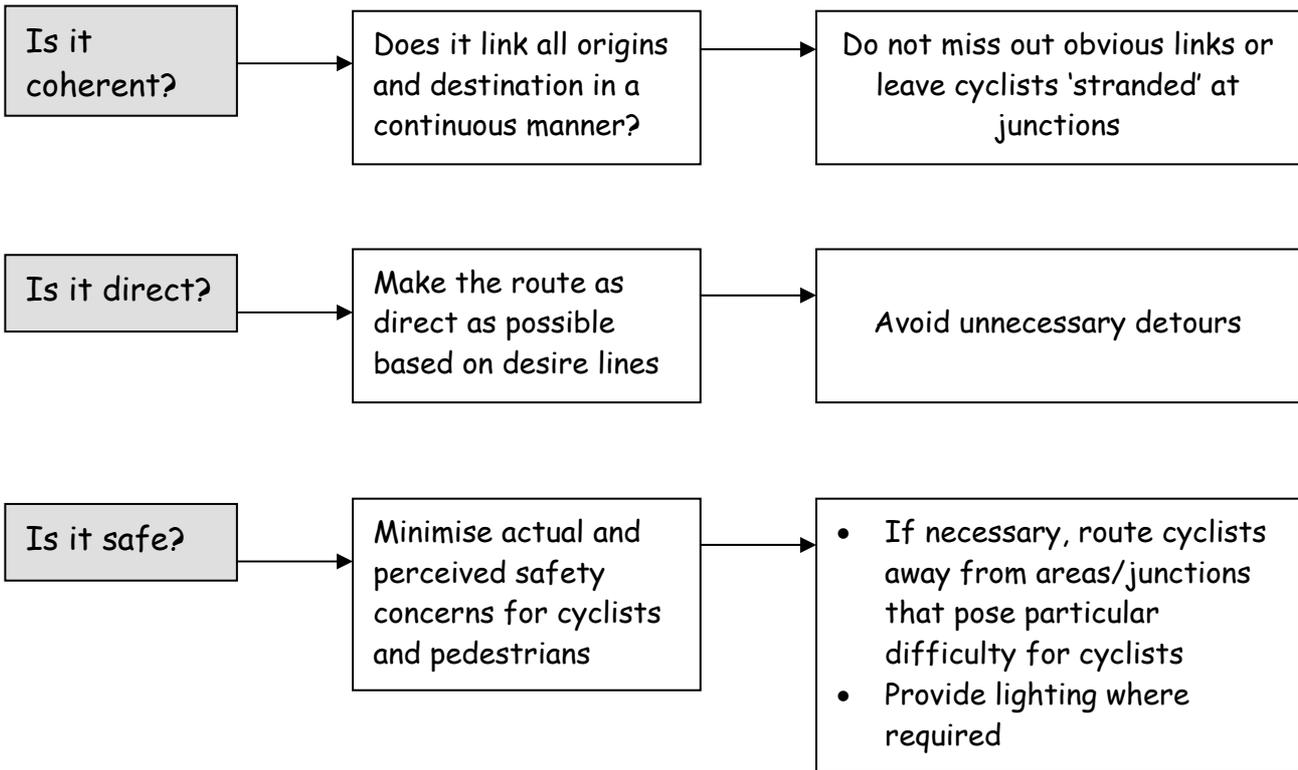


3.0 Cycle Route Planning - Choosing the Right Facility

3.1 Overview

When designing a cycling scheme, ask yourself three questions.
This will assist in providing a successful scheme.

