

### Checklist of characteristics of dementia-friendly neighbourhoods

#### A familiar environment

- Places and buildings are long established with any change being small-scale and incremental
- The functions of places and buildings are obvious
- Architectural features and street furniture are in designs familiar to or easily understood by older people

#### A legible environment

- There is a hierarchy of street types, such as main streets, side streets, alleyways and passages
- Blocks are small and laid out on an irregular grid based on an adapted perimeter block pattern
- Streets are short and fairly narrow
- Streets are well connected and gently winding with open ended bends to enable visual continuity
- Forked and t-junctions are more common than crossroads
- Latent cues are positioned where visual access ends, especially at decision points, such as junctions and turnings
- Entrances to places and buildings are clearly visible and obvious
- Signs are minimal, giving simple, essential information at decision points
- Signs have large graphics with realistic symbols in clear colour contrast to the background, preferably dark lettering on a light background
- Directional signs are on single pointers
- Signs locating important places and buildings are perpendicular to the wall
- Signs have non-glare lighting and non-reflective coverings

#### A distinctive environment

- Urban and building form is varied
- There is a variety of landmarks including historic and civic buildings, distinctive structures and places of activity
- There is a variety of welcoming open spaces, including squares, parks and playgrounds
- Architectural features are in a variety of styles, colours and materials
- There is a variety of aesthetic and practical features, such as trees and street furniture

## **An accessible environment**

- Land uses are mixed
- Services and facilities are within 5-10 minutes walking distance of housing
- Footpaths are wide and flat
- Pedestrian crossings and public toilets are at ground level
- Unavoidable level changes have gentle slopes with a maximum gradient of 1 in 20
- Entrances to places and buildings are obvious and easy to use
- Gates/doors have no more than 2kg of pressure to open and have lever handles

## **A comfortable environment**

- The outdoor environment is welcoming and unthreatening
- Urban areas have small, well-defined open spaces with toilets, seating, shelter and lighting
- There are quiet side roads as alternative routes away from crowds/traffic
- Some footpaths are tree-lined or pedestrianised to offer protection from heavy traffic
- Acoustic barriers, such as planting and fencing, reduce background noise
- Street clutter, such as a plethora of signs, advertising hoardings and bollards is minimal
- Telephone boxes are enclosed
- Bus shelters are enclosed and have seating
- Seating is sturdy with arm and back rests and in materials that do not conduct heat or cold

## **A safe environment**

- Footways are wide, well maintained and clean
- Bicycle lanes are separate from footways
- Pedestrian crossings have audible cues at a pitch and timing suitable for older people
- Paving is plain and non-reflective in clear colour and textural contrast to walls
- Paving is flat, smooth and non-slip
- Trees close to footways have narrow leaves that do not stick to paving when wet
- Spaces and buildings are oriented to avoid creating areas of dark shadow or bright glare
- Street lighting is adequate for people with visual impairments
- Level changes are clearly marked and well lit with handrails and non-slip, non-glare surfaces

# Neighbourhoods for Life

## Designing dementia-friendly outdoor environments

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A Findings Leaflet by  
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# Neighbourhoods for Life

## Designing dementia-friendly outdoor environments

The Wellbeing in Sustainable Environments Research Unit of the Oxford Institute for Sustainable Development has recently concluded a three-year research project, funded by the Engineering and Physical Sciences Research Council's EQUAL programme, examining how the outside environment could be made dementia-friendly. This unprecedented research investigated the perceptions, experiences and use of the outdoor environment by older people with dementia and identified design factors that influence their ability to successfully use and negotiate their local neighbourhoods. The findings have enabled the researchers to provide some preliminary guidance for designers, at all scales from urban design to street furniture, on the criteria to consider in developing dementia-friendly urban areas.

