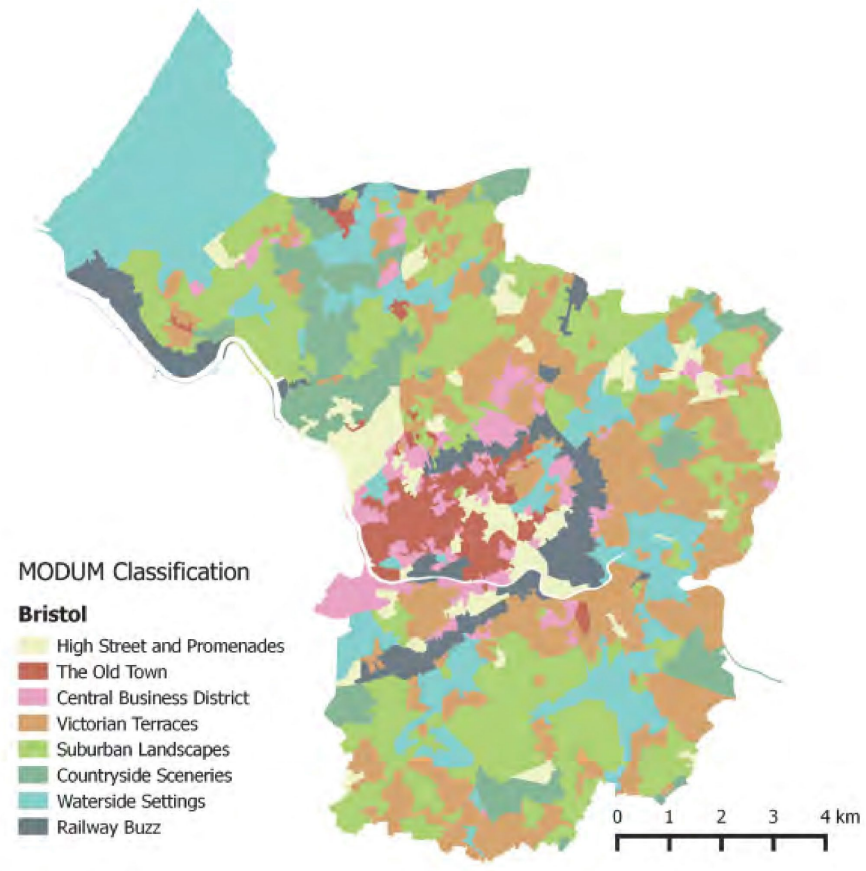
A Classification of Multi-Dimensional Open Data of Urban Morphology (2018) | ESRC Consumer Data Research Centre

3 MODUM Comparison with OAC

- Comparison of MODUM and OAC

Two sets of maps of Bristol demonstrate the overall pattern relationships between MODUM and OAC (Output Area Classifications) 2011.





A Classification of Multi-Dimensional Open Data of Urban Morphology (2018) | ESRC Consumer Data Research Centre

3 MODUM with OAC

- MODUM with Output Area Classifications (OAC)

  Example of both sets of output data are correlated in the table below.

	Output Area Classification 2011 - Supergroup Level								
MODUM Cluster Description	1 – Rural residents	2 – Cosmopolitans	3 – Ethnicity central	4 – Multi-cultural metropolitans	5 – Urbani-tes	6 – Suburbanites	7 – Constrained city dwellers	8 – Hard-pressed living	OA Amount
1 - Suburban Landscapes	5.53%	2.83%	3.38%	24.82%	23.77%	38.97%	22.12%	43.33%	46788
2 - Railway Buzz	0.99%	10.61%	13.50%	10.09%	8.31%	3.08%	7.31%	5.33%	12186
3 – The Old Town	0.25%	17.87%	5.35%	0.58%	4.05%	0.05%	4.76%	0.30%	2812
4 – Victorian Terraces	1.20%	14.43%	16.56%	43.93%	24.59%	1.79%	39.38%	34.98%	49860
5 – Waterside Settings	8.43%	5.03%	3.56%	6.98%	12.08%	6.73%	8.04%	8.82%	12468
6 - Countryside Sceneries	82.45%	2.05%	0.43%	2.91%	18.89%	47.79%	2.14%	3.90%	3172
7 – High Street and Promenades	1.07%	6.20%	4.28%	3.00%	4.03%	1.50%	4.98%	2.47%	1299
8 – Central Business District	0.08%	40.99%	52.94%	7.68%	4.26%	0.09%	11.27%	0.88%	52823
Sum (%)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	181408

Supergroup	Group
Rural Residents	Farming communities
	Rural tenants
	Ageing rural dwellers
Cosmopolitans	Students around campus
	Inner city students
	Comfortable cosmopolitan
	Aspiring and affluent
Ethnicity Central	Ethnic family life
	Endeavouring Ethnic Mix
	Ethnic dynamics
	Aspirational techies
Multicultural Metropolitans	Rented family living
	Challenged Asian terraces
	Asian traits
Urbanites	Urban professionals and families
	Ageing urban living
Suburbanites	Suburban achievers
	Semi-detached suburbia
Constrained City dwellers	Challenged diversity
	Constrained flat dwellers
	White communities
	Ageing city dwellers
Hard-pressed Living	Industrious communities
	Challenged terraced workers
	Hard-pressed ageing workers
	Migration and churn

