

The Design of Streets with Older People in Mind

This I'DGO design guidance relates to bus stops and shelters. It is part of The Design of Streets with Older People in Mind; a toolkit for those who plan, design and maintain the public realm. It can be used as an aid to assessing how easy it is to access one of the most effective forms of public transport for keeping older people mobile, socially connected and less susceptible to loneliness and isolation. Based on the views of over 200 older people, street audits and key sources of existing UK guidance, it includes advice on the provision, location and positioning of bus stops, their overall size and type and their detailing (material, seating, lighting and signage).

DSOPM002

Bus Stops Design Guide 002

I'DGO Design Guides are based on evidence from the Inclusive Design for Getting Outdoors (I'DGO) research project. They have been cited by the World Health Organization as being of global importance in planning, designing and maintaining Age-Friendly Cities and by the UK Department for Transport. The research was undertaken by the SURFACE Inclusive Design Research Centre at the University of Salford. Details of context and methodology are provided within, with recommendations on the reverse.

Bus Stops and Shelters



Image © John McGonagle. With thanks to Violet Laidlaw.

Being outdoors enhances the physical, social and emotional wellbeing of older people.
I'd go outdoors if I could: wouldn't you?

Provision

The UK Department for Transport recommends that no-one in a residential area should live more than 400 metres from a bus stop¹. It also suggests a standard for taking local topography into account; a 10 metre reduction (in maximum walk distance) for every one metre rise or fall (of the footpath). It acknowledges that bus use falls off sharply among disabled people if they live any further than 200 metres from a bus stop; 250 metres for more able people. With this in mind, guidance from Northern Ireland suggests that “the majority of residents” should live no more than 200 metres from a bus stop; 100 metres in the case of residences designed specifically for older people and mobility impaired people.

Positioning

The consensus among sources of UK guidance is that the most important factors to consider when siting bus stops are pedestrian **convenience** and **safety**. The Department for Transport³ and Scottish Government⁸ recommend that stops are placed near junctions, “so that they can be accessed by more than one route on foot”, or near specific passenger destinations – what Transport for London describes as “places of particular need”⁴ – including local shops, libraries, clubs, health facilities and sheltered housing. Where bus stops serve residential care homes and day centres, they should be sited as close as possible to the facility, “with a pedestrian crossing (with dropped kerb) in reasonable proximity”¹. Other factors to take into consideration, ideally in consultation with local residents and businesses, include noise nuisance, visibility, stops on the other side of the road and space for a shelter (see below).

“ The advent of low floor buses will improve access for disabled people, but full benefit will only be attained if bus stops are also designed to meet their needs. ”
- *Inclusive Mobility (Department for Transport, 2005)*

Above:

Clear footway width is often compromised by the positioning of bus shelters and other ‘permanent obstacles’, such as litter bins.

Research on location and positioning: an international example

In 2001, Loukaitou-Sideris et al published the results of a study involving sixty bus stops in the city of Los Angeles. The research sought to examine the relationship between the incidence of crime at or around bus stops and the characteristics of the physical environment in which they were located. Crime rates were found to be higher if a bus stop was in a desolated area, such as at an intersection with an alley or next to an abandoned building, next to an off-licence, cash point, or on-street parking facility, or in an area blighted by graffiti and litter.

In contrast, where bus stops were clearly visible, well lit, had a public phone, offered shelter and were on streets with high levels of vehicle traffic and surveillance, criminal activity was less common.

Loukaitou-Sideris, A. (1999). “Hot Spots of Bus Stop Crime: The Importance of Environmental Attributes,” *Journal of the American Planning Association*, 65:4, pp. 395-411



image © SilverTiger 2011



Image © John McGonagle.

With thanks to Irene Garden.



Are the UK's streets meeting guidance on clear footway widths?

The UK Department for Transport¹ advises that the minimum unobstructed width of a footway for pedestrians should generally be two metres, which will allow two people in wheelchairs to pass each other comfortably. Where this width is not possible, because of the presence of a bus shelter, for example, a clear width of 1.5 metres is best practice (a minimum of one metre, in exceptional cases).

