Hampshire County Council

Universal Services Directorate

Technical Guidance Note
TG10 – Pedestrian and Cycle Facilities

Revision	Date of issue	Amendment description	Prepared by	Approved/ owned by
0	15/05/21	Initial publication	W Wright / C Berrozpe	Nicola Waight on behalf of Integrated Transport
1	12/02/26	Benches and cycle parking added, update to continuous footways, footway surfacing guidance incorporated, assessments updated to reflect TG19 and other minor updates throughout	C Berrozpe / K Murray	Nick Gammer

Amendments are indicated by a bar in the left hand margin

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1. Policy / approach

1.1. The policies adopted by Hampshire County Council look to deliver infrastructure that provides resilience and minimises the maintenance requirements during its design life.

1.2. This Technical Guidance Note (TG) shall be used to ensure a consistent approach to the design and future maintenance of footways, cycle tracks and shared use facilities. Cycle facilities should be designed in accordance with the guidance set out in LTN 1/20 apart from where greater requirements are required, such as on the National Highways network (CD 195), or where additional requirements are set out in this TG. This TG also includes wider design guidance, details any processes to be followed, makes it clear when departures are required, and links to Hampshire County Council's Material Use and Commuted Sum Policies.

1.3. If a design does not comply with the design standards as required / detailed in this TG (this includes any cross reference to DMRB or other published documents), then a departure from standard in accordance with Technical Guidance Note TG17 shall be sought for each element of the design that does not comply.

1.4. The vision set out within Local Transport Plan 4 (LTP4) is for a carbon neutral, resilient and inclusive transport system designed around people, which:

- supports health, wellbeing and quality of life for all
- supports a connected economy and creates successful and prosperous places
- respects and seeks to enhance Hampshire's unique environment

1.5. It includes policies that reduce the need to travel and enable a significant increase in walking/wheeling, cycling and public transport use. More specifically, designs should:

- Support an increase in walking/wheeling, cycling and public transport use, which reduces carbon emissions, pollution, noise and congestion. Walking/wheeling and cycling (active travel) also have significant public health benefits through increased physical activity levels.
- Recognise the significant public realm and place function of the highway, particularly in built up areas.

1.6. Active travel is the least carbon-intensive way to travel. Many trips could be walked/wheeled or cycled, which would help to reduce the carbon dioxide equivalent (CO_2e) emitted from cars. This would benefit local economies, as well as improve people's health. More active travel will also make roads quieter, safer and more attractive for people to walk/wheel and cycle.

1.7. Designers need to ensure active travel or public transport use are the natural **first choice** for journeys through good infrastructure design, ensuring that active travel infrastructure not only connects residents to services but provides a better option than travelling by car. Active travel networks and routes should therefore be coherent, direct, safe, comfortable, and attractive, as well as being accessible for all.

1.8. Permitted materials for footways and cycle tracks within Hampshire have been incorporated into the Highway Construction Standard Details. Commuted sums will apply for any materials that are deemed to be non-standard and/or place an additional maintenance burden on the Highway Authority. The use of such materials are to be agreed in consultation with Hampshire County Council, prior to any works taking place. Refer to The Commuted Sums Policy.

1.9. The following links detail Hampshire's approach/policies with regard to active travel:

- Transport Strategies (including Local Cycling & Walking Infrastructure Plans)
- Local Transport Plan 4

2. Definitions and abbreviations

AADT	Annual Average Daily Traffic (two way flow)
Active travel	A range of methods of active mobility through walking, wheeling (using wheelchairs / mobility aids) and cycling (including non-standard cycles and e-bikes)
CLoS	Cycling Level of Service assessment from the LTN 1/20
Continuous footway / cycle track	A specific type of treatment at a simple priority junction to enable people walking/wheeling/cycling to cross the side road at a continuous level and maintain priority over vehicles turning into/out of the side road. See also “vehicle crossover”.
Cycle lane	Part of a carriageway of a road reserved for pedal cycles which is separated from the rest of the carriageway as defined in Schedule 1 of TSRGD.
Cycle track	The term cycle track is used to describe routes for cycling within the highway boundary that are physically separated from motor vehicles and pedestrians, such as by a kerb, verge, level difference or material delineation.
DMRB	Design Manual for Roads and Bridges
Departure from standard (DfS)	A non-compliance with a mandatory requirement of a standard, as set out in Hampshire County Council’s Technical Guidance Notes or other policy/standard document cross-referred to from the Technical Guidance Notes.
Design organisation	Any organisation, including in-house Hampshire County Council resources, undertaking the design of works that affect any part of the highway network. Such works include private and public developments.
DSSM	Design Subgrade Surface Modulus (Refer to Technical Guidance Note TG6-1 for further guidance).
ITS	Intelligent Transport Systems team within Hampshire County Council
JAT	Junction Assessment Tool from LTN 1/20
LCWIP	Local Cycling and Walking Infrastructure Plans

Legal requirement	A statement in a standard that is associated with the words “must” or “must not”. Legal requirements cannot be departed from or relaxed.
Light segregation	Describes the use of intermittent physical features placed along the inside edge of a mandatory cycle lane to provide additional protection from motor traffic
LTN	Local Transport Note published by the Department for Transport
LTP4	Hampshire County Council’s Local Transport Plan 4
Mandatory requirement	A statement in a standard that is associated with the words “shall” or “shall not” and in which non-compliance would require a departure from standard
MCHW	Manual of Contract Documents for Highway Works
NH	National Highways (previously Highway England)
NRSWA	New Roads and Streets Works Act
PPTV	Polished Pendulum Test Value
PSV	Polished Stone Value
Shared use	A route or surface which is available for use by both pedestrians and cyclists
SHW	The Specification for Highway Works published as Volume 1 of the MCHW
TSRGD	The Traffic Signs Regulations and General Directions
Vehicle crossover	A crossing of a footway / cycle track / verge to enable vehicles to access private premises or private cul-de-sac. See also “Continuous footway / cycle track”
WCHAR	Walking, Cycling & Horse-Riding Assessment
Wheeling	An equivalent alternative to foot/pedestrian-based mobility. Includes wheeled mobilities such as manual self- or assistant-propelled wheelchairs, powered wheelchairs, mobility scooters and rollators.

3. General

3.1.1. Before the design of active travel facilities commence, the following documents should be referred to:

- Local Transport Note 1/20 - Cycle Infrastructure Design
- Hampshire County Council's Highway Construction Standard Details
- Hampshire County Council's Notes for Guidance on the use of the Highway Construction Standard Details
- TG3 - Stopping Sight Distances and Visibility Splays
- TG19 - Quality Assessments for Walking, Cycling and Horse-Riding (Healthy Streets / WCHAR)
- Guidance on the Use of Tactile Paving Surfaces
- Inclusive Mobility – A Guide to Best Practice on Access to Pedestrian and Transport Infrastructure
- CD 143 - Designing for walking, cycling and horse-riding (DRMB)

3.1.2. Designs for active travel infrastructure must enable safe access for maintenance, including access for sweeping and maintenance of drainage / lighting / landscaping. Sufficient space and access shall be provided for maintenance vehicles, and designs should ensure that suitable diversion routes can be implemented where maintenance activities are likely to necessitate temporary closure of the route.

3.1.3. The Healthy Streets approach (a human-centred framework for embedding public health in transport, public realm and planning) should be considered and embedded in every scheme (including developer led schemes) as required by TG19 – Quality Assessments for Walking, Cycling and Horse-Riding (Healthy Streets / WCHAR). For Hampshire County Council led schemes, Healthy Streets Design Checks are required for the Gateway process.

3.1.4. Enabling people to 'live locally' and access many of their daily needs within a 20 minute walk of their home is one of the key foundations for a net zero transport network. The ability to 'live locally' in this way reduces both the number and length of journeys made on a daily basis, resulting in significant carbon savings. It also creates the conditions for healthier, happier communities. Designs should prioritise facilities for walking/wheeling to encourage use of sustainable active travel modes (including linkages to public transport systems), ensuring routes are direct, coherent, safe, comfortable and attractive.

3.1.5. Direct cycle routes between housing areas and major destinations make cycling the most pleasant and easy way to travel around. Convenient cycle infrastructure means avoiding stop-start travel caused by obstructions, lack of priority, and narrow pavements shared with pedestrians. Good cycle parking completes the journey and/or provides

linkage with public transport systems. Speed of travel on a bicycle can be quicker than by car through an urban area if cycling infrastructure is made integral to newly-designed streets.

3.1.6. The main primary roads through an area will need segregated cycle infrastructure in line with LTN 1/20, whereas local residential streets should be designed so that people can mix safely with other user groups. Providing space for each of these groups avoids conflict between them, increasing subjective safety, making cycling the instinctive choice. This need for separate spaces is reduced in local residential streets but consideration of the likely interactions is important in ensuring safety.

4. Consultations & assessment

4.1.1. Designers shall refer to TG19 - Quality Assessments for Walking, Cycling and Horse-Riding (Healthy Streets / WCHAR) before design starts. This shall include an Equality Impact Assessment to promote equality of opportunity. Where equestrians are likely to be affected, the British Horse Society should be consulted for recommendations so that appropriate measures can be reviewed (including consideration of associated maintenance liabilities). A qualitative street assessment and design check from the Healthy Streets perspective shall be carried out in accordance with TG19, before starting the design work for existing streets and repeated at further design stages to check the design is improving the score meaningfully. For new developments these assessments should be undertaken at the early stages of progressing the initial layout/ design in accordance with TG19. For Hampshire County Council capital schemes, this is a requirement of the Gateway process. Further information regarding Healthy Streets approach and its 10 indicators can be found in Appendix B.

4.1.2. Cycling UK and local cycling/walking/wheeling/accessibility groups should be consulted. A current list of local groups can be found in Appendix A.

4.1.3. Consultation with local businesses and the borough/district/town/parish council should be undertaken to establish the community need and provision (for example pavement licences for trading and place making needs).

4.1.4. When designing cycle facilities, design flows should consider and include for expected growth rather than just catering for existing cycle flows. The Propensity to Cycle Tool, which provides an evidence base to inform cycling investment, can be used to assess the potential for cycling of a particular area and can help identify potential flows. Hampshire County Council's existing LCWIPs have undertaken some of this analysis, but, with some exceptions, will not include developments that are not within adopted Local Plans at the time of writing.

4.1.5. All new or modified controlled crossings (including conversions between types of crossing and crossing relocations) are subject to a formal public notice procedure undertaken by the ITS Group. The public notice procedure has to be completed before preliminary design approval is given. This requirement is in addition to any planning permission previously granted and any public consultation held during the scheme development / WCHAR process. refer to TG4-2 – Signal Controlled Crossings.

4.1.6. Refer to Technical Guidance Note TG21 – Traffic Regulation Orders, for more information about the process to convert footways to cycle tracks and footpaths to cycle tracks.

5. Technical requirements

5.1. General

5.1.1. The preferred approach is to have full segregation between footways, cycle tracks and carriageway, using horizontal or vertical segregation (apart from low traffic streets within developments where speeds and traffic levels are low enough to enable cyclists to safely and comfortably use the carriageway).

5.1.2. Where a footway is adjacent to a cycle track, they should be designed to be perceived as wholly separate facilities, even if they are at the same level. Physical segregation by a kerb, buffer or verge is preferred, but other visual and tactile cues may be used to identify the footway and cycle track, such as the use of a continuous upstand or raised strip, and cycle symbol road markings to TSRGD diagram 1057. Refer to Section 5.10.

5.1.3. Light segregation on carriageway can sometimes be used with intermittent physical features placed between the edge of a mandatory cycle lane and the carriageway lane to provide additional protection from motor traffic. A variety of features can be used, such as traffic wands, proprietary raised features constructed from PVC or recycled rubber, or other similar objects. The features should be intermittent to allow people cycling to enter and leave the cycle lane as necessary, avoid any impact on drainage and allow the layout to be cost effective and flexible. The materials/features to be used should be considered in terms of future maintenance/replacement practicality, access for maintenance of the cycle lane (including sweeping), safety and cost.

5.1.4. For projects within the existing Highway, there may be insufficient width within the Highway cross-section to enable segregated/light segregated facilities to be provided in some locations which may then impact on the continuity of a route (for example LCWIP schemes). Consideration should then be given as to whether modal filters, creating low speed, low traffic streets where cycling in the carriageway would enable continuity of the cycle facility could be a feasible option. Modal filters can be provided with the use of bollards or large planters together with appropriate Traffic Regulation Orders (Refer to Technical Guidance Note TG21 – Traffic Regulation Orders). Planters may only be installed in the Highway where the District, town or parish council has agreed to maintain the planter and its contents in perpetuity and has entered into an agreement with Hampshire County Council under Part VIIA of the Highways Act 1980 for the enhancement of the highway amenity. Care should also be taken to ensure that designs which utilise changes in surfacing materials to highlight the modal filter are not miss-interpreted by local residents as parking areas.

5.1.5. Figure 4.1 of LTN1/20 provides guidance on which type of facility should be used in relation to traffic volumes and speed limits.

5.1.6. Enough space for maintenance plant to access and manoeuvre must be provided when designing active travel facilities, particularly for routes not adjacent to a carriageway.

5.2. Geometry

Footways

5.2.1. The standard width for a footway should be a minimum of 2.0m and preferably wider. Subject to the approval of the Highway Authority, this width may be reduced to 1.8 or 1.5m but only in the limited circumstances where other measures to maintain a wider footway cannot be implemented. Designers should ensure that all street furniture (including signs, utility cabinets and lighting) is not located where they could cause an obstruction. Such items should ideally be located outside the footway area or where additional width could be provided to maintain the minimum 2.0m clear width.

5.2.2. Only where land constraints are unavoidable and pedestrian flows are very low (such that people are unlikely to encounter someone else walking/wheeling through the constriction at the same time) an absolute minimum width of 1.2m over a maximum distance of 6m may be used. Further guidance is provided within 'Inclusive Mobility'.

5.2.3. Additional width may be required depending on the Place function of the footway – for example additional width provision for pavement licenses for trading, area required for waiting at bus stops, social place setting, proximity to schools / shops. A footway width of at least 3.0m should be provided outside schools, community buildings and bus stops.

5.2.4. Where footpaths connect, the paths should follow the desired pedestrian line, linked with chamfers/radii instead of joining at right-angles, so the path is direct and the surrounding verges are not cut across by pedestrians.

Cycle tracks

5.2.5. Even when cycle flow rates are low (<200 movements per hour), the design should segregate people cycling from those walking/wheeling wherever possible and provide the desirable widths stated in the table below. This will encourage more people to use the facilities, aiding the shift towards more active travel.

5.2.6. On Hampshire County Council's network, cycle track widths shall be in accordance with LTN1/20, as shown in the table below (the desirable minimum widths should be provided where possible; the absolute minimum widths shall be provided). However, where Hampshire County Council's network links with National Highway's network, the widths shall be in accordance with CD195 as it has greater requirements.

Cycle route type	Direction	Peak hour cycle flow (either one way or two ways depending on cycle route type)	Desirable minimum width (m)	Absolute minimum width at constraints up to 100m long (m)
Protected space for cycling (including light segregation, stepped cycle track, kerbed cycle track)	1 way	<200	2.0	1.5
		200-800	2.2	2.0
		>800	2.5	2.0
	2 ways	<300	3.0	2.0
		>300-1000	3.0	2.5
		>1000	4.0	3.0

5.2.7. Additional width as shown in the table below should be provided where a cycle track and/or shared use path is bordered directly by a vertical feature (including street furniture, cabinets, fences/hedges, bridge parapets and subway walls), to maintain the effective width of the facility. These additional widths shall be constructed of the same surfacing as the cycle track / shared use path.

Type of edge constraint	Additional width required to maintain effective width of cycle facility (mm)
Flush or near-flush surface including low and splayed kerbs up to 60mm high	No additional width required
Kerbs 61mm to 150mm high	200
Vertical feature from 151mm to 600mm high	250
Vertical feature above 600mm high	500

5.2.8. In order to accommodate the turning space required by the cycle design vehicle and to provide adequate stopping sight distance at typical cycling speeds, the minimum horizontal curve radii detailed in the table below should be used or cycle tracking provided to demonstrate adequate radii. Objects such as walls, fences and trees should not be sited close to the cycle track on the inside of bends as this may reduce forward visibility.

The designer should check that the forward visibility using the minimum stopping sight distance stated below is maintained.