### Summary of key findings

- Older people with dementia, particularly in the mild to moderate stages, continue to go out alone, many daily.
- Older people with dementia tend to limit their outside activities to relatively undemanding situations, such as going to the corner shop, posting a letter or going for a walk.
- Older people with dementia tend to use cars or public transport only when accompanied by others so that independent outside activity is restricted to the immediate neighbourhood within walking distance of home.
- Although the interaction of older people with dementia with the outdoor environment is limited, it is clear that it provides some sense of independence and self-respect at a time when they are losing control over their own abilities and lives.
- Older people with dementia generally enjoy going out but anxiety, disorientation or confusion can occur in complex, crowded or heavily trafficked places or when startled by sudden loud noises.
- Older people with dementia tend to be less aware of physical and social dangers in the outdoor environment and of the possibility of losing the way than older people without dementia.
- Older people with dementia cannot always interpret the cues that signal the use of buildings, the location of entrances or the behaviour that is expected in different places.
- Older people with dementia continue to plan and visualise proposed routes and tend to use landmarks and other visual cues rather than maps and written directions as wayfinding techniques.
- Older people with dementia tend to prefer:
  - ✓ mixed-use, compact local neighbourhoods
  - ✓ short, gently winding streets with wide pavements and good visual access
  - ✓ varied urban form and architectural features
  - ✓ quiet, pedestrianised streets and welcoming open spaces
  - ✓ places, spaces and buildings whose functions and entrances are obvious
  - ✓ simple, explicit signs with large, dark, unambiguous graphics on a light background
  - ✓ historic, civic or distinctive landmarks and practical or aesthetic environmental features
  - ✓ smooth, plain, non-slip, non-reflective paving
  - ✓ easy to use street furniture in styles familiar to older people.
- Dementia-friendly neighbourhoods are places that are familiar, legible, distinctive, accessible, comfortable and safe

## Background

The number of older people in the UK is rising dramatically, particularly in the age group of 85 years and above. As the likelihood of developing dementia increases with age, reaching a one in five chance over the age of 80, the number of people with dementia in the UK is also growing. The Disability Discrimination Act 1995 recognises disability as including cognitive and sensory as well as physical impairments and expected all barriers restricting the access and use of services by disabled people to have been removed by 1 October 2004.

With limited spaces available in care facilities, most older people with mild to moderate dementia live in their own homes. Research has shown that remaining in the familiar surroundings of home and the local neighbourhood can have beneficial effects cognitively, physically and emotionally. However, to live successfully in the community people with dementia need outdoor environments that are designed to help rather than hinder. If they are unable to enter or use their local neighbourhoods they will become effectively housebound. To date there is little knowledge on design for dementia in the outdoor environment.

## About the study

The study aimed to find out how to create dementia-friendly neighbourhoods that enhance and extend the active participation of older people with dementia in their local communities. The objectives of the study were as follows:

- To investigate how older people with dementia interact with the outdoor environment, the nature and quality of their experiences, and their understanding of the outdoor environment
- To identify design factors that influence the ability of older people with dementia to successfully use the outdoor environment
- To offer preliminary guidance (at all scales, from urban design to the design of street furniture) for designing dementia-friendly outdoor environments

Forty-five ambulant people aged 65 or over, living at home or in sheltered accommodation and still using the outdoor environment, participated in the research. Twenty were also in the mild to moderate stages of dementia, with a Mini-Mental State Examination score of between 8 and 20.

All participants were interviewed to determine their perceptions and use of the outside environment. Many were also accompanied on short walks within their local neighbourhood to record their wayfinding techniques and the environmental features that appear to help or hinder them. The environmental characteristics of participants' local neighbourhood were also measured.

## How older people with dementia interact with the outdoor environment

Most of the participants with dementia and all of those without dementia go out alone, over half in each group daily. All go shopping and about half also regularly visit the local post office, park or take walks around their local neighbourhood. Participants with dementia tend to avoid socially demanding situations, such as visiting friends or attending church, preferring less exigent activities, such as going to the corner shop or posting a letter.

Participants with dementia are far more physically restricted in their independent use of the outdoor environment than those without dementia. As they no longer drive or use public transport unaccompanied their choice of destination is limited to within walking distance of home. Participants with dementia are also significantly less likely than those without dementia to visit more than one place in a single trip.

