

Chapter 7 - Rural Roads

Rural Roads

On a significant length of the National Cycle Network cyclists will share rural roads with other traffic. The objective is to incorporate into the National Cycle Network roads where vehicle flows are generally less than 1,000 vpd and where measures to introduce an element of traffic calming can be put in place. Rural roads vary from open fenland roads where visibility may be very good, to former drove roads with wide grass verges, to narrow lanes bounded by stone walls or high banks as in the Lake District or Devon. In many instances the sight lines are minimal and little more can be done to improve them. It should be noted that conditions often appear more hazardous to motorists, who cannot hear the sound of approaching vehicles, than to cyclists who can. Cyclists also have a much narrower width and so are able to pass an oncoming car where a motorist could not. Nevertheless it will often be necessary or desirable to reduce the speed of motor traffic using sections of rural road shared with or crossed by the National Cycle Network.

Measures for Rural Roads

The Countryside Commission has a strategy of promoting 'Quiet Roads', routes for pedestrians, wheelchair users, cyclists and equestrians.

Behaviour of drivers on minor rural roads varies, and designers will need to make use of local knowledge of traffic speeds in determining the measures to be used in association with the introduction of a National Cycle Network route.

At the same time the National Cycle Network may be used as a catalyst for introducing traffic calming measures in the countryside, aimed at reducing the speeds and in some cases the volume of motor traffic.

These measures might include:

(i) Speed limits

Reducing speeds to 30mph or below (20mph zones may be implemented in suitable rural locations and 15 mph speed limits have been introduced on Jersey's Green Lane network).

Speed limits may be introduced as part of an area wide approach eg. Romney Marsh, Kent and the New Forest, Hampshire. These would be reinforced by road markings (speed roundels) and traffic calming measures (rumble strips, gateways, narrowings etc). Within such zones, lower speed limits can be applied to selected roads.

Speed limits might also be used as part of a county road hierarchy approach where the lowest category of road, local access road, could be subject to a 20mph or 30mph speed limit. Such a road could be deemed to be for access to premises or land only, and so largely traffic-free for pedestrians, wheelchair users, cyclists and equestrians.

Speed limits might also be introduced on isolated sections of road used by the National Cycle Network, where appropriate in conjunction with calming features previously described.

Speed limit roundels painted on the carriageway may be used as repeaters in combination with upright repeater signs. To be effective they should be used together with physical traffic calming features.

(ii) Road Closure/Access Restriction

The most effective method for reducing traffic on minor rural roads is to close the road and provide a cycle gap. This can be achieved in a number of ways depending on the access needs of the locality: permanently with a locked gate with an unlocked gate.

Alternatively access can be restricted by weight restrictions width restrictions category of vehicle e.g. coaches, HGVs time and season.

Further, access restrictions have been introduced indicating a road closure, but with the road left open. Consideration could be given to additional measures, such as installing a gate which is kept permanently open, creating the impression that it could be closed.

Finally as part of a county road hierarchy signing can be used to direct traffic away from particular routes and onto more appropriate routes. This may also involve the re-arrangement of the layout of some junctions.

(iii) Engineering Measures

The introduction of pinch points (possibly incorporating a priority system) with cycle bypasses can not only reduce speeds but also act as a way of regulating vehicle flows on roads which suffer high seasonal or weekend flows but which have acceptable levels of traffic for the rest of the time. At some locations it may be appropriate to narrow a section of road to single track, with passing places. Motorists must be given sufficient advance warning of the presence of such features, such that they can comfortably modify their speed prior to reaching them.

Rumble strips, localised narrowing of the carriageway and optical width measures may be used on busy sections of rural roads shared with or crossed by the National Cycle Network, on which more modest speed reductions are required.

(iv) Changed Priority at Junctions

Where, for example, two roads each with less than 1,000vpd cross, the road with the major cycle flow could be given priority.

(v) Advisory Cycle Lanes

It is recommended that on roads carrying between 1,000 - 4,000 vpd the provision of advisory lanes be considered. On roads where the 85 percentile speed is greater than 40mph measures to reduce motor vehicle speeds should be considered. Advisory cycle lanes will act as a continuous warning to drivers of the presence of cyclists.

Other traffic calming measures include coloured surfacing at junctions, cycle logo (Diag No. 1057) on carriageway approaching hazard, signing and carriageway markings.

The assessment should include an evaluation of the experience of cycling on the road, which may conclude that no special measures are required.

The creation of a National Cycle Network route will offer the opportunity to introduce some rural traffic calming into areas where there are existing problems. This will benefit local residents, pedestrians, wheelchair users and equestrians alike.

Villages and Small Towns

The National Cycle Network will pass through numerous villages and small towns. Indeed it will go out of its way to do so. These are places cyclists will wish to visit, and it gives an opportunity to enhance the conditions for local cyclists on routine journeys.

Lightly trafficked roads through villages and small towns will be attractive as National Cycle Network routes. Where speeds are maintained at or below 30mph and traffic flows are below 1,000 vpd, the roads can safely be shared between cyclists and motor vehicles. Opportunities should be taken to enhance the environment for cycling by the introduction of a 20 mph speed limit with associated gateways and appropriate traffic calming measures.

Many towns and villages suffer a heavily trafficked main road. It is unlikely that this

would be used as the National Cycle Network route into the town or village but it may be the only realistic way through the centre. In this case measures described elsewhere such as cycle lanes, dividing strips between cyclists and parked cars, and segregated cycle tracks/footways should be considered.