A Classification of Multi-Dimensional Open Data of Urban Morphology (2018) | ESRC Consumer Data Research Centre

3 Bespoke District Identification Tool (DITo)

Dito is derived from the Filipino word for "here"

Prosocial Place
evidence based design

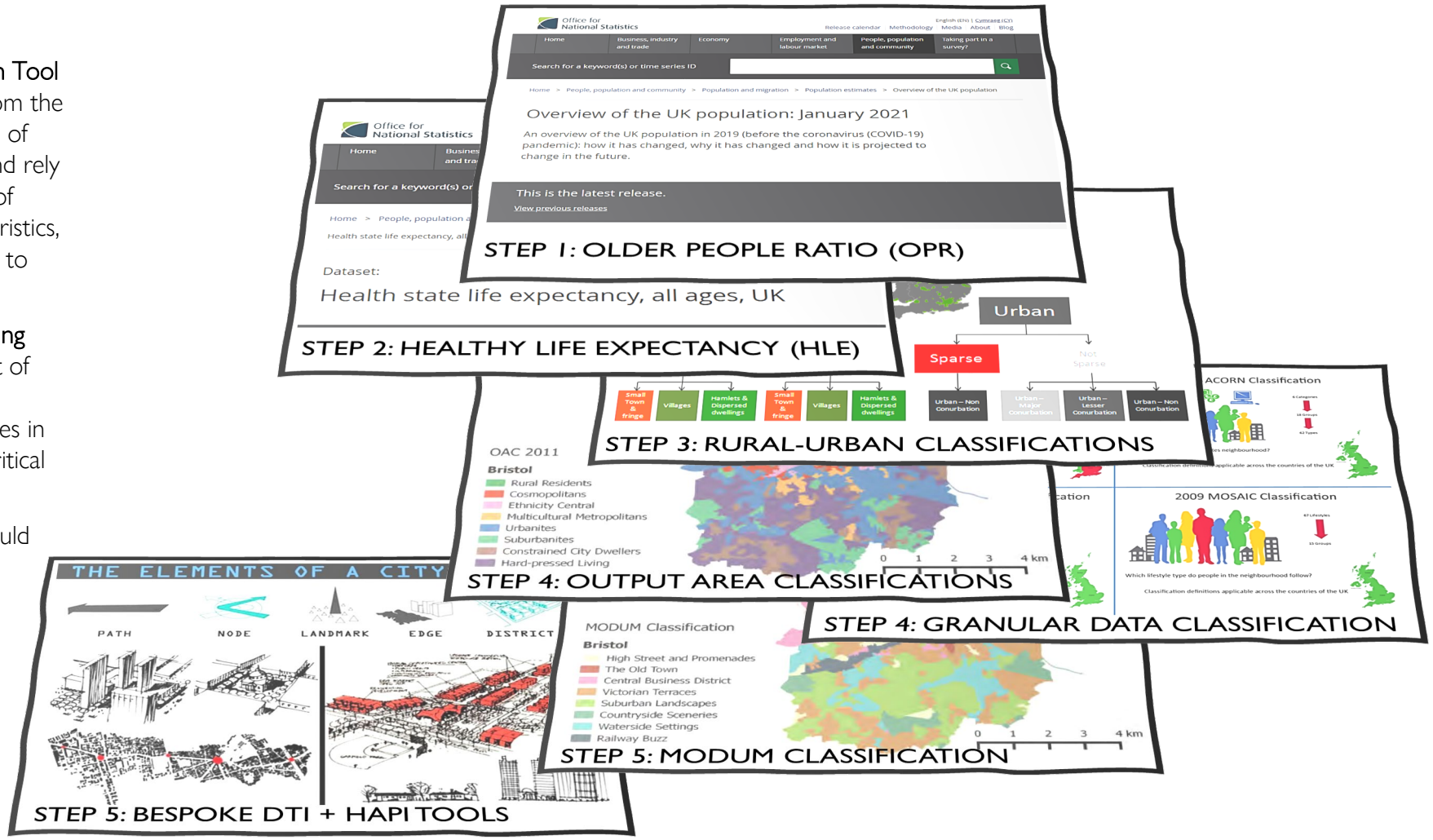
- DITo Objectives

The main objective of the **District Identification Tool** is to refine the area selection of Pilot Places from the data sources into districts that reflect the kinds of neighbourhoods that people both recognise and rely on for their daily needs. This supports a way of understanding physical places by their characteristics, the potential to catalyse change and to be able to evaluate interventions.

DITo builds on the recommended **Data Sourcing Steps 1-4** for initial selection of places. As part of **Decision Step 5**, it involves working with Local Authorities on more detailed appraisals of places in terms of physical typologies, accessibility and critical mass of facilities and services.