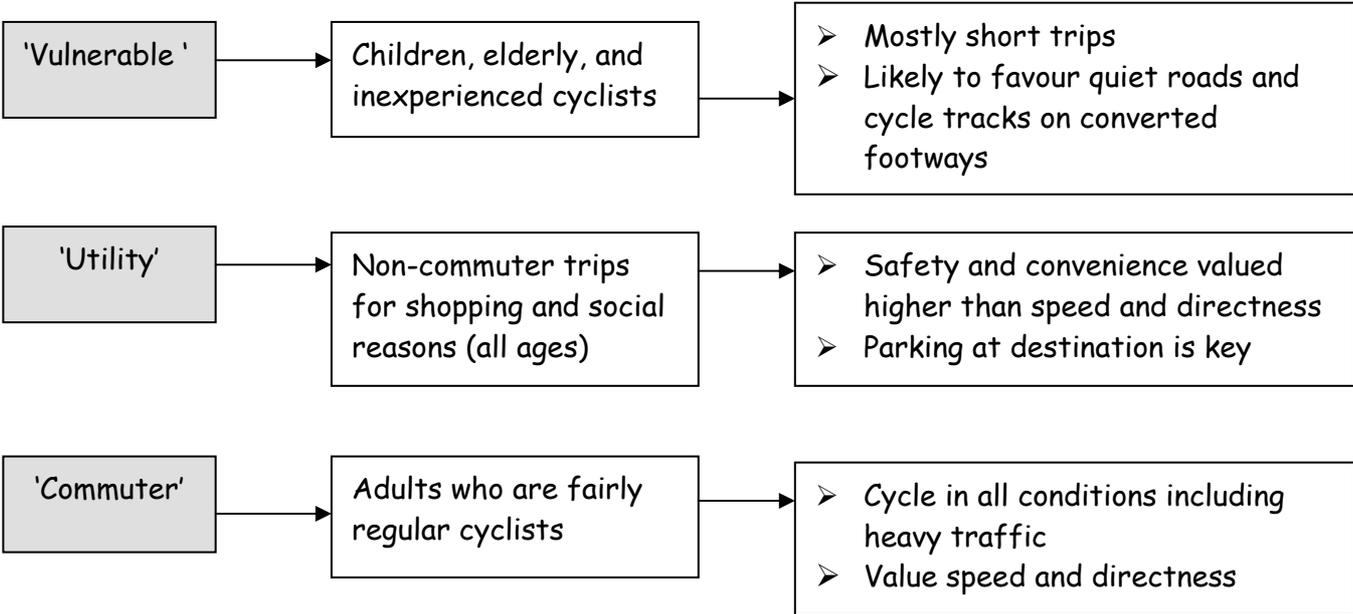


Remember

- A route for cyclists does not necessarily require the provision of dedicated cycle facilities such as cycles lanes and cycle tracks
- More often, popular routes tend to be those that do not have dedicated facilities but instead have low traffic flows, are well lit, in full public view and more direct than an alternative road. Signing of routes/destinations can help a great deal
- Most cycling takes place on the road and this will continue to be the case. As such it is essential that the road network is made more suitable for cycling, or at the very least that conditions are not made worse for cyclists

When designing any traffic management scheme, it is worthwhile taking a few minutes to stand back and look at the scheme and consider how *you* would use the scheme if *you* were a cyclist or a pedestrian.
This approach can often show up areas that may require modification.