Design speed (km/h)	Minimum horizontal radius (m)	Minimum Stopping Sight Distance (m)
40 (to be used where downhill gradient >3%)	40	47
30 (standard design speed for links)	25	31
20 (for upward gradients >3% with one-way flow, shared use and routes with higher flows)	15	17
10 (at junctions only but to be avoided)	4	7

5.2.9. Only when access control is required and unavoidable, bollards may be considered. Spacing of bollards on cycle routes should maintain a minimum of 1.5m clear gap between the bollards to accommodate the full range of cycle types ensuring routes are accessible to all cycle users. Bollards to be in accordance with Standard Detail HCC11/C/135. A-frame & K-frame barriers shall not be used on cycle tracks. Refer also to 5.8.6 regarding the use of staggered barriers.

Cycle lanes

5.2.10. Cycle lanes (1-way flow) should have a desirable minimum width of 2.0m. The absolute minimum width shall be 1.5m at constraints.

5.2.11. Designers should take account of the potential loss of usable lane width due to drainage gullies (as people cycling will avoid overrunning gully gratings).

Shared use facilities

5.2.12. Within Hampshire, the LTN 1/20 approach is followed with shared use facilities regarded as a last resort.

5.2.13. Where existing Highway constraints prevent a segregated route from being provided, shared use facilities may be considered, such as:

- Alongside interurban and arterial roads where there are few pedestrians.
- In situations where a length of shared use may be acceptable to achieve continuity of a cycle route.
- In situations where the majority of cycle and pedestrian flows occur at different times.

5.2.14. The minimum widths for shared use facilities shall be as detailed in the table below. Where possible, particularly at locations with high Place function, greater widths should be provided to reduce conflict between cyclist and pedestrians. Shared use facilities shall not be used on routes carrying more than 300 pedestrians in any one hour period. See also 5.2.7 regarding additional widths required to maintain the effective width.

Cycle flows	Minimum width
Up to 300 cyclist per hour	3.0m
Over 300 cyclist per hour	4.5m

5.3. Safety margins

5.3.1. On walking/wheeling routes, a separation of 1.5m should be provided when the route is next to a road with a speed limit above 40mph.

5.3.2. For cycle tracks and/or shared use paths, the desirable minimum margins in the following table should be provided depending on the adjacent road speed limit, as required in LTN1/20. The absolute minimum safety margins shall be provided.

Speed limit (mph)	Desirable minimum horizontal separation (m)	Absolute minimum horizontal separation (m)
30	0.5	0
40	1.0	0.5
50	2.0	1.5
60	2.5	2.0
70	3.5	3.0

The use of other highway features/element such as swales, landscaping /tree planting, cycle parking arrangements can provide this required separation and also help prevent parking on footway/cycle track routes without the need to resort to hard engineering features such as bollards.

5.3.3. Safety margin may also be formed using the following (in order of preference):

- Soft safety margin – An area of grass verge between the edge of the carriageway and the cycle track. Due to the difficulties of maintaining a narrow grass strip, the minimum soft verge width shall be 1.0m. A soft safety margin is the preferred option in rural locations.
- Hard safety margin – The same surfacing material as the adjacent footway/cycle track and delineate the margin by a continuous white line. However, an edge of carriageway line shall also be provided in the carriageway channel to avoid the risk of motorists mistaking the

safety margin line as the edge of carriageway. The continuous safety margin line marking shall not have reflective ballotini beads.

- Hard safety margin – A 0.5m wide hard strip with a different coloured material such as brushed concrete strip or a thin/ultra-thin buff coloured surfacing with at least the same skid resistance properties as the footway/cycle track material adjacent to it.

5.3.4. A safety margin for cycle tracks/lanes shall also be used on routes with adjacent parking to avoid conflict with opening vehicle doors. This shall be at least 0.5m and 1.5m where wheelchair access is required and be formed of a hard safety margin surface immediately adjacent to the parking area.

5.4. Gradients

5.4.1. 'Inclusive Mobility' provides guidance on the maximum gradients for footways, plus advice on steps and other aspects of design.

- To avoid causing difficulties to manual wheelchair users the preferred maximum gradient should be 5%. The absolute maximum gradient shall be 8% but only over very short distances (i.e. 1000mm).
- The transverse crossfall should be between 1.5 and 2% where possible; the absolute maximum shall be 2.5%.

5.4.2. Cycle routes (including shared use routes) shall be designed with the steepness and maximum length of longitudinal gradients as stated in the following table:

Gradient %	Maximum length of gradient (m)
2.0	150
2.5	100
3.0	80
3.5	60
4.0	50
4.5	40
5.0	30

- Level sections of 5.0m minimum length can be used between gradients to achieve compliance with the table above in cases where longer length of gradients will be required otherwise.
- Where downward gradients are in excess of 3%, stopping distances should be increased as detailed in 5.2.8.
- Where a footway and/or cycle track is adjacent to the carriageway, the footway/cycle track gradient requirements will limit the maximum carriageway gradient unless the two elements are segregated

vertically. Designers need to ensure that roads/streets are suitable for all users as opposed to being designed purely for cars, with active travel modes as an afterthought. Level sections and/or alternative routes may be provided to ensure the maximum gradients for footways and/or cycle tracks stated above are not exceeded, but any alternative routes still need to be direct, following desire lines for those people walking/wheeling and/or cycling.

- The minimum vertical curves (K values) for cycle routes should be 5 for sag curves, and 6 for crest curves.
- Ironwork should be avoided inside the cycle facility effective width where possible, particularly on downhill gradients.

5.4.3. Transverse crossfall on cycle tracks can be constructed across the whole width or a central camber to help surface water to clear, but in either case the gradient shall not exceed 2.5%. However, adverse camber on horizontal curves shall not be used where the horizontal radius is below 50m.

5.4.4. For requirements regarding carriageway gradients refer to Technical Guidance Note TG2 – Alignment design.

5.5. Continuous footways and cycle tracks

5.5.1. Continuous footways / cycle tracks are currently being trialled in Hampshire therefore prior approval from Asset Management is required when considering inclusion within designs. Early consultation with the County Council's Asset Management team is required to agree the proposals coming forward and to add the sites to the trial register for monitoring. For developer-led schemes this will be considered by the Highway Authority at the development of the Design Code or planning application stage but pre-application advice should be sought – refer to the County Council's Pre-Application Advice service.

5.5.2. Where they are approved for use, the Dutch kerbs will be subject to commuted sums.

5.5.3. The following paragraphs in this section outline the requirements for continuous footways/cycle tracks at the date of publication of this TG but these may evolve as the trials progress hence the need for early consultation with Hampshire County Council's Asset Management Team at the concept design stage.

5.5.4. The current layouts (at the time of publication) are shown in figures 1 to 4 below. They comprise a raised crossing area bounded by Dutch kerbs on both sides of the crossing area laid flush to the adjacent carriageway.

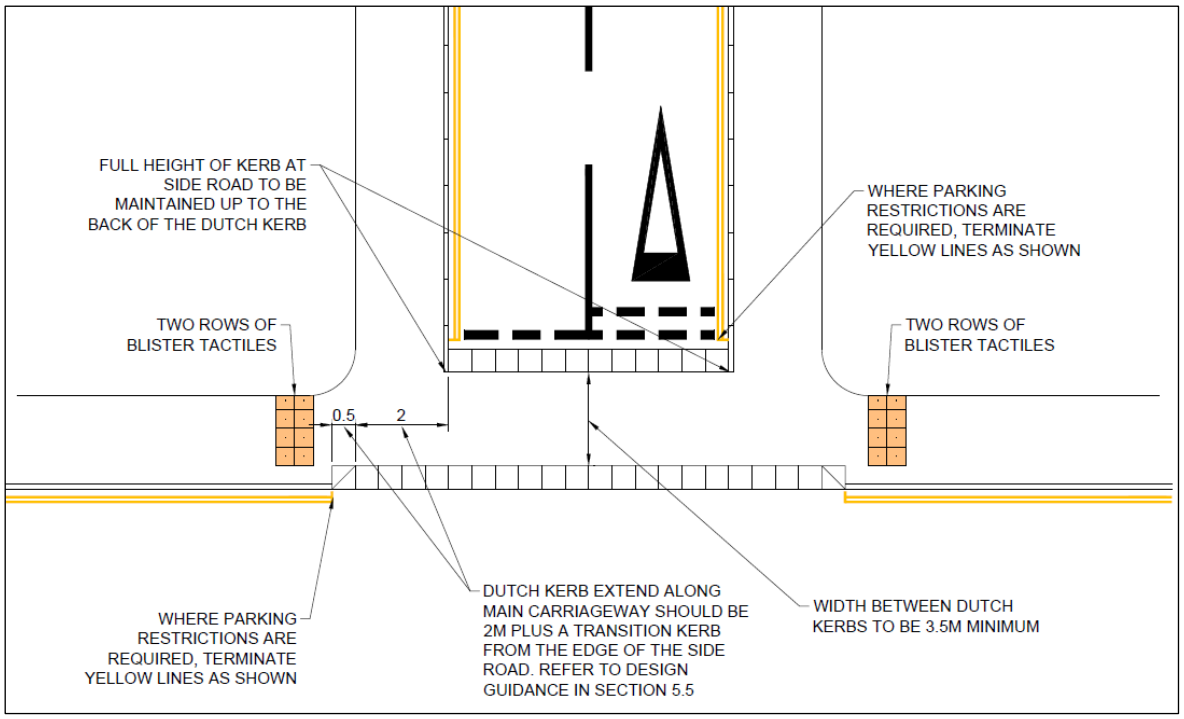


Figure 1 – Typical continuous footway layout

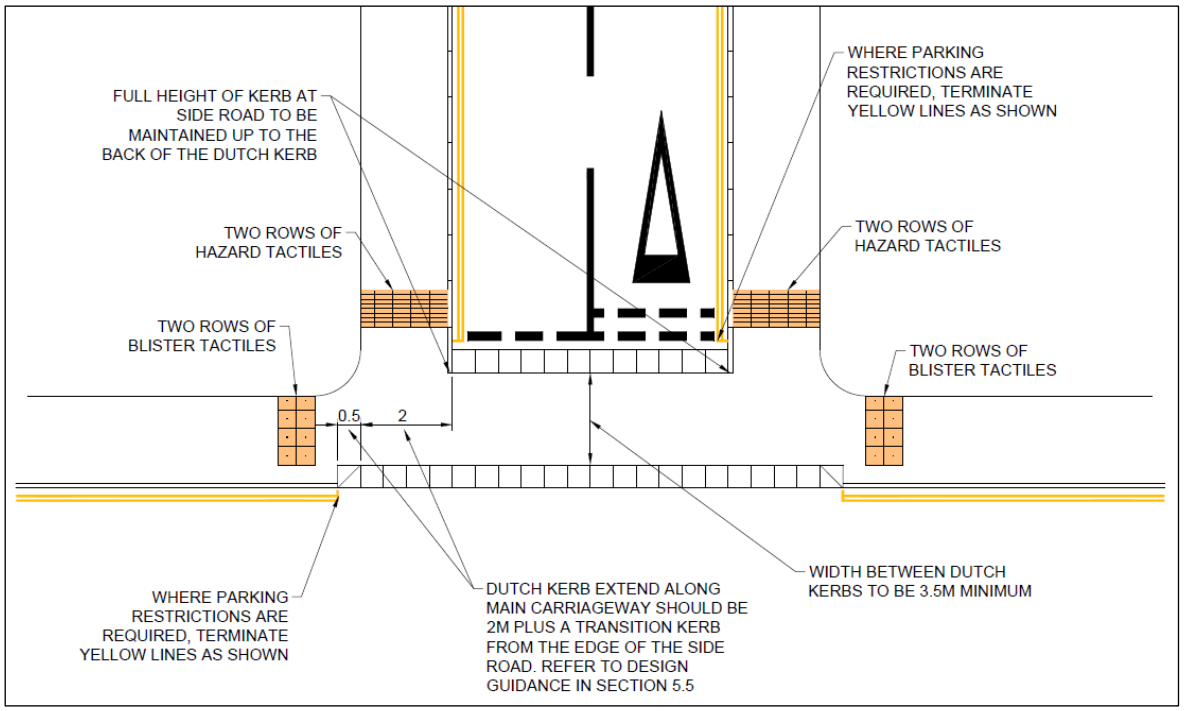


Figure 2 – Typical continuous shared use layout

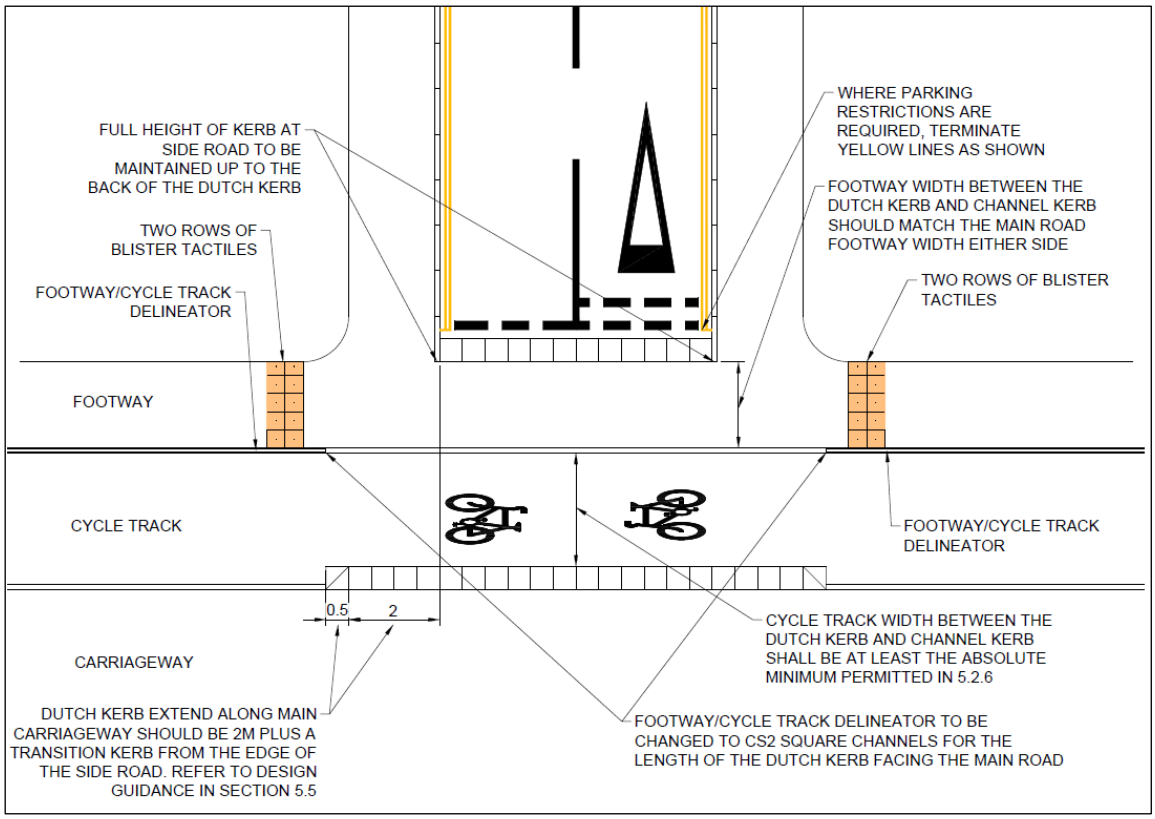


Figure 3 – Typical continuous footway / cycle track layout where footway and cycle track are at the same level

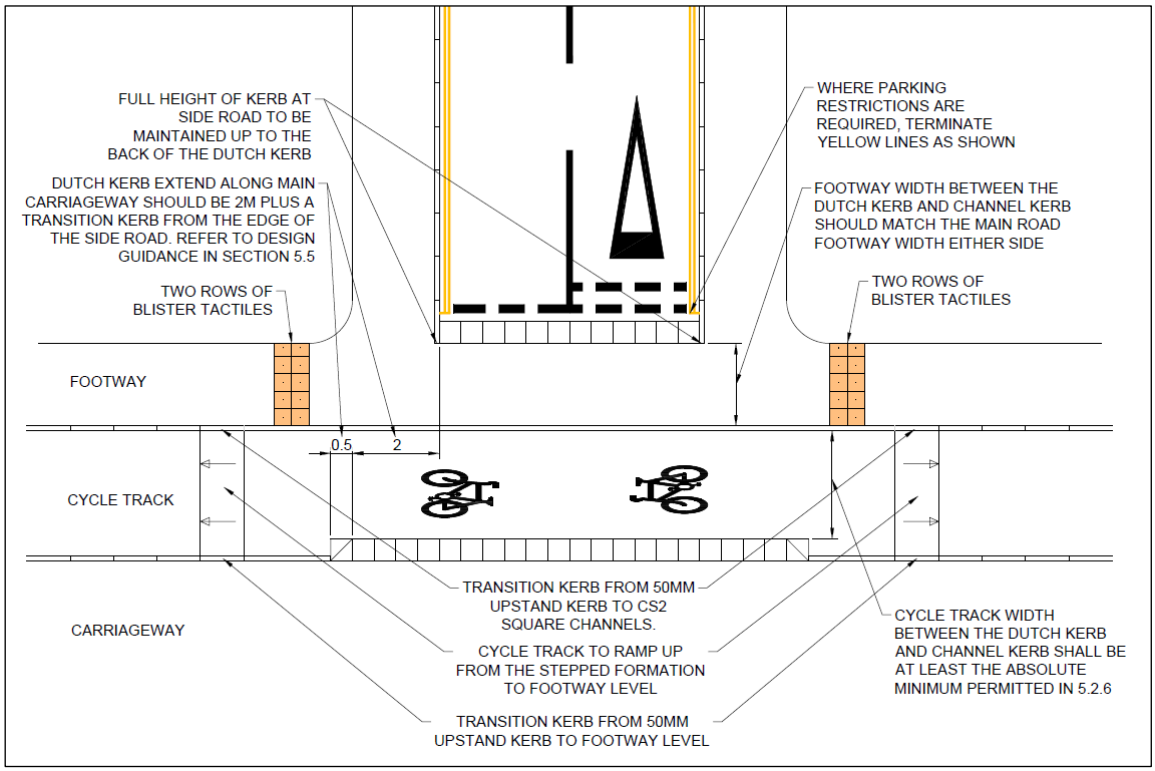


Figure 4 – Typical stepped continuous footway / cycle track layout

Location suitability

5.5.5. Continuous footways / cycle tracks should be considered at side road junctions where traffic speeds and traffic flows are low (see 5.5.8), to facilitate the priority of people walking/wheeling/cycling over cars and to provide continuity, comfort and protection to people walking/wheeling and cycling. However, they should not be used at every priority junction within residential streets; at locations where pedestrian and vehicular flows are consistently low, the likelihood of concurrent movements is minimal, and therefore the implementation of continuous crossings may not be justified on operational, safety or maintenance grounds. Continuous footways/cycle tracks should only be used where there is a need to encourage greater prioritisation of these user groups at a junction, for example along key active travel routes, where the walking/wheeling/cycling flows are higher.