When I'DGO audited 200 residential streets in the UK, however, we found that, in 62% of cases, the effective width of the footway was compromised by the positioning of permanent obstacles, making the clear width less than 1.5 metres, thus narrower than guidance recommends.

Older people have told us that this has influenced both their negative perception of safety from traffic and their likelihood of engaging in risky pedestrian behaviour, such as walking on the road.

Type

UK guidance recommends that, where possible, a bus stop should always provide shelter, particularly on exposed sites. This is on the understanding that the shelter will not compromise continuous pedestrian flow along the pavement. The *Accessible Bus Stop Design Guidance* by Transport for London⁴ examines optimum footway width and pedestrian flow based on three different bus shelter layouts. Regardless of type, the Department for Transport says that it is “acceptable” to keep at least 1.5 metres of footway clear; one metre as an “absolute minimum” over a limited distance and three metres “preferable” in new developments¹.

The three bus shelter types detailed by Transport for London⁴ are based on where exactly on the footway the shelters are placed: centre of footway; back to kerb; and back of footway. Common to each is one full-width end panel and either a half-width or no end panel on the bus approach side, to maintain visibility. The Department for Transport¹ recommends cantilever designs in locations not exposed to severe weather, with *Creating Places*² citing minimum dimensions of 1,500mm x 4,000mm for such styles. Where more weather protection is needed, *Inclusive Mobility*¹ provides detailed advice on the spatial dimensions of fully enclosed shelters, based on the manoeuvring space required by wheelchair users.

Materials

Most UK guidance suggests that bus shelter components should ideally be transparent (glass or plastic) so that waiting passengers can see and be seen. *Inclusive Mobility*¹ states that they should also

have a tonally contrasting 'band', at least 150mm wide, at a height of 1,400mm to 1,600mm from the ground (and, potentially, a second band between 900mm to 1,000mm from the ground). Where there is a solid end panel, one source says⁶, "this should have rounded edges and be highlighted with a colour/tonal contrast". Other considerations

when choosing materials include durability, vandal-resistance and, particularly in conservation areas or more rural settings, the aesthetic character of the local area. With regards to the footway materials used at bus stops, Transport for Greater Manchester (TfGM)⁵ offers detailed guidance based on consultation with users, including people with disabilities, at a test site. Among the design templates provided is a "recommended general arrangement for footways at bus stops" using bands and blocks of colour along or at right angles to the kerb. Kerb height and the specification of 'raised bus boarding areas' is discussed in detail by the Northern Ireland Roads

Service Transportation Unit⁷, Department for Transport¹ and Transport for London⁴.

Most sources are clear that tactile, raised-profile warning surfaces should not be used, on the grounds that there is no national standard on what texture the

surface should have and what, precisely, this should indicate (unlike 'blisters' for road crossings and 'corduroys' for steps, for example – see I'DGO design guidance on tactile paving).



Seating

*Inclusive Mobility*¹ advises that, wherever possible, seats should be provided at bus stops; adjacent to, but not obstructing, the pedestrian route and with sufficient space left for a wheelchair. Guidance on height ranges from a median of 470-480mm for conventional seating through 550-600mm for space-saving, fold-down models, to 700mm for 'perches', which some people with a disability prefer. Where space permits, a combination of seats at different levels is ideal (thus accommodating children and people of restricted growth), but armrests should be used with consistency; either provided for each seat, or not at all. Most sources of UK guidance stress that contrasting colours should be used, with slatted wood and plastic coated metal cited by one source⁷ as providing warm, non-slip surfaces which are easy to clean and (in exposed positions) quick to dry.