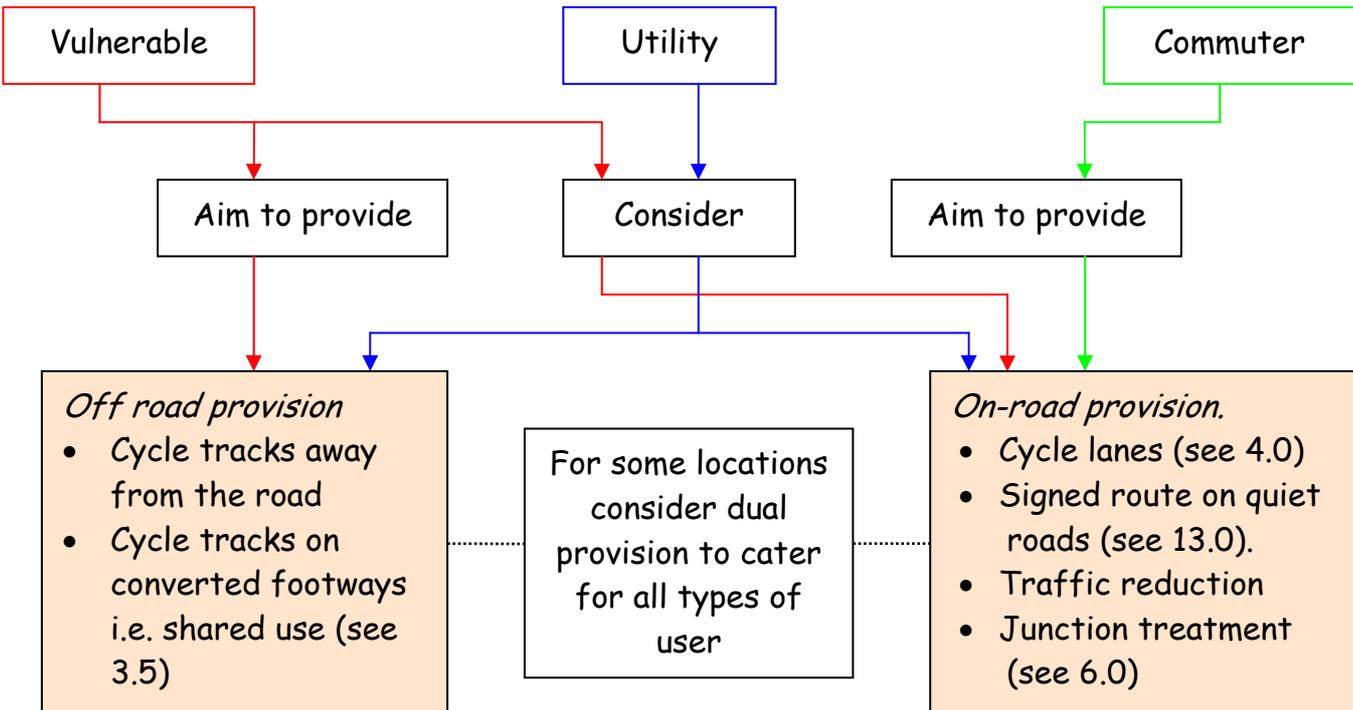
3.2 Different Types of Cyclists



➤ It is perfectly valid to consider the provision of facilities that simultaneously cater for different user types. This is known as dual or parallel provision.

➤ For example, it may be possible to provide a cycle lane with Advanced Cycle Stop Line (ASL) in addition to a shared cycle track/footway facility with a signal controlled cycle crossing.