The opportunity for a 20 mph speed limit should be investigated. If safe conditions cannot be achieved then it will be necessary to find an alternative route.

If the main road and shopping street is bypassed by the National Cycle Network it is important that local signing indicates how shops and other facilities can be reached from the National Cycle Network, and that directions are given to bicycle parking areas.

The appraisal of a small town or village high street for a National Cycle Network route should begin with traffic speed, flow evaluations, and dimension checks on the width of the highway between boundaries. At this stage it would be appropriate to consider whether the general environmental benefits and traffic reduction could be achieved through a traffic calming/traffic diversion approach. Removal of kerbside parking, contra-flow cycling where streets have been made one-way, and similar approaches should also be considered.

The National Byway

The National Byway, launched in November 1996, will comprise a 3,000 mile long recreational cycle route along existing minor rural roads and taking in more than 1,000

heritage sites. A further 2,000 miles of linked loops are being marketed for day trips. It is being developed in parallel with the National Cycle Network and a basis for cooperation has been agreed between Sustrans and The National Byway Ltd.

The National Byway is intended for leisure cycling, with particular emphasis being given to the attractiveness of the route rather than directness.

The route selection criteria conform to those of the National Cycle Network for safety and The National Byway will adopt and comply with the road safety elements of these Design Guidelines.

Signing of The National Byway is being agreed with the Department of Transport. Where sections of it coincide with National or Regional Routes, combined signs will be appropriate. The signing is not being covered by the Amendment Regulations and will require authorisation.

Cycle Area Gateway - Figure 7.1

Notes

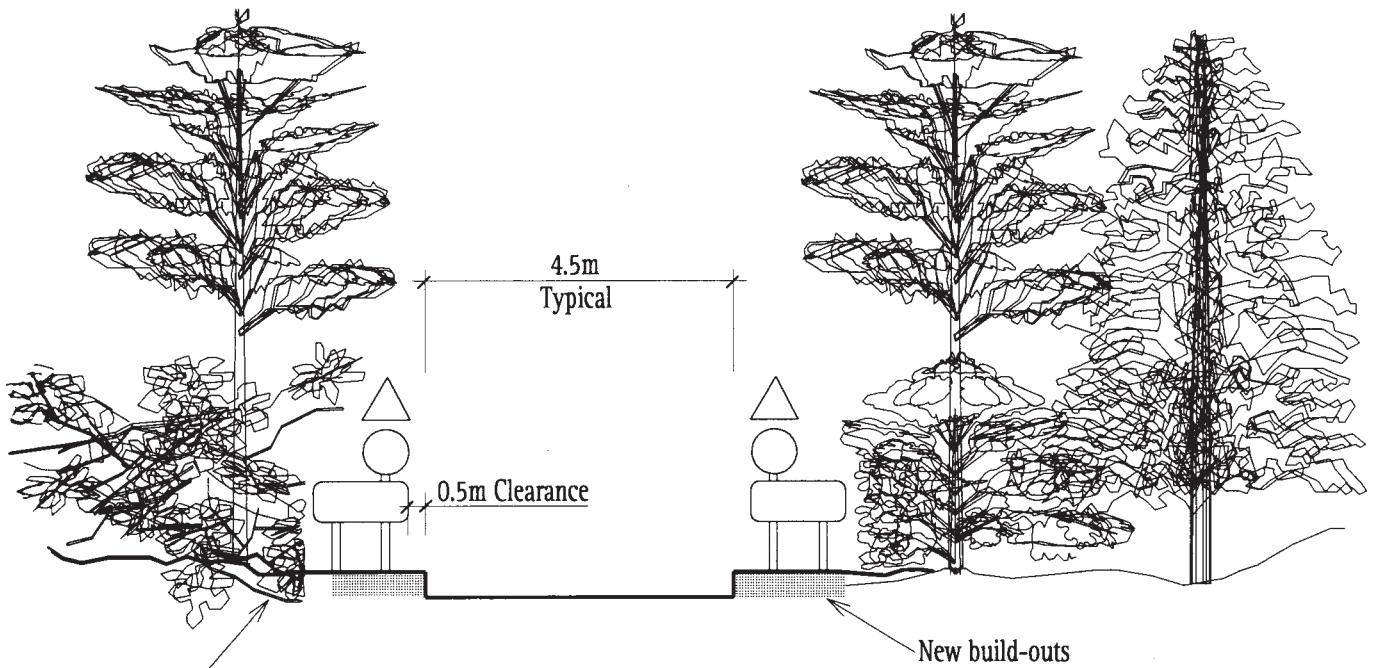
1. Gateways may incorporate speed limit signs.
2. Other features that may be incorporated into a gateway include speed roundels, rumble strips/surface, coloured surfacing, central refuge, white lining.
3. Gateways will often be part of area-wide traffic calming and be placed in advance of other measures.
4. The gateway sign may advise of the National Cycle Network only but in other instances will give the village name.
5. In areas where the National Cycle Network route is sufficiently remote from the gateway sign an alternative may be to locate the National Cycle Network route ahead signs separately.
6. The provision of a cycle bypass at gateways is recommended if required by traffic volumes.

