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designing for wellbeing in environments for later life

How can the design of housing & neighbourhoods improve older people's wellbeing?

A participatory approach to research & design

A presentation by Sarah Wigglesworth
Professor of Architecture, University of Sheffield
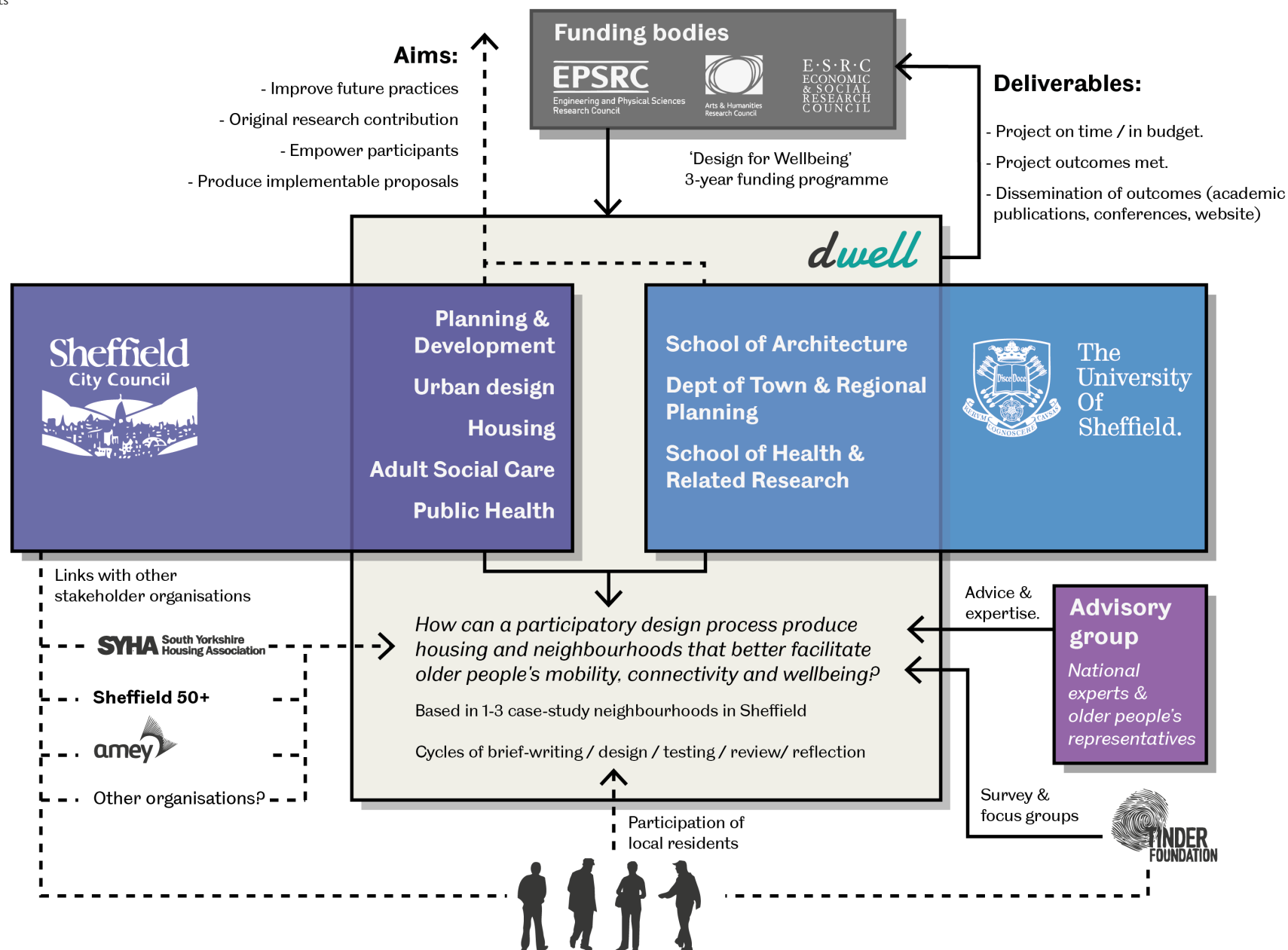Director, Sarah Wigglesworth Architects
18.ix.2014

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How can the design of housing & neighbourhoods improve the wellbeing of older people?
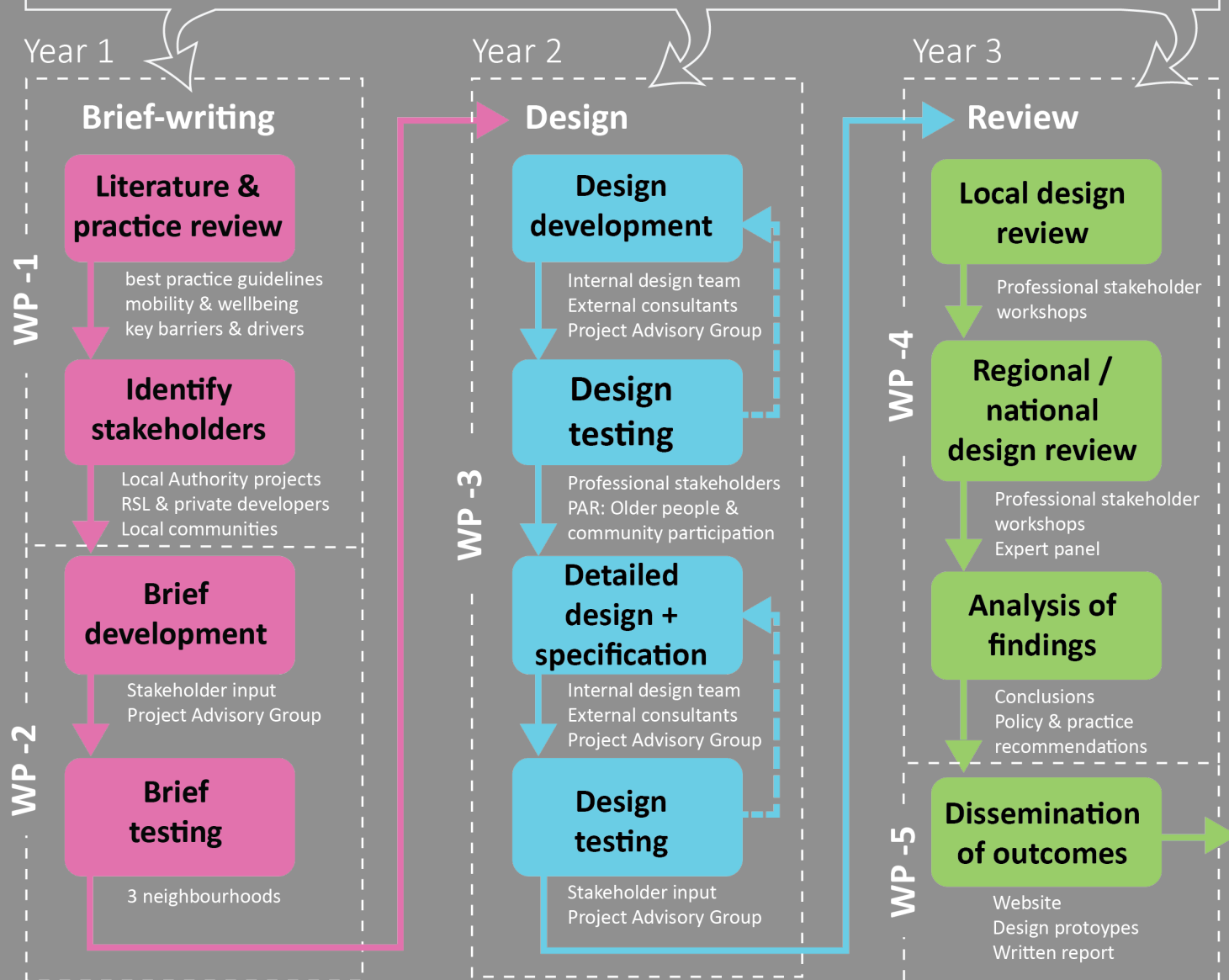
A participatory approach to research & design

