

***Shared Use Routes for Pedestrians and Cyclists* – Peer Review note by CTC**

CTC, the national cyclists' organisation, was founded in 1878. CTC has 70,000 members and supporters, provides a range of information and legal services to cyclists, organises cycling events, and represents the interests of cyclists and cycling on issues of public policy.

We welcome the opportunity to respond to the document, which is a welcome piece of guidance to help improve provision of routes for cyclists.

This response starts with some general points followed by detailed commentary on each section of the text.

Key principles and general statements

Treat routes away from roads differently from routes beside the road

The guidance needs to be more positive about off-road routes which are entirely away from the road. A well designed, well lit route through a green space without conflict from turning traffic is the best cycle facility available and can serve the needs of a very wide range of cyclist types.

At present the Hierarchy of Provision is causing confusion for implying that quality routes away from the road should be treated as “last resort” solutions in the same way as pavement conversions. The latter are unsatisfactory not just because of the potential conflict between pedestrians and cyclists but also because they are likely to worsen conflict between cyclists and motor traffic at side-roads and junctions.

However different criteria should apply for off-road routes which have few or no side-roads or junctions. Where such routes have adequate widths, sightlines and surfaces (or where these can be improved to a satisfactory degree), they will generally be safer and more attractive for many cyclists – and for all cyclists if they are also quicker and more direct.

The flow-diagram for the scheme development process (section 2) should be amended to reflect this point – see comments below.

Definition of ‘shared use’

The document needs to provide a clear explanation of how the term ‘shared use’ is being used. It is assumed in many places that it means a bound, off-carriageway linear route. However, there is no reason why bridleways or shared use across a public square or park cannot also be considered.

Indeed, the document attempts to cover both off-carriageway routes both for utility and leisure purposes. Although the document acknowledges that potential users are very different, the requirements of the users of each are not set out in detail.

Stronger guidance is needed on the benefits of upgraded rights of way – e.g. cycle tracks created from footpaths, not just simple conversion of existing footways to shared use. Alignments along wholly new routes are presently restricted to sites such as disused railways, where land ownership is simpler, alternative uses are few and width is adequate. However, such routes – predetermined by the existing corridor – are often of limited use for anything other than leisure use.

Five core principles

LTN 2/08 refers to “five core principles” of **convenience, accessibility, safety, comfort, attractiveness**, originally outlined in Dutch cycle guidance in 1993. A statement of the importance these must be included – principles such as these should not be left only for reference to another document.

Preserving energy for cyclists

A key overriding principle behind successful designing for cyclists is to provide a network that enables users to preserve energy. Nowhere in the guidance is this principle explained.

The Dutch guidance on planning for cycling has this to say:

“Prevention of unnecessary energy loss

The fact that the driving force is produced by muscle power means that in a bicycle-friendly design, energy loss should be kept to a minimum. Not all of the causes of energy loss that occur while cycling are important to the designer, but the rolling resistance is, because it is determined primarily by the road surface and how smooth it is. To keep energy loss as low as possible, the surface should preferably be covered with a smooth, non-porous pavement such as asphalt or concrete. But apart from ensuring a smooth road surface, there are other things a designer can do to minimise unnecessary loss of effort for cyclists. These include:

- *preventing or minimising height variations*
- *preventing unnecessary stopping and starting*

- *providing shelter against the wind.*¹

Unfortunately current UK shared use path standards often fail to meet these key recommendations:

- surfaces are often even worse than the (usually poor) road surface
- routes nearly always yield priority to side roads
- routes mostly fail to maximise cyclist momentum on the approach to upward gradients (e.g. placing signals at the bottom of steep route)

The guidance needs a stronger explanation of the need to conserve energy and allow cyclists to maintain forward momentum. Failing to do this may lead to risks being taken by cyclists – e.g. passing through signals or riding across side roads against priority.

This situation is in many ways similar to the behaviour of pedestrians. Designers are now urged to plan routes for pedestrians that take into account the pedestrian desire line, an acknowledgement of the fact that most pedestrians will always minimise their energy use and take the shortest, easiest route even if that exposes them to more danger.²

Adherence to standards

The text sensibly recommends widening facilities to the full width and using various land acquisition methods to achieve this, but fails to acknowledge that currently most shared use routes utterly fail to achieve these standards. The text needs to give a clearer indication that the current practice (whereby existing footways are converted with no additional width and no improvement in design) is simply unacceptable. Where off-carriageway facilities are deemed to be required substantial changes to any existing facilities will undoubtedly be needed and the text must state this.