3.3 Deciding on the main intended user of the facility

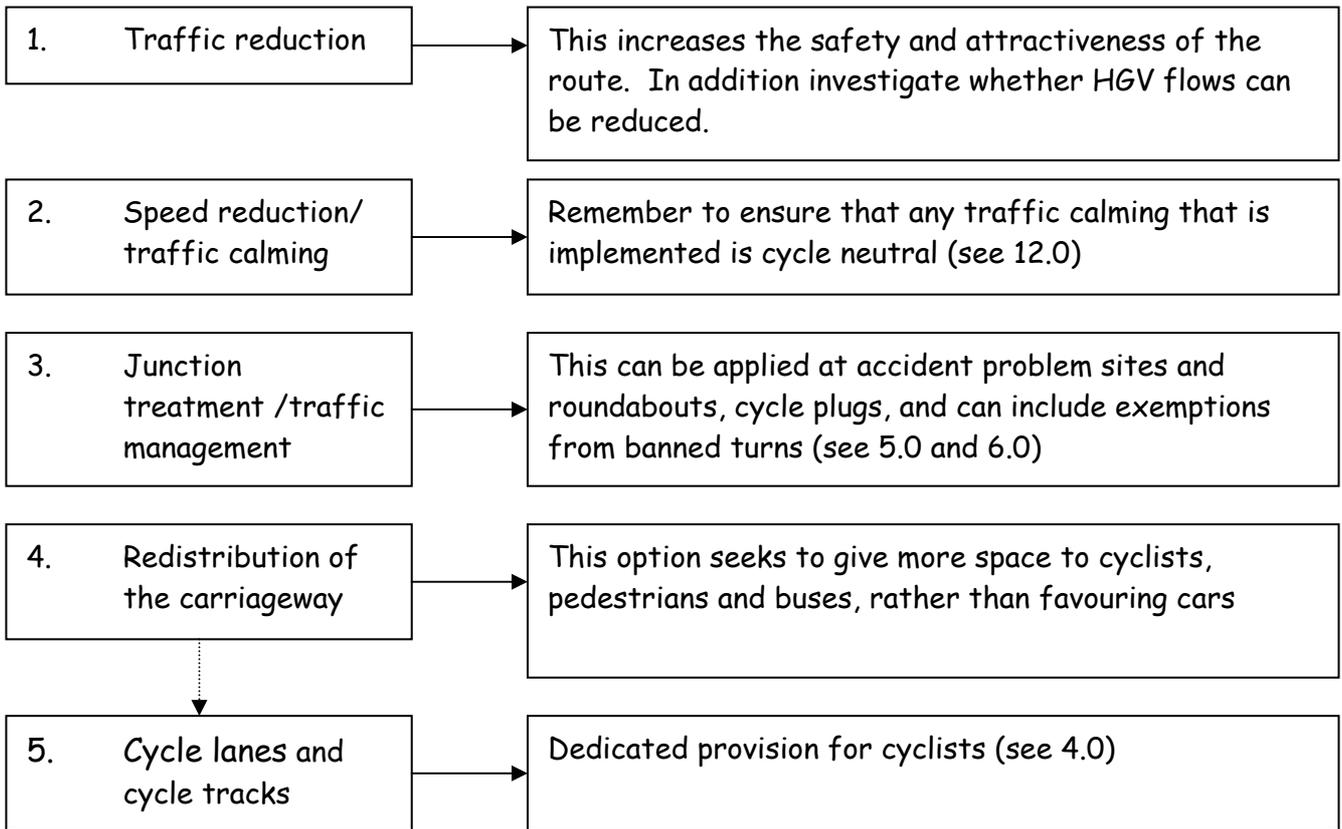


3.4

Hierarchy of Solutions for Cycle Provision

Source: IHT Cycle Friendly Infrastructure 1996

When determining how to best provide for cyclists on a route, the following hierarchy of solutions helps to identify options to be considered.



Note: cyclists can be provided for by any combination of the above measures.

'It is preferable to leave footways intact and take space from the carriageway to provide for the cyclist'

(Sustrans, National Cycle Network Guidelines and Practical Details, March 1997)

Only consider the provision of cycle facilities on a converted footway (i.e. shared use provision) when options for other measures have been exhausted.



Photo 3.1 Courtesy CTC

Photos 3.1 & 3.2
Before and after photos showing the redistribution of a rural road (Devon)



Photo 3.2 Courtesy CTC

3.5 Providing Dedicated Cycle Facilities - On or Off the Carriageway?

Having been through the hierarchy of suggested solutions, in this instance I cannot provide either traffic or speed reduction. I am therefore looking to provide a dedicated cycle facility. Should this be on the carriageway (signed route or cycle lane) or a cycle track possibly on a converted footway?

In urban areas, the first consideration should be to provide the cycle facility **on the carriageway** (a cycle lane, or signed route on quiet roads)

- this maintains the footway intact for safe use by pedestrians
- particularly important in areas where the footways are likely to be well used by mobility / visually impaired pedestrians
- it may be possible to reduce the width of wide footways to provide carriageway space for cycle lanes
- if traffic speeds/volumes are low or can be reduced by traffic management measures then a cycle lane may not be required

See section 4.0 for design notes on Cycle Lanes

See section 14.0 for design notes on signing of routes using quiet roads

A cycle track on a converted footway (shared use) can be considered if:

- the intended user group is 'vulnerable' as defined in Section 3.2.
- the road is rural in nature
- the road is high speed >40mph
- road widths do not permit provision on carriageway & traffic flows are high
- there is a high percentage of HGV's,
- the facility provides a necessary (short) link between other routes
- there is need for provision around a roundabout

Remember:

- Not all cyclists like shared use facilities as journey speeds are often lower due the need to slow down to cross side roads and accesses. The CTC once calculated that the work involved in starting and stopping to "give way" is equivalent to cycling an extra 100m.
- Crossing junctions/accesses and joining and leaving the carriageway may also raise safety concerns
- Route must be coherent and not just converted because the footway is wide

For information on how to provide facilities for joining and leaving a cycle track (see 5.6)

Remember that cyclists are invited onto the footway as guests. Footways are primarily for pedestrians.

3.6 Should a shared use facility be *SEGREGATED* or *UNSEGREGATED*?

- A **SEGREGATED** facility is preferred where possible, especially in urban areas and where the flows of pedestrians and cyclists are likely to be high (>200 per hr).
- This maintains a safe facility for pedestrians especially for those with visual impairments.
- Cyclists are normally located nearest to the carriageway on segregated facilities.