Yellow bus stop © Hannah Starkey

“ Many passengers, such as the elderly or those with mobility impairments, may be able to walk to or from their nearest bus stop, but find it impossible or very painful to stand waiting. ”

Bus Stop Design Guide (Northern Ireland Roads Service Transportation Unit, 2005)

Signage

The most comprehensive source of guidance on bus stop signage is *Inclusive Mobility*¹, which provides detailed information about bus stop poles, flags and timetable displays, including electronic passenger information systems. Cited widely by other sources, the Department for Transport publication gives useful dimensions, stating that: bus flags should be mounted not less than 2,500mm above ground; there should be 600mm clearance between bus poles and the kerb edge (500mm minimum); and timetable and information displays should be located between 900mm and 1,800mm above ground level. Guidance on meeting the needs of passengers with vision impairments includes using a larger than standard size of flag (450mm by 400mm), bus route numbers of at least 50mm in height and coloured bands on bus stop poles, which should be fitted with a raised capital letter B, about 20mm high, at a height of 1,000mm from the ground. Northern Irish guidance⁷ suggests that, to minimise street clutter and avoid creating additional hazards, bus stop signs should be attached to existing street furniture, such as street lighting columns, where there is no bus shelter, subject to compatibility.

Lighting

The consensus across sources of UK guidance is that well-lit bus stops give waiting passengers a greater sense of personal security. If surrounding street lighting is not adequate, *Inclusive Mobility*¹ states, “additional lighting should

be provided at the stop itself”. Where new lamp

columns are introduced, TfGM⁵ cautions, “care must be taken to ensure... they do not

create an obstacle for pedestrians” or obscure advertising panels.

With regards to the latter,

Northern Irish guidance⁷

suggests, illuminated

advertisements

can be used as

a secondary

lighting

source.

Where to find out more

The guidance referred to in this publication, detailed below, has been brought to our attention over the course of various research projects, as well as via a desk top exercise undertaken in June 2012. Our aim in referencing it is to provide a general overview of the practical guidance available in the UK and not to examine, critique or compare all relevant publications.

1. **Inclusive Mobility** (UK Department for Transport, 2005)
2. **Creating Places - Achieving Quality in Residential Developments** (Northern Ireland DOE Planning Service and DRD Roads Service, 2000)
3. **Manual for Streets** (UK Department for Transport, 2007)
4. **Technical Advice Note BP1/06: Accessible bus stop design guidance** (Transport for London, 2006)
5. **Design Guidelines for Bus Stops in Greater Manchester** (Greater Manchester Passenger Transport Executive, now Transport for Greater Manchester, 2007)
6. **Bus Stops Policy Statement** (Joint Committee on Mobility of Blind and Partially Sighted People, 2004)
7. **Bus Stop Design Guide** (Northern Ireland Roads Service Transportation Unit, 2005)
8. **Designing Streets: A Policy Statement for Scotland** (Scottish Government, 2010)

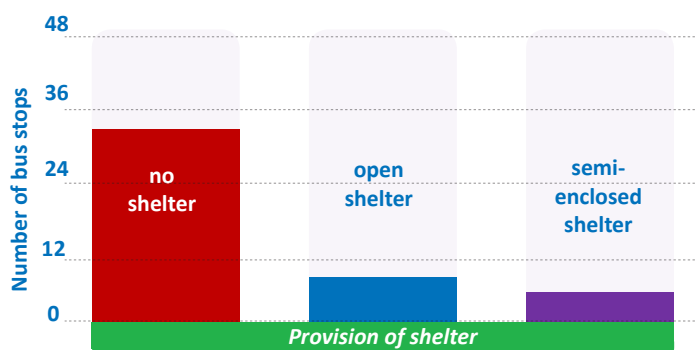
What I'DGO found



“ Bus routes and stops should form key elements of the walkable neighbourhood. ”
- Manual for Streets (Department for Transport, 2007)

What is the current level of bus stop provision on Britain's residential streets and what shelter does it provide?

There are very few bus stops on residential streets in the UK and, where stops are provided, they rarely offer shelter. **Of the 200 streets we audited** (see Methodology 1, right), **76% had no bus stop at all**. Of the 48 streets that did have a stop, only 14 had any form of shelter: 8 an open shelter; 6 a semi-enclosed one. **Only ten bus stops had any form of seating in them.**



Methodology 1

The findings on this page are taken from a physical audit of the local neighbourhoods of 200 older people in a variety of locations throughout the UK.