References

1. Traffic Calming Act 1992
2. Highways (Traffic Calming) Regulations 1993 (SI 1993 No. 1849) (S)
3. Traffic Advisory Leaflet 13/93: Gateways
4. Traffic Advisory Leaflet 3/93: Traffic Calming Special Authorisations
5. Traffic Advisory Leaflet 1/94VISIP - A Summary

Examples

1. Surrey : The STAR project is to implement a 40 mph zone, and several villages within the zone are to be calmed with gateways and 20 mph zones
2. There are many examples of gateways to villages in various forms



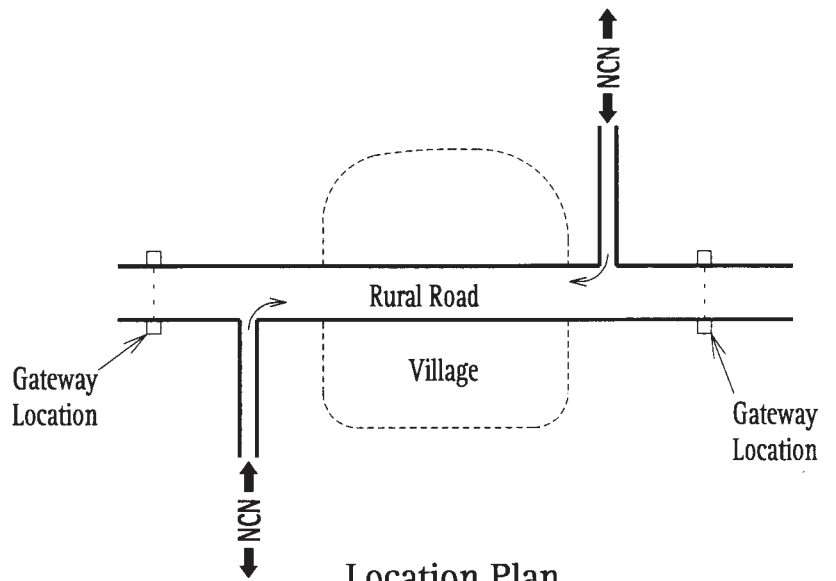
Elevation Of Gateway

A cycle bypass can be provided at this location if considered necessary



Typical Signing Arrangement
(Without a village present)

The gateway features can be provided to enhance sections of the National Cycle Network route alone i.e. without a village present



Location Plan

Features on Links - Figure 7.2

Notes

1. The preferred method of making rural roads safe for cyclists on National Cycle Network routes is reduction of motor traffic volumes and/or speed.
2. Roundels have been incorporated into the details. These currently require DOT special authorisation as repeaters and must be used in combination with upright signs. It is expected that they will be prescribed in the Amendment Regulations. 30mph repeaters will only be prescribed for use on unlit roads. To be effective, roundels should be used together with physical traffic calming features.
3. Roundels have been shown centrally within the details. They are normally painted on the correct side of the carriageway, but if the width of the road is such that the roundel needs to be sited centrally then they should be repeated for the opposite direction.
4. Where speed limit enforcement is not in place, roundels are to be omitted.
5. The advisory cycle lanes are proposed to enhance traffic calming. Motorists are permitted into advisory cycle lanes whilst passing oncoming vehicles. The minimum width of 4.0m between cycle lanes will only be appropriate on low flow roads with good forward visibility, if the encroachment of motor traffic into the cycle lanes is to be minimised.
6. Edge of carriageway markings should be used sparingly.