3.6.1 Unsegregated Cycle Track/ Footway

- An **UNSEGREGATED** cycle track on a converted footway should only be provided if:
- Low pedestrian/ cycle flows
 - Limited widths available (minimum provision is 2.0m)
 - In a rural area where pedestrian flows are minimal
- Design considerations**
- Preferred width is 3.0m (min 2.0m)
 - Sign to *diagram 956*
 - Provide cycle logo to *diagram 1057* and pedestrian logo

3.6.2 Segregation by Change in Level

- A change in levels clearly demarcates the areas for the different users and is particularly beneficial for those with mobility or visually impairments. Pedestrians are accustomed to the concept that 'up equals safe'
 - This option can be more expensive and land intensive. There can also be difficulties in ensuring drainage.
- See photos 3.3, 3.4 and 3.5

- Segregation by Change in Level:**
Design considerations:
- 3.0m minimum width required for a shared use cycle/ pedestrian facility
 - The minimum pedestrian width is 1.5m (absolute minimum 1.2m at isolated pinch points)
 - Colour contrast the two separate levels
 - The change in level can be achieved by a 50mm kerb upstand - ideally battered at 45 degrees. This enables cyclists to cross over the kerb.
 - For more information See 'Summary of Design Standards' (Section 2.4)

Photo 3.3
Courtesy CTC

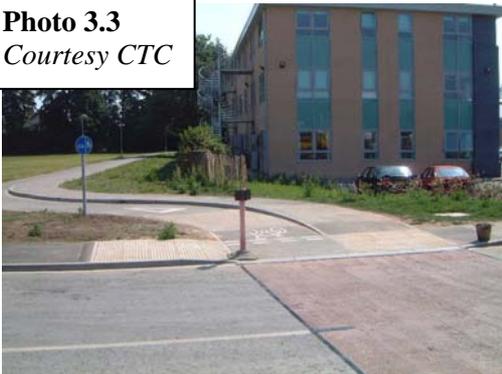


Photo 3.4



Photos 3.3 and 3.4 are examples of segregation by change in level.

Photo 3.5 shows detail of a battered kerb

Photo 3.5



3.6.3

White line Segregation

A **white line** should be used if level change cannot be provided:

- This helps people with visual impairments keep to the correct side. Tactile paving advises them of the correct side to enter
- This should take the form of a **non-reflective** thermoplastic strip to *diagram 1049.1* which **must be white**. The line should have a skidding resistance value of 55 after application.
- This provides a cost-effective dividing strip that is both detectable by those with visual impairments, and can be crossed with safety by cyclists (and pedestrians).
- Block segregation tends not to be used due to drainage issues and the maintenance impact of vehicles regularly running over them to access properties, garages etc.

White line (and block) segregation

Design considerations:

- The minimum width for two way cycles and pedestrians is 3.0m
- For a 3.0m footway width, share as 1.7m pedestrians and 1.3m cycles. This split allows a cyclist to pass a carer and buggy with small child holding on to side (a common configuration). The likelihood of 2 cyclists passing at the same time is much less
- If a hedge or a wall bound the track, then add 0.25m. If the cycle track is immediately adjacent to a 40mph (plus) carriageway, provide a 0.5m 'buffer' strip delineated by non-reflective *1010 marking* (50mm wide 1m line 1m gap). Provide edge of carriageway marking *1012.1* on high-speed roads to create an additional buffer zone, where widths allow. Note that central hatching can be amended.
- The cycle track should normally be located adjacent to the road, with the footway furthest from the road (see photo 3.7)
- Signs to *diagram 957* to be placed at the beginning and at regular intervals
- Provide cycle symbol to *diagram 1057* and pedestrian symbol to *diagram WBM 194* at the beginning and end of track, at side roads and junction with other pedestrian/cycle routes.
- *For bus stops see Section 9.0*

Photo 3.6



Photo 3.6
Detail of raised blocks

Photo 3.7
segregated footway conversion

Photo 3.7



3.7

Common problems with shared routes

Photo 3.8



Up and down effect caused by driveways

Photo 3.8

When converting a footway to allow cyclists to be present, consider how usable the footway really is for cyclists. In the example here the driveways and crossfall of the existing path provide an uncomfortable ride for users. Consideration needs to be given to reprofiling the footway or provision of an on carriageway solution instead.