5.5.6. They should not be used where the junction should be a crossover – refer to Technical Guidance Note TG2 – Alignment Design.

5.5.7. They shall not cross the carriageway of Priority One or Two salting routes. However, they are acceptable over side roads that join a Priority One/Two route. Refer to Hampshire County Council's Salt Route Map and Technical Guidance Note TG11 – Traffic Calming for details of the Priority One and Two salting routes.

5.5.8. Continuous footway / cycle tracks shall only be used where:

- It is a single carriageway and simple priority junction
- The speed limit on the main road is 30mph or less (preferably 20mph) and the 85th percentile is lower than 35mph in the vicinity of the side road.
- The required visibility can be achieved (see 5.5.10)
- The AADT combined 2-way flow on the main road is less than 10,000
- The AADT combined 2-way flow on the side road is less than 2,000
- The side road peak hour 2-way flow is less than 200
- The side road traffic has less than 1% HGVs
- The side road is not a bus route.
- Drivers turning right into the side road would feel comfortable to stop in the opposing lane should they need to give way to users of the continuous crossing.

Where the 2-way traffic flows exceed the figures above, restricting turning movements (through traffic regulation orders) may enable suitable flows to be achieved (for example making the side road and/or main road one-way.

5.5.9. Where vehicles regularly have to wait for a significant period of time before joining the main road, continuous footways / cycle tracks are less

likely to work well due to vehicles straddling the crossing whilst waiting to join the main road. In these instances, consideration should be given to the use of full set-back crossings or alternative junction forms.

Visibility

5.5.10. It is essential to provide suitable intervisibility between people walking/wheeling/cycling and drivers. Where the continuous path includes cycling, larger visibility splays will be required to ensure drivers can see approaching cyclists. Refer to 3.3.10 in Technical Guidance Note TG3 – Stopping Sight Distances and Visibility Splays.

5.5.11. Where intervisibility is restricted, making the side road one-way may enable the required visibilities to be achieved.

Lighting

5.5.12. Continuous footways / cycle tracks must be lit in accordance with regulation 5 of The Highways (Road Humps) Regulations 1999 at all times (even where the adjacent lighting is part time). Street lighting should be located to ensure drivers on the main road at night can easily identify the side road location.

Design

5.5.13. The design needs to ensure vehicles turning into the side road, do so at very low speeds so that they have time to look for and give-way to people crossing. Where existing side roads have a wide existing carriageway width, the design should reduce the width of the side road on the approach to the continuous footway / cycle track.

5.5.14. The crossing should be bounded by 500mm x 500mm (length x width) Dutch kerbs on both sides. The width of the continuous crossing between the Dutch kerbs should maintain the effective widths of the footway / cycle track / shared use path that are present either side of the crossing but should be no-less than 3.5m wide. Refer to figures 1 to 4.

5.5.15. The Dutch kerbs should be laid flush to the carriageway. The footway kerbing in the side road, should continue at full height to tie in with the top of the Dutch kerb as shown in the figures.

5.5.16. The extent of the Dutch kerbs on the main road should be kept to an absolute minimum to ensure vehicles turn into the junction at very low speed. Figures 1 to 4 show the typical extents, but this should be informed by suitable tracking at 5mph and allowing vehicles to traverse centrelines.

5.5.17. The design should ensure visually impaired people can navigate the area confidently whilst still giving the appearance of a continuation of the footway / cycle track. Tactile paving should not be located such that it

gives the appearance of a traditional bellmouth arrangement. Typical tactile arrangements have been indicated in figures 1 to 4. Hazard tactile paving on the side road should be used where the footway joins a shared-use footway / cycle track. This does not need to align with the Dutch kerb in the side road and should be located subject to the specific site geometry to avoid excessive lengths. Blister tactile paving should be used on the main road footway approaches, but the edge should align with the back edge of the Dutch kerb so that people are not guided to walk over the Dutch kerb. This will create a narrow section of surfacing if slabs are used so stick-on tactiles may be used. Again, these should be positioned to suit each particular site to avoid excessive length. Where the footway splays into the side road, the blister tactile should be positioned on the narrower section prior to the footway splaying out. Only two rows of blister are proposed given that hazard tactiles are only two rows.

5.5.18. Utilities beneath the continuous footway / cycle track shall be laid at carriageway loading depths.

Grounding / vertical alignment

5.5.19. Continuous footways / cycle tracks are likely to cause grounding where vertical alignment varies significantly and shall not be used where this is the case. Where the side road has a gradient greater than 2.5% (positive or negative), vertical tracking shall be undertaken to demonstrate that the expected design vehicles can traverse the continuous crossing without grounding.

Pavement materials

5.5.20. Areas to be overrun by motor vehicles shall be designed to carriageway standard. To provide a continuation of the footway/cycle track, the surface course should extend the full area of the continuous footway / cycle track pad rather than being limited to the area between the Dutch kerbs. The surfacing should typically be high stone content HRA 55/10 F Surf 40/60 to BS EN 13108-4. Maximum AAV 14, minimum PSV 55 or SMA 10 surf PMB 75/130-75. Refer to figure 5.

5.5.21. For ease of construction for new roads, the full carriageway construction should extend the full area of the continuous footway / cycle track pad. Where the continuous footway / cycle track is being constructed within an existing priority junction, this need not be the case provided that 5.5.20 is provided.

5.5.22. Where the adjacent footway / cycle track surface course is not bituminous surfacing, the surfacing detail for the continuous footway / cycle track will need to be agreed with Hampshire County Council's Asset Management team.

5.5.23. Where installing within existing highway, the adjacent carriageway construction should be assessed to ensure it is adequate to take the additional impact from vehicles traversing the ramps. Local carriageway reconstruction (increasing the construction thickness) either side of the feature is likely to be necessary to ensure durability. The reconstruction detail and method of compaction shall be agreed with Hampshire County Council. It should extend a minimum of 2m along the side road carriageway from the toe of the Dutch kerb. Where improvement is required in the main road construction, it should extend for the entire width of the main carriageway adjacent to the Dutch kerbs.

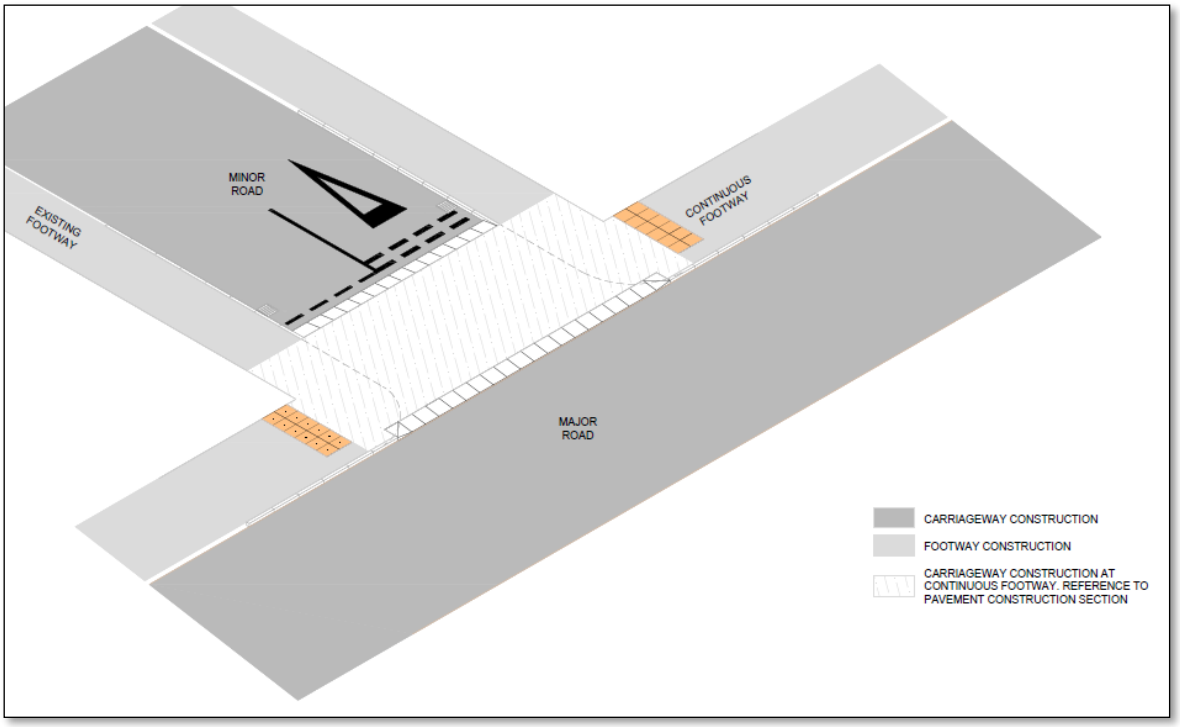


Figure 5 – Typical construction areas for continuous footways

Side road carriageway crossfalls

5.5.24. Where the continuous footway / cycle track is being constructed within an existing priority junction, consideration will need to be given to the existing crossfalls in the side road. A section of resurfacing may be required to transition the levels to tie-into the continuous footway.

Drainage

5.5.25. Designers shall consider the footway / cycle track and carriageway profiles, providing suitable drainage to prevent water ponding along the crossing area.

Advertising and signing

5.5.26. Where raised continuous footway / cycle tracks are proposed within **existing** Highway and their use has been approved by Asset Management, the proposed addition of the raised crossing must be advertised in accordance with The Highways (Road Humps) Regulations 1999. The design will need to arranged advertising through Hampshire County Council's Traffic team. Refer to section 3.1 in Technical Guidance Note TG21 – Traffic Regulation Orders.

5.5.27. To help reduce sign clutter, road hump warning signs are not required for continuous footways / cycle tracks at simple priority side road junctions unless they form the start of a system of road humps along the road. Vehicle speeds should be low and the size/colour contrast of the Dutch kerbs should also help to highlight the vertical deflection for drivers as they turn in or out of the side road.

5.6. Uncontrolled and controlled crossings

5.6.1. A site-specific assessment should be carried out to decide which type of crossing, if any, is required (refer to Traffic Signs Manual Chp 6 Section 13 and LTN1/20 Table 10.2). In terms of road user utility hierarchy, Zebra and Parallel crossings provide a better level of provision that other types of crossing where pedestrians/cyclists have to wait to cross. The assessment should consider the road user utility hierarchy, geometry, layout, pedestrian/cyclist and traffic flows and casualty data as well as any site-specific risks and whole life maintenance implications. The need for associated street lighting is also a key consideration as signal controlled, Zebra and Parallel crossings all require lighting (Refer to TG13 – Street Lighting). If the location being considered is unlit, other forms of crossing should be considered. LTN 1/20 table 10-2 should be used as guidance for crossing suitability for people cycling. In many situations, reducing the speed of motor traffic using the carriageway will enable additional options for the crossing design to be considered. Refer to Hampshire County Council's Traffic Management Policy TM7.

5.6.2. Controlled areas are required at all stand-alone Zebra, Parallel, Puffin, Toucan, Pedex and equestrian crossings. The area of carriageway bounded by zig-zag markings, known as the "controlled area", is defined in Schedule 1 and in Schedule 14 Part 1 of the TSRGD.

5.6.3. When combining a Parallel, Toucan, Pedex or equestrian crossing with a long flat-topped road hump, the layout requires DfT authorisation as it isn't a prescribed layout (DfT Authorisation is not required for Zebra or Puffin crossings combined with a long flat-topped road hump). For developer-led schemes, the developer's consultant shall be responsible for compiling the DfT application and supporting documentation for Hampshire County Council to submit. Only the Highway Authority can make the application.

5.6.4. For more information and specific requirements regarding signal controlled crossings refer to Technical Guidance Note TG4-2 – Signal Controlled Crossings. Appendix A in TG4-2 also provides details of the assessment method for controlled crossings using Hampshire County Council's modified PmV^2 calculation.

Zebra crossing

5.6.5. Zebra crossings are preferred to signal controlled crossings as they provide greater priority for pedestrians but may only be considered where the measured 85th percentile traffic speed does not exceed 35mph or additional effective measures are proposed to ensure speed reduction below 35mph on the 85th percentile. They may also be suitable when a crossing facility is required where pedestrian numbers and vehicle flows are high but do not themselves warrant the use of a signal-controlled facility in terms of PmV^2.

5.6.6. Zebra crossings may be placed on a long flat-topped road hump provided that the centreline of the zebra crossing is coincident with the centreline of the road hump.

5.6.7. The minimum width requirement for a Zebra crossing is 2.4m, but when pedestrians exceed 600 averaged over peak hour, an extra 0.56m should be added for each 125 pedestrians per hour, with the maximum width being 10m. The width of the crossing should reflect the expected usage – Refer to Traffic Signs Manual Chapter 6 Section 15. When the crossing needs to be wider than 2.4m, the extra width calculation should be rounded up to match the tactile paving unit size (400mmx400mm flags normally).

5.6.8. Details of the Zebra crossing layout, including the alternate black and white strips, give-way lines to diagram 1001.5, zig-zag lines to diagram 1001.3 and road studs, are given in Hampshire County Council Standard Detail HCC11/T/065 and its associated Notes for Guidance.

5.6.9. Yellow globes are prescribed in diagram 4007 of the TSRGD to indicate the presence of a Zebra crossing. Refer to Hampshire County Council Standard Detail HCC11/L/025.

Parallel crossing

5.6.10. Similar to Zebra crossings, Parallel crossings are preferred to signal controlled crossings as they provide greater priority for both pedestrians and cyclists but may only be considered where the 85th percentile traffic speed does not exceed 35mph or additional effective measures are proposed to ensure the 85th percentile speed reduces below 35mph. A Parallel crossing may be suitable when there is a need for people cycling as well as walking/wheeling to cross the road, but a signal-controlled crossing is not warranted in terms of PmV^2.

5.6.11. When combining a Parallel crossing with a long flat-topped road hump, the layout requires DfT authorisation as it isn't a prescribed layout. Refer to 5.6.3.

5.6.12. The minimum width requirement for pedestrians on a Parallel crossing is 2.4m and should be increased, as detailed for Zebra crossings, where pedestrian flows are high. The crossing for people cycling must be a minimum width of 1.5m on a one-way cycle route. When the cycle route is two-way, the minimum width should be 3m. The maximum width for the cycle route at a Parallel crossing must be 5m. The overall width of a Parallel crossing must not exceed 15.4m.

5.6.13. The markings used to indicate a Parallel crossing and its controlled area are the alternate black and white strips, white markings to diagram 1055.3, give-way lines to diagram 1001.5 and zig-zag lines to diagram 1001.3 and as described in the diagram 1001.5 (Schedule 14, Part 2, Item 53) of the TSRGD. Refer to Hampshire County Council Standard Detail HCC11/T/066 and its associated Notes for Guidance.