## The nature and quality of experiences of older people with dementia in the outdoor environment

The participants with dementia tend to prefer informal places, such as streets and parks, and feel intimidated in formal places such as public squares with imposing architecture. However, in interviews, they were far less likely than those without dementia to say that they face any problems when they are out. The few who did refer to problems focused on physical impairments, such as poor eyesight or an unsteady gait. In comparison, participants without dementia discussed a variety of physical problems including uneven paving, poor seating, bicycles on footpaths and steep inclines. They also referred to social and psychological difficulties, such as the closure of local shops, poor bus services, and the fear of attack or of getting lost. Findings from the accompanied walks showed that people with dementia do face similar problems to those described by participants without dementia but are less aware of them.

Participants described experiencing many different emotions when in the outdoor environment, from feeling happy or comfortable to boredom or anxiety. However, the majority said that they enjoy going out, although some are anxious about being out at night or in unfamiliar places. Comments such as "the world belongs to me for that time" and "I feel in charge of myself" demonstrate the importance of getting outdoors for their self-respect and independence. In general, participants enjoyed the accompanied walks. None of the participants without dementia showed signs of anxiety, confusion or fear. However, around half those with dementia were anxious or confused when they were unsure of the route or distracted by sudden noises.

## How older people with dementia understand the outdoor environment

When interviewed, fewer participants with dementia said that they sometimes lose their way than those without dementia; however, carers confirmed that a higher number of participants with dementia get lost. On the accompanied walks, none of the people without dementia and one-third of participants with dementia lost the way.

People with dementia often struggle to interpret the cues that signal the use of buildings, the location of entrances, the behaviour that is expected in different places or the intentions of people around them. The participants with dementia are able to understand places, streets, buildings and features that are in designs recognisable to older people. It appears that style (whether traditional or modern) is less important than clarity of function and use. They also continue to remember features that they encounter on a regular basis.

## Design factors that help older people with dementia use and enjoy their local neighbourhoods

The majority of all the participants find simple, well-connected street layouts with uncomplicated road junctions the easiest to understand and to use. Routes with varied urban form and architectural features, such as doors, windows, roofing lines, tiles and chimney pots, in a variety of styles, help to maintain their concentration. However, disorientation occurs amongst some people with dementia even in familiar, straightforward and interesting neighbourhoods when distracted by heavy traffic, crowds or sudden loud noises.

Most of the participants plan the route they are going to take and visualise it as they walk along. Many will ask for directions if lost but those with dementia often find maps and written directions difficult to follow. Although most participants said that they do not look for wayfinding cues, with “I just know the way” being a common statement, the accompanied walks demonstrated that a number of features are used to clarify location and route. These include historic or civic landmarks, such as war memorials and churches; distinctive structures, such as water towers or public art, and places of activity, including urban squares, parks and playgrounds. Practical features, such as telephone and post boxes, and aesthetic features, such as gardens and trees, are also used, providing they were not too numerous to cause an excess of external stimuli. Again, the important characteristics of the wayfinding cues are that they are of unambiguous design, are varied and interesting, and are regularly encountered.

## Dementia-friendly outdoor environments

Our findings show that there are six major requirements for outdoor environments to be dementia-friendly: they need to be familiar, legible, distinctive, accessible, comfortable and safe. Our preliminary recommendations for meeting these six requirements are presented in a checklist at the end of the leaflet.

In summary, however, dementia-friendly local neighbourhoods tend to be mixed use with a hierarchy of street types, varied urban form and a variety of landmarks and environmental features in designs familiar to or easily understood by older people. They have welcoming open spaces and short, well-connected, gently winding streets with good visual access. Footpaths are wide with smooth, plain, non-slip, non-reflective paving. Signs are simple and explicit and located at decision points, such as road crossings and junctions.

### Conclusions

This is preliminary research in an area that to date has been neglected. As the findings are based on a relatively small sample of older people with dementia, further research would be beneficial to improve representativeness and to ensure that the design suggestions do not conflict with the needs of people with physical impairments, such as wheelchair users or those with visual impairments.

Environments that are easy for people to access, understand, use and enjoy are beneficial to everyone, not just older people with dementia. Incorporation of the characteristics of dementia-friendly environments into inclusive urban design therefore has the potential to provide ‘Neighbourhoods for Life’. These would allow people to live in their own homes and communities for as long as they wish and to maximise the quality of life of all residents, not only those with dementia.

### Further information

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