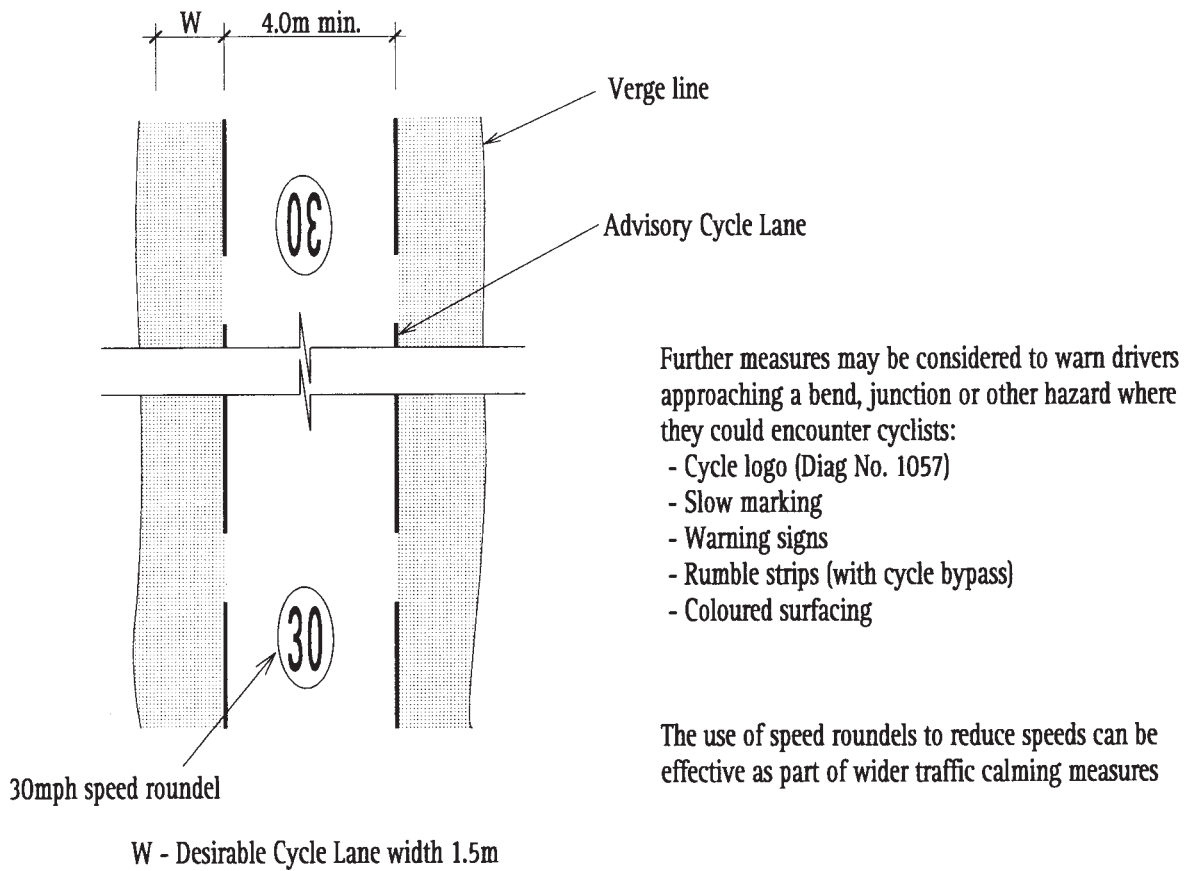
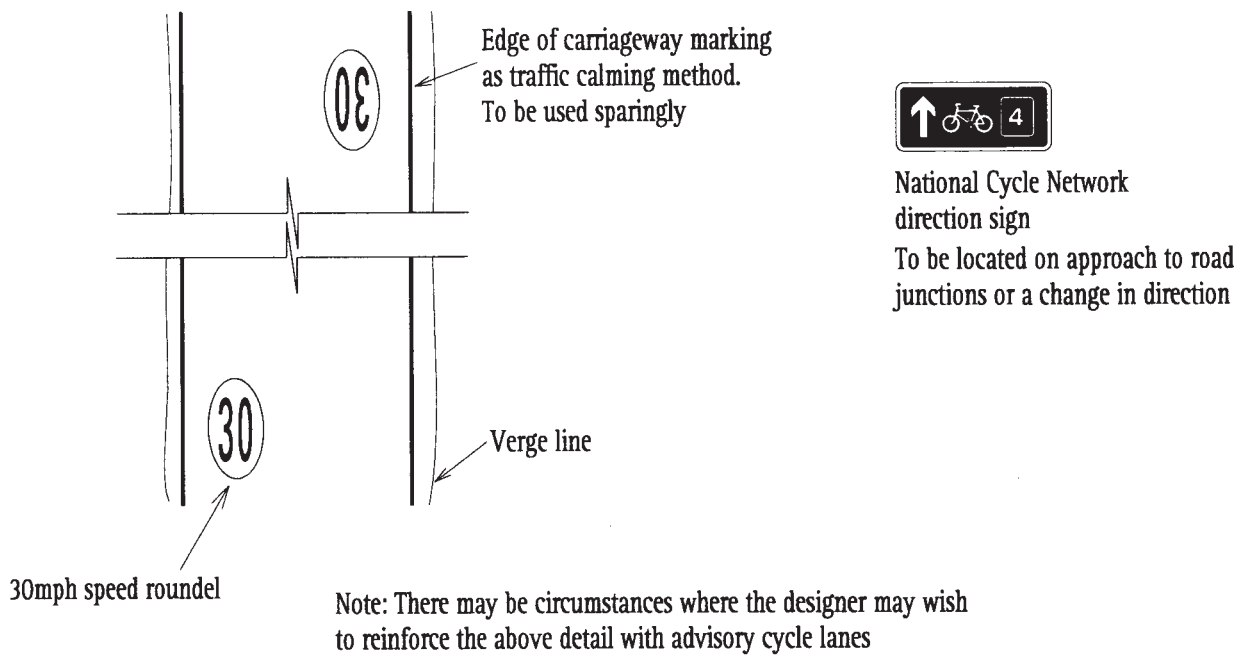
References

1. The Highways (Traffic Calming) Regulations 1993 (SI 1993 No. 1849) (S)
2. Traffic Calming Act 1992
3. Traffic Advisory Leaflet 1/94 VISIP - A Summary

Examples

1. Currently, Kent County Council are proposing a 20mph limit on certain low standard rural roads as part of an area wide scheme for a 40mph zone in Romney Marsh (similar schemes, with 40mph limits, are already being tested). The boundary of the zones can be marked with gateways: repeater roundels can be painted on the carriageway