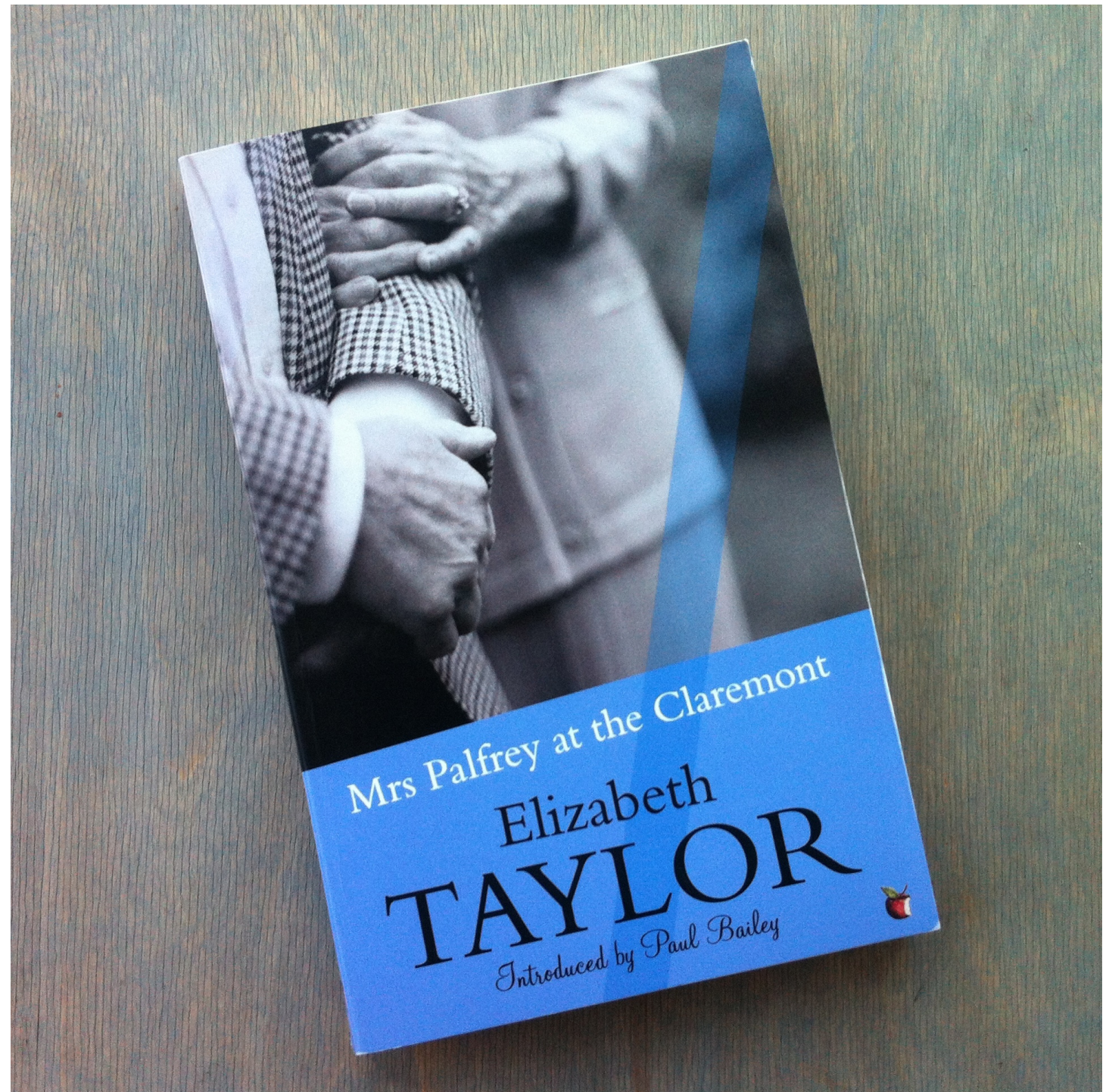- Funded by UK Research Councils (EPSRC, ESRC, AHRC)

- 3 year project running from 2014 - 2017

- An innovative partnership between University of Sheffield researchers, Sheffield City Council, and other local & national participants: housing associations, private developers, and local residents

- The project aims to produce developed and *tested* prototype designs, codes, and service specifications

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Aims:

- Improve future practices

- Original research contribution

- Empower participants

- Produce implementable proposals

Funding bodies

EPSRC
Engineering and Physical Sciences
Research Council

Arts & Humanities
Research Council

E·S·R·C
ECONOMIC
& SOCIAL
RESEARCH
COUNCIL

'Design for Wellbeing'
3-year funding programme

Deliverables:

- Project on time / in budget.

- Project outcomes met.