Looking at it as a series of refining sieves, it would begin with typology approaches including:

- ACORN 2013
- MOSAIC 2009
- Coastal Typology Categories
- MODUM Classifications



3 Bespoke District Identification Tool (DITo)

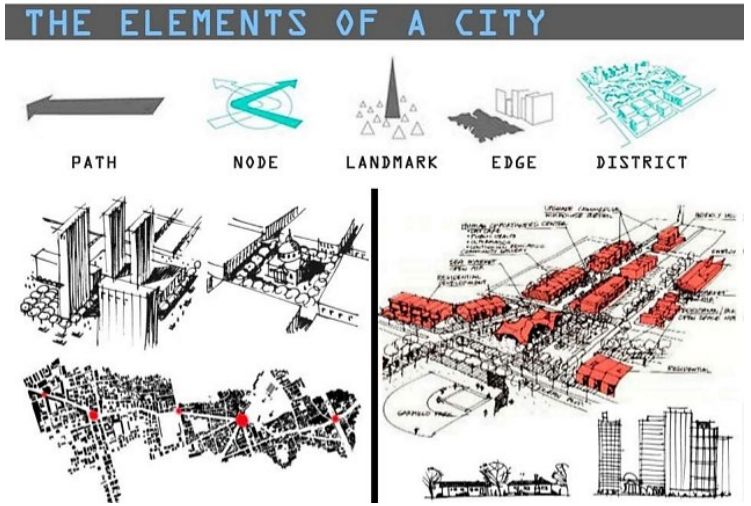
DITo in Practice

DITo is designed to be used by CPC within the Healthy Homes Programme, in consultation with Local Authorities, to identify functional neighbourhoods supporting older communities. Using the MODUM Classification will refine selected areas into useful but simplified urban morphologies, identifying key characteristics. However, this will not offer any insight into the quality, functionality or social sustainability of those places.

We recommend that area appraisals need to be undertaken to understand how these places support or compromise healthy ageing. A central principle for these appraisals must be collaboration with the target elder community to understand places on their terms, working with their lived experience perceptions. For this reason, a ***'mental maps'*** approach will help to establish where the neighbourhoods are within an area and how they physically connect to other places, facilities and services required to maintain it as a place of thrival.

Many places will have detailed characterisation studies of their townscapes which will be useful, but they will also be focussed on built and not living environment considerations.

Mental Maps



Urban planner Kevin Lynch developed a 'mental maps' protocol that records:

- **'Paths'** – walking; driving; public transport networks
- **'Nodes'** – intersections on the paths: street corners; bus stops; stations etc
- **'Landmarks'** – important places: libraries; public squares; coffee shops etc
- **'Edges'** – where landuses change: park/town
- **'Districts'** – where neighbourhoods are defined

Building a Mental Map

Building a mental map should be undertaken together by professional teams within authorities and the wider community, aiming to come to a consensus view that represents the majority as a working model. This is important for evaluation purposes. However, the process might identify more than one distinctive neighbourhood within an area. Although they may share services and facilities within the wider area, their experiences of place may differ in terms of local mobility and feelings of security for example.

Elements of the map building must include daily needs as well as less frequent ones such as hospital visit which may be outside the neighbourhood – the map must include these 'landmark' places and the 'paths' that connect them. The map must also include other 'landmark' elements such as libraries, main railway stations and town/city centre retail areas, even if they are not used. They are part of the wider support framework for healthy ageing, and their lack of use may be symptomatic of poor connectivity, or lack of resources for example.

This provides a quantitative layout for selected areas – the following **HAPI Tool** will help unpack the qualitative elements of these neighbourhoods.

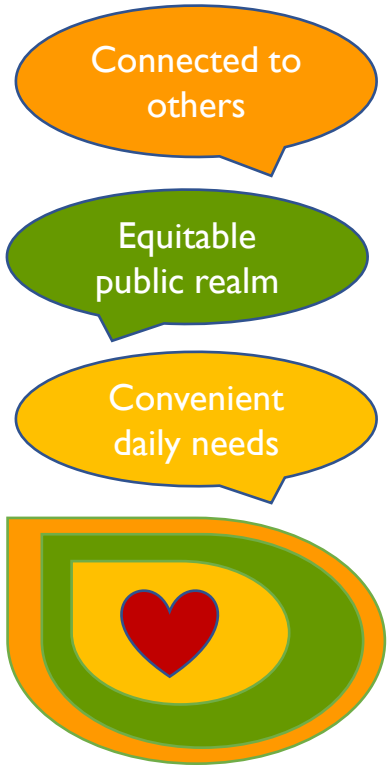
4 Bespoke Framework & Assessment Tool: Healthy Ageing Place Index (HAPI)

- HAPI Objective

The main objective of the **Healthy Ageing Place Index** is to provide a flexible, easy-to-understand and apply index that can assess the extent to which a local area/neighbourhood can support senior citizens to reside independently in their own homes. HAPI is a tool that can help inform decisions about the nature of interventions needed within local areas to support the wellbeing of senior residents.