Features on Links - Figure 7.2



Major Road Crossings - Figure 7.3

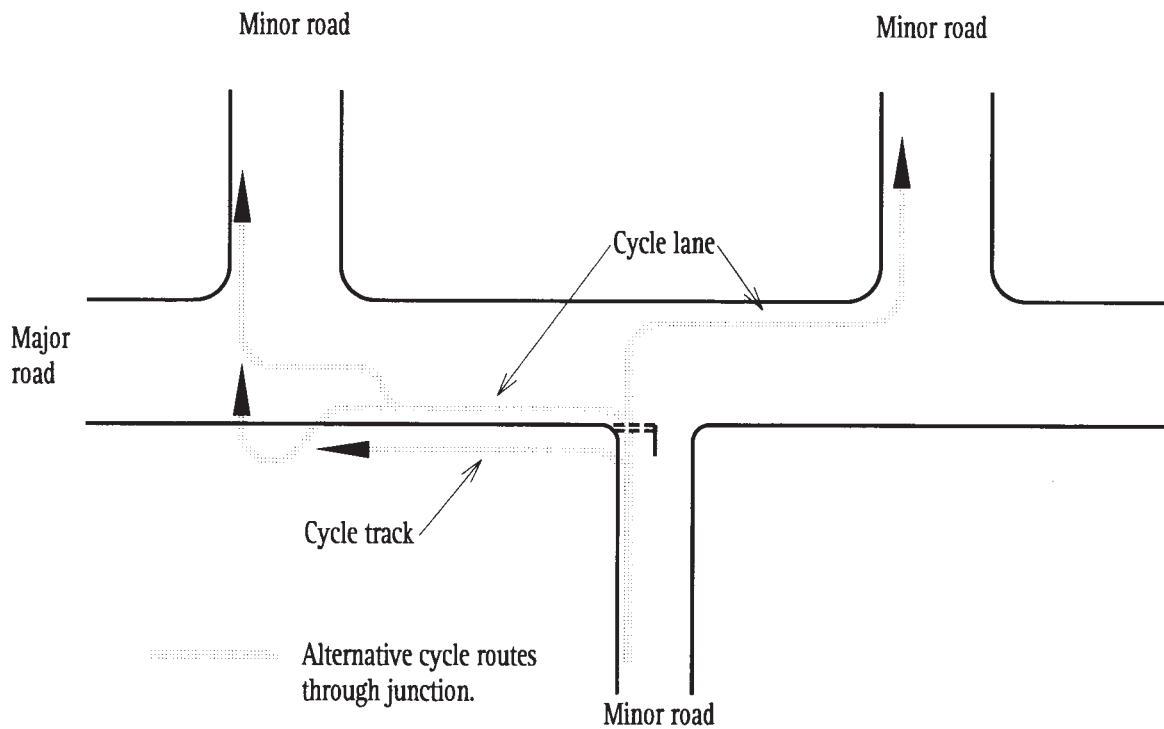
Notes

1. To resolve the conflicts when a cycle track crosses a major road it will be necessary to carry out an assessment using the LTN 1195 methodology as discussed in Chapter 5.
2. The table of vehicle flows should be used only as a guide in helping to determine the appropriate form of crossing. Whilst flow criteria are important, other aspects of a crossing **MUST** be considered and this should only be done by using the LTN 1195 methodology. The need for measures to reduce vehicle speeds on the main road approaches should be addressed if necessary.
3. The figures in the table are to be treated as guides only and not precise boundaries.
4. The table of flows draws a distinction between the straight-over junction, the arrangement where the cyclist first turns right onto the main road and then after a short distance left, and the more difficult circumstances of a left then right turn, where the cyclist may have to wait in the middle of a main road. This latter would only be appropriate at rather lower flows than the former. In some cases this problem can be alleviated by providing a separate cycle lane/cycle track with a jug handle feature, possibly with a central refuge.

References

1. Local Transport Note 1/86: Cyclists at Road Crossings and Junctions (S)
2. Local Transport Note 1/95: The Assessment of Pedestrian Crossings
3. Local Transport Note 2/95: The Design of Pedestrian Crossings

Major Road Crossings – Figure 7.3



Alternative Routes for Staggered Major Road Crossings
(Schematic)

Details for road crossings in rural areas	Provision for cyclists and daily vehicle flow on the road to be crossed		
	Straight over	Right then left	Left then right
1. Priority arranged in favour of road used by cycle route	<1000	<1000	<1000
2. Priority to road to be crossed Give way on cycle route	<4000	<4000 Cycle Lane	<2000 Cycle Lane
3. Provision to pull in to left hand side before crossing	n.a.	n.a.	2000-4000 Cycle Lane
4. Central Refuge	<10,000	<10,000 Separate Cycle Track	<10,000 Separate Cycle Track
5. Signalisation or grade separation	>8000	>8000 Separate Cycle Track	>8000 Separate Cycle Track

Note: There will always be variation depending upon the particular situation, but crossing measures should be brought in at lower flows wherever possible

Appropriate Crossing Options for Main Road Traffic Flows

Restricted Access Routes - Figure 7.4

Notes

1. It is recommended that if motor vehicular rights are to be extinguished then physical, self-enforcing features should be provided eg. bollards (Figure 9.4). If motor vehicular rights are to be restricted then the self-enforcing feature should be a gate. This can be locked or unlocked depending upon the access needs and consultation with affected land owners/occupiers.
2. Orders made under the Town and Country Planning Act 1990 to restrict or exclude vehicles from a highway can exempt cyclists. If physical self-enforcing features are not provided then the order may have to be backed by a Traffic Regulation Order.
3. Motor vehicles should be warned of the status of the affected minor road at its junction with the remaining highway network. Care should be taken with the location of the point of "closure" so that turning and reversing problems are not created.
4. Traffic Regulation Orders in the form of vehicle weight or width limits can also be considered.
5. Access restrictions may indicate a road closure, but with the road left open. Consideration could be given to measures such as installing a gate which is kept permanently open, creating the impression that it could be closed.
6. Non-local motor traffic can be discouraged by removal of signposts to the minor roads, or signposting it to include only very local destinations.
7. Accessible 'dead legs' to roads can attract undesirable activities.
8. Hedge trimmings can be a problem for cyclists on roads not 'swept' by traffic.
9. A width of 1.2m is sufficient to allow access for the largest types of cycle currently used by people with disabilities.