- Dissemination of outcomes (academic
  publications, conferences, website)

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Sheffield
City Council

**Planning &
Development**

Urban design

Housing

Adult Social Care

Public Health

School of Architecture

**Dept of Town & Regional
Planning**

**School of Health &
Related Research**

The
University
Of
Sheffield.

Links with other
stakeholder organisations

SYHA South Yorkshire
Housing Association

Sheffield 50+

amey

Other organisations?

*How can a participatory design process produce
housing and neighbourhoods that better facilitate
older people's mobility, connectivity and wellbeing?*

Based in 1-3 case-study neighbourhoods in Sheffield

Cycles of brief-writing / design / testing / review/ reflection

Advice &
expertise.

**Advisory
group**

*National
experts &
older people's
representatives*

Survey &
focus groups

TINDER
FOUNDATION

Participation of
local residents

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How can the design of housing & neighbourhoods improve the wellbeing, mobility and connectivity of older people?

Year 1 | **Year 2** | **Year 3**

Brief-writing

WP -1

Literature & practice review

best practice guidelines
mobility & wellbeing
key barriers & drivers

Identify stakeholders

Local Authority projects
RSL & private developers
Local communities

WP -2

Brief development

Stakeholder input
Project Advisory Group

Brief testing

3 neighbourhoods

Design

WP -3

Design development

Internal design team
External consultants
Project Advisory Group

Design testing

Professional stakeholders
PAR: Older people &
community participation

Detailed design + specification

Internal design team
External consultants
Project Advisory Group

Design testing

Stakeholder input
Project Advisory Group

Review

WP -4

Local design review

Professional stakeholder
workshops

Regional / national design review

Professional stakeholder
workshops
Expert panel

Analysis of findings

Conclusions
Policy & practice
recommendations

WP -5

Dissemination of outcomes

Website
Design protoypes
Written report

Mrs Palfrey at the Claremont

Elizabeth
TAYLOR

Introduced by Paul Bailey

![dwell logo]

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Housing Pathways for Older People
Typical housing trajectory and choice for older people

INCREASING CARE NEEEDS / DECREASING INDEPENDENCE

Domicillary care   Warden / alarm systems   On-site personal care / support   Nursing care   Palliative care

MAINSTREAM HOUSING *(Planning use class C3 - dwelling house).*   **SPECIALISED HOUSING** *(Use class C3 / C2).*   **CARE HOMES** *(Use class C3 - residential institution)*

INCREASING SPECIALISATION

Existing housing

£
adaptations
(Private / RSL)

Adapted housing

downsizing /
relocating

£
self-build

**New-build general
needs housing**

**Self-build / custom
build housing**

'Lifetime' Homes
Larger / Adaptable

Cohousing

downsizing,
relocating

additional
support

50+ 50+
**Age-banded
housing**

Sheltered housing

Retirement Village

Close care

Wheelchair Homes

Extra-care housing

Residential home

**Nursing home /
Dementia Care**

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Hospital

Hospice

KEY:
Private housing /
private sector

Social housing /
voluntary sector

NHS

theguardian

Loneliness twice as unhealthy as obesity for older people, study finds

Scientists found that the loneliest were nearly twice as likely to die during their six-year study than the least lonely

Ian Sample in Chicago
The Guardian, Sunday 16 February 2014 15.32 GMT

Jump to comments (364)

The findings point to a pending crisis in the UK as the population ages and people increasingly live alone or far from their families. Photograph: Paul Doyle/Alamy

Dimensions of well-being in older people

Ability to manage one's home

Safety

Mobility

Places + environment

Physical + mental health

Cognitive capability

Mobility

Care needs

Caring responsibilities

Friendships

Family

Neighbours

Everyday interactions

Social relations

Material resources

'Having enough' to get by

Being able to realise future plans

Ward et al (2012) for Age UK
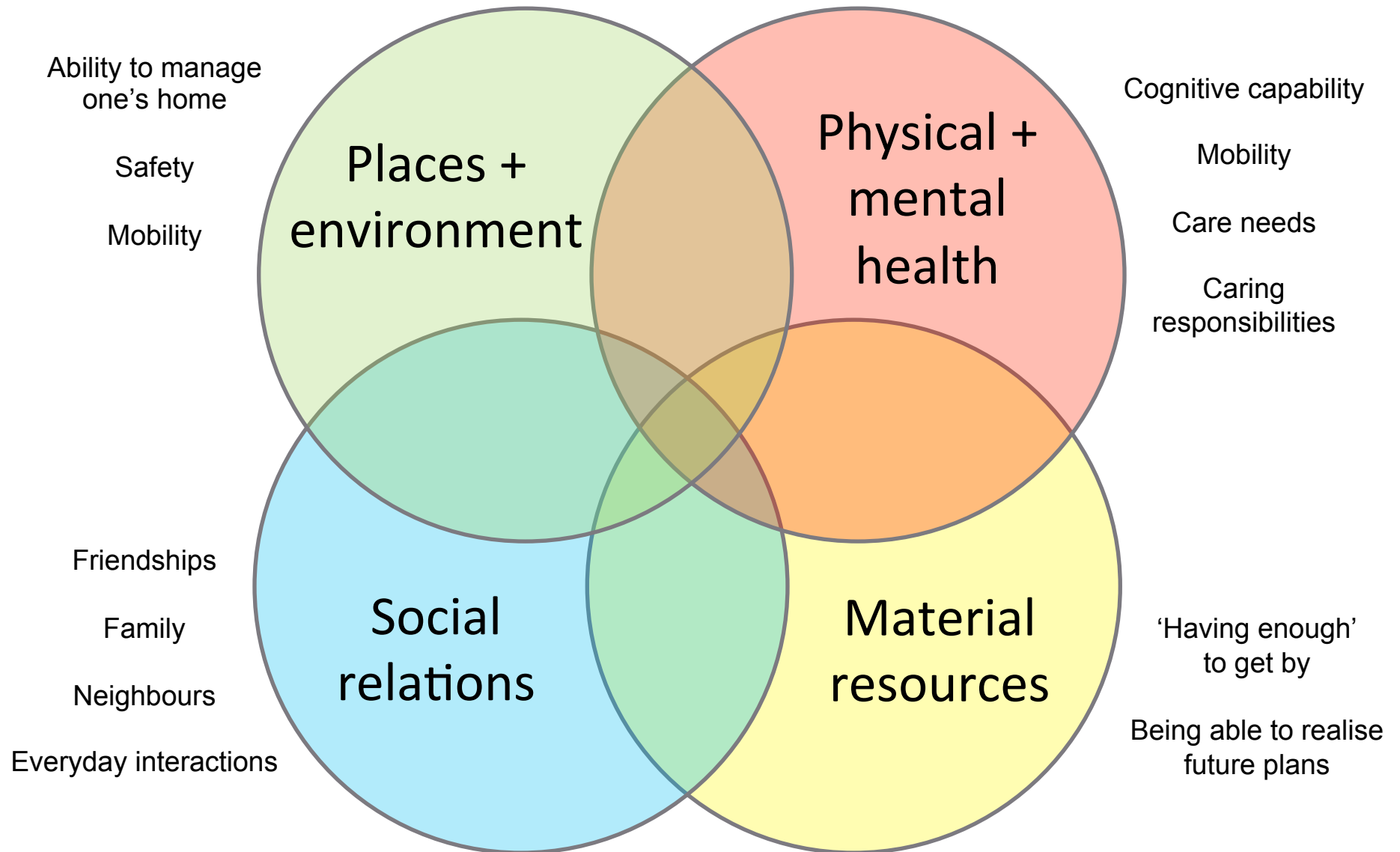
What do we mean by wellbeing
in the context of older people's needs?