5.6.14. Similar to Zebra crossings, yellow globes are prescribed to diagram 4007 of the TSRGD to indicate the presence of a Parallel crossing. Refer to Hampshire County Council Standard Detail HCC11/L/025.

5.7. Refuge islands

5.7.1. Where pedestrians/cyclists cannot easily cross a road without being delayed due to a lack of suitable gaps in the flow but the location does not warrant the provision of a controlled crossing, a refuge island can be a simple and inexpensive way of improving facilities for people crossing, by reducing the distance they have to cross in one go increasing the opportunities to cross.

5.7.2. The requirements for the construction of various types of pedestrian refuge islands are detailed in HCC11/C/075, 080 and 085 and the associated Notes for Guidance.

5.7.3. Refuge islands shall not be provided where the speed limit is greater than 40 mph except where the refuge island is incorporated into a single lane dualling design.

5.7.4. The width of the pedestrian or shared use refuge island should be sized to accommodate the projected use by people walking/wheeling and cycling, but not less than the width of the connecting footway/cycle track facility or less than 2.0 metres.

5.7.5. The depth of pedestrian/cycling refuge islands, measured in the direction of travel of the pedestrian or cyclist are detailed in the following table (the desirable minimum widths should be provided where possible; the absolute minimum widths shall be provided):

Users type	Desirable minimum depth	Absolute minimum depth
Pedestrians	2.0m	1.5m
Shared Use & Cycling	-	3.0m

5.7.6. The carriageway width next to refuge island needs to be carefully considered. It should either be wide enough to allow vehicles to safely overtake people cycling on the carriageway or narrow enough to discourage overtaking. Gaps between 3.2m and 3.9m shall be avoided. A minimum gap of 4m is recommended or alternatively gaps of 3.0 to 3.2m may be used provided that the route is not used by large vehicles such as Combine Harvesters. Refer to TG11 – Traffic Calming for more information regarding abnormal loads routes. This may need to be increased where the refuge is installed on a curve, to accommodate the swept path of a bus/fire engine and or an articulated HGV.

5.7.7. Refer to Technical Guidance Note TG12 – Signs and Bollards for further guidance on the signing required at refuge islands.

5.7.8. Swept path analysis should be used to ensure vehicles turning at junctions and also into/out of private accesses are not obstructed by the refuge island position.

5.8. Guardrailing, barriers and parapets

5.8.1. Designers should avoid the need for pedestrian guardrailing wherever possible. When designing schemes on existing Highway, designers should consider whether existing guardrail could be removed as part of the scheme. Advice should be sought from Hampshire County Council's Road User Audit team when removing existing barriers. Pedestrian guardrailing should only be used when no other solution to a significant safety problem is practically possible and the adverse effects on amenity, capacity and safety have been fully evaluated and recognised or where there are requirements to direct pedestrians along a particular route. However, alternative measures should be considered first, such as speed limit reduction, traffic calming, relocation of a pedestrian crossing to better fit pedestrian desire lines, installation of a new pedestrian crossing at a desired location, installation of bollards, use of planting/planters/cycle racks or footway improvements and widening. Refer also to Section 6.3 Technical Guidance Note TG4-2 – Signal Controlled Crossings regarding the use of barriers at controlled crossing islands.

5.8.2. Pedestrian guardrailing is available in standard or high visibility forms. The latter aids driver visibility of pedestrians, particularly children and wheelchair users, behind the barrier. Both types of guardrailing are

detailed on the standard construction drawings HCC11/C/140 and 145. All pedestrian guardrailing will incur commuted sums.

5.8.3. Guidance of when high visibility (instead of standard) guardrailing should be specified is provided in the Notes for Guidance. If there is any doubt as to whether high visibility guardrailing should be used, or which of the panel layouts should be used, refer to BS 7818.

5.8.4. Generally the panels should be 2.0m in length. 1.0m panels may be used in certain circumstances, such as around a tight radius or to suit a controlled crossing island arrangement, but bespoke lengths or radiused guard railings should be avoided. Where they are to be installed on a slope, they shall be 'raked' to match the gradient of the footway or refuge. The minimum setback from an adjacent carriageway shall be 0.5m based on the speed limit of the road, but designers must be mindful of the effective width of the remaining footway as stated in 5.2.

5.8.5. Decorative guard railings may only be used in conservation areas or special designation areas and only where absolutely necessary, but approval should first be sought from Hampshire Highways Asset Management. For Hampshire County Council-led schemes, designer to consult with Asset Management directly. For developer-led schemes, this shall be undertaken as part of the S278/S38 Design Audit process. An enhanced commuted sum will be required to cover future maintenance costs of decorative railings and replacement costs if the railings are damaged.

5.8.6. Chicane barriers shall not be used (unless approved through a Departure in consultation with the Integrated Transport Team where there is a persistent and significant problem of antisocial moped or motorcycle access that cannot be controlled through periodic policing), as they reduce the accessibility of a route for all users and may exclude those using mobility scooters, wheelchairs, prams and/or non-standard cycles and cargo bikes. They also reduce the capacity of a route as well as the directness and comfort. When access control is required and unavoidable, an alternative method to chicane barriers is to provide bollards at a minimum of 1.5m spacing, which allows users to approach in a straight line and permits all types of cycles, wheelchairs and mobility scooters to gain access. Refer to TG12 – Signs & Bollards and Standard Detail HCC11/C/135. Large planters can also provide a physical means to reinforce Traffic Regulation Orders restricting certain vehicles. Refer to TG11 - Traffic Calming for more information.

5.8.7. Where chicane barriers are approved (as detailed in 5.8.6), the spacing between the two rows of barriers will be dependent on the width of the route. For a 3m wide route, a 2.5m separation between the two rows should be provided with no overlap between the barriers.

5.8.8. Where a footway is to be provided immediately adjacent to a parapet, the minimum height of the parapet shall be 1.150m (where the bridge is not over a railway).

5.8.9. Where a cycle facility is to be provided immediately adjacent to a highway structure parapet not over a railway, the minimum height of the parapet shall be 1.4m at new bridges. Where a cycle track is to be provided over an existing bridge, the existing parapet shall be assessed to determine whether or not the height will need to be increased. If so, Hampshire County Council's Engineering Services Bridge Client shall be consulted to agree a design that suits a compliant standard. Refer also to 5.12.6.

5.8.10. For bridleways or equestrian usage immediately adjacent to a highway structure parapet, the minimum height of the parapet shall be 1.8m.

5.8.11. The minimum height of any parapet at all new structures over or adjacent railways shall be 1.8m, without distinction of the type of facility provided immediately adjacent to the bridge. It should be noted that Network Rail approval would be required for any alterations to such parapets, which will have an impact on development implementation timescales. For existing structures, the developer / consultant can carry out a risk assessment if they believe the requirement of 1.8m is onerous and this can be looked at on a case-by-case basis. This will need to be considered and approved in the first instance by Network Rail before being provided to Hampshire County Council's Engineering Services Bridge Client.

5.9. Tactile paving

5.9.1. The requirements for blister tactile paving construction in both new and existing footways at uncontrolled crossings are given on drawings HCC11/C/060, 065 and 070 and their Notes for Guidance. Also, drawing HCC11/T/060 details the layout at Puffin/Pelican/Toucan crossings, HCC11/T/065 details the layout at Zebra crossings and HCC11/T066 details the layout at Parallel crossings.

5.9.2. The drawing notes cover the use of "stick-on" tactile surfaces where chamber covers encroach on the tactile area where infill covers are not acceptable. Subject to the approval of the relevant Statutory Undertaker and Hampshire Highways Asset Management, infill covers shall be used, incorporating tactile paving flags or blocks of the type of the adjacent material(s) and aligned to suit. Where the tactile paving makes up only part of the area of the cover, the remainder of the area shall be surfaced to match that of the adjacent area.

5.9.3. Tactile paving that has been removed to facilitate works or similar disturbances, must be replaced immediately following the completion of works and before opening the highway to traffic and pedestrians, as specified in the NRSWA.

5.9.4. Although tactile paving areas should not be overrun by vehicles, there are situations where they may be, such as existing uncontrolled crossings where formal tactile paving is to be installed. In these cases, a site-specific risk assessment should be undertaken by the designer

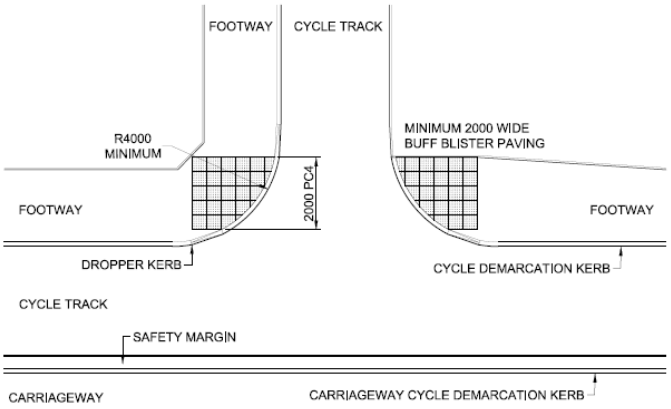
considering the safety problems which could arise. Where the final decision is to deliver tactile paving in these areas that could be overrun block paving should be used instead of flags in order to prevent maintenance problems as detailed on Standard Details HCC11/C/060, 065 and 070.

5.9.5. Tactile paving (Corduroy Hazard Warning, Ladder and Tramline) is also used to inform visually impaired pedestrians of the extents of Shared Use and segregated routes and shall be installed as follows:

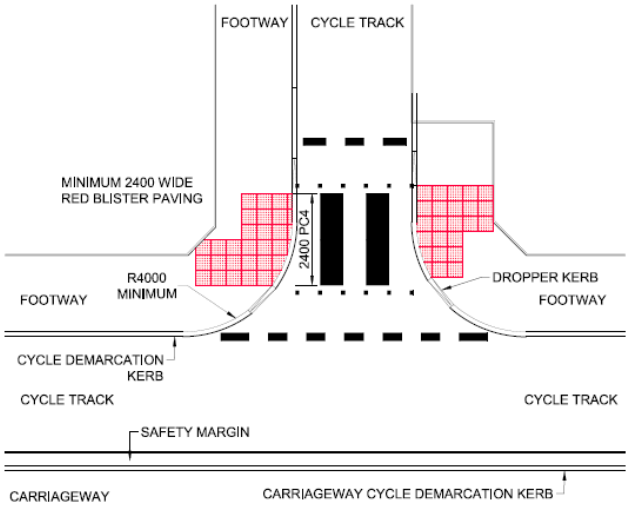
- Corduroy Hazard Warning tactile paving should be used on Shared Use facilities. Two rows (800mm deep) of corduroy paving shall be provided across the full width at each end of the shared zone, laid with the bars perpendicular to the direction of travel. Each corduroy paving slab has eight bars with a rounded profile, which differs from the Ladder/Tramline paving described in paragraph below.
- Ladder/Tramline tactile paving enables visually impaired pedestrians to differentiate between the footway and the cycle track on Adjacent Use routes. This paving is laid at the beginning and the end of the route, and at any junctions with other pedestrian or cycle routes. This type of tactile paving has four bars with a square profile.
    - Ladder/Tramline paving shall be six rows (2400mm) deep at the ends of the segregated route.
    - The paving shall be laid with the bars perpendicular to the direction of travel on the pedestrian side (Ladder) and parallel to the direction of travel on the cyclist side (Tramline).
    - Ladder/Tramline paving shall only be laid on straight sections of routes (not where the route is on a radius or where cyclists are likely to turn).

5.9.6. At route junctions, over-complication of the tactile paving arrangement should be avoided to ensure that the message conveyed is easily understood. Designers should consult with Open Sight in these situations.

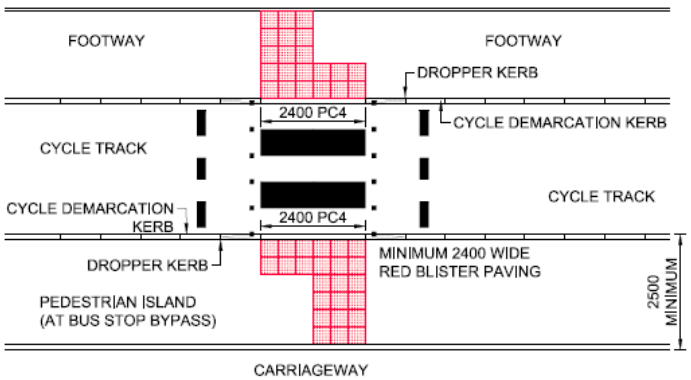
5.9.7. Although inclusive mobility recommends the use of Hazard, Ladder and Tramline tactile paving on shared/segregated routes, this type of tactile paving can cause discomfort for people walking/wheeling or cycling and can create a slip hazard for people cycling in the wet. Hampshire County Council recognises the necessity to ensure the priority of pedestrians over people cycling, in accordance with the Highway Code, and to avoid confusion on routes for visually impaired people. The following layouts should be considered instead of the use of hazard/ladder/tramline paving where possible.



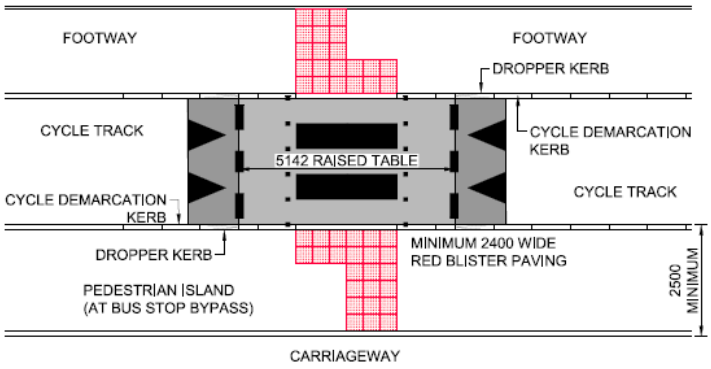
PEDESTRIAN CROSSING SEGREGATED CYCLE TRACK
WITH UNCONTROLLED CROSSING



PEDESTRIAN CROSSING SEGREGATED CYCLE TRACK WITH
MINI ZEBRA CROSSING



PEDESTRIAN CROSSING SEGREGATED CYCLE TRACK
WITH MINI ZEBRA CROSSING INTO PEDESTRIAN ISLAND



PEDESTRIAN CROSSING SEGREGATED CYCLE TRACK WITH RAMPED MINI ZEBRA CROSSING INTO PEDESTRIAN ISLAND

5.9.8. See also Section 5.10 regarding the use of delineator kerbs between segregated footway/cycle tracks.

5.10. Kerbs

5.10.1. Acceptable types and heights of kerbs and construction details are given on Standard Detail drawings HCC11/C/010, 015, 020, 025 and 030 and their associated Notes for Guidance.

5.10.2. Kerb upstands shall generally be 100mm. Over bridges the upstand shall be 75mm for the length of the parapet unless stated otherwise.

5.10.3. At all controlled crossings (Zebra, Parallel, Puffin, Toucan, Signalised Parallel (“Sparrow”) and Pegasus crossings) the dropped kerbs shall have zero upstand with no exceptions.

5.10.4. Dropped kerbs at uncontrolled pedestrian crossings in new footways shall be flush with the carriageway. However, where the dropped kerb is being installed in an existing footway and would result in ponding due to the existing falls despite additional drainage provision, a 6mm upstand may be used. This is only to be considered where the solution to resolve a ponding issue could be very costly (such as where it would require re-alignment of the existing road and/or footway) and should be agreed with the Highway Authority.

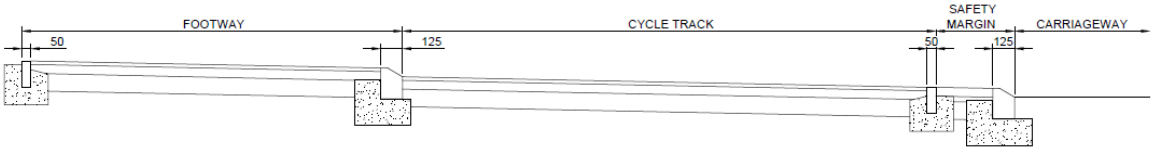
5.10.5. The transition between cycle track and carriageway is an important detail for a cyclist’s safety and comfort. An upstand crossed at a narrow angle or when combined with loose debris in the channel can be hazardous. The transition between surfaces should therefore be flush. A minimum of 3 flush kerbs should be provided in situations when a segregated cycle track starts or where people cycling are to rejoin the carriageway to facilitate the transition. However, where possible transitions between the cycle track and the carriageway should be in the form of a ramp rather than across kerbs; the merge should be designed to reduce the risk of cyclists being hit by traffic from behind whilst also not inconveniencing on-carriageway cyclists. Refer to LTN 1/20 Section 9 for more details.