The audits were conducted within a 300m radius of each person's home and only included the places they could reasonably get to on foot. Using an externally-validated, 12-part toolkit, we assessed the provision, design and condition of streets during 'off-peak' hours.

We then spoke to the same 200 participants, all aged 65 or over, for the qualitative element of our research and further information on our mixed-methods approach can be found on www.idgo.ac.uk.

What older people told us they prefer and why...

When we interviewed 200 older people (see Methodology 2, below), 56% said that they used bus services regularly and the majority said that, when it came to bus stops, shelter and safety were important attributes. There was an interesting connection between these two 'desirables', as some older people felt more vulnerable to crime in the types of enclosed shelters that offer the most weather protection ("there's no escape route") or found them difficult to manage in a wheelchair. As with the research by Loukaitou-Sideris et al (see box on page two), our study found that places where older people feel particularly vulnerable include open spaces, lanes, alleyways and underpasses and, after dark, in city / town centre streets with pubs or deserted streets and places.

While most of our participants (91%) said that they felt either very or fairly safe when outdoors before dark, these numbers fell significantly after dark to 26% (very safe) and 18% (fairly safe).

Depending on how exposed the site of the bus stop was, the general preference among our 200 participants was for open shelters. As well as being safe, these were felt to be less of an obstruction on footways and made it easy for people to watch out for the bus. Seating was deemed to be particularly important, especially for people with mobility issues who found it difficult to stand for any length of time. When we looked at the under provision of general seating on routes to and from 'destinations', we found that many older people appropriated seating at bus stops as a place to draw breath and rest legs while out and about in their local neighbourhood, even if they were not using the bus service (see DSOPM001: Seating).



Image © John McGonagle. With thanks to Violet Lairdlow.

Methodology 2

The findings above are taken from a survey of 200 older people selected on the basis of geographical settlement, housing ownership, deprivation and living arrangement. We surveyed them to assess their preferences for how streets are designed at detailed level using a structured questionnaire filled in by interview and photo elicitation.

Most participants had lived in their neighbourhood for at least five years and were satisfied with it as a place to live. 51% had mobility, vision and hearing difficulties, to the extent that their daily activities were limited, 35% per cent used some form of mobility aid and 20% had stumbled or fallen outside within six months of the date of interview.

Recommendations

Older people have told us that personal safety is one of their main concerns when using bus stops and shelters. The location, type and design of the amenity can influence both the fear of becoming the victim of crime and concerns over tripping or stumbling, especially for people with vision or mobility impairments. Providing for, and designing, bus stops and shelters should follow a reflective process, starting with a careful study of the precise site location. Then each element should be evaluated relative to that location, maximising its attributes and compensating for any shortfalls.

- Everyone should be able to access a bus stop within 200m of their home, and within 100m of more specialist housing provision. Stops should not be 'stand alone'; they should provide shelter and seating.
- Bus stops should be placed at important points along common routes, such as outside day centres and post offices, but avoid locating bus stops and shelters in desolate areas. Aim for streets with a consistent day-to-night flow of pedestrians and traffic and good levels of surveillance (preferably natural, but controlled if necessary).
- In terms of exact positioning, avoid sites next to off-licenses, cash points, areas of dense greenery and potential entrapment points, such as alleys and tunnels.
- Provide good lighting balance, day and night, and restrict the use of extensive glass surfaces.
- Be consistent in your use of colour contrast between floor surfaces and shelter frames, to accentuate the presence of both elements.
- Provide seating (if possible, at a range of heights) or somewhere to 'perch'. Leave space for wheelchair users to park alongside the seating and be consistent with the provision of arm rests.
- Avoid creating clutter on the pavement and reducing the functional space of the path around the shelter. Where possible, mount fixtures and fittings on existing street furniture.

About this guidance:

The Design of Streets with Older People in Mind was originally published electronically in 2007. This version of **DSOPM002: Bus stops and shelters** dates from September 2012 and is available in both hard copy and pdf format. All queries should be addressed to the author, Rita Newton (r.newton@salford.ac.uk), who retains the copyright.

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