From Nordbakke & Schwanen 2014

Well-being is contextual and is a social process. Its definition changes and is redefined continuously through social interactions.

It relates to people's past experiences and aspirations for the future, as well as comparisons with others or a certain reference group in society (Bowling 1995a). New approaches focus on the aspects contributing to people's flourishing, such as 'meaning', 'purpose' and activity.

Strands
• balance between an ageing person's changing competencies and the environment in which s/he lives her/his everyday life (Lawton and Nahemow 1973; Peace, Holland, and Kellaher 2011)

• 'individually judged, yet socially experienced, state of happiness, freedom, safety and capability, shaped by interrelations with social, cultural (and natural) environments' (Hall 2010, 277)

In summary, interconnections and reciprocity between selves and wider social, cultural, biophysical and spiritual elements. 'Spaces of well-being' emerge out of the interactions between individuals with material and immaterial elements.

Issues at the heart of the project

The significance of relationship between the home, one's immediate neighbours, the street, the wider neighbourhood, and the city and (in future) IT networks

The interdependence of different forms of housing and and tenure (adaptable housing, sheltered housing, accessible housing and Lifetime Homes, extra-care housing, co-housing)

An expanded conception of wellbeing and mobility (beyond physical needs / barriers)

Understanding the significance of individual choice and control (agency) in decision-making around housing needs, as well as understanding the choice and control of relatives or carers.

![dwell — designing for wellbeing in environments for later life]

Neighbourhoods for Older People
Typical design guidance synthesised from recent research

Links with local social venues
(pub or community centre)

Paths maintained and
clear of leaves / debris.

Handrails at steps / steep
sections of pavement

Accessible / high
quality local
parks

Allotments or
community gardens

A range of specialist
(and affordable)
housing options

Specialist housing knit-
ted into the existing
residential community

Pavements wide enough for
pedestrians and mobility
aids (eg. scooters)

Pavements free of uneven
surfaces / trip hazards.

Adequate street
lighting

Access to grit bins.

Access to local
bus services

Benches / seating
at regular intervals

Integrated care
services

Access via public transport to
other services, neighbourhood
centres, and leisure activities

A range of local shops
including a convenience
store, pharmacist, cash
machine.

![dwell logo] designing for wellbeing in environments for later life

Specialist Housing for Older People
Typical design guidance synthesised from recent research

Thermal / noise insulation

Guest room / hobby room/ second bedroom (if affordable)

Efficient to heat

Walk-in /accessible shower

Clothes drying area

Sufficient storage

Good levels of daylighting

WIFI

Double aspect (cross ventilation)

'Telecare ready'

Views / greenery

Adjacent car parking (if required)

Potential space for pets

Manageable outdoor space (terrace / balcony / courtyard)

Personalisable / defensible space

Accessible kitchen storage

Open plan / flexible living

Own front door / covered entry

Openable windows / fresh air

Sufficient space (to maintain an active / social lifestyle)

Access to communal facilities (eg. cafe, shop, launderette, library, activity rooms)

Thresholds: private and communal spaces
Typical design guidance synthesised from recent research

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1 or 2 bed apartment

"Are you going down to watch the match later?"

*...this is **my** home...*

Views out from the corridor side of apartments (e.g. kitchens)

Single-banked apartments allows light and airy circulation spaces with views out to central courtyard

Hardwearing materials to common parts

Widening of corridors at strategic points creates - interest and opportunities for less formal meeting places

Spaces for temporary docking of mobility aids during informal encounters

Borrowed light into corridor-side rooms (e.g bathroom)

Key threshold material change between semi-private and shared circulation space

Choice over external paint colours

Glazing for around doorset to light internal circulation

Benches outside front door for resting / personalisation

Minimum dimension for circulation spaces (1500mm?)

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Housing & neighbourhoods for later life (55+)
Spatial studies series based on recent design guidance / practice.

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Threshold between private apartments and semi-private circulation space in retirement housing

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The contribution made by a quality built environment to improved wellbeing for older people

Greater housing and neighbourhood choice for older people

Greater independence and agency for older people

Better connectivity to the outside world – family, friends, culture, services, current affairs, nature, outdoor environment

Sanctuary: safety and security at home and in the public realm

Integrated, well-designed services within reach via reliable transport infrastructure

Provision of resting places & wcs on routes to shops and services; negotiable streets, good lighting

Keeping communities stable and coherent

Integration of older people in multi-generational neighbourhoods, avoiding older people's ghettos

**Housing for older people:
cutting across all services delivered by
Sheffield City Council**

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o l d e r p e o p l e ' s h o u s i n g n e e d s