HAPI is based on an appraisal of existing ageing in place frameworks most relevant to the UK context and upon scoping of the broad literature on community wellbeing determinants and indicators conducted within the **Community Wellbeing Evidence Programme** of the What Works Centre for Wellbeing which one of our team has led between 2015-2021 (e.g. Bagnall et al., 2017; Pennington et al., 2021).

Importantly HAPI fills a gap in terms of due consideration of the role that built environment/ public realm plays in determining the ability to remain active and independent during senior years.



As with all place focused indices it is necessary to consider what is meant by everyday terms like place, local and neighbourhood. However, being too prescriptive about definitions practically constrains the full utility of a place-focussed tool which should ideally be of use to a range of interested parties. For example, for administrative and data accessibility reasons it would seem practical and meaningful for local authorities to consider neighbourhoods as equivalent to administrative wards. Therefore, they would probably use the HAPI at ward level.

However, wards may not be spatially meaningful for residents (Alexiou et al., 2016). This is particularly likely to be the case for senior residents whose sense of neighbourhood is likely set within a zone of accessible movement and rationalised upon the efficient meeting of daily needs. Therefore different 'stakeholders' have distinct ways of practically defining neighbourhood. For this reason, we define place flexibly as a location endowed with meaning (Lewicka, 2008).

HAPI is designed to be used by CPC within the Healthy Homes Programme, in consultation with Local Authorities, to identify neighbourhoods within their jurisdiction where they feel interventions aimed at maximising independent living for senior residents would be most beneficial. Thus, it will be a tool to aid decision making following the identification of potential areas using the suggested open access data sources and the consideration of selected place typologies.

4 Healthy Ageing Place Index (HAPI)

Three HAPI Branches

HAPI comprises 3 domains which, because they are attached to a decision-tree, we refer to as branches of influence. These are:

- Convenient Daily Needs
- Equitable Public Realm
- Connected and Considered

These branches of influence relate to what are known as the wider determinants of health and wellbeing as considered through the lens of ageing well. Wiseman & Brasher (2008) define these wider determinants as "the combination of social, economic, environmental, cultural, and political conditions identified by individuals and their communities as essential for them to flourish and fulfil their potential"

Each of HAPI's branches comprises 3 considerations scored on a 5 point Likert scale from 0= the neighbourhood does not fulfil this consideration at all to 4= the neighbourhood completely fulfils this consideration. The mid-point of the scale (2) would represent the fulfilment of the consideration to about the same extent as elsewhere or the fulfilment of the consideration to a middling degree. Thus, any neighbourhood can score within a range of 0-36 in terms of how it affords healthy ageing, and it is possible through the scoring of the index to identify any neighbourhood's areas of relative strengths and weaknesses. The HAPI is linked to the decision-tree that CPC can use to select pilot places.

To support active and independent living of seniors, a neighbourhood ought ideally to have easy access to the things they may need on a daily basis. This includes healthcare needs, quality food, household essentials and leisure or cultural activities.

1 - Convenient Daily Needs – Unpacking Considerations

Therefore the 3 considerations for Convenient Daily Needs are:

There are good GP surgeries & pharmacies here.	0	1	2	3	4
There are enough affordable & accessible shops to buy daily essentials here.	0	1	2	3	4
There are enough affordable & accessible leisure/ cultural amenities here.	0	1	2	3	4

The 3 considerations here relate to accessibility of healthcare services likely to be needed most frequently by senior residents, the day-to-day living essentials needed to get by and satisfying the human need to be engaged in meaningful and purposeful activity. Of the 3 spheres, Convenient Daily Needs is likely to be the easiest to judge using existing objective metrics. The Access to Healthy Assets and Hazards data set covers retail and health services at local level and has an interactive map facility. Local NHS services will have maps of GP surgeries within their localities while a simple Google search can locate local pharmacies and shops.

Authorities will likely have registers of local leisure and cultural facilities. Ideally all these amenities should be walkable for senior residents but, if not, they would need to be serviced by accessible public transport and have senior parking available close by, noting that approximately 60% of seniors need to be accompanied to use public transport. Affordability of the amenities referred to in considerations 2 and 3 is more subjective but could be judged against supermarket price checker apps for SMART phones.

4 Healthy Ageing Place Index (HAPI)

- Branch 2 - Equitable Public Realm

To support active and independent living of seniors a neighbourhood ought ideally to be totally accessible to accommodate declining mobility issues, should feel pleasant to be in a way that supports wellbeing and should feel safe from threats and hazards.