Lighting

The document says virtually nothing about lighting. For shared use routes away from roads, the standard of existing lighting, or else the need to improve it, can be very important to the success or otherwise of a proposed cycle facility on a non-road alignment.

1. Introduction

1.2 states *“Some shared use routes are constructed from new, but the majority are created by converting footways or footpaths to dual use.”*

¹ CROW, Design manual for bicycle traffic. 2007. p 46.

² DfT/CLG/WAG, *Manual for Streets*. 2007; DfT, LTN 2/09: *Pedestrian Guardrailing*

While an accurate statement of the situation, the reality is hardly desirable. As noted just two paragraphs later, *“many shared use routes are poorly designed, particularly routes created by conversion of footways.”* (1.4)

CTC agrees with this statement and suggest that 1.2 be reworded to express the need NOT to continue making footway conversions as standard, and instead look to providing new, specific shared use routes.

1.3 states that *“implementing shared use by conversion can be controversial – pedestrians may consider sharing with cyclists to be a retrograde step.”* Likewise, cyclists are also likely to consider sharing with pedestrians to be a retrograde step, particularly where the widths and/or sightlines are constrained – the resulting conflict is undesirable for both user groups. The text should be amended to reflect this.

1.5 – CTC strongly supports the statement that explains that the guidance has changed and no longer recommends segregating pedestrians and cyclists by default.

2. Scheme development process

CTC supports the presentation of the Hierarchy of Provision in this section, however, we feel that more advice needs to be given to practitioners on how the Hierarchy is used correctly.

The flowchart needs to give stronger indications about when conditions on the carriageway need to be improved and point practitioners to the relevant sections of LTN 2/08, and to associated guidance, such as that produced by Cycling England.

2.2 correctly makes the point that where a shared use route on a new alignment away from an existing road is being prepared, the flowchart and hierarchy of provision is less useful. As noted in our introductory comments, we suggest the flow diagram should be amended to make clear that the hierarchy should only be used when considering what to do *on the carriageway*. If the preferred route is a non-road alignment, the flow diagram should allow it effectively to “bypass” consideration through the hierarchy of provision.

To put this into effect, we suggest that, after the box “Identify the preferred route”, there should be a question “Is the route on an on-road alignment?” If “yes”, then proceed to the “hierarchy of provision” decision-box. If “no” however, there should be a parallel box, in which the order of the questions is different:

* Does the proposed route have adequate widths, sightlines, surfaces and lighting to cater for the likely pedestrian and cycle demand without creating conflict?” If “yes”, go to the box saying “design new shared use facility”. If “no”...

* “Is there an alternative on-road route which could be designed to provide adequate cycling conditions?” If yes, go to the box marked “implement on-carriageway improvements” If “no”, go to the box marked “would shared use created by converting footways or footpaths be practical and appropriate?”

We also urge the inclusion of the speed/flow diagram as employed in Transport for London’s *London Cycle Design Standards* (see below) either here or in Chapter 4. The table given in LTN 2/08 (table 1.3) is reasonable, but the TfL version expresses more clearly the hierarchy’s vision of reducing speeds or traffic volumes where appropriate.³