Adult Social Care

Housing

Planning

Streets

Neighbourhoods

Regeneration

NHS

Transport

Valuation and Finance

S h e f f i e l d C i t y C o u n c i l D e p a r t m e n t s
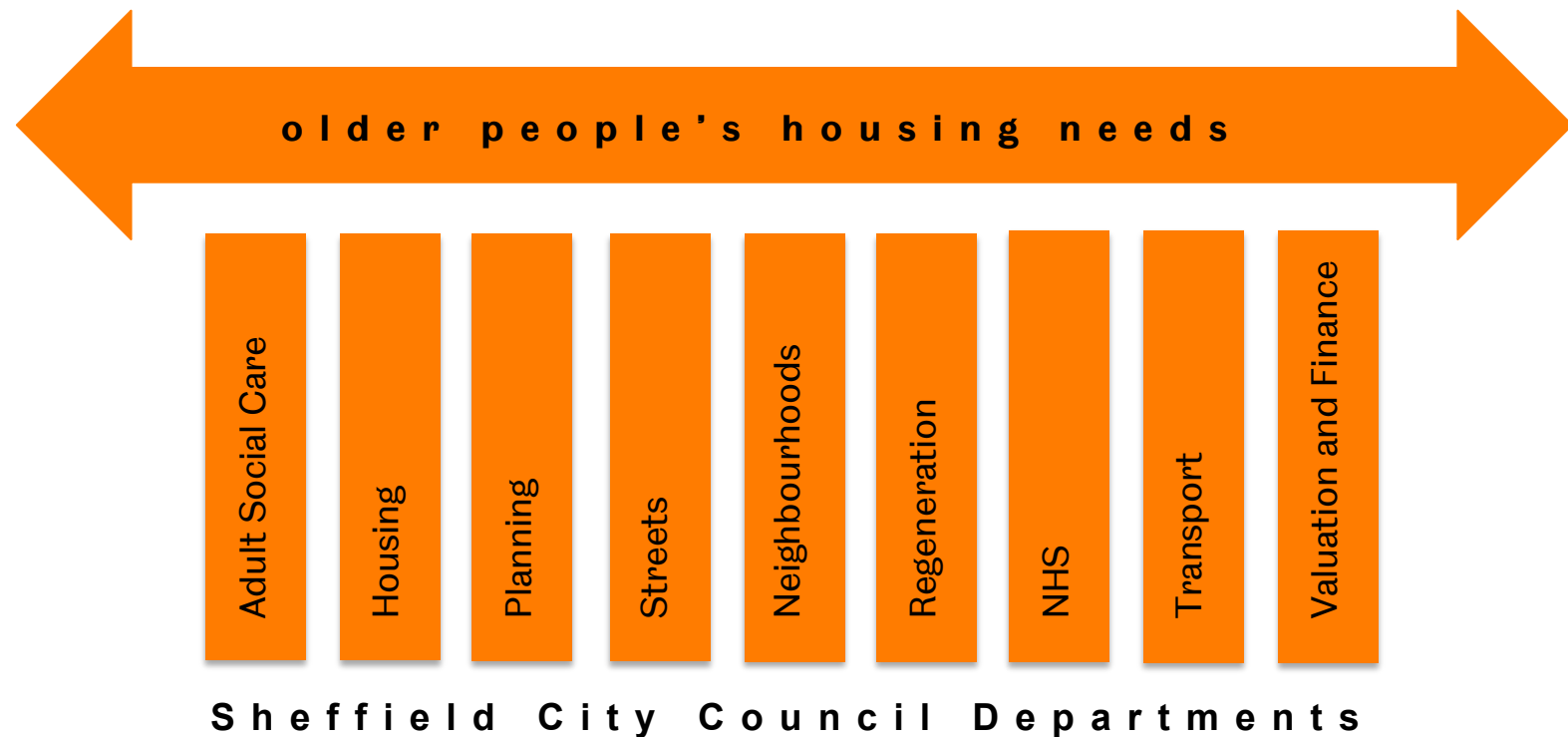
A key component of our research: Participant Engagement

City-wide (Reference) group

20-30 older people from across Sheffield have been recruited to form a standing 'reference group '. This group can be consulted on any Sheffield-wide initiative, or early stage proposals which have no defined site / locality.

Local groups

Groups have been recruited in Dore, Sharrow and Foxhill (Parson Cross) to engage with in the proposed design interventions. The groups are initially the basis for focus group work and will remain involved throughout the design process and evaluation (should they wish to do so).

Individuals

In order to collect more in-depth data on older people's mobility we may interview and/or observe individual older people (around 10 per locality/ project). This may be linked to particular housing types or whole localities, depending on the scale for potential change.

2013 Framework sets out the aspiration to make Sheffield be the most age-friendly city in the country.

- how we experience old age is determined largely by factors that occur at earlier stages of life such as employment, living standards, housing, health and environment

- people, organisations and the city can all play their parts to maximise the chances of active and healthy ageing

- emphasises the key role of prevention in the creation of active ageing

Sheffield

Area Classification Supergroups LSOA
Office for National Statistics

- 1 - Countryside
- 2 - Professional City Life
- 3 - Urban Fringe
- 4 - White Collar Urban
- 5 - Multicultural City Life
- 6 - Disadvantaged Urban Communities
- 7 - Miscellaneous built up areas

