1 Defining accessible surface areas for active travel and public spaces

This guide sheet is designed for public realm and highways professionals including modellers and technicians, decision makers, and interested campaigners and members of the public.

This sheet is more detailed and technical than many of our guides: Its main purpose is to support professionals in understanding what can be included as part of designed accessible surface for routes and public spaces. It should be used to ensure good practice accessibility for all legitimate public space users in all public space projects.

This guide can be used in conjunction with our swept path analysis guide to ensure complex areas will be safe and accessible for all users.

11 Accessible surface types for public spaces and active travel:

The most accessible surface types for walking/wheeling and cycling are machine-laid asphalt and other surface types with comparable properties: Smooth, with good traction, inflexible, sealed, impermeable, laid to ensure good drainage and with low maintenance requirements over a long expected lifespan.

Surfaces of any type should meet MCHW vol1 series 1100 clauses 1114 and 1115 and Inclusive Mobility (2021) s4.8, with no more than 3mm imperfection under a 1m straight edge. Dropped kerbs should be fully flush where these form part of a route.

See our accessible surfaces guide for a brief introduction to surface types.

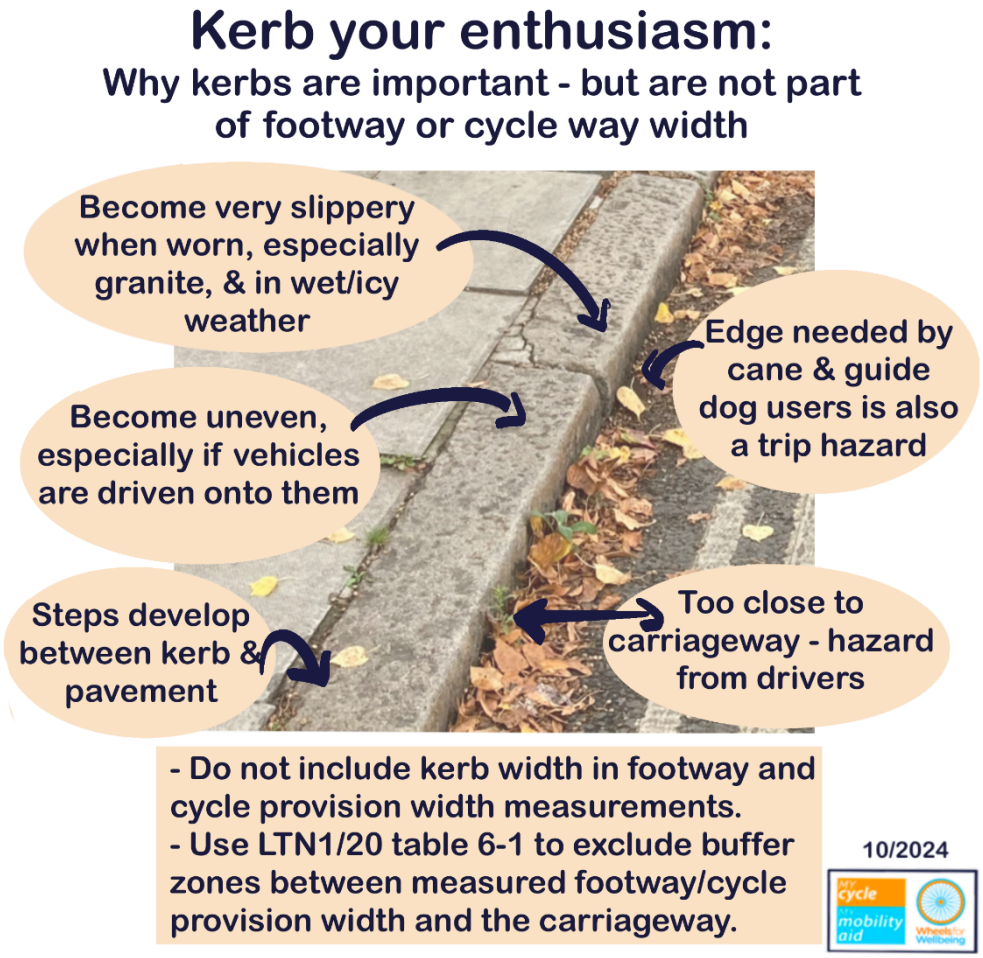
12 Factors which must be considered or excluded from surface dimensions for accessible public spaces and active travel routes:

a) Cobbles, setts, unbound surfaces (including unbound gravels, bark, sand etc.) and unmade surfaces including grass/turf are inaccessible for many users and must be excluded from measured accessible surface dimensions.