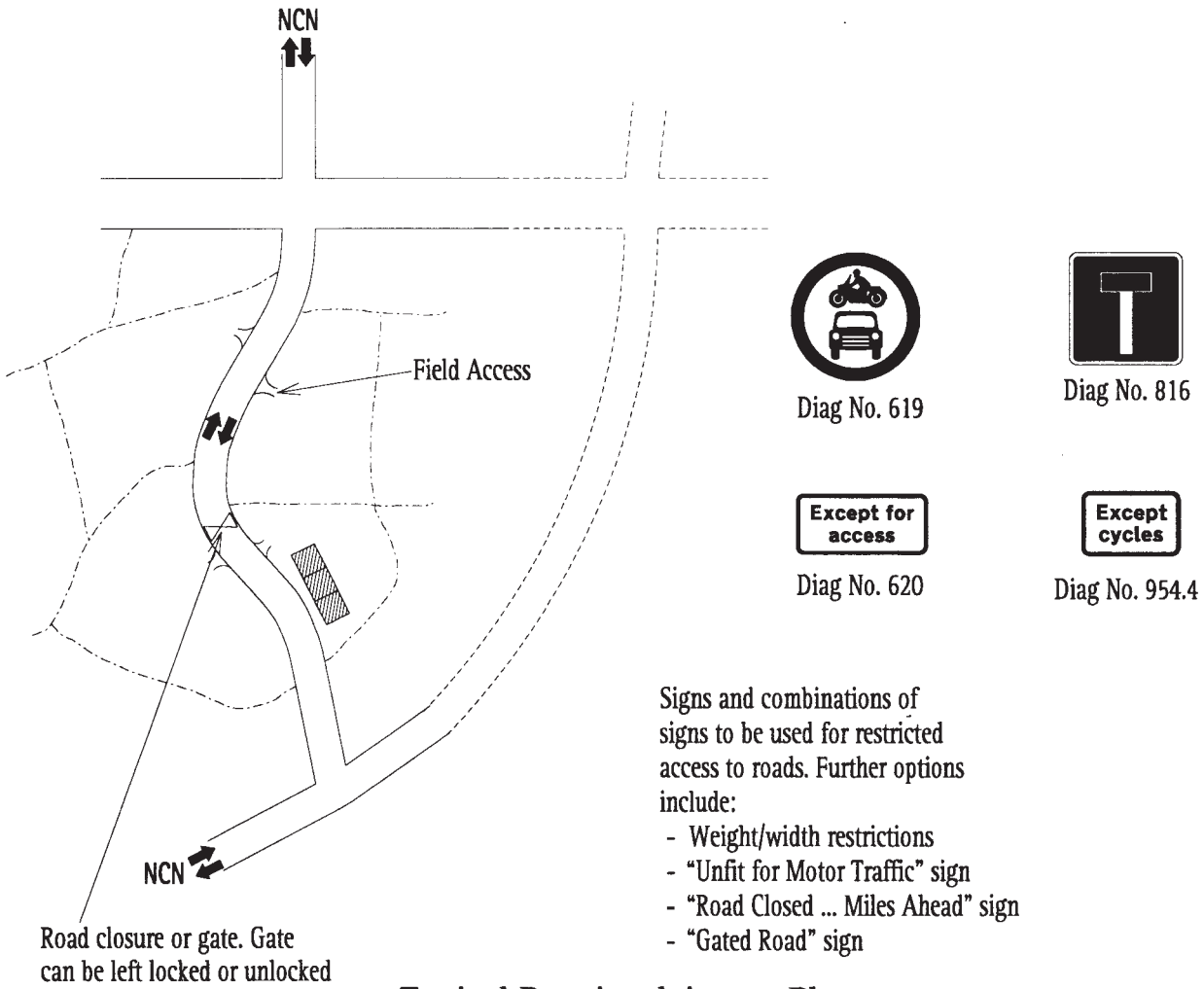
References

1. Town and Country Planning Act 1990 (S)
2. Road Traffic Regulation Act 1984
3. Campaigning for Traffic Calming: A Council for the Protection of Rural England Briefing Note May 1996
4. Traffic Advisory Leaflet 1/87: Measures to Control Traffic for the Benefit of Residents, Pedestrians and Cyclists

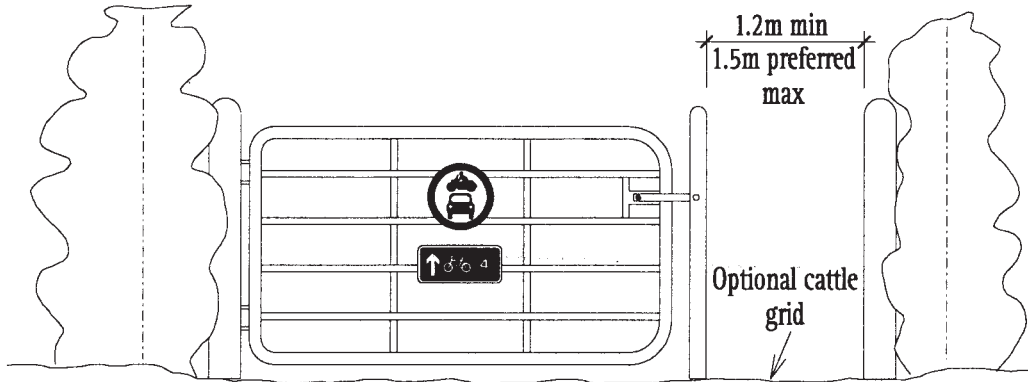
Examples

1. BRISTOL: Hobbs Lane
(Avon County Council)
2. LAKE DISTRICT: Underloughrigg Lane
(Cumbria County Council)
3. NORTH YORKSHIRE: Myton-On-Swale
(North Yorkshire County Council)
4. WANBOROUGH
(Wiltshire County Council)