Parson Cross

Stannington

Upperthorpe

Norfolk Park

Dore

Sharrow
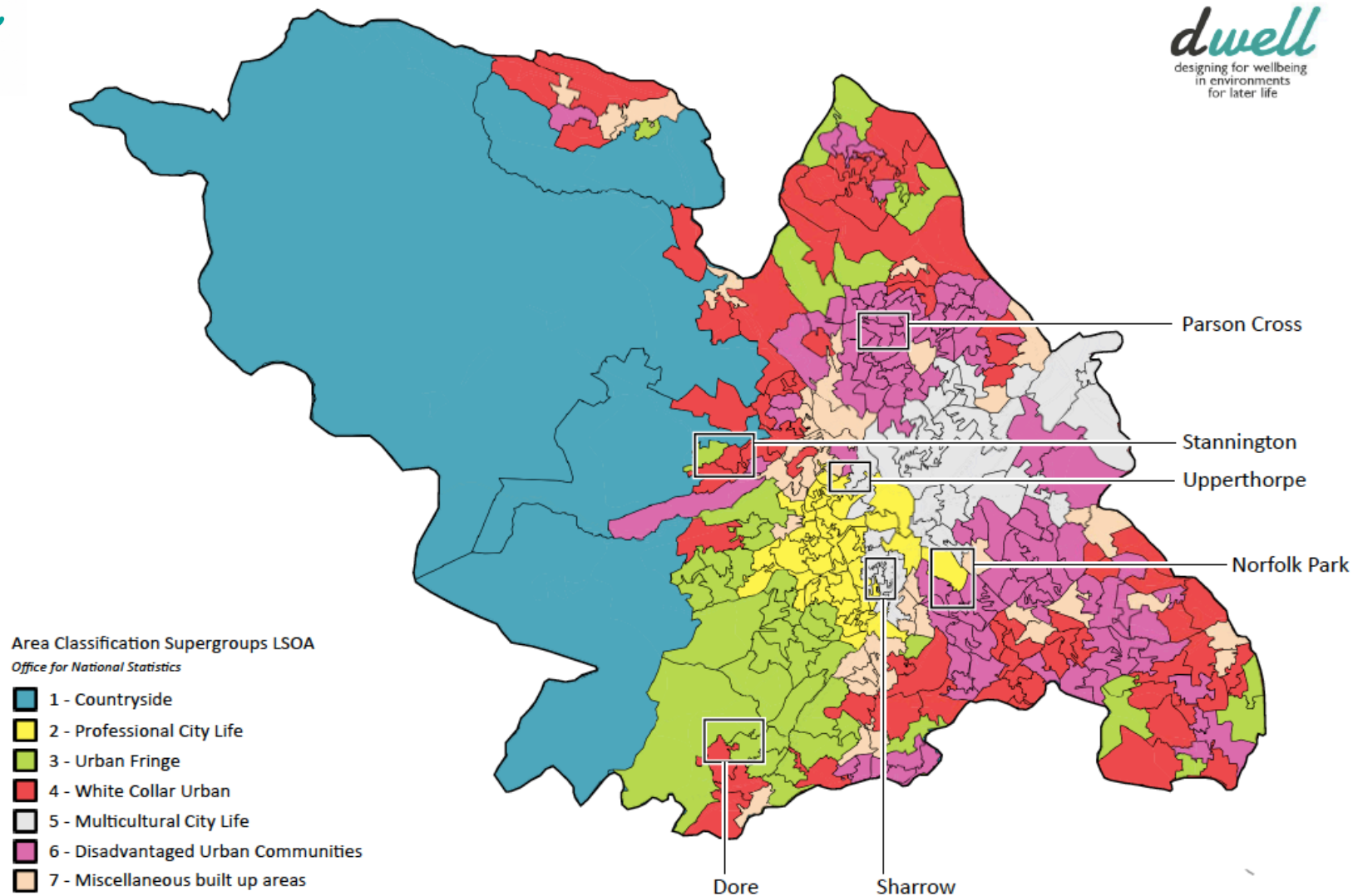
Sheffield
neighbourhoods under scrutiny
in the Dwell project

Typologies of ExtraCare

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ASSUMPTIONS

- layouts based on a 90 dwelling development
- 3-storey development height (except tower)
- a mix of 1 bed and 2 bed accomodation
- a minimum of 1000 sq m. of communal space / plant
- all dwellings to be ground floor or lift accessed
- parking ratio of approx. 1 space per dwelling

NOTE: actual required parking levels subject to local planning policy and travel plan.

All layouts / floor plans are indicative only and subject to all relevant statutory approvals.

KEY:
- 2 bed flat (72 sq. m. approx. GIFA)
- 1 bed flat (56 sq. m. approx. GIFA)
- Service core (lifts + stairs)
- Service core (stairs only)
- Communal facilities / plant
- Circulation
- Parking
- Gardens
- Street frontage / access
- Secondary / vehicular access

LINEAR

1st / 2nd floor plan
19 2 bed (38)
14 1 bed (28)
max travel distance to lift: 80m

Ground floor / site plan
14 2 bed
10 1 bed

communal space total 1150 sq m
circulation space total 1365 sq m
floor area total (gross) 10500 sq m
circulation ratio (approx.) 13%
external wall area (approx) 3290 sq m

Isometric view
building footprint 3500 sq m
site 11300 sq m
31%
82 dwellings/hectare

LINEAR

Advantages
+ linear massing can be cranked to follow site contours / site boundary
+ simple form to plan / construct
+ most efficient option in terms of floor area + number of cores

Disadvantages
- 'institutional' / private in nature - may feel closed to external users
- long corridors with limited natural light / poor wayfinding
- single aspect apartments provide poor daylighting
- difficult to break up long 'monolithic' block
- issues of differentiating 'front' and 'back' in relation to street access
- building form limits opportunities for semi-private encounters
- gardens + parking separated from building (boundary treatment/security required)

BRANCH

1st / 2nd floor plan
18no. 2 bed (36)
15no. 1 bed (30)
max travel distance to lift: 75m

Ground floor / site plan
15no. 2 bed
9no. 1 bed

communal total 1380 sq m
circulation total 1625 sq m
floor area total (gross) 10800 sq m
circulation ratio (approx.) 15%
external wall area (approx.) 3380 sq m
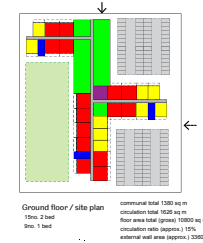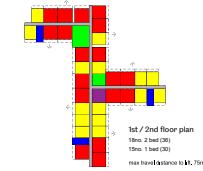
Isometric view
building footprint 3700 sq m
site 11100 sq m
33%
82 dwellings/hectare
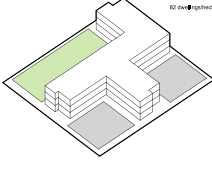
BRANCH

Advantages
+ most efficient option in terms of floor area + circulation space
+ flexible form can be adapted for different shaped sites
+ different 'branches' of the plan can have different identities to ease wayfinding

Disadvantages
- 'institutional' / private in nature - may feel closed to external users
- issues of differentiating 'front' and 'back' in relation to street access
- form may cause difficulties with levels on sloping sites
- long corridors with limited natural light
- single aspect apartments provide poor daylighting
- building form limits opportunities for semi-private encounters
- gardens + parking separated from building (boundary treatment/security required)

COURTYARD
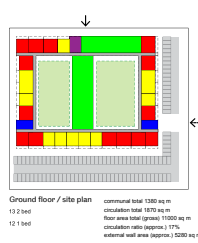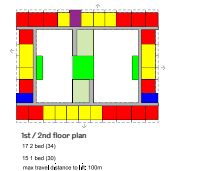
1st / 2nd floor plan
17 2 bed (34)
15 1 bed (30)
max travel distance to lift: 100m

Ground floor / site plan
13 2 bed
12 1 bed

communal total 1380 sq m
circulation total 1870 sq m
floor area total (gross) 11000 sq m
circulation ratio (approx.) 17%
external wall area (approx.) 5280 sq m