Therefore the 3 considerations for Equitable Public Realm are:

People with declining mobility could move around easily here.	0	1	2	3	4
The physical environment here would help older people to feel good and function well (e.g. by providing public seating and convenience facilities).	0	1	2	3	4
There seems little in the way of hazards or threats when out and about as an older person.	0	1	2	3	4

- Branch 2 - Unpacking Considerations

Detailed consideration of aspects of the public realm that impact active and independent living for senior UK residents has been largely missing to date. The quality of street and road pavements, crossings and levels of traffic are as, if not more important, to active and independent senior living, as greenspaces, because of the need to get around safely during activities of daily living. Measuring the degree of hazards and threats associated with the physical neighbourhood environment is complex but should consider the increasingly uncivil behaviour of pavement parking, clutter on pavements, clear lines of sight for crossings which should be designed in a way to consider the reduced mobility of senior residents and levels of air pollution. Local crime and disorder statistics should also be considered as part of this branch as threats from others are as damaging to prospects of active, independent living as are environmental threats. Information about local air pollution is available within the *Access to Healthy Assets & Hazards* dataset referenced above in Branch 1.

Tools such as walk audit guides have been designed by the AARP Liveable Communities group in the USA. This tool would, with some adaptation, likely suit the UK context. The Centre for Ageing Better website refers to work taking account of public seating and conveniences when out and about.

To complete the considerations of this Branch, a visit and walk around the neighbourhood with relevant Local Authority officers, councillors and/or local residents is recommended. Local Authority planning, active transport and regeneration and community development officers, as well as local neighbourhood groups, would be good sources of knowledge to inform the considerations of this Branch.

4 Healthy Ageing Place Index (HAPI)

- Branch 3 - Connected and Considered

To support active and independent living of seniors a neighbourhood ought ideally to totally support the psychological need to be meaningfully connected to others. This includes a sense of neighbourliness, having communities of interest and being able to inform decisions about the neighbourhood that impact upon you.

Therefore the 3 considerations for Connected and Considered are:

There is a sense of neighbourliness here.	0	1	2	3	4
There are plenty of things for senior residents to get involved in here.	0	1	2	3	4
There is opportunity for senior residents to have their say about things that matter to them here.	0	1	2	3	4

To complete the considerations of this Branch, a visit to organisations within the neighbourhood accompanied by relevant Local Authority officers, councillors and/or local residents is recommended. Local Authority public health, adult social care and community development officers as well as Local Community and Voluntary Services would be good sources of local knowledge to inform the considerations of this Branch.

- Branch 3 - Unpacking Considerations

The Office for National Statistics have open access data relating to social capital across the UK but this is not disaggregated by age and nor is it openly available at local levels. However, it is testament to the importance of this branch as is the rising acknowledgement of the concepts of relational wellbeing, relational spaces and relational design practice and the well-established significance of social relationships to human flourishing (e.g. Corcoran, Thomas and Zielke, 2021; Putman, 2000). With loneliness an increasing concern among UK's senior populations and with the often cited damage to health of loneliness including a 26% increase in the likelihood of premature death (Holt-Lundstad & Smith, 2016; Cacioppo & Cacioppo, 2018), being connected to and considered by your community is vital for healthy ageing in place.

Age UK have produced a risk of loneliness map for England 2016 where predicted loneliness of those +65 years can be seen by local authority area. The data is based on Census (2011) and predicted loneliness risk from variables of marital status, self-reported health, age and household size. These variables predicted approximately 20% of loneliness in the English Longitudinal Study of Ageing. The devolved nations report some statistics for loneliness with data sets potentially available by request.

Retaining a sense of agency during senior years and feeling empowered to determine the outcome of issues that matter to you are equally important aspects of psychological wellbeing that are often linked to the places we live (Pennington et al., 2018). The NHS involvement slogan of *"nothing about you without you"* applies equally to place and community governance. Movements such as neighbourhood and community planning provide outlets for meaningful involvement in community as do the rise of local action groups that can initiate in the wake of trouble, but which are sustained through community will and champions.

4 Integrated Decision-Making

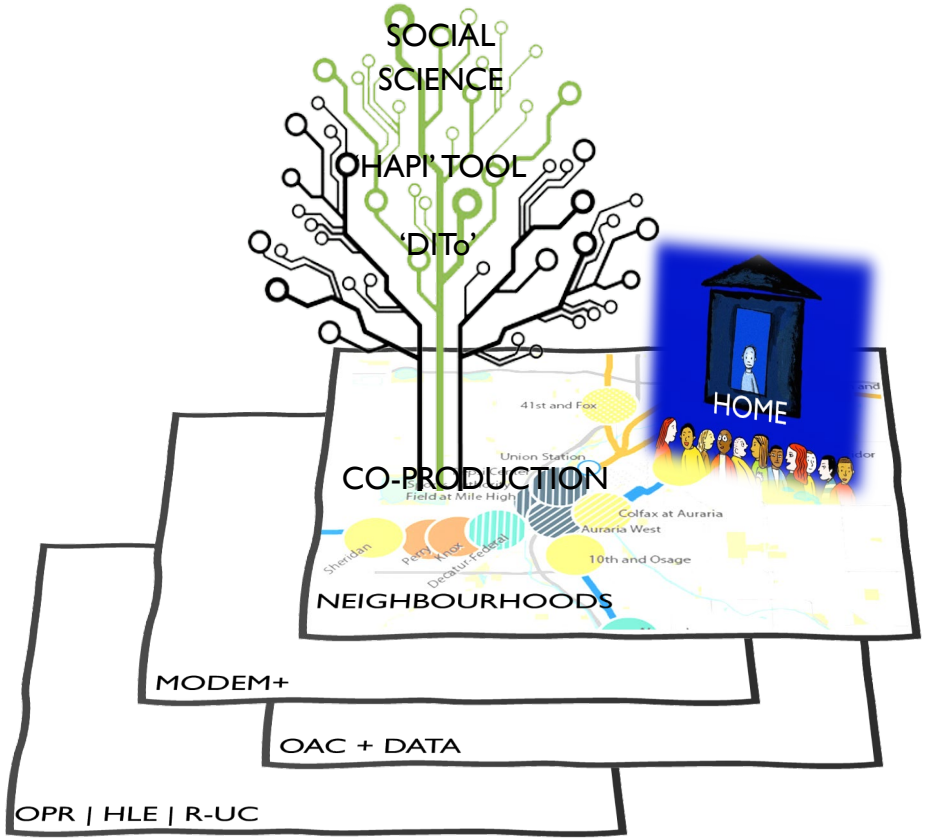
- Integration, Recommendations and Conclusions