5.10.6. The upstand for vehicular crossings (crossovers) shall generally be 25mm in new constructions. In exceptional cases, where flooding has been an issue at an existing access and cannot be resolved through other reasonable means, the upstand can be increased to 50mm with a 45 degree splay kerb. This should be considered in site specific cases and agreed with both the resident and Hampshire County Council's Asset Management Team.

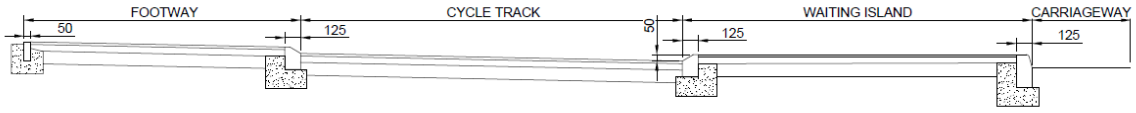
5.10.7. The upstand for continuous footways shall be laid flush, or where there is a small radius on the kerb nose, the kerb should be laid with only the radius upstanding. The upstand must be a maximum of 6mm vertical face in accordance with the Highways (Road Humps) Regulations. Refer also to section 5.5.

5.10.8. In conservation and special designation areas, conservation, countryside classic or natural stone kerbs may be required, for which the district or parish/town council may offer to make a contribution. Similarly, the use of kerbing other than standard PC kerbs, may be required for rural schemes, especially if there is a requirement to extend an existing section of kerbing or footway. However, any proposal to do so will require Hampshire County Council's Asset Management Team approval and will incur a commuted sum.

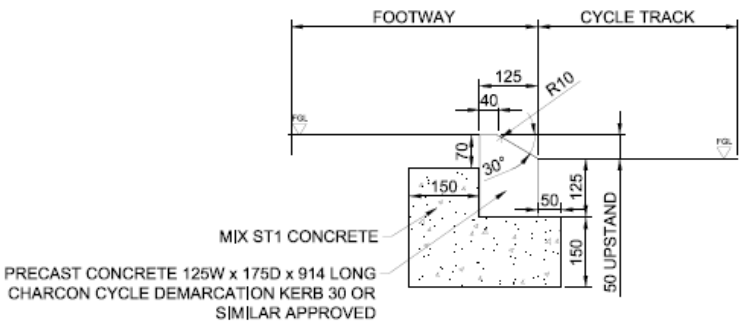
5.10.9. To segregate a cycle track from the carriageway and/or from the footway full standard upstand kerbing, stepped kerbing or footway/cycle track delineator kerb shall be used. The preference is to use stepped kerbing where the cycle track is raised above the carriageway surface by 50mm but sits below the level of the footway by 50mm; this avoids issues with drainage.



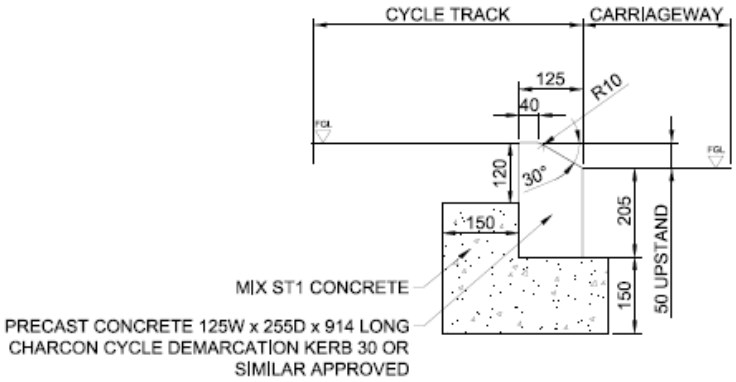
TYPICAL STEPPED FOOTWAY/CYCLE TRACK/CARRIAGEWAY SEGREGATION



TYPICAL KERB SEGREGATED CYCLE TRACK WITH BUS BYPASS OR PEDESTRIAN ISLAND

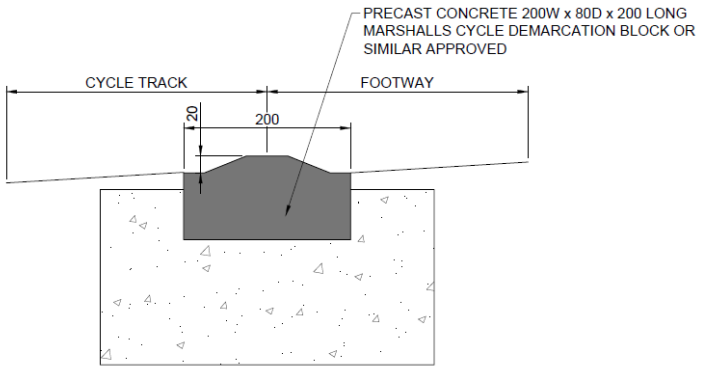


DETAIL A - CYCLE DEMARCATION KERB



DETAIL B - CARRIAGEWAY CYCLE DEMARCATION KERB

5.10.10. Where a step between the footway and cycle track is not provided, a delineator kerb shall be used.



CYCLE DEMARCATION BLOCK

5.11. Drainage

5.11.1. The design of footways and cycle tracks shall ensure the surface water is managed and the surfaces are drained correctly, neither washed by runoff nor subject to standing water that could cause discomfort and danger to users. Special care should be taken while designing segregated facilities with vertical segregation using steps or delineator strips, to ensure drainage is effective and avoids ponding.

5.11.2. If gullies are positioned within a cycle lane or cycle track, the gully grating shall be pedestrian/cycle friendly with square apertures rather than the standard long oblong apertures within which a bicycle wheel could jam. Pedestrian/cycle friendly gratings shall be used within footways, pedestrianised and shared areas.

5.11.3. Where light segregation is used to protect people cycling on carriageway, the waterway area of the standard pedestrian/cycle friendly gullies (975cm²) may be insufficient to clear sufficient surface runoff. To avoid the need to install additional gullies, pedestrian/cycle friendly gratings with a greater waterway area should be used. Due to their greater clear opening (> 450mm x 450mm), a bespoke gully detail will need to be produced.

5.11.4. Manholes, catchpits and gullies should be avoided within crossing areas. In order to prevent ponding at controlled and uncontrolled crossings, gullies shall be provided on the upstream side of crossing points.

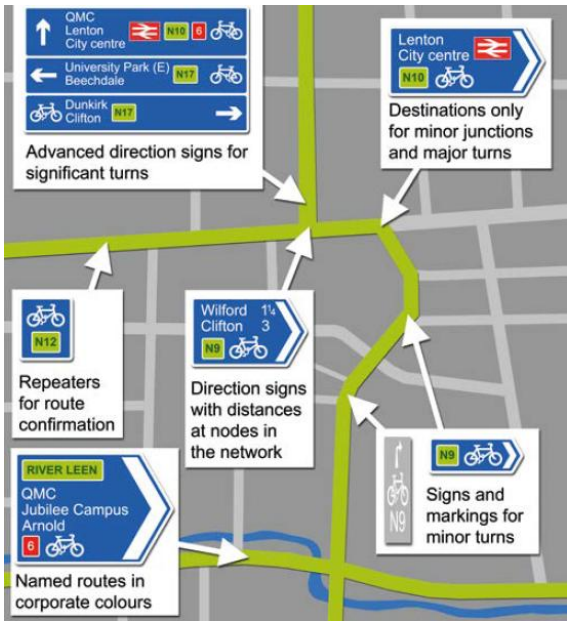
5.11.5. For more information regarding drainage refer to Technical Guidance Note TG8-1 – Drainage General.

5.12. Signs in footways and cycle tracks

5.12.1. Sign posts should not be placed within a cycle track or footway wherever possible (other than signs mounted on bollards). The use of cantilever posts should be considered if necessary to ensure that the effective width of the facility is not compromised and posts do not create a hazard for users. Posts should be 0.5m clear of the riding surface and positioned where landscaping will not obscure it when erected or in the future.

5.12.2. The minimum mounting heights to the underside of the lowest sign shall be 2.3m above footways where the sign face is within 0.5m horizontal distance of the footway and 2.4m above cycle tracks and shared use paths where the sign face is within 0.5m horizontal distance of the cycle track. The exception being parking restriction plates which may be mounted at 1.5m at the back of the footway where the sign is parallel to the footway.

5.12.3. Clear and informative signing is a key part of a cycle route, but it is also important to minimise the amount of street furniture to reduce clutter and maintenance liabilities and maximise the space available to users. Existing poles and columns should be used where possible, and where necessary relocated to minimise obstructions.



5.12.4. Direction signs to key locations for active travel should be provided. Direction signs may be more necessary in side streets or traffic free routes than on busier roads, where direction signs for general traffic can provide for people walking/wheeling and cycling. Ahead of junctions, advance direction signs should be provided for people cycling to allow them time to move to the correct position, together with flag-ended signs at the junction. Route confirmatory signs after a junction help confirm that the correct route has been chosen.

5.12.5. Where installing prohibitions on movement for motorised vehicles, designers should consider whether people cycling could be exempted from the prohibitions such as no entry, no left turn and no right turn, through use of the appropriate plate ('Except Cycles' or 'Except Buses and Cycles'). This could enable more direct routes and filtered mobility for non-motorised vehicles. This must be reflected in the associated Traffic Regulation Order.

5.12.6. The CYCLISTS DISMOUNT sign to TSRGD diagram 966 should be avoided and not normally be used on a well-designed facility. It is very rarely appropriate to require users to dismount and represents a discontinuity in the journey, which is highly disruptive particularly for some users with mobility impairments who may be unable to dismount. It should only be used in situations where it would be unsafe or impracticable for a cyclist to continue. Where it is used, the design should make it clear what a cyclist is meant to do, such as dropped kerb/leader lane to rejoin the carriageway.

5.12.7. The END OF ROUTE sign to TSRGD diagram 965, and the END marking to TSRGD diagram 1058, are not mandatory, and should be used sparingly. As with CYCLISTS REJOIN CARRIAGEWAY, where their use appears unavoidable, designers should be able to defend their decision and why it cannot be avoided. When deciding whether to use them, consideration should be given to the purpose they are meant to serve. They are not required if the end of the route is obvious. If the cycle

route concedes priority on ending, GIVE WAY signing should be used instead.

5.12.8. Cycle symbol markings to TSRGD diagram 1057 should be placed at regular intervals along cycle tracks and lanes. The cycle symbols should be placed in the direction of the flow of cycle traffic, and therefore in both directions on two-way tracks. In the limited occasions where on road cycling requires cycle-symbol marking (advisory routes without cycle lane markings), diagram 1057 should be placed at least 200mm offset from the kerb to the side of the road marking. However, if on-carriageway parking is likely to occur which would obscure the road marking, the marking will need to be positioned outside of the likely parking area. Where formal parking bays are marked, diagram 1057 should be placed 500mm from the off-side edge of the bay marking to the edge of the marking where the lane width permits. Where the route crosses a side road, positioning diagram 1057 on the main road in the middle of the side road junction will help highlight the presence of cyclists to drivers exiting/entering the side road. At locations where cyclist should be taking a primary position rather than a secondary position, diagram 1057 should be located in the primary position (centre of the lane). Repeated upright signs (minimum 150mm) should be mounted on lamp columns where possible to avoid clutter on the route; this will require prior approval from Hampshire County Council's PFI contractor. Refer to Technical Guidance Note TG13 – Street Lighting.

5.12.9. For more information about signing refer to Traffic Signs Regulations and General Directions and the Technical Guidance Note TG12 – Signs and Bollards.

5.13. Lighting requirements for footways and cycle tracks

5.13.1. Within urban areas standard street lighting is usually designed to cover footways and cycle tracks as well as the carriageway. Routes outside built-up areas used primarily for recreation should not normally be lit unless there are site-specific road safety concerns, such as at crossings or where the track is directly alongside the carriageway. Lighting provision may also be influenced by environmental considerations. See 3.4 and 3.21 of TG13 - Street Lighting.

5.13.2. Continuous footways / cycle tracks must be lit in accordance with regulation 5 of The Highways (Road Humps) Regulations 1999.

5.13.3. The decision whether lighting is to be provided on an active travel route should be in accordance with Hampshire County Council's Street Lighting Maintenance Management Plan and made collaboratively between the different parties involved in the project (scheme client, highways engineer, Hampshire County Council's Street Lighting Client, road safety engineer, environmental specialists, transport planner) on a scheme-by-scheme basis, based on the overall objectives of the scheme, associated transport aims (such as collision reduction, user safety or

promoting modes of sustainable travel for routes linked to a night time economy) and local environmental impacts. For example, a new footway in an area that was previously unlit but is to provide pedestrian/cyclist links from a significant new housing development to areas of high night-time activity (town centres, employment, pubs, restaurants, shops, leisure centres) should be lit in order to promote sustainable modes of travel and encourage the use of the new facility. In contrast, where a footway is to be provided on a rural road so that pedestrians are not walking/wheeling on the carriageway, street lighting may not be required if there is minimal activity during the hours of darkness and pedestrian movements are not significantly linked to areas of a night-time economy as identified above.

5.13.4. Lamp columns should generally be sited at the rear of the footway and ideally set back a minimum 1m clear of cycle tracks such that they do not obstruct overhanging handlebars or non-standard cycles. The minimum set back from cycleways shall be 0.5m.

5.13.5. For more information refer to Technical Guidance Note TG13 – Street Lighting.

5.14. Footway / cycle track construction

5.14.1. The material and construction requirements for footways and cycle tracks in Hampshire are as detailed in Hampshire County Council's Highway Construction Standard Details and Model Contract Specification. The preference is for materials to include recycled content and be recyclable where possible, with low embodied carbon in accordance with the model specification. Refer to Appendix C Footway and Cycle Track Pavement Options.

5.14.2. Asphaltic concrete (bituminous macadam) and tactile paving will not incur commuted sums. However, block paving, modular paving flags and pigmented surfacing will incur commuted sums due to the associated increased maintenance costs. Pigmented surfacing for footways should not be used.

5.14.3. Footway construction is detailed on Standard Details HCC11/C/045 and 055. Drawing HCC11/C/055 shows the strengthened construction for footways where regular over-running of vehicles is expected. The strengthened construction should also be used where maintenance vehicles are expected to access the route. The standard construction should be Type 1A due to its lower embedded carbon (Type 5 for Strengthened footways/cycle tracks). Refer also to Appendix C regarding requirements for additional subbase/capping on soft formations.

5.14.4. For segregated and unsegregated cycle track facilities, bituminous construction should be used. This is to ensure that a smooth surface is provided for people cycling with suitable skid resistance and to avoid the risks associated with uneven slabs/blocks. Paving flags shall not be used on cycle routes. The longitudinal regularity of the completed bituminous

surface of the footway/cycle track surface course shall be in accordance with the MCHW.

5.14.5. Within conservation and special designation areas, block paving may be considered to tie into existing finishes. However, any proposal to use construction other than bituminous construction needs to be clearly identified in the design drawings and will require Hampshire County Council Asset Management Team approval and will incur commuted sums in accordance with the Commuted Sum Policy.

5.14.6. The minimum PSV shall be 45 for footways (with the exception of more heavily pedestrianised areas and slopes steeper than 5 per cent where a minimum PSV of 55 is required) and 55 for cycle tracks including shared use. The skid resistance of block paving and paving slabs should be specified in terms of a minimum PPTV to BS 7932. A minimum PPTV of 45 is required for footway works. PPTV results (not more than 12 months old) shall be submitted to the Highway Authority to verify that the proposed slabs meet the standards of skidding resistance specified. Additionally, evidence shall be submitted to demonstrate that the skidding resistance as supplied and installed is not less than the PPTV value. Natural stone slabs should be supplied with a sawn or fine picked finish. A polished finish will not be acceptable.

5.14.7. Clay pavers will not be permitted in shaded situations where the growth of moss / lichen can be anticipated. Clay paviours are not recommended in areas where there are gradients or heavy footfall as when wet they become slippery.

5.14.8. The construction of a rural footpaths (a footpath of an unbound granular construction) shall be in accordance with drawing HCC11/C/050 but shall only be used in rural settings where Types 1 to 3, 5 or 6 would be inappropriate. Further advice is given within the associated Notes for Guidance.

5.14.9. The use of coloured surfacing shall not be used on shared use routes. They should only be used at critical points on segregated routes such as:

- Non-nearside cycle lanes.
- Cycle lanes passing the mouths of side roads where the safety of the people cycling is an overriding factor (although use of a continuous footway at such locations would help highlight the road user priority, slowing car turning movements thus providing improved safety for cycle lane users without the need for coloured surfacing as well).
- To mark safety margins.