Isometric view
building footprint 3850 sq m
site 11100 sq m
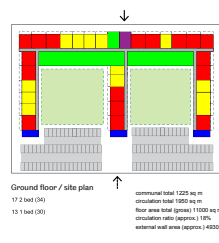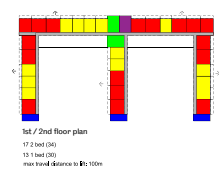site / footprint ratio 35%
82 dwellings/hectare
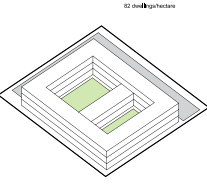
COURTYARD

Advantages
+ potential for dual aspect apartments with better daylighting
+ views / wayfinding / daylighting within corridors
+ circulation spaces can extend into semi-private communal areas
+ private courtyard gardens integrated into building form
+ floor area efficiency comparative with single aspect options (linear / branch)
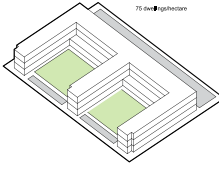+ clear differentiation between public 'front' and private 'back'

Disadvantages
- 'institutional' / private in nature - may feel closed to external users
- more circulation space
- form may cause difficulties with levels on sloping sites
- courtyard gardens may lack sunlight?
- difficult to break up large 'monolithic' block
- parking separated from building (boundary treatment required)

FINGERS

1st / 2nd floor plan
17 2 bed (34)
13 1 bed (30)
max travel distance to lift: 100m

Ground floor / site plan
17 2 bed (34)
13 1 bed (30)

communal total 1225 sq m
circulation total 1950 sq m
floor area total (gross) 11000 sq m
circulation ratio (approx.) 18%
external wall area (approx.) 4930 sq m

Isometric view
building footprint 4150 sq m
site 12000 sq m
site / footprint ratio 35%
75 dwellings/hectare

FINGERS

Advantages
+ potential for dual aspect apartments with better daylighting
+ potential for most apartments to share favourable aspect (south)
+ views / wayfinding / daylighting within corridors
+ flexible form can be adapted / cranked for different shaped sites
+ circulation spaces can extend into semi-private communal areas
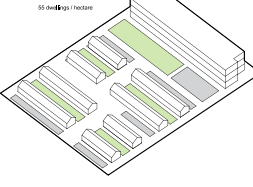+ semi private courtyard gardens / parking courts can be integrated into building form

Disadvantages
- 'institutional' / private in nature - may feel closed off to external users
- potential difficulties with levels on sloping sites (albeit less than linear / branch / courtyard)
- floor area efficiency less than single aspect options (linear / branch)
- more circulation space
- fewer dwellings / hectare than other options (linear / branch / courtyard)

VILLAGE

1st / 2nd floor plan (apartments)
13 2 bed (26)
7 1 bed (14)
max travel distance to lift: 80m

Ground floor / site plan
6 2 bed apartments
4 1 bed apartments
20 2 bed bungalows
20 1 bed bungalows

communal total 1012 sq m
circulation total 880 sq m
floor area total (gross) 10650 sq m
circulation ratio (approx.) 8%
external wall area (approx.) 4540 sq m

Isometric view
building footprint 5000 sq m
site 16500 sq m
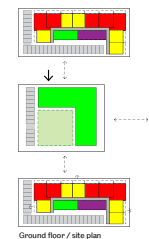site / footprint ratio 30%
55 dwellings / hectare

VILLAGE

Advantages
+ mix of units provides choice for different individuals
+ provision of popular bungalow typology
+ could include other housetypes + apartment blocks
+ semi-private gardens + parking courts integrated into site layout
+ dispersed layout may be suitable to address levels on sloping sites
+ dispersed layout breaks up massing + institutional feel
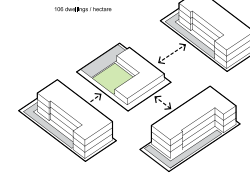+ village layout potentially easier to integrate with surrounding context

Disadvantages
- 'institutional' / private in nature - may feel closed off to external users
- potentially private / gated in nature - may feel closed off to external users
- fewer dwellings / hectare than other options (linear / branch / courtyard)
- less suitable for denser urban sites
- longer walking distances from bungalows to communal spaces
- careful planning of road ways + paths required to avoid car dominance

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HUB + SPOKE

1st / 2nd floor plan (apartment block)
5x 2 bed (10)
5x 1 bed (10)
max. travle distance to lift: 30m

Ground floor / site plan
each apartment block:
30 apartments (@ 3 storeys)
28 parking (1:1 approx)

central communal facility:
750 sq m (@ 1 storey)
13 parking

communal total 1520 sq m
circulation total (3 apt blocks) 1890 sq m
floor area total (gross) 11100 sq m
circulation ratio (approx.) 17%
external wall area (approx.) 5020 sq m

Isometric view
building footprint (total) 4200 sq m
site (total) 8450 sq m
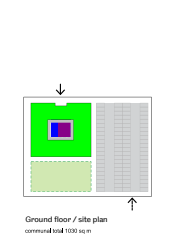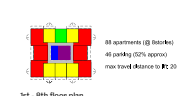site / footprint ratio 49%
106 dwellings / hectare

HUB + SPOKE

Advantages
+ most suitable for denser urban sites
+ most flexible option (suitable for expansion)
+ could include other housetypes + apartment blocks
+ most efficient in terms of site density and floor planning
+ smaller blocks offer views / wayfinding / daylighting within corridors
+ dispersed layout breaks up massing + institutional feel
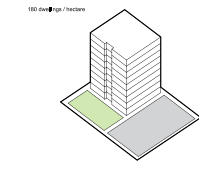+ most open in terms of external users of communal facilities

Disadvantages
- each block requires its own service core, plant and maintenance strategy
- walking distances between sites + communal facilities may be a barrier
- limited private outdoor space
- residents may not feel ownership over remote communal facilities
- careful planning of management strategy (and calculation of service charges) required

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TOWER

88 apartments (@ 8storeys)
46 parking (52% approx)
max travel distance to lift: 20m

1st - 8th floor plan

Ground floor / site plan
communal total 1030 sq m
circulation total 1800 sq m
floor area total (gross) 9570 sq m
circulation ratio (approx.) 19%
external wall area (approx.) 3915 sq m

Isometric view
building footprint (total) 1230 sq m @ 9 storeys
site (total) 4890 sq m
25%
180 dwellings / hectare

TOWER

Advantages
+ most suitable for very dense / inner-city urban sites
+ potential conversion of former general-needs high-rise housing
+ most efficient block in terms of site density and circulation
+ tower blocks offers best range of views
+ shortest horizontal corridor runs
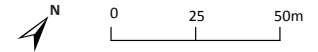+ dedicated ground floor communal facilities