The report presents a summary of what exists in terms of open access data sources, place typologies, physical morphologies and frameworks that can be used to establish a solid understanding of the role that UK places can have on the ability to age well and independently. Some suggested approaches to decision-making have been provided in individual sections that when brought together into an integrated decision-tree begin to sketch out a healthy ageing in place typology.

As CPC moves ahead in the Healthy Homes Programme, we suggest the following systematic approach to making decisions:

- Use the OPR data (see supplementary materials) to identify local authorities to approach with a view to collaboration. Consider this alongside healthy life expectancy and R-UC – both readily available stats at LA level
- Use the suggested follow-up datasets (as available) to further examine characteristics of these LA's that potentially impact on the ability to live well and independently as senior residents (see section 2)
- Using existing systems, together with LA partners, establish the typology and built morphology of candidate neighbourhoods for interventions – MODEM + (See section 3)
- In collaboration with LA officers, local trusted organisations and the older age community, apply the DITo to determine the built environment profile and HAPI to establish the extent to which the neighbourhood is convenient for daily needs, has an equitable public realm and is a place where senior residents feel connected and considered (see section 3 & 4)

Using a social scientific approach, select contrasting neighbourhoods based on 3 and 4 above. The graphic below illustrates the decision-making process to guide the implementation of interventions within the Healthy Homes Programme.



5 Future Work

Developing DITo & Evaluating HAPI

DITo and HAPI are light touch tools designed to quickly identify place typologies at the hyper-local level in partnership with Local Authorities. Until there is an understanding of how the *Homes for Healthy Ageing Pilots Programme* will intervene in communities, this is the right level for the tools.

In terms of morphology, some places support healthy aging better than others, but this is a complex and fluid state. One Victorian seaside town can be thriving while another is languishing. This suggests the need for three levels of intervention:

- **Stewardship** of existing environment – **Now** projects like public realm improvement
- **Design** interventions – **Sooner** projects like appropriate housing development
- **Planning** – **Later** projects involving area regeneration

For the current short-term programme, choice of place should be based on the possibilities of having a positive impact. Focusing on less difficult places where stewardship improvement can be implemented will demonstrate that healthy ageing can be supported in a range of places.

Future Focus on Remodelling Places

If the pilot programme evolves into a programme for developing, remodelling and retrofitting existing places, the tools can be developed further to support a deeper understanding of what is deficient in different places. The DITo tool in particular could become a framework of questions about the place to guide conversations with both communities and different stakeholder administrators. These should cover a range of factual and perceptive appraisals of the place.

The following tables illustrate the Positive/Negative legacy of place development in the UK. This is followed by tables of positive social place characteristics in six different development forms. This illustrates what **'good place'** should be according to Urban Form & Infrastructure: A Morphological Review (2014) - Foresight, Government Office for Science:

- **Compaction/containment of existing places:** a continuation of urban intensification processes within existing built-up areas. This includes processes such as infill development, brownfield development and redevelopment at higher densities.
- **The development of polycentric city regions:** the development (maybe through intensification, and some planned growth) of a number of existing settlements, at a sub-regional or regional scale, based on a network-based logic related to connectivity and urban function.
- **Managed shrinkage:** the managed adaptation of urban form in existing places (entire towns/cities, or parts of them) to respond to loss of population and economic function.
- **New peripheral development:** the development of planned extensions at the edge of existing towns or cities. These can vary in scale and in mix of use/function (TCPA, 2007).
- **New settlements:** free standing new settlements (these can take the form of, for example, eco-towns, sustainable communities, new towns, and garden cities).
- **Dispersed development:** development of residential and other uses in small villages or hamlets, or in open countryside, and on agricultural land.