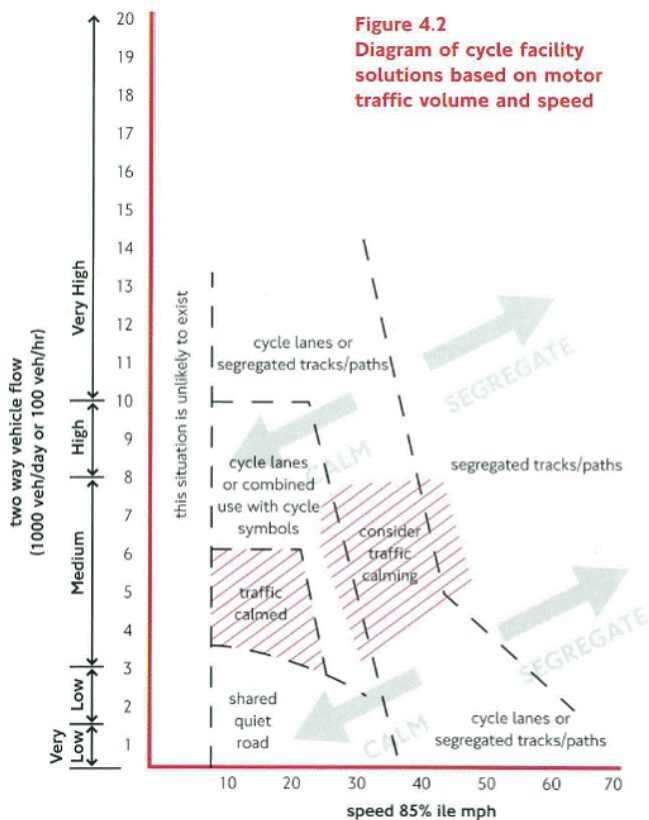


Figure 4.2
Diagram of cycle facility solutions based on motor traffic volume and speed

Notes:

1. Each route will need to be judged in the light of its specific situation
2. Cycle lanes or tracks will not normally be required in traffic calmed areas
3. Congested traffic conditions may benefit from cycle lanes or tracks
4. Designs should tend to either calm traffic or segregate cyclists

It should also be noted that improvements can be carried out both to the carriageway and to any off-carriageway facilities. The example below is from Newcastle (Scotswood Road). The off-carriageway is of slightly sub-optimal

³ DfT. LTN 2/08: *Cycle Infrastructure Design*. p 13

width, but in addition a cycle lane (of reasonable width) is provided alongside the dual carriageway. This means that different types of cyclist can be catered for.



Scotswood Road, Newcastle-upon-Tyne

4. Applying the Hierarchy of Provision

As with the paragraph above, we suggest that text explain that the use of the Hierarchy is determined by alignment. Only if the alignment chosen is on-road will the Hierarchy be necessary.

An entirely off-road alignment can be preferable so long as it provides a direct route and is maintained to a similar standard and comfort as any on-road alternative. Such routes are particularly valuable where a considerable proportion of the cycle traffic is likely to be for recreation. Alignments away from roads will also greatly benefit children and less confident cyclists.

Where an alignment alongside a road is most appropriate (as in most cases it will for purely practical reasons) the Hierarchy should be implemented. If the conversion of an existing footway or creation of a new shared use path is deemed to be the required solution, conditions on the carriageway should still be subject to improvements – not all users will choose to use the off-carriageway facility.

5. Site Assessment

*“Site assessment **is best** carried out by someone experienced in planning and designing for pedestrians and cyclists.”*

CTC suggests the following change to strengthen this phrase:

*“Site assessment **should only be** carried out by someone experienced in planning and designing for pedestrians and cyclists.”*

5.9-5.10 refers to the difficulty of providing for cyclists along alignments of varying gradient. This issue is more than just attractiveness, it also determines comfort, and, as the text notes, safety. Gradient should also be factored in when determining issues such as junction priority or signal location. The loss of momentum gained by downhill cyclists (particularly if it is followed closely by an uphill) must be avoided for comfort and safety reasons (see introductory remarks on preserving energy for cyclists).

5.14 refers to the possibility of reallocating road space on the carriageway to provide a wider facility off-carriageway. While we firmly support the need to reallocate road space, care should be taken not to increase conflict between cyclists and motor traffic at any junctions and/or side-road turnings, bearing in mind that c70% of cyclists’ injuries in collisions with motor vehicles occur at or near junctions.

While segregation might provide protection between the junctions, if poorly designed it could still provide no benefit (or even a net disbenefit) to cycle safety overall, by preventing cyclists from positioning themselves where they are best able to see, to be seen and to prevent themselves from being “cut up” dangerously by drivers at junctions, in accordance with cycle training to the national standard. If the road in question has frequent or major turnings or junctions, and it is not possible to give unambiguous priority to cyclists over motor traffic turning both into and out of the side-road(s), then it will usually be preferable to go for an on-road option. Similarly, if on-road cycle use can still be expected care needs to be taken that the remaining carriageway does not offer a hazardous profile for them.

The section on physical conditions (paragraphs 5.7 – 5.14) needs an additional paragraph to address the issue of lighting for alignments away from roads, or indeed for cycle tracks adjacent to unlit rural roads.

We support the presumption in 5.24 that illegal behaviour by cyclists may require remedial improvements to that route, either on or off-road.

5.31 explains the consequences if a high quality facility cannot be built owing to physical or funding constraints. It offers promoters the choice of reconsider on-carriageway improvements; use a lower quality design; wait until funding or space barriers can be overcome; retain existing arrangements.