Disadvantages
- high-rise massing potentially unsuitable for many contexts
- maintenance of lifts and circulation is more critical
- balconies may be less suitable at upper floors
- tower limits control of apartment aspect (N/S/E/W)
- private outdoor space + parking separated from the building
- residents may not feel ownership over ground floor facilities

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Local centre

ASDA

Park

School

Learning Zone

Infill housing sites

Sheffield
HOUSING COMPANY

Park

Site identified for Extracare

Sheffield
HOUSING COMPANY

Infill housing sites

Park

Park

Sheffield
HOUSING COMPANY

Infill housing sites

Parson Cross

OPTION 2 : Linking ECH into the existing Buchanan Road / Chaucer centre

Legend:
- •••• Proposed pedestrian route
- General needs affordable / market housing
- Mixed-use commerical / healthcare (+ residential above?)
- Extra-care housing (50-70 bed)
- Supported housing for adults with learning disabilities (20 bed)
- Refurbished / replacement community building

N   0   25   50m

WORDSWORTH AVENUE

LEARNING ZONE

PARSON CROSS HOTEL (VACANT)

TO CHAUCER CENTRE / ASDA

FUTURE MIXED-USE DEVELOPMENT?

BUCHANAN RD SHOPS

GARDENS   2 storey   GARDENS

SERVICES

P   P   P

ADLINGTON ROAD

TO BUS STOP

TO PARK

Potential anti-social behaviour risk along public route?

Improved crossing and park entrance

Completed urban realm improvements at Buchanan Rd shops

New crossings / shared surface / traffic calming?

3 storey block - a semi-public 'marker' at the at the corner of Buchanan Rd and Buchanan Crescent.

Active frontage + access to shared communal facilities

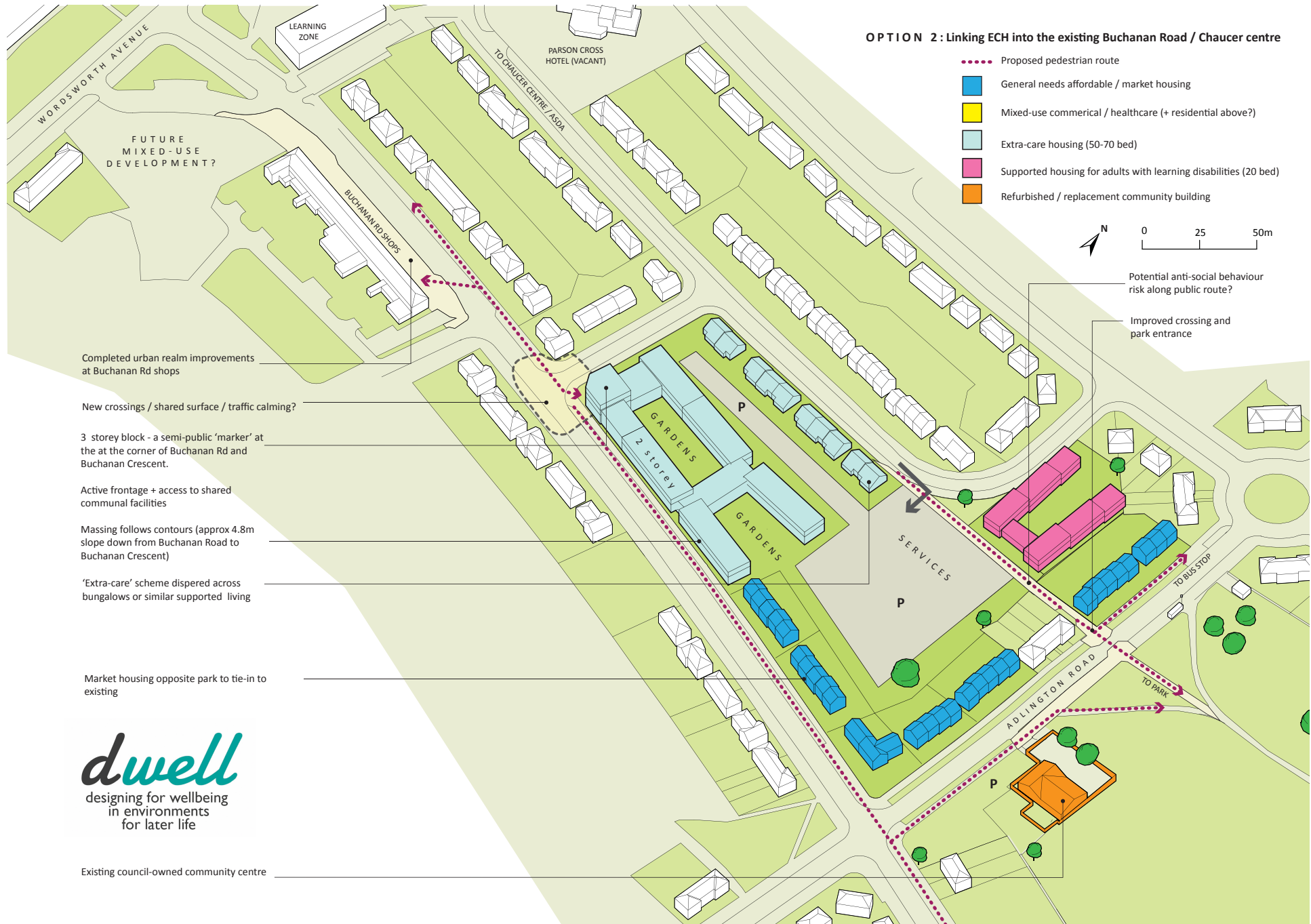Massing follows contours (approx 4.8m slope down from Buchanan Road to Buchanan Crescent)

'Extra-care' scheme dispered across bungalows or similar supported living

Market housing opposite park to tie-in to existing

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Existing council-owned community centre

Identification of projects going forward

Parson Cross
partnering Sheffield City Council in developing an ExtraCare facility
Brief assembly, feasibility options, clarifying aspirations, spatial explorations, sectional explorations, testing add-ons

Sharrow Vale
co-design with community of benches located in public realm
Using a small item of street furniture to raise design and neighbourhood issues though sustained engagement with the community

Dore
collaborating with local community on design of public open space
Improvements directed at older people in a well-to-do neighbourhood that is developing its Neighbourhood Plan

City Centre
opportunities for an innovative design project for city centre living
Revitalising the city centre, reuse of existing properties (commerical),

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