5 Positive/Negative Legacy of UK Development Patterns

- Urban Form & Infrastructure: A Morphological Review (2014)

Positive Legacy	Negative Legacy
Compact & contained established towns & cities	
• Containment of built up area of the UK • Protection of rural, agricultural and open landscapes • Regeneration of existing places • Revitalisation of historic buildings and spaces • Popular for some sectors of the population e.g. young, childless • Efficient use of existing infrastructure • Efficient provision of infrastructure (in some sectors) due to economies of scale • Supports (partly) use of non-car travel: walking, cycling, public transport in cities, hence reduced CO2 emissions • Improves accessibility to employment, services, and amenities • Improves safety as more natural surveillance • Provides variety in cultural experience/activities etc.	• Increased house prices (reduced affordability) in some places • Small homes and gardens (in some places) • Reduced choice of housing locations • Some loss of urban greenspace • Not popular for all sectors e.g. families, older people • Infrastructure capacity reached or breached in some places and sectors e.g. roads, public transport and health services • Contributes to long commuting patterns, hence increased CO2 emissions • More people exposed to poor urban air quality
Newer settlements	
• Provides for housing need • Provides required infrastructure e.g. schools, doctors' surgeries, public transport (in some cases) • Provides affordable housing, particularly for families (in some cases) • Provides high quality living environments (in some cases) e.g. well designed New • Towns, and 'Sustainable Communities' • Provides homes accessible by car to work, countryside, and other larger cities	• Built on valued Greenfield land (in some cases) • Provides smaller homes and gardens (in some cases) • Can be unaffordable to many (and lack social housing) • Increased car commuting, and CO2 emissions (function as dormitory settlements) • Variable design quality and sense of place

5 Positive/Negative Legacy of UK Development Patterns

Positive Legacy	Negative Legacy
Dispersed developments	
• Provides homes for rural families (in some cases) • Supports rural economies (in some cases) • Makes use of existing buildings and rural brownfield sites (in some cases) • Popular with residents: fulfils lifestyle aspirations • Generally well designed/good quality	• Development of valued rural land • Incrementally changing the rural landscape and function • Homes do not always match local needs (size/affordability) • Generated car use (not well served by alternative modes of transport), and CO2
Peripheral housing estates & urban extensions	
• Efficient use of land, adjacent to built up areas • Provides for housing need • Provides lower density homes, with gardens (sometimes) • Connects to existing infrastructure systems (where capacity exists) • Some developments have implemented best practice in integrated infrastructure • Some very well designed, attractive places • Popular with home buyers • Relatively good accessibility to host city amenities • Generally safe places	• Development of valued peripheral green space (in some cases) • Newer homes are unaffordable for many • Some homes very small and unpopular with residents • New infrastructure required • Increases car use (few developments have good public transport) • Increased CO2 emissions • Lack of adequate infrastructure (in some cases) e.g. community facilities, play space • Accessibility problematic for car-less residents • Many developments lack design quality, sense of place, or integration with existing settlements.
Edge & out-of-town developments (retail/commercial/leisure)	
• Provides cost-effective space and buildings for new commercial, retail, and leisure activities • Provides some benefits of agglomeration e.g. science parks/ business parks • Accessible and efficient for businesses and car users • Popular with the public (retail and leisure)	• Development of valued peripheral land (in some cases) • Requires the provision of new, often costly, infrastructure • Generates car trips, increasing CO2 emissions • Contributes to decline of central areas (retail and office) • Usually poorly designed, unattractive landscape

5 Characteristics of 'Successful' Urban Form in the Future (2065)

Characteristics of Successful Urban Forms	Compaction/Containment (intensification)	Polycentric City Regions	Managed Shrinkage
Social Characteristics:	Can this be achieved?	Can this be achieved?	Can this be achieved?
1. Adapt to social, economic and environmental changes in a socially equitable way.	Partly, some compact, contained settlements have proved relatively robust in the past. Resilience depends on many issues other than urban form (e.g. industrial diversity, flood risk).	Partly, allows for some sub-regional/regional management of change. If settlements have different functions/characteristics they may be more resilient to shocks than if they are in competition.	Partly, if well planned. But very difficult to manage shrinkage in a socially equitable way. Population and economic decline will impact some groups more than others.
2. Are desirable to the population	Partly, if high quality urban environments are achieved, these are desirable for certain sectors of the population and some families in suburban areas etc. However, many families, more affluent people, and older people have a preference for smaller settlements and more rural locations.	Partly (as for intensification). Different functions and types of settlement may give more choice. Good connectivity between settlements is desirable.	Not usually: can be seen initially as a negative policy (fatalistic). But once positive 'projects' are underway can be seen as a desirable option.
3. Provide a range of housing types and tenures to meet needs and be affordable	Yes, if well planned. But consolidation policies can push up house prices, reducing affordability.	Yes, but consolidation in the existing settlements, and lack of developable land in protected areas, can push up house prices, reducing affordability. Different types/functions of settlements can offer more choice.	Partly, if poor housing is demolished and existing buildings are refurbished and improved (e.g. with more open space). But in areas where housing is abandoned, stock may be lost.
4. Are accessible for all	Yes, local accessibility can result if there is a mix of uses and places are supported by good mobility infrastructure (for public transport, walking and cycling).	Yes, within settlements, if they are mixed-use and served by good mobility infrastructure. And yes, between settlements if good transport infrastructure and services are provided.	Partly, if physical accessibility can be retained for existing populations. But accessibility to employment/services etc. may inevitably decline.