The use of coloured surfacing will need to be approved by the Highway Authority and Hampshire Highways Asset Management along with the maintenance plan and the risk assessment to confirm whether at the first replacement the colour will be retained. All coloured surfacings will incur commuted sums.

5.14.10. Where footways/cycle tracks/footpaths are to be constructed in the vicinity of existing trees a no-dig solution is likely to be required. Refer to Technical Guidance Note TG15 – Trees, Landscape and Ecology for details.

5.14.11. Drawing HCC11/M/040 details the construction of vehicular dropped crossings within an existing footway. However, the principle of increasing the thickness of the subbase from 100mm for a standard footway to 150mm shall be followed at all domestic vehicular crossings. Further guidance is provided in the associated Notes for Guidance.

5.14.12. The construction of a footway/dropped crossings for access to commercial/industrial areas shall be in accordance with Drawing HCC11/C/130.

5.15. Benches / seats

5.15.1. The provision of seating is essential for creating inclusive, accessible, and welcoming public spaces. Regular opportunities to stop and rest enable individuals to travel actively and independently, particularly those who may experience fatigue or mobility challenges. Seating also supports the place functions of streets.

5.15.2. Seating should be provided where people may wish to rest/wait, such as:

- in local centres
- shopping streets
- near community facilities
- transport hubs
- along routes with steeper gradients
- rest areas along recreational and longer distance cycle routes.

The seating may be in various forms, provided it is within publicly accessible areas. Bus shelters should incorporate seating.

5.15.3. Additionally, seating should be provided at regular intervals along walking/wheeling routes to enable more people to choose active travel as detailed in the following table. When assessing the distances between seating, seating within/at bus shelters can be included in the seating provision).

Location	Desirable spacing
Steep gradients	One seat per slope, positioned every 5- to 100m
Areas with higher pedestrian activity (local centres / shopping streets / routes to community facilities)	<100m
Urban areas / streets within villages	<500m
Recreational active travel routes / longer distance routes	1 to 2 km

5.15.4. Healthy Street Design Checks score the seating provision as follows:

- 3 points for 100m or less
- 2 points for 100 to 199m
- 1 point for 200 to 500m
- 0 points for greater than 500m

5.15.5. Seating can be in a variety of forms but to be inclusive, seating should have:

- seat heights between 470mm and 480mm
- arm rests (to assist users in sitting and standing)
- a minimum seating width of 500mm
- rounded edges for safety and comfort
- a seating area designed to prevent the accumulation of water

Back rests are optional but would enhance comfort. Ideally seating should be located within shaded areas, combining seating with street tree provision.

5.15.6. Metal and plastic seats retain heat more than wood or stone when located in sunny areas. However, wooden seats require more on-going maintenance. All in cases, seats should be robust and vandal-proof.

5.15.7. Seats shall be fixed in place by either a root fixing or base plate.

5.15.8. Seats are normally maintained in perpetuity by a district/parish/town council (with the district/parish/town council entering into an agreement with Hampshire County Council under Part VIIA of the Highways Act 1980 for the enhancement of the highway amenity). Where adopted by Hampshire County Council, a commuted sum will apply.

5.16. Cycle parking

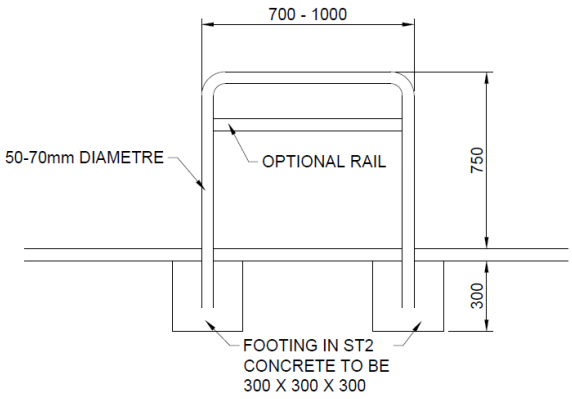
5.16.1. Cycle parking should be provided in order to support the development of cycling as a practical transport choice, ideally with a bike rack in each street to facilitate local trips. The quantity of cycle parking should meet the identified current and future demand as detailed by the planning authority's Supplementary Planning Documents for parking, to accommodate all types of cycle. As with car parking, at least 5% should accommodate non-standard cycles which may be used by people with mobility impairments. Cycle parking should be in convenient, accessible locations and as close as possible to the destination. Access to cycle parking should be step free. Cycle parking should feel secure to use in visible, well-overlooked and well-lit places.

5.16.2. Cycle parking within adopted Highway should be provided in accordance with LTN 1/20 and as detailed in this section.

5.16.3. Sheffield stands shall be used where they are positioned within the adopted Highway or areas to be adopted as Highway. They can be used as standalone cycle stands or in larger quantities.

5.16.4. Stands should preferably be imbedded into concrete footings (in accordance with the manufacturers installation detail). If surfaced mounted, they shall be bolted into concrete foundations. The addition of a horizontal bar approximately 500mm above ground level is recommended as it makes it easier to secure children's cycles and reduce the likelihood of cycles slipping down the stand if properly locked.

5.16.5. The finish of stands on the Highway should be either standard unpainted galvanised finish or black. Stainless steel should only be used within town centres. Where non-standard colours are proposed as part of place-making schemes, approval shall be sought in advance from Hampshire County Council's Asset Management Team and will incur a higher commuted sum than standard colours.



SHEFFIELD STAND DIMENSIONS

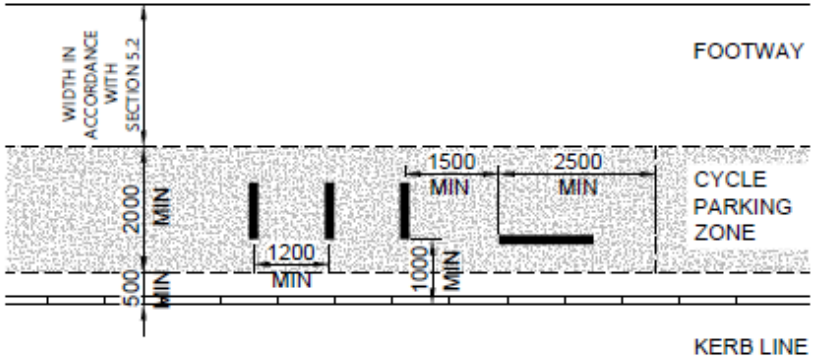
5.16.6. Cycle stand positions should be as follows:

- On the footway they should be placed in the furniture zone adjacent to the kerb, not at the back of the footway.
- Stands should not be placed where they obstruct the flow of pedestrian traffic or reduce available footway width for pedestrians beyond the recommended minimum.
- Stands should be placed so that the clearance between any cycle parked on any stand and the carriageway or edge of cycle track is at least 0.5m. The offset dimensions shown in the layout options below shall be provided as an absolute minimum.
- Cycle stands should not be located where they restrict visibility from junctions or crossing points.
- Where cycle stands are grouped together, a minimum spacing of 1m shall be provided between stands to allow access – 1.2m is preferred.
- Cycle stands should be set at either 45 or 90 degrees to the kerb – in this arrangement they occupy a smaller area for a greater number of stands (note that, where stands are angled, spacing is measured using the perpendicular distance between stands)
- In some locations, cycle stands can acceptably be provided parallel to the carriageway – this is a less efficient use of space and consideration of the impact on pedestrian crossing movements is needed where multiple stands are proposed. There should be at least 0.6m clearance between a stand and any another object higher than 100mm. Cycle stands shall have at least 0.6m clearance to walls to the side of the stand, and a clear space of 1.0m in front to enable the bicycle to be wheeled into position.
- At least one stand in any group should be placed to allow for a larger cycle to be parked – this is usually a matter of leaving enough clear space at the end of the run, although to improve security the stand should be larger as shown on the diagrams below so larger types of cycles can be locked at two points.
- The best options to cater for all types of cycle and maximise space is for a combination of perpendicular/echelon stands distribution and a parallel stand at the end as shown on the diagrams below.
- Cycle stand areas should not be located on slopes greater than 2.5%.

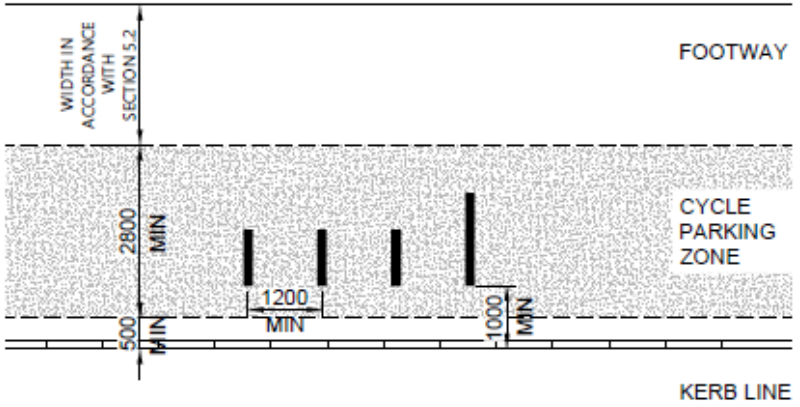
5.16.7. Refer to section 5.2 regarding required footway / share-use widths. Where the level of activity in either the footway/shared-use or cycle parking zone is expected to be high, the designer should consider providing wider areas accordingly.

5.16.8. Cycle stands are normally maintained in perpetuity by a district/parish/town council (with the district/parish/town council entering into an agreement with Hampshire County Council under Part VIIA of the

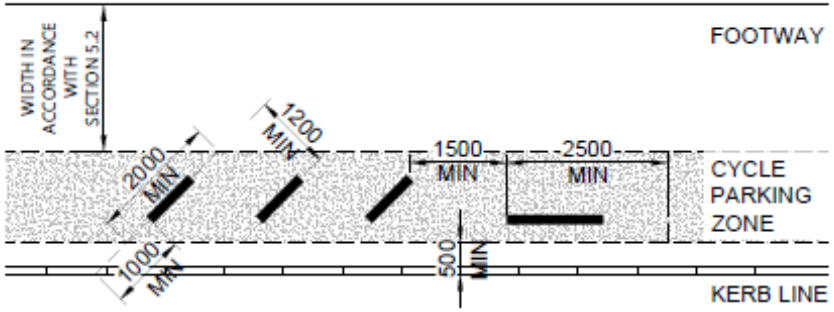
Highways Act 1980 for the enhancement of the highway amenity). Where adopted by Hampshire County Council, a commuted sum will apply.



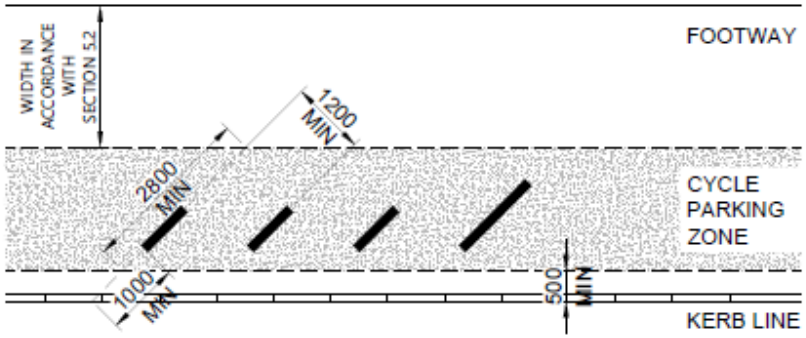
PERPENDICULAR CYCLING PARKING STAND LAYOUT WITH ONE PARALLEL STAND FOR SPECIAL CYCLES



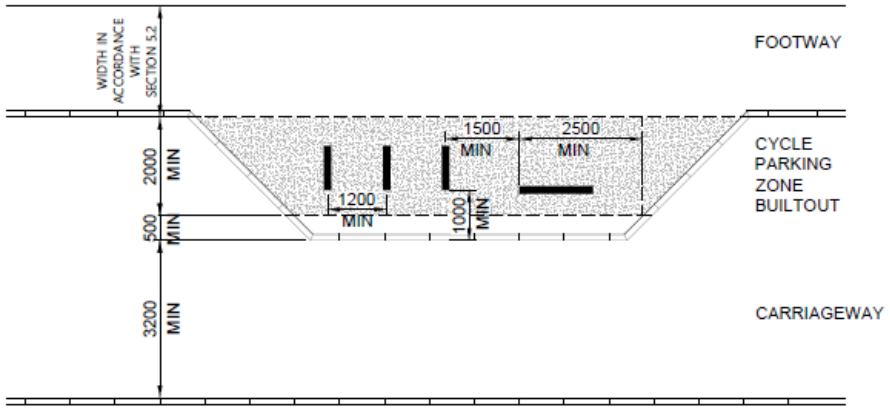
PERPENDICULAR CYCLING PARKING STAND LAYOUT



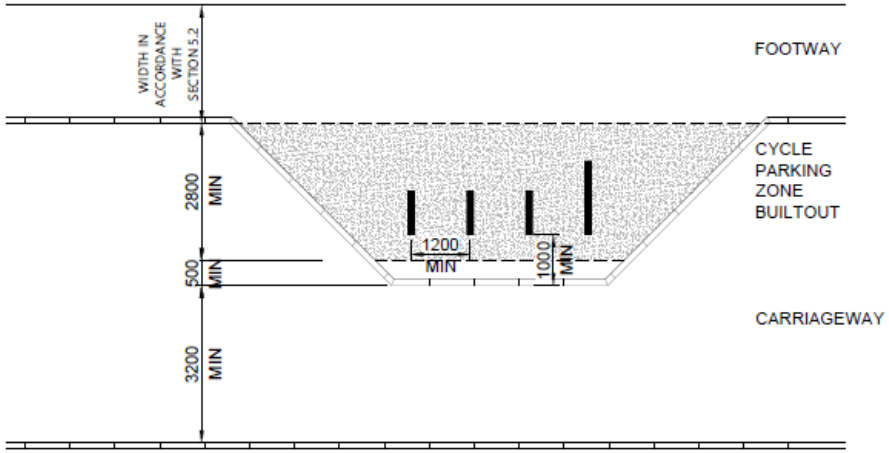
ECHELON CYCLING PARKING STAND LAYOUT WITH ONE PARALLEL STAND FOR SPECIAL CYCLES



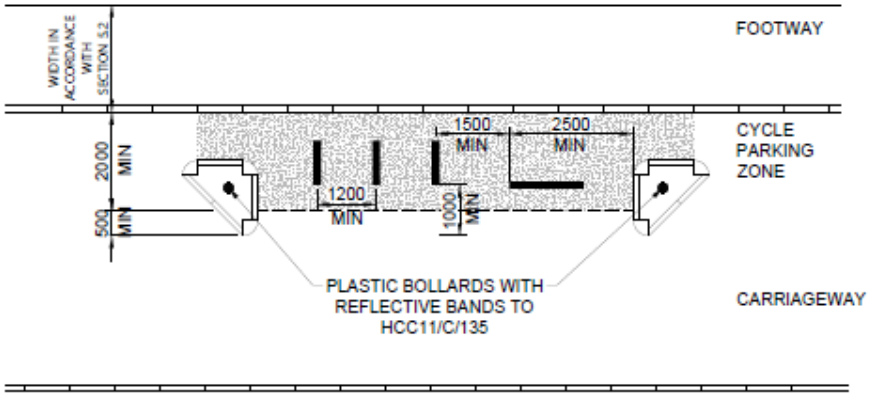
ECHELON CYCLING PARKING STAND LAYOUT



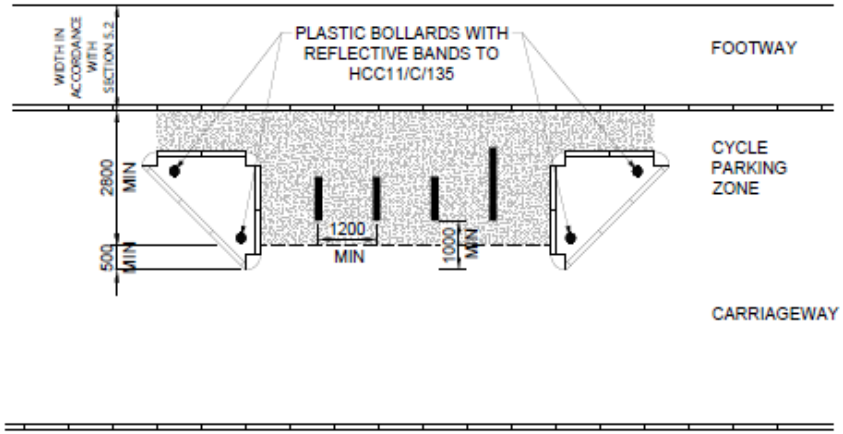
PERPENDICULAR CYCLING PARKING BUILD-OUT INTO CARRRIAGEWAY WITH ONE PARALLEL STAND FOR SPECIAL CYCLES