We are greatly concerned that the lower quality design solution will be the one most often applied in this case, and therefore urge that this option is removed and the text must explain that great care must be exercised when choosing to lower standards.

Design standards exist to ensure that the proposed facility meets the needs of users and does not reduce the level of service.

6. General design considerations

Section 6 needs a section on lighting, covering the issues relating both to non-road alignments and to off-road cycle tracks adjacent to unlit roads in rural areas.

6.6 Suggests that *“combining pedestrian and cyclist flows along a route may strengthen the case for better crossing facilities”*. However, the best crossing facility is an unsignalled priority crossing (i.e. a zebra crossing for pedestrians). The desire to combine cyclist and pedestrian flows along a route with a zebra may mean that a more expensive and lower quality signalled solution may be employed instead.

This situation could be improved if systems for providing easy priority crossings for cycles could be provided without the need for full signalisation.

“6.10 Journey time may increase because there may be more discontinuities and deviation along the shared use facility compared with the on-carriageway route. This will reduce the willingness for cyclists to use it...”

6.11 ...a route with insufficient width, poor sightlines or frequent private drive crossovers can reduce convenience for cyclists, especially if they continually have to slow down or stop.”

Although these paragraphs accurately depict the current situation, they assume that the design flaws of allowing discontinuities and loss of priorities are an inevitable result of creating a shared use route – a worrying position for this guidance to take.

This assumption should be contested and the need for quality, priority provision should be restated here. It should not be expected that a newly designed shared use route following this guidance suffer from the problems outlined in 6.11.

6.13 omits impacts on frontagers, such as the potential to remove on-street parking when reallocating roadspace or the additional traffic to retail premises from the creation of (potentially) enhanced cycle-friendly network.

The problems suggested in 6.15 of creating too many signs in rural areas can be relieved by allowing more widespread use of discreet, appropriate sign sizes for such routes.

Maintenance

This subject is of critical importance. The guidance sensibly acknowledges that often maintenance standards are poor and that poorly maintained routes will lead to reduced use. LTN 2/08 is relatively useful in this regard and greater cross-reference (beyond the mention in 6.29) should be made.

Smooth, clean surfaces are critical for the success of a cycle route. Unlike carriageways, surfaces of shared use routes are not swept by the passage of traffic. Manual sweeping is required.

Variations in road surface affect cyclists much more than motor traffic. Disturbance of the surface due to vegetation or sub-surface movement should be carefully monitored and rectified where they occur.

7. Detailed design issues

Segregation

We welcome the move not to consider segregation of shared-use routes as the preferred approach. The guidance could perhaps note that, where pedestrian movement is mostly linear and there is adequate width, segregation can work well. However it should also make it clear that in most other situations, segregation by simple white line is likely to be ineffective, and may exacerbate conflict between cyclists and pedestrians rather than helping to prevent it. A better solution may be simply to mark cycle logos on the surface, to indicate to pedestrians that cycle use is permitted, but without giving cyclists any sense of priority over the route (or any part of it) that is unlikely to be respected in practice by pedestrians, including children.

Paragraph 7.9 explains well the characteristic that makes it effective, the principal determinants being conditions where high volumes of pedestrians or cyclists or high speeds of the latter can be expected. In these circumstances, where adequate space is available segregation may be more appropriate. The Dutch guidance specify that 200 pedestrians per hour per metre width is the limit at which shared use becomes untenable on a linear route.⁴

However, it should be remembered that Dutch routes tend to be much more heavily cycled and many of the trips walked in Britain are made by bicycle in the Netherlands. Furthermore, many of the routes there are one-way routes.

⁴ CROW, Design manual for bicycle traffic. 2007. p 135.

However, if pedestrian movement is leisurely and includes both crossing as well as moving along the route then it is better to design in such a way that encourages cyclists to view the space as one where pedestrians have priority and their speed and behaviour reflect that.

The guidance proposes that segregation by level difference “*gives best performance*”. It is true that a level difference serves to communicate the presence of a segregated lane to visually impaired and sighted pedestrians more successfully than just a white painted line. However, this is an extremely expensive means of establishing segregation when retrofitted to a previously level surface. It also introduces a potential hazard to path users.

Segregation by barrier and, to a lesser degree segregation by level difference result in a certain amount of wasted space, since the presence of a hazard means cyclists will require more space to avoid it.