5 Characteristics of 'Successful' Urban Form in the Future (2065)

Characteristics of Successful Urban Forms	Compaction/Containment (intensification)	Polycentric City Regions	Managed Shrinkage
Social Characteristics:	Can this be achieved?	Can this be achieved?	Can this be achieved?
5. Provide access to health/ education/ culture/ leisure services for all	Yes, services can provided at low per capita costs, in close proximity, making them accessible to large, high-density populations. But large populations might mean that services become overstretched.	Yes, services can provided at low per capita costs, in close proximity, making them accessible to large, high-density populations. A functional differentiation between settlements can allow for the provision of more specialised services to a number of settlements in a region (e.g. health services). But large populations might mean that services become overstretched.	Partly, if well managed, service levels can be maintained at levels appropriate for the population. Pressure may be eased where services were previously overstretched. But reduced resources may make it difficult to maintain service levels (for some services).
6. Are healthy	Yes, if people lead active lives and make use of urban open spaces etc, and of open land outside urban areas. And if people enjoy city living and thrive emotionally in an urban setting. But low quality, high-density areas can be associated with lack of physical and wellbeing.	Yes (as for intensification).	Yes, if well designed (e.g. with more greenery, new pedestrian and cycle connections etc.). But areas in decline can be associated with poverty, aging populations and poorer health in general.
7. Are safe	Yes, if areas are vibrant and convivial, and there is more natural surveillance. But not if people with differing lifestyles and behaviours live in close proximity and cause tensions.	Yes (as for intensification).	Yes, if maintaining/improving safety is planned for (e.g. places are well-lit, disused buildings are rapidly reused). But declining areas can be associated with poorer public realm, and reduced perceptions of safety.

5 Characteristics of 'Successful' Urban Form in the Future (2065)

Characteristics of Successful Urban Forms	New Peripheral Developments	New Settlements	Dispersed Development
Social Characteristics:	Can this be achieved?	Can this be achieved?	Can this be achieved?
1. Adapt to social, economic and environmental changes in a socially equitable way.	Partly, if designed/developed to be flexible to future changes.	Partly, if designed/developed to be flexible to future changes.	Partly, provides some small scale flexibility. But not responsive to major social changes, e.g. does not provide enough affordable housing.
2. Are desirable to the population	Yes, if high quality extensions, with a mix of house sizes and types, are provided at affordable costs. And if the adjacent settlement is desirable.	Yes, if the development is high quality, and provides a mix of house sizes and types at affordable costs.	Partly, very desirable, particularly to more affluent householders seeking larger homes/more space, for second home owners, and to rural residents, seeking to remain in their home towns/villages. Not desirable for those unable to afford it.
3. Provide a range of housing types and tenures to meet needs and be affordable	Yes, if designed to accommodate a variety of household types.	Yes, if designed to accommodate a variety of household types.	No, dispersed development has tended to provide housing at the higher end of the market, with affordability a problem.
4. Are accessible for all	Yes, if good connections to the adjacent settlement and to wider destinations are provided.	Yes, if good connections within the development and to wider destinations are provided.	No, accessibility is a key problem for dispersed developments (in terms of distance, range of nearby destinations, and car dependency).

5 Characteristics of 'Successful' Urban Form in the Future (2065)

Characteristics of Successful Urban Forms	New Peripheral Developments	New Settlements	Dispersed Development
Social Characteristics:	Can this be achieved?	Can this be achieved?	Can this be achieved?
5. Provide access to health/education/culture/leisure services for all	Partly, if residents can access existing provision in adjacent settlement (and there is capacity). Or, if adequate new services are provided within the extension.	Partly, if the new settlement provides adequate services, or if they are provided in other settlements nearby.	No, accessibility to services is a key problem for dispersed developments (in terms of distance, provision of nearby services, and car dependency).
6. Are healthy	Yes, if planned and designed according to healthy urban planning principles. Can provide significant opportunities for good peripheral design where people can thrive. But, if they are not well connected, can become car dominated dormitories characterised by inactive travel.	Yes, if planned and designed according to healthy urban planning principles. Can provide significant opportunities for good design. But, if they are not well connected, can become car-dominated dormitories characterised by inactive travel.	Partly, if they support an active, rural life. But can become car dominated, with inhabitants relying on inactive travel.
7. Are safe	Yes, if well planned and designed (e.g. high quality public realm, active frontages, natural surveillance).	Yes, if well planned and designed (e.g. high quality public realm, active frontages, and natural surveillance).	Yes, if homes are secure.