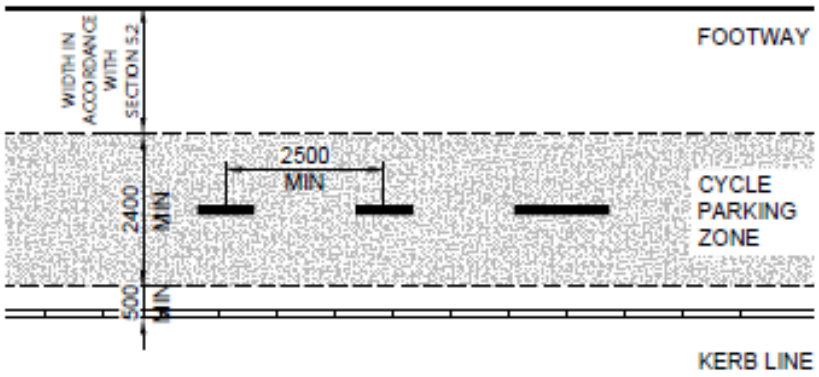
PERPENDICULAR CYCLING PARKING BUILD-OUT INTO CARRRIAGEWAY



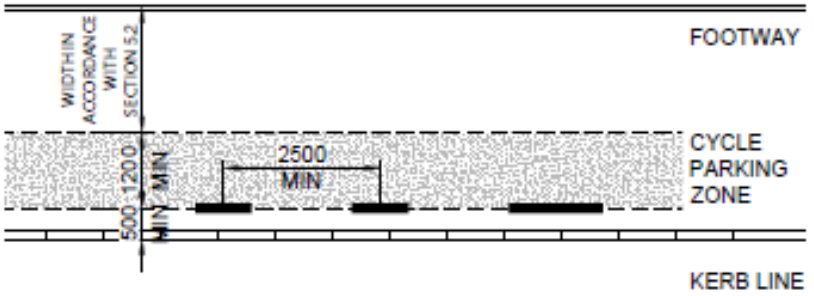
PERPENDICULAR PROTECTED CYCLING PARKING INTO CARRRIAGEWAY WITH ONE PARALLEL STAND FOR SPECIAL CYCLES



PERPENDICULAR PROTECTED CYCLING PARKING INTO CARRRIAGEWAY



PARALLEL CYCLING PARKING STAND LAYOUT
FOR BOTH SIDES OF THE STAND PARKING



PARALLEL CYCLING PARKING STAND LAYOUT
FOR ONLY ONE SIDE OF THE STAND PARKING

5.17. Floating bus stops

5.17.1. Floating bus stops must be designed following the statutory guidance "Floating bus stops provision and design".

5.17.2. The guidance details the consultation and engagement that should be undertaken, together with the design steps required. Should designers propose layouts with widths lower than those detailed in section 5.2 of this TG, departures from standard will need to be requested in accordance with TG17 – Departures from Standard.

5.17.3. The design output shall include a record of:

- how decisions were made on route choice and whether to provide protected infrastructure – and therefore whether the scheme falls within the scope of the statutory guidance
- how the principles and metrics within the statutory guidance have been considered during the design process
- what consultation and engagement has been carried out with relevant groups, particularly bus passengers, disabled people and cyclists and the outcome
- accurate records of type and location of floating bus stops
- that an equality impact assessment has been undertaken
- that a road safety audit has been carried out
- plans to, or results of, monitoring and evaluation of installations, including user feedback and how that has been considered and acted on.

6. Bibliography

A Guide to Inclusive Cycling – Wheels for Wellbeing

Walking and cycling infrastructure design guidance – Walk Wheel Cycle Trust (previously Sustrans)

Inclusive Design – Living Streets

Department for Transport

Manual for Streets (1 and 2)

Guidance on the Use of Tactile Paving Surfaces

Inclusive Mobility – A Guide to Best Practice on Access to Pedestrian and Transport Infrastructure

DMRB

CD 143 Designing for Walking, Cycling and Horse-riding

CD 195 Designing for Cycle Traffic

CD 239 Footway and Cycle Track Pavement Design and Access Steps

GG 142 Walking, Cycling and Horse-riding Assessment and Review

Local Transport Notes (LTN)

1/20 Cycle Infrastructure Design

2/09 Pedestrian Guardrailing

Tools

ATE scheme design and review tools to support the design and assess the quality of active travel interventions and schemes

Healthy Streets Design Check: published by DfT to support authorities in applying LTN1/20 guidance. The tool measures existing streets and proposed designs to determine how healthy they are. Designers and engineers can quantify how street designs affect the 10 Healthy Streets Indicators and generate a quantified score for an existing or a planned street

Healthy Streets Qualitative Assessment: Prompt questions to assess in depth a street you plan a project, based on the 10 Healthy Streets indicator.

Propensity to Cycle Tool: a strategic planning tool to help transport planners and policymakers prioritise investments and interventions to promote cycling

Cycling Infrastructure Prioritisation Toolkit: a collection of tools that provides an evidence base for prioritising infrastructure to promote cycling

Place-Based Carbon Calculator: estimates a per capita carbon footprint for each lower layer super output area (LSOA), as well as showing roughly 15-minute travel times using different modes.

Active Travel Toolbox: a collection of guides, tools and case studies to help local authorities deliver walking/wheeling and cycling schemes in their area.

Active Mode Appraisal Toolkit: a spreadsheet-based tool for assessing the overall benefits of walking/wheeling and cycling interventions. DfT has produced guidance on its use.

7. Further support

7.1. Should you have a specific query or feedback about any of the content of this Technical Guidance Note, please send an email to Technical.Guidance@hants.gov.uk .

7.2. Should you have a query about applying this to your particular project, please contact:

- the design check engineer dealing with your S278 or S38 application (if you are a developer or developer's consultant)
- the Technical Guidance Note Specialist(s) (if you are a working within Hampshire County Council)

7.3. Associated Technical Guidance Notes

TG2	Alignment design
TG3	Stopping Sight Distances and Visibility Splays
TG4-2	Signal Controlled Crossings
TG8-1	Drainage General
TG11	Traffic Calming
TG12	Signs and Bollards
TG13	Street Lighting
TG15	Trees, Landscape and Ecology
TG17	Departures from Standards
TG19	Quality Assessments for Walking, Cycling and Horse-Riding (Healthy Streets / WCHAR)
TG21	Traffic Regulation Orders
TG24	Scheme Handover to Asset Owners

Appendix A – Local walking / wheeling / cycling / accessibility groups

Name	Type	Email
Alton Cycling Club	Cycle Group	info@altoncyclingclub.org
Andover Wheelers Cycle Club	Cycle Group	Contact us | Andover Wheelers Cycling Club
Balance Glide and Ride Rushmoor - Young Cyclists	Cycle Group	balanceandride@gmail.com
Cycle Gosport	Cycle Group	cycle.gosport@gmail.com
Cycle Hayling	Cycle Group	wilf@cyclehayling.org
Cycle Winchester	Cycle Group	hello@cyclewinchester.org.uk
Cycling UK – North Hampshire	Cycle Group	secretary@cyclinguk-northhampshire.org.uk
Cycling UK / CTC	Cycle Group	membership@cyclinguk.org
Fareham Wheelers Cycling Club	Cycle Group	secretary@farehamwheelers.com
Farnborough and Camberley Cycling Club	Cycle Group	committee@fccc.org.uk
Fleet Cycling Club	Cycle Group	secretary@fleetcycling.org.uk
Gosport Clarion Cycling Club	Cycle Group	Contact Us - Gosport Clarion Group
Meon Valley Cycle Club	Cycle Group	Meon Valley Cycle Club
New Forest Cycling Group	Cycle Group	racing@newforestcc.co.uk
Portsmouth CTC Cycle Club	Cycle Group	Contact Us | Portsmouth CTC
Romsey Cycle Club	Cycle Group	Send Us a Message - Romsey Cycle Hub
Rushmoor Cycle Forum	Cycle Group	hello@rushmoorcycleforum.org
Sotonia Cycle Club	Cycle Group	info@sotonia.co.uk

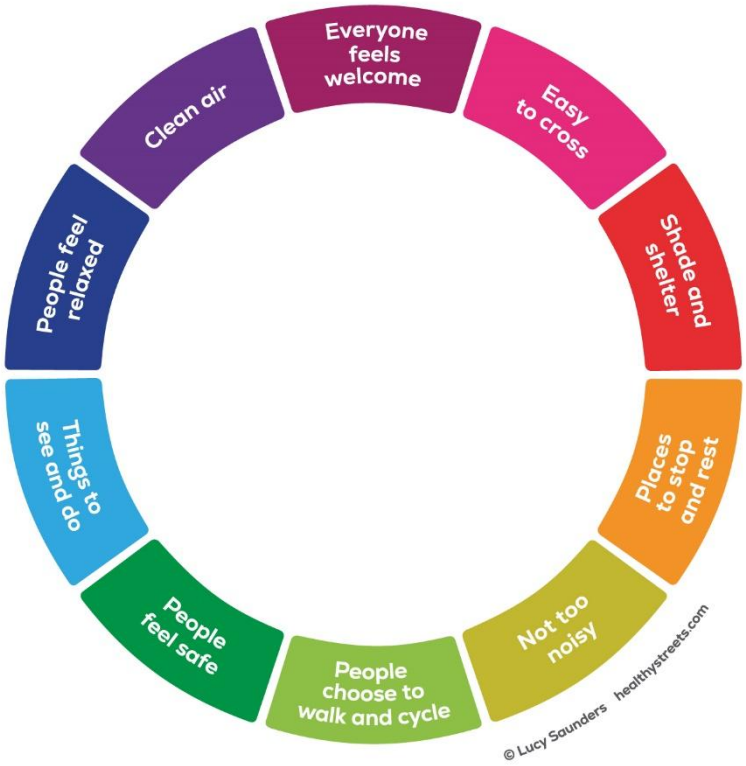
Name	Type	Email
Southampton Cycling	Cycle Group	chair@southamptonctc.org.uk
Winchester CTC Cycle Club	Cycle Group	secretary@winchesterctc.org.uk
Worthy Wheelers Winchester Cycle Club	Cycle Group	Contact us – Worthy Wheelers Cycling Club
Access 4 All	Mobility / Disability / Other	access4allbd@gmail.com
Age Concern in Hampshire	Mobility / Disability / Other	enquiries@ageconcernhampshire.org.uk
Age UK Hampshire	Mobility / Disability / Other	Information and advice enquiry | Age UK
Alton and Petersfield MS society	Mobility / Disability / Other	alton@mssociety.org.uk
Autism Hampshire	Mobility / Disability / Other	info@autismhampshire.org.uk
Basingstoke Disability Forum (BDDF)	Mobility / Disability / Other	info@bddf.org.uk
Disability Challengers - Rushmoor	Mobility / Disability / Other	communication@disability-challengers.org
Farnborough Get Together – Deaf plus	Mobility / Disability / Other	info@deafplus.org
Gosport Access Group and Disability Forum	Mobility / Disability / Other	info@gosportaccessgroup.org.uk
Guide Dogs Association	Mobility / Disability / Other	information@guidedogs.org.uk
Hampshire Countryside Access Forum	Mobility / Disability / Other	HCAF@hants.gov.uk
Hampshire SENDIASS	Mobility / Disability / Other	information@hampshiresendiass.co.uk
Hard of Hearing Club - Support for hearing impairment	Mobility / Disability / Other	informationline@hearingloss.org.uk
INSIGHT (Autism group) - Hampshire	Mobility / Disability / Other	enquiries@autisminsight.co.uk
Macular Society	Mobility / Disability / Other	help@macularsociety.org
New Forest Disability	Mobility / Disability / Other	info@newforestdis.org.uk

Name	Type	Email
New Forest Disability Information Service	Mobility / Disability / Other	info@newforestdis.org.uk
Open Sight Hampshire	Mobility / Disability / Other	info@opensight.org.uk
Parability Group	Mobility / Disability / Other	enablement@parability.org
Parity for Disability	Mobility / Disability / Other	info@parityfordisability.org.uk
Parkside learning disabilities in Hampshire (based in Aldershot)	Mobility / Disability / Other	Contact – Parkside
Purple Oak Support (Andover and District MENCAP)	Mobility / Disability / Other	enquiries@purpleoaksupport.org
Seeability Aldershot Support Service	Mobility / Disability / Other	enquiries@seeability.org
Spectrum (disability)	Mobility / Disability / Other	reception@unity12.co.uk
Wheels for Wellbeing	Mobility / Disability / Other	info@wheelsforwellbeing.org.uk
Winchester Gold Disability Group	Mobility / Disability / Other	info@winchestergold.org.uk
Alton Ramblers	Walking	Contact Us - Alton Ramblers
Andover Ramblers	Walking	Andover Group - Ramblers
Basingstoke Wellbeing Walks	Walking	walks@bvaction.org.uk
Eastleigh Ramblers	Walking	eastleighrambler@aol.com
Fareham Walking 4 Health	Walking	w4h.fareham@cfirst.org.uk
Gosport Walking for Health Group	Walking	w4h.fareham@cfirst.org.uk
Hampshire 40+ Walking Group	Walking	info@hampshirewalkers.org.uk
Hampshire Ramblers	Walking	chair@hampshireramblers.org.uk
Hart Health walks	Walking	healthwalks@hartvolaction.org.uk

Name	Type	Email
Havant Walking for Health	Walking	sophie.iles@havant.gov.uk
Hayling Island U3A Walking Group	Walking	Contact U3A member(s) | Hayling Island u3a
North East Hants Walking Group Ramblers	Walking	nehants.membership@gmail.com
North Hampshire Downs Ramblers	Walking	ramblersnhd@gmail.com
Petersfield Ramblers	Walking	fionaelh@outlook.com
Ready Steady Walk - pushchair-friendly, social walking groups for families with young children (Hampshire Healthy Families)	Walking	hhf@barnardos.org.uk
Romsey Ramblers	Walking	ramblers@ramblers.zendesk.com
Rushmoor Healthy Living (RHL)	Walking	admin@rhl.org.uk
South East Hants Ramblers	Walking	chairman@sehampshireramblers.org.uk
Waterside Health Walks	Walking	healthywalks@cfirst.org.uk
Winchester Ramblers	Walking	ramblers@ramblers.zendesk.com

Appendix B – Healthy Streets indicators

The 10 Healthy Streets Indicators have been devised to ensure that the main cause of poor health and health inequality and the factors that lead to wellbeing related to the transport system are addressed in a unified approach.
The Healthy Streets Indicators are not a list of street features, they are aspects of the human experience of being on a street. People's individual experience of the street environment cannot be easily categorised. The Healthy Streets Indicators attempt to identify the experiences that should be assessed together to give a rounded picture of the human experience.



Everyone feels welcome

Streets must be welcoming places for everyone to walk, spend time and engage with other people. This is necessary to keep us all healthy through physical activity and social interaction. It is also what makes places vibrant and keeps communities strong. The best test for whether we are getting our streets right is whether the whole community, particularly children, older people and disabled people are enjoying using this space.

Easy to cross

Our streets need to be easy to cross for everyone. This is important because people prefer to be able to get where they want to go directly and quickly so if we make that

difficult for them they will get frustrated and give up. This is called 'severance' and it has real impacts on our health, on our communities and on businesses too. It is not just physical barriers and lack of safe crossing points that cause severance, it's fast moving traffic too.

Shade & shelter

Shade and shelter can come in many forms – trees, awnings, colonnades – and they are needed to ensure that everyone can use the street whatever the weather. In sunny weather we all need protection from the sun, in hot weather certain groups of people struggle to maintain a healthy body temperature, in rain and high winds we all welcome somewhere to shelter. To ensure our streets are inclusive of everyone and welcoming to walk and cycle in no matter the weather we must pay close attention to shade and shelter.

Places to stop & rest

Regular opportunities to stop and rest are essential for some people to be able to use streets on foot or bicycle because they find travelling actively for longer distances a challenge. Seating is therefore essential for creating environments that are inclusive for everyone as well as being important for making streets welcoming places to dwell.

Not too noisy

Noise from road traffic impacts on our health and wellbeing in many ways, it also makes streets stressful for people living and working on them as well as people walking and cycling on them. Reducing the noise from road traffic creates an environment in which people are willing to spend time and interact.

People choose to walk & cycle

We all need to build regular activity into our daily routine and the most effectively to do this is to walk or cycle for short trips or as part of longer public transport trips. People will choose to walk and cycle if these are the most attractive options for them. This means making walking and cycling and public transport use more convenient, pleasant and appealing than private car use.

People feel safe

Feeling safe is a basic requirement that can be hard to deliver. Motorised road transport can make people feel unsafe on foot or bicycle, especially if drivers are travelling too fast or not giving them enough space, time or attention. Managing how people drive so that people can feel safe walking and cycling is vital.