Restricted Access Routes – Figure 7.4



Typical Restricted Access Plan



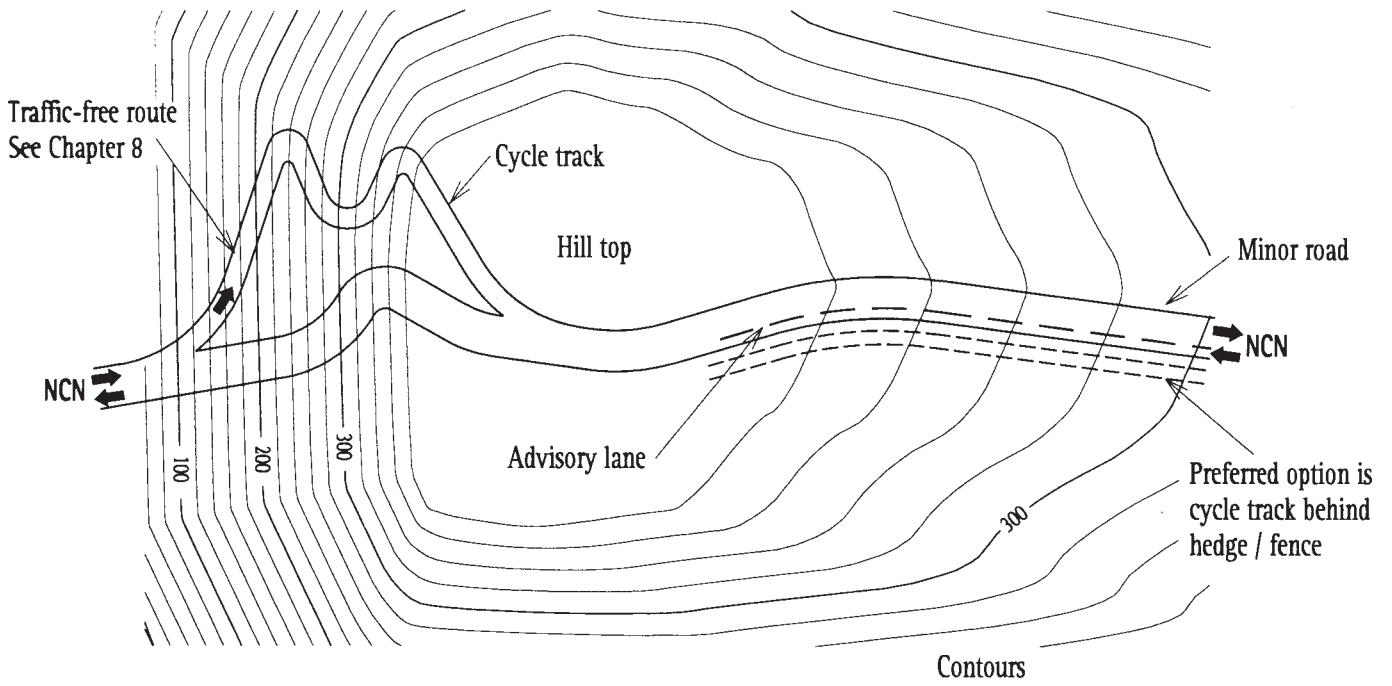
Typical Gated Road Closure

Cycle Routes Over Hills - Figure 7.5

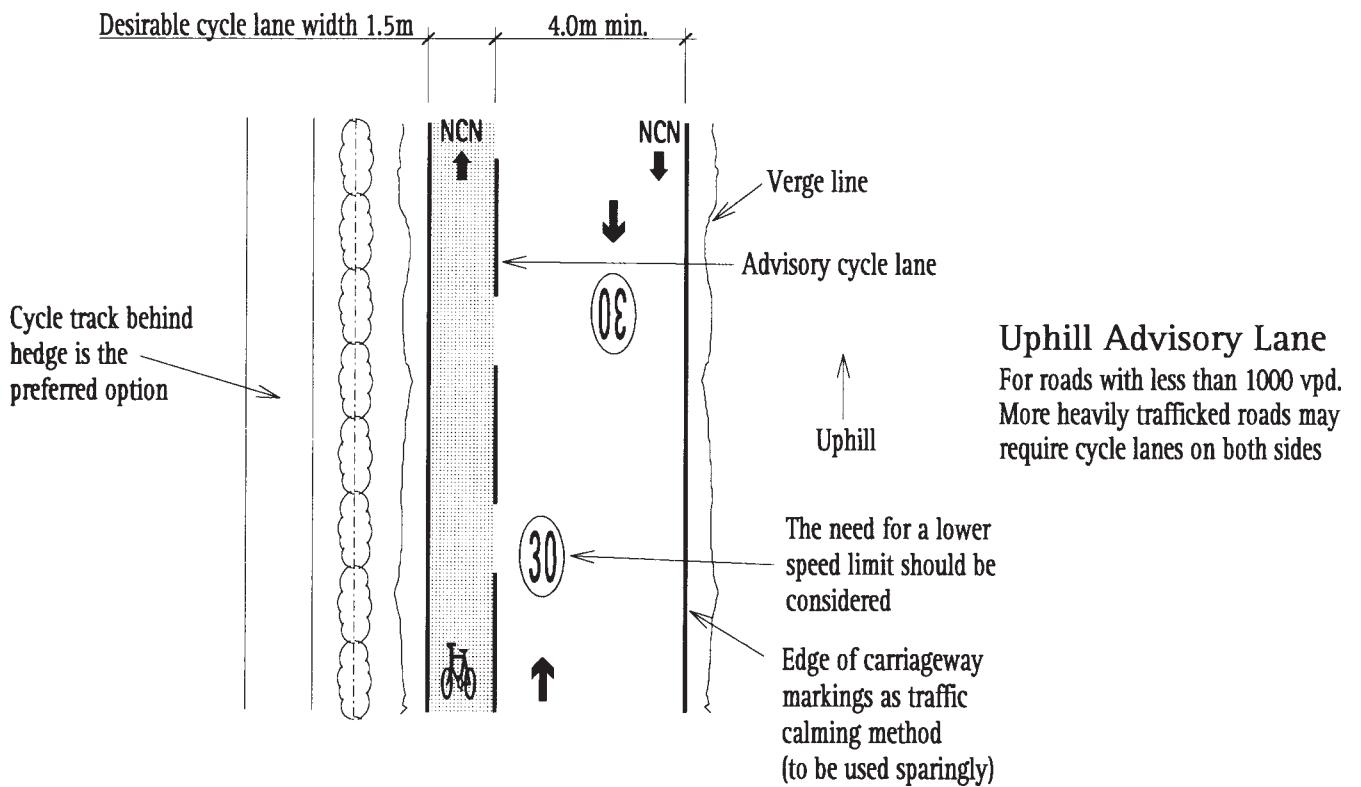
Notes

1. The speed differential between cyclists and motor vehicles is likely to be greater on the uphill section of a hilly route than the downhill section. This indicates that the uphill section has greater hazards for the cyclist than the downhill section and therefore should, if possible be treated in a different way.
2. On the uphill section the cyclist will be travelling slowly or may be walking, and will not therefore be comfortable on roads with significant traffic levels. If lightly trafficked roads are not available, it is desirable to offer an off-road option, even though it may fail to meet the standards of surfacing applied elsewhere on the National Cycle Network. Novice cyclists in particular may prefer to walk on such tracks rather than to share uphill roads with traffic.
3. If a separate route or braided path is not possible then an advisory cycle lane may be helpful.
4. On the downhill section the cyclist's speed may not be dissimilar from that of motor vehicles and so, even on more heavily trafficked roads, the interaction with vehicles may be limited. It is also worth noting that an unsurfaced path may well present particular problems for the cyclist travelling downhill.
5. For the use of roundels, refer to Figure 7.2.

Cycle Routes Over Hills - Figure 7.5



Braided Cycle Routes and Advisory Cycle Lane Uphill



Central Refuge Detail - Figure 7.6

Notes

1. This feature has been successfully used on a main road with a vehicle flow of 15,000 vpd and an 850/6 vehicle speed of 55-60mph. It is recommended however that the vehicle flow should be below 10,000 vpd and the 85% percentile vehicle speed below 60mph.
2. Good visibility is important for both motorists and cyclists. This feature is not common on rural roads and therefore care should be taken on its siting.