Table 7.4 of the draft guidance does not correctly correspond to LTN 2/08 and the values given here (“*recommended*”) are considerably lower than the “*minimum*” standards identified in LTN 2/08.⁵ The figures in the present guidance should be amended to reflect the more generous widths in LTN 2/08.

In the case of a continuous barrier, LTN 2/08 specifies an additional 1 metre is required, for a short kerb an additional 0.25 m is required. For a two-way cycle use, which LTN 2/08 states should have a minimum width of 2.5 metres, the presence of a solid object to one side and kerb the other creates an effective necessary width of 3.75 metres, irrespective of the remaining area required for pedestrians. It is highly unlikely that any existing footway infrastructure exists of that width – any conversion therefore needs to involve widening and redesign.

Additional negative points to be added to table 7.3 are that a central wall, railing or bollard:

- prevents crossing movements for those leaving the path (especially for those in wheelchairs)
- limits cyclists’ ability to avoid obstructions and/or those pedestrians who choose to walk in the cycling section of the route
- creates ‘dead’ space adjacent to the railing, thereby reducing overall available width

Where adequate width is available, segregation by vegetation may be the most effective and visually appealing solution, particularly when mature trees provide the barrier between cyclists and pedestrians. This solution is, however, only likely on wholly new alignments where space is generous, pedestrian and cycle demand is high.

⁵ LTN 2/08 p. 16

The image below is from Kingston Road, Tolworth, illustrates this. Note that this was recently changed from two-way cycle paths on either side of the road. Route continuity remains a problem here: this is a far from ideal cycle route.



Kingston Road, Tolworth, London

Priority for cyclists

It is the issue of priority over side turnings that represent the most substantial barriers to providing high quality cycle tracks in the UK. Without sound legal and technical structures to support cycle track priority over side-turnings off-carriageway routes will remain objectively poor facilities that slow down cyclist and create unrealistic expectations that they must slow down or stop repetitively in a manner they would not have to do if using the carriageway.

The reason why cyclists require priority needs to be explained in the guidance. As a self-propelled means of transport the need to conserve energy in the form of momentum is critical to preserve any competitive advantage cycling enjoys. See the section above on preserving energy for cyclists.

“7.34 Cyclists should have priority over vehicle cross-overs for private accesses. It may be practicable to maintain cycle track priority when passing certain commercial properties such as where sightlines are good and vehicles movements across the cycle track are low, a good quality cycle riding surface past the access might be more useful than giving the cycle track priority”

CTC strongly disagrees with this paragraph. Cycle tracks should always be given priority over commercial vehicle access. A good quality riding surface should be a given, not a special privilege preferred to having priority.

“7.35 Where the cycle track crosses the mouth of a side road, conceding priority to cyclists needs careful consideration because of the potential consequences of a driver failing to recognise the need to give way. A cycle track can only be signed to give cyclists priority if it crosses the road on a road hump

7.36 A cycle track without priority can also be taken across the road on a road hump. This is a useful option – it avoids the potential problems with giving cyclists priority while in many cases, cyclists will be able to cross without stopping.”

This is a very weak position. It fails to explain the huge benefits from maintaining priority for cyclists, chief amongst them being the fact that many cyclists are very unlikely to choose to use a facility that constantly yields to turning traffic. Those planning the route ought to ensure that it is a desirable route. If the route designed doesn't meet the standards required to provide a quality shared use facility then designers need to return to the hierarchy of provision.

8. Stakeholder engagement and participation

Once again, this section has been written with the expectation that the type of facility established will be a low quality, narrow shared use footway which is bound to cause opposition from pedestrians and cyclists alike. Instead the document should explain that a properly designed facility should not create conflict between cyclists and pedestrians.

8.5 appears to express the view that schools, colleges or universities near roads *will* experience an adverse effect. In all likelihood a well designed shared use facility will be beneficial for such institutions.

10. Legal issues

This chapter accurately depicts the rather confusing and challenging legal framework in which routes for cyclists are currently planned. A wholesale review of how cycle infrastructure is provided is required. The Cycle Tracks Act 1984 is ineffective: local authorities are unwilling to use it and pedestrian groups are rightfully dissatisfied with the prospect of losing footpaths from the Definitive Map, even if only on a temporary basis.

Please note that under 10.19 the phrase *“road fund duty”* is inaccurate and should not be used. A better way to express this is: *“powered invalid carriages are subject to £0 vehicle excise duty but must still carry a tax disc”*.

**CTC, the national cyclists' organisation
July 2011**