Photo 3.9



Lighting columns in the centre of the shared path

Photo 3.9

If a footway is converted to allow cycles, it is vital that existing lighting columns do not hinder the route. Columns should be relocated to the back of the footway or if this is not possible an alternative route should be found for cyclists. It is not acceptable to lay white paint around the base of the column as shown here.

Photo 3.10



Too many accesses to cross along a route

At best this causes an inconvenience to cyclists, meaning that they are regularly forced to give way at side roads and accesses along a route. This in turn often means that many cyclists stay on the carriageway and don't use the dedicated cycle facility.

Photo 3.10

In this example, as well as being undesirable for cyclists by slowing their journey down, due to the type of access it is potentially dangerous for them. At accesses where cyclists are likely to come into contact with high numbers of vehicles, including HGVs (e.g. petrol stations, business parks) consider alternative routes around the rear of these premises for cycles. Alternatively if there are high levels of cycling look at measures to slow entering motorised traffic down, such as plateaus or reducing the radius of the motorised vehicle access.

Photo 3.11



Photo 3.11

A good unsegregated shared pedestrian/ cycle facility. A wide, level and well-maintained surface is present. There is a substantial distance between side road junctions along this section, allowing cyclists to gather momentum. The grass verge provides a buffer from the busy adjacent carriageway and all street furniture/ trees are in-line at the front of the footway.

3.8

Tactile paving for shared routes

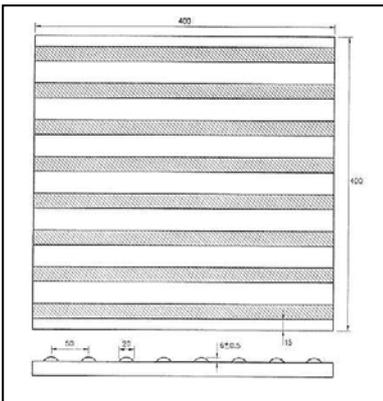


Photo 3.12

Photo 3.12
Segregated shared use facility with tramline and ladder paving at toucan crossing approach

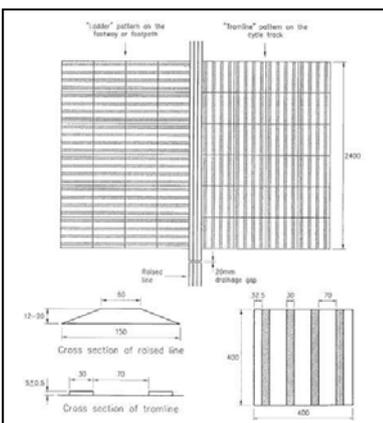
General tactile and dropped kerb issues:

- Upstand at dropped kerb - flush on cycle routes
- Tactile depth - 1200mm when in-line for pedestrians, 400mm when off direct line of travel (this is less likely to apply on a cycle route than just indented dropped kerbs on a normal footpath), 800mm for crossings away from junctions (e.g. dropped kerbs leading to a central refuge). At all controlled junctions the tactile depth is to be a minimum of 800mm (1200mm if it is in-line)
- Opposite dropped kerbs to line up
- Gradient on approach to dropped kerb should be 1 in 20 (1 in 12 absolute max)



Above Corduroy paving

Below Tramline and ladder paving



Unsegregated shared use pedestrian/ cycle facilities:

- In areas with high levels of pedestrians corduroy paving should be used on side roads approaching the facility to warn people with visual impairments that there is a potential hazard.
- No corduroy paving should be used along the actual route.

Segregated shared use pedestrian/ cycle facilities:

- A tramline and ladder surface (not corduroy) should be laid at the start and end of the shared segregated route. The surface should extend the full width of the footway and extend for a depth of 2400mm. 800mm may be more appropriate if segregated facility is only for a short length.
- If the route extends for a considerable distance without any breaks, repeater strips should be laid as above but only a 800mm depth of surface is required.
- On the pedestrian side the bars should run across the direction of travel ('ladder'). On the cyclist side these should run in the direction of travel ('tramline').
- A cycle logo (painted or a slab) should be used to diagram 1057 to show the cycle side of the facility.