3. An assessment of the crossing using the LTN 1195 methodology should be undertaken before it is introduced.
4. Criteria for the use of double white lines and the length of taper can be found in Chapter 5 of the Traffic Signs Manual, and are dependent on traffic speed and visibility.
5. This detail can be incorporated into the beginning of a right turn ghost island.
6. See Figure 8.6 for details of visibility splays.
7. Warning signs (Diag No. 950) will normally be required on the approaches. Advice is given in Chapter 4 of the Traffic Signs Manual.
8. This detail may also be used when the cycle route approaches are on minor roads. In this case the refuge should be off-set from the junction with cycle tracks being provided on the verges.

References

1. Traffic Signs Manual - Chapter 5
2. LTN 1/95 - The Assessment of Pedestrian Crossings
3. LTN 2/95 - The Design of Pedestrian Crossings
4. Traffic Advisory Leaflet 1/97 Cyclists at road narrowings

Example

1. DEVON : A386 between Plymouth and Yelverton
(Devon County Council)

Typical Rural Pinch Point - Figure 7.7

Notes

1. The advisory cycle lane is introduced to give cyclists road space through the pinch point, to remind motorists of the likely presence of cyclists and to visually narrow the road.
2. The signs shown on this drawing are illustrative. In practice, they will normally be sited at a greater distance from the feature than it has been possible to show in the drawing. The sign combination of Diag No.s 516/519 is optional and should be used in locations where advance warning is considered necessary.
3. Consideration can be given to reducing vehicle speeds on lightly trafficked rural roads through the construction of pinch points or reducing sections of road to single track working.

References

1. Traffic Advisory Leaflet 9/94: Horizontal Deflections
2. Traffic Signs Regulations Et General Directions (SI 1994 No. 1519)

Example

1. Fife Regional Council currently propose the construction of pinch points with cycle bypasses on a number of lightly used rural roads to deter motor vehicles

Typical Rural Pinch Point - Figure 7.7