People also need to feel safe from antisocial behaviour, unwanted attention, violence and intimidation. Street lighting and layout, 'eyes on the street' from overlooking buildings and other people using the street can all help to contribute to the sense of safety.

Things to see & do

Street environments need to visually appealing to people walking and cycling, they need to provide reasons for people to use them – local shops and services, opportunities to interact with art, nature, other people.

People feel relaxed

The street environment can make us feel anxious – if it is dirty and noisy, if it feels unsafe, if we do not have enough space, if we are unsure where to go or we cannot easily get to where we want to. All of these factors are important for making our streets welcoming and attractive to walk, cycle and spend time in.

Clean air

Air quality has an impact on the health of every person but it particularly impacts on some of the most vulnerable and disadvantaged people in the community – children and people who already have health problems. Reducing air pollution benefits us all and helps to reduce unfair health inequalities.

https://www.healthystreets.com/what-is-healthy-streets

Appendix C – Footway and Cycle Track Pavement Options

C.1. General requirements

C.1.1. Refer to Section 5.14 for general requirements

C.2 Control of weeds, roots and other vegetation

C.2.1. The need for weed control in footways should be considered on a site-specific basis. All topsoil shall be removed in the construction of the footpath (even if this requires excavation over and above the depths specified within the appropriate standard details). If there is a likelihood of weed growth, a thermally bonded non-woven separation membrane (geotextile), should be used, to cover the full width of the footway construction at formation level, including beneath edgings and kerbs where possible.

C.2.1. At sites where 'Japanese Knotweed' or other invasive species are, or have been present, a root barrier membrane shall be used. It is recommended that a black root barrier be used where Japanese Knotweed is or has been present.

C.2.2. Soil or plant material contaminated with non-native and invasive plants/roots such as Japanese knotweed, can cause ecological damage and are classified as a 'controlled waste'. Arisings must be disposed of by a registered waste carrier to an authorised landfill or suitable disposal site. Refer to https://www.gov.uk/guidance/prevent-the-spread-of-harmful-invasive-and-non-native-plants

C.2.3. For guidance on the need for root barrier (geotextiles) due to the presence of trees, tree roots or other vegetative growth, advice should be taken from a qualified arboriculturist.

C.2.4. Chemical weed killers shall only be considered as a last resort.

C.3. Footway / cycle track options

C.3.1. Table C1 details the standard construction options as detailed in the Highway Construction Standard Details. The bold text are the preferred options that should be used in the majority of cases. The foundation depths stated may need to be increased - refer to section C.4 regarding foundation requirements.

Table C1 – Construction options

Std Det. drawing no. HCC11/C	Footway Type	Description	Surface	Skid resistance	Binder	Base/sub base
045	**1A**	**Flexible Construction**	**20mm of AC6**	**45 or 55 psv**	**50mm of CRBM class B4**	**100mm of SB**
	1B	Alternative Flexible Construction	20mm of AC6	45 or 55 psv	50mm of AC20	100mm of SB
	2	Concrete Flagstone Paving	Flag stone	45 pptv	25mm sand bed	100mm of SB
	3	Concrete Block Paving	Block pave (min.60mm)	45 pptv	30mm sand bed	100mm of SB
050	4	Rural	10mm topping layer	N/A	75mm path gravel	100mm of SB
055	**5**	**Strengthened Flexible Construction**	**20mm of AC6**	**45 or 55 psv**	**90mm of CRBM class B4**	**150mm of SB**
	5A	Alternative Strengthened Flexible Construction	20mm of AC6	45 or 55 psv	90mm of AC20	150mm of SB
	6A	Strengthened Concrete Block Paving	Concrete Block (80mm)	45 or 55 pptv	30mm sand bed	150mm of SB
	6B	Strengthened Concrete Flagstone Paving	Flag stone	45 or 55 pptv	25mm sand bed	150mm of SB
NA		Flexible Construction (where existing foundation is suitable)	20mm of AC6	45 or 55 psv	100mm of CRBM class B4	

In accordance with the foundation requirements as described within section C.4 below, this construction can only be used where there is evidence of suitable stiffness of the foundation

Table C1 Construction type key

The white category is a rural footway construction and can only be used where the footway is physically separated from the carriageway (i.e. where there is a barrier or other permanent obstruction to stop vehicular traffic mounting the footway or where there is a verge of width 3m or greater). Refer also to section C8.

The light grey category applies where only occasional overrun by vehicles is likely: footways / cycle tracks that are not physically separated from the carriageway apart from a kerb. This category can be used at domestic crossings / access to private driveways but the subbase thickness should be increased to 150mm.

The dark grey category should be used where there is significant overrun by vehicles and/or delivery vans/HGVs.

C.4. Pavement foundations

C.4.1. When a dropped crossing in Footway Type 1A or 1B is providing access to a domestic driveway, subbase thickness should be increased to 150 mm for the full width of the crossing. When providing access to commercial properties a design should be detailed appropriate to the anticipated usage (see drawing HCC11/C/130 for further information).

C.4.2. The specified construction depths are based upon a dry (adequately drained) and reasonably solid foundation. The designed thicknesses for both grey categories are sufficient for occasional use by such traffic. **They are not suitable for regular repeated use by vehicles**.

C.4.3. Where a footway/cycle track is to be located alongside a new pavement for which the Design Subgrade Surface Modulus (DSSM) has been determined to be < 30 MPa, a 150mm thick capping layer should be provided below the 100mm thick footway subbase or the subbase increased to 150mm thick. If the pavement DSSM is determined to be < 20 MPa, except where there is a high-water table, the footway subbase should be increased to 225mm thick. Where the water table is high (300mm or less below the formation level), it is recommended to increase the footway subbase to 150mm and provide 150mm thick capping layer below. The additional requirement shall be clearly indicated on the construction drawings.

C.4.4. Where a footway/cycle track is to be constructed alongside an existing carriageway and no site investigation is available, consideration should be given to undertaking in-situ subgrade assessments (minimum of 3 No. along the length), and the above considered if the subgrade strength is determined to be < 30 MPa.

C.4.5. In areas of particularly poor ground, especially where the existing material is wet (above its optimum moisture level), a geosynthetic membrane can assist in load dissipation and restricting the migration of moisture and fine particles. This would otherwise make adequate compaction of overlying layers difficult or impracticable and could lead to a premature failure of the pavement.

C.4.6. For the construction of footways where there is a likelihood of movement caused by clay shrinkage or consolidation, adequate mitigation should be considered to avoid severe, premature cracking. Such mitigation should be included in the following scenarios:

- Areas of highly plastic clays
- Where there is frequent inundation, e.g. flood plains.
- In the vicinity of trees, especially species with a high-water demand
- Near to and/or on top of or near to embankments
- On soils with a low bearing capacity generally

To further mitigate the risk of premature failure in areas considered to be susceptible to shrinkage or movement, the construction can be reinforced through the incorporation of geotextiles/geogrid to be placed at sub grade or formation level. In extreme cases a bi-axial or tri-axial geogrid can be incorporated within the subbase layer. **Such products should be of a minimum tensile strength of 8kN/m with maximum tensile elongation 60% and permeability of 90/m²/s.**

C.5. Flexible construction

C.5.1 For asphalt mixes in accordance with BS EN 13108-1 (surface, binder and base materials), 'warm mix' in accordance with the Specification for Highway Works should be used in preference to traditional hot mix alternatives whenever available.

C.5.2. For the AC binder and surface courses, the bitumen penetration grade should be 100/150, unless being hand laid, where a 160/220 penetration grade bitumen may be used.

Bond / tack coats for use on flexible footways / cycle tracks

C.5.3. A good bond between bound pavement layers is important, so the use of a tack or bond coat (emulsified bitumen) is essential. Whilst bond coats have higher bitumen content than the traditional tack coat and are often polymer-modified, they can cause issues with application via the hand sprayers commonly used on footways. Accordingly tack coats are permitted but they shall be applied at a sufficient rate to achieve the specified amount of 'residual' bitumen.

C.5.4. The rate at which bond coat is to be applied is given as a measure of the residual bitumen in kg/m² left after the emulsion has broken i.e. the water has evaporated.

C.5.5. Bond/tack coats are denominated using the following four factors:

- *C or A for cationic or anionic* (UK products are cationic)
- *Nominal binder content* (as a %)
- *Type of binder* (B=paving grade, P=polymer, F= 2% fluxing agent)
- *Breaking behaviour* (classes 1 to 7 with 1 highest & 7 the lowest).

A typical bond coat could be described thus: C 50 BP 3 with the percentage of bitumen shown as 50%.

C.5.6. BS EN 594987 specifies that the rate of spread of bond coat shall be at least 0.35 kg/m² of residual binder for planed surfaces and at least 0.20 kg/m2 when laid on to new binder course or existing asphalt. However, for use in the construction of footways the specified rate of spread should be 0.2kg/m² residual bitumen. For the example of the C 40 tack coat, most commonly used, this would require 0.5 litres of tack coat per m².

C.5.7. For CRBM, where tack coat is used to promote curing, the volume applied can be included within the assessment of 'residual bitumen required' as long as the surface is protected to prevent removal of that bitumen prior to the placing of the relevant asphalt layer.

C.6. **Flagstone paving - Type 2** (Drawing HCC11/C/045) **and Type 6B** (Drawing HCC11/C/055)

C.6.1. Concrete paving flags should comply with BS EN 1339.

C.6.2. Natural stone flags should only be specified where they are a site-specific requirement e.g. sites with 'listed' status or particular historical or aesthetic importance.

C.6.3. When specifying flagstones, it is important to assess the risks associated with the manual handling implications, in line with Manual Handling Regulations and HSE Guidance. Details are to be included within the Health & Safety Hazard Identification sheets, where appropriate. Generally, depending on thickness, slabs or flags greater than 450 mm x 450 mm plan area, will require mechanical lifting devices.

Concrete flagstones

C.6.4. Precast concrete flagstones are not recommended where they are likely to be trafficked as they are susceptible to damage when vehicles park or run on them. If this is unavoidable, it is recommended that slabs to be over-run are heavy duty, may incorporate fibre reinforcement and are of a maximum size of 450 x 450mm.

C.6.5. Flagstone options should be avoided where numerous vehicular dropped crossings are required. Where it is appropriate or necessary to install such a crossing point within a flag paved footway, it is recommended to substitute concrete block paving for flags as shown on drawing HCC11/C/060. This provides clear delineation and a more robust surface which will be less susceptible to damage from vehicle wheel loading.

Natural stone flagstones

C.6.6. Natural flagstone paving should be specified in accordance with BS EN 1341 *'Slabs of natural stone for external paving'.* Particular consideration should be given to resistance to skid resistance/polishing, water absorption, flexural strength and frost resistance.

C.6.7. When considering samples, it is important to understand that the sample is only a small representation of a naturally occurring material. Colour and appearance may be difficult to replicate precisely. This is especially pertinent for products where there are significant striations or other geological features. Where possible, sufficient quantities (including a

reasonable allowance for 'wastage') should be procured to enable the works to be completed with materials sourced by a single order.

C.6.8. Sources of natural stone products that have the required physical properties and are appealing aesthetically that are particularly remote, need to be considered carefully in terms of practicality and the impact environmentally.

C.7. Block paving - Type 3 (Drawing HCC11/C/045) **and Type 6A** (Drawing HCC11/C/055)

C.7.1. Block Paving should comply with BS EN 1338

C.7.2. Where block paving is the selected option, concrete block shall be specified unless clay pavers have to be used (for example, to match existing blocks). Clay pavers tend to 'polish' more than concrete pavers, and are more susceptible to the growth of moss, lichens or algae. This can result in an increased risk of slipping, especially when wet. For this reason, concrete pavers are preferred where paving blocks are to be used.

C.7.3. The quality of bedding sand is critical to the performance of block paved roads. **Laying and jointing sands shall be in accordance with the Specification for Highway Works requirements for modular paving.** Many commonly occurring building sands do **not** comply with the carriageway grades of sand in that they have excessive fines and insufficient resistance to wear.

C.7.4. Once paving blocks have been laid for a while, particularly after significant rainfall, it may be necessary to 'top-up' after an initial application. For further guidance and recommendations regarding the laying of modular footways refer to the BS 7533 series.

C.8. Rural footway - Type 4 (Drawing HCC11/C/050)

C.8.1. Footway Type 4 is appropriate for use in rural settings where other types referred to above, would be inappropriate on aesthetic grounds. It is not suitable where there is likely to be regular use by wheelchairs, prams or pushchairs.

C.8.2. It is not an appropriate option where there is not good drainage or where there will be heavy leaf litter during autumn/winter months.

C.8.3. Self-bonding gravel as required for the finished surface will be a close graded material (typically 10mm to dust) with sufficient 'fines content' to provide a smooth finish on completion.

C.8.4. The successful laying of such gravels is dependent on the material being at or close to its optimum moisture content to allow compaction without segregation, whilst still 'moist'.

C.8.5. The finished product will often be dusty for quite some time after completion so is not suitable for use in residential areas.

C.9. Micro-asphalt

C.9.1. Micro-asphalts for footways have been developed as an alternative to surface dressing and in appropriate scenarios, resurfacing. Whilst it is not specified as a construction option and is unlikely to be used in new construction, it is a useful maintenance option for refurbishment or repair.

C.9.2. The installation of micro asphalt can be a cost effective treatment for aged and worn pedestrian areas. It should not be considered as a structural repair material, although minor depressions or undulations can be treated within the process.

C.9.3. It may be appropriate to undertake some 'patching' of footways prior to treatment with the application of the micro asphalt surface material.

C.9.4. **The design and application of micro asphalts should only be permitted by accredited installers (Highway Sector Scheme 13).**

C.10. Maintenance options

C.10.1. The following tables, detail commonly occurring defects/problems and proposed solutions for various type of footway / cycle track construction.

Table C2 - Maintenance treatments common to all types of footway / cycle track

Defect	Problem	Treatments	
		Temporary	Long-term
Depressions & bumps	Hazard for users	Fill or ramp. Contact appropriate Statutory Undertaker if cause is failed utility reinstatement	Reshape surfacing
Rutting	Hazard for users	Fill	Reshape surfacing. Prevent overrun & reconstruct if necessary.
Slippery surface	Hazard for users	Warn users or restore macro and/or micro texture	Clean, restore texture by cleaning or renew surfacing (environmental disposal to be considered when treating or washing the surface)
Surface contamination	Hazardous Unsightly	Clean or neutralise	Replace surfacing if necessary. Clean with suitable products (environmental disposal to be considered)

Defect	Problem	Treatments	
		Temporary	Long-term
Vegetation	Tree roots cause trips	Warn users or ramp trees	Reshape surfacing. Consider replacing with a more suitable material or system. (Specialist advice to be sought from Arboriculturist)
	Vegetation obstructs footway	Trim growth	Consider increasing frequency of maintenance (Specialist advise to be sought from Arboriculturist)
Water	Surface water	Salt if freezing	Reshape surfacing to correct gradients and cross-falls. Check maintenance of drainage systems.
	Blocked drainage	Clear blockage	'Jet' & survey system. Rectify any damage found.
	Burst mains	Inform Undertaker, make safe	

Table C3 – Maintenance treatments for flexible footways / cycle tracks

Defect	Problem	Treatments	
		Temporary	Long-term
Mosaic cracking (alligator cracking)	Embrittled surfacing Structural failure	Seal – (limited use for extensive cracking)	Replace surfacing (consider whether this should include binder and surface course).
Linear cracking	Water ingress, trips		Seal, replace surfacing or reconstruct if necessary
Loss of surface aggregate	Loose or uneven surface		Replace surfacing, consider micro-asphalt where appropriate
Potholes	Trips, water ingress	Fill holes (Approved pothole repair products)	Patch or replace surfacing if more than a single isolated defect.

Table C4 – Maintenance treatments for modular footways

Defect	Problem	Treatments	
		Temporary	Long-term
Broken or damaged modules	Unsightly appearance, water ingress. Significant trip hazard		Replace damaged modules, resurface or reconstruct depending on overall condition
Loss of jointing material	Water ingress, modules can move/rotate		Replace jointing material, (ensure correct material is used) and/or seal joints
Rocking modules	Hazard to users	Relay modules	Reconstruct if problem is due to overrun and consider design to reduce/avoid overrun
Spalling of arises or surfaces	Unsightly appearance		Replace damaged modules
Trips	Hazard to users	Relay modules	Reconstruct if problem is due to overrun
Widening of joints	Water ingress, modules can move/rotate	Fill wide gaps if a hazard	Relay surfacing and edge restraint if necessary
Discoloration	Unsightly appearance	Consider if significant enough to warrant any action	Only treat is structural or safety concerns apparent.