b) Consider appropriateness of including any uneven surfaces which do not meet Inclusive Mobility (2021), including any self-bound surfaces, as part of a measured route surface. Be aware that uneven and self-bound surfaces will make a route hazardous and impossible for some people to use – refer to Health and Safety Executive (HSE) manual handling guidance, HSE manual handling charts (MAC tool) and HSE risk assessment of pushing and pulling (RAAP tool) for further information. Never include uneven or self-bound surfaces in high-traffic or urban settings – these may be used where better surface types are presently unaffordable, in low-use rural or green-space locations only.

c) Flexible and permeable surface types containing recycled rubber such as Flexipave and Trailflex are not accessible: They are high-effort to wheel on, degrade rapidly, are problematic to maintain and cause maintenance problems for route edge features e.g. hedges since the surfaces cannot be driven on by large machinery. Surfaces made of flexible materials such as these should not be included in measured accessible surface dimensions.

d) Kerbs must be excluded from measured route dimensions: They are likely to be close to significant hazards and will be trip and slip hazards in themselves. They will become uneven over time, and often have significantly different frictional properties from adjacent paving.



e) Drain/surface water gully covers and low-friction (usually metal) utility covers must be excluded from measured route surfaces: They and any uneven surrounding areas are not safe for many Disabled people walking/wheeling and cycling to cross. To improve accessibility, reduce inter-user conflict and collision risk and avoid losing large areas of usable footway/cycle track, replace low-friction (metal) covers with covers containing matching surface to the surrounding route.

f) Gutters and other areas which will be flooded during and/or after significant rainfall events should be excluded from measured route dimensions: They will not be usable

for a significant proportion of the time, particularly during periods of particularly wet and/or icy weather.

g) Any areas of surface which are, or are expected to become, uneven due to movement caused by tree roots, vehicle overrun etc. should be excluded from measured route dimensions.

h) Gradients above 1:12 (1:10 for <1m) must be excluded from measured dimensions: These gradients are an access barrier and a significant tip hazard to many Disabled people. Gradients 1:12-1:10 under 1m long should be designed out if at all possible. Take care to check for hazards including steep crossfalls on areas of existing carriageway designated as cycle lanes (ramp gradients, see Inclusive Mobility (2021) 4.3, Building Regulations approved document M, BS8300:2018 and WfW gradients quick guide, WfW crossfall quick guide).

i) Gradients above 1:20, up to 1:12 (1:10 for <1m) – route users must only be required travel straight up or down the slope. These gradients must be excluded if space users will be required to traverse across the slope or turn on the slope – for example, areas of footway where a dropped kerb creates a steep gradient which must be traversed by those continuing on the footway (see references above).

j) Consider exclusion of gradients between 1:40 and 1:20 where users are required to traverse across the slope – these crossfalls are problematic and potentially hazardous for many Disabled users (see references above).

It may not be possible to retrofit removal of all inaccessible gradients when upgrading existing footways and cycle tracks in hilly built-up areas. These routes should be explicitly acknowledged to be inaccessible, and alternative routes and mitigations provided. New infrastructure should never include inaccessible gradients.

k) Consider appropriateness of including tactile blister and hazard paving as part of the measured surface: If route users are not required to cross the tactile paving, then it should usually be excluded from the measured surface even if gradients are <1:40. This applies particularly to hazard paving at the top of staircases and similar features, where traversing the hazard tiles will in itself be hazardous to many Disabled people. If crossing the tactile paving as part of the measured route is required, then the paving will necessarily be included as part of the measured surface.

l) Exclude from measured route dimensions a buffer width to raised path edge features, in line with LTN 1/20 table 5-3, additional width at fixed objects.

m) In line with the above and LTN 1/20 5.3, exclude from measured dimensions areas of surface affected by vegetation which regularly abuts or overhangs a route with its lowest point <2.7m above the surface (use worst-case vegetation heights – during

wet weather, snow and fruiting where branches will droop, and when pruning has not been carried out on schedule).

n) Exclude a buffer between measured surface of route and carriageways in line with LTN 1/20 table 6-1.

o) Exclude a risk-assessed buffer between measured surface of route and other unfenced hazards such as significant drops, open water etc., referencing LTN 1/20 table 6-1 and other sources considered relevant including any previous incidents and consultation feedback.

Be aware that routes where Disabled/wheeling and non-disabled/walking users will have different desire lines are likely to introduce conflict points, inaccessibility and hazards as users move in different directions and cross each others' paths.

This situation typically occurs at complex or poorly-designed pedestrian crossings, and busy locations such as transport hubs and "historic" public sites, where steps and/or escalators and ramps and/or lifts are used by different groups.

Good practice is to design spaces such that all users move along the same routes as far as possible, without introducing conflict by restricting walking/wheeling and cycling desire lines. Historic features should not be allowed to compromise safety or accessibility of the public realm.