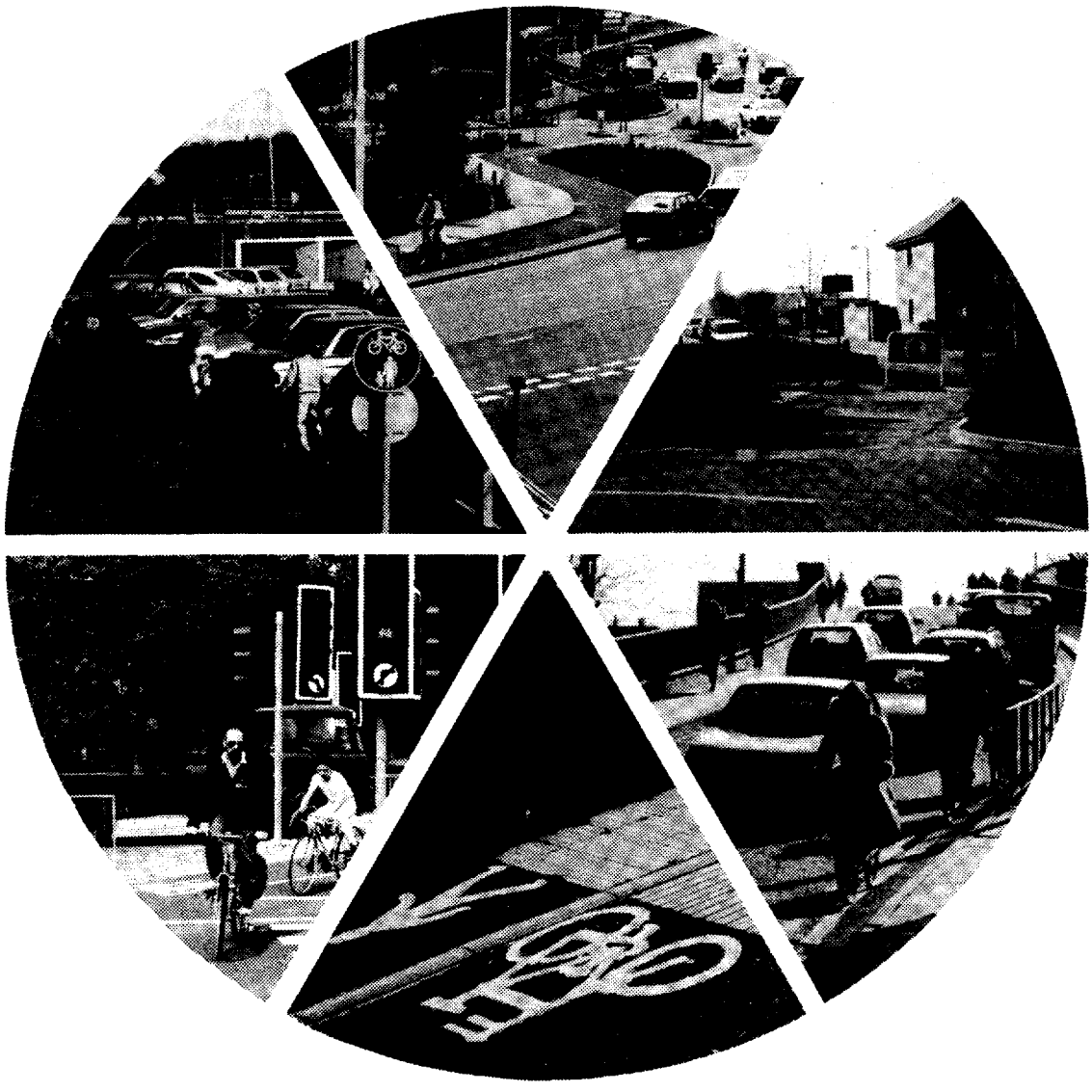
"MAKING WAY FOR CYCLISTS"

PLANNING, DESIGN AND LEGAL ASPECTS OF PROVIDING FOR CYCLISTS



LOCAL TRANSPORT NOTE 1/89

THE DEPARTMENT OF TRANSPORT
The Welsh Office

JUNE 1989

Department of Transport
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Local Transport Note 1/89

"Making Way for Cyclists"

Planning, Design and Legal Aspects of Providing for Cyclists

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TITLE

MAKING WAY FOR CYCLISTS

PLANNING, DESIGN AND LEGAL ASPECTS OF PROVIDING FOR CYCLISTS

Department of Transport, The Welsh Office

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ENQUIRIES

General enquiries about this Note should be directed, in England to the appropriate Regional Cycling Officer of the Department of Transport, or in Wales to the Transport and Highways Group of the Welsh Office, Government Buildings, Ty Glas Road, Cardiff.

Requests for sign authorisations and enquiries about signs should be addressed to the appropriate Regional Office. The authorisation of most non-prescribed cycle signs is now delegated to Directors (Transport). In Wales, requests and enquiries should be sent to the Transport and Highways Group of the Welsh Office at the address given above.

ABSTRACT

This note gives up-to-date advice on planning, legal and detailed design aspects of providing facilities for cyclists. It complements guidance provided in LTN 1/86 "Cyclists at Road Crossings and Junctions", LTN 2/86 "Shared Use by Cyclists and Pedestrians", and LTN 2/87 "Signs for Cycle Facilities".

PUBLICATIONS SUPERSEDED

Local Transport Note 1/78 – all parts not already revised in LTN 1/86 and LTN 2/86.

LOCAL TRANSPORT NOTE 1/89
MAKING WAY FOR CYCLISTS
PLANNING, DESIGN AND LEGAL ASPECTS OF PROVIDING FOR CYCLISTS

Contents

1. Scope

1.1 This note contains guidance for local authorities and others on planning, design, and legal aspects of providing facilities which can help cyclists. It draws on information gained from research projects, and from wider contact with local highway authorities in England and Wales.

1.2 The advice supplements that already published within Local Transport Notes 1/86 "Cyclists at Road Crossings and Junctions", 2/86 "Shared Use by Cyclists and Pedestrians", and 2/87 "Signs for Cycle Facilities" (See Annex F). **It supersedes all the remaining guidance within Local Transport Note 1/78 "Ways of helping cyclists in built-up areas".**

2. Introduction

2.1 Cyclists have the same rights as other road users. Cycling is popular. There are over 13 million cycles in Great Britain. About 11.1 million people cycle on Britain's roads at least once in the year. In an average week about 3.6 million of them use their bicycles.[1]

2.2 Cyclists remain one of the most vulnerable groups of road users. Over the last decade there has been a significant reduction in the number of people killed and injured on roads in the UK, despite a large increase in the volume of traffic. For cyclists the figures have not shown a similar improvement. The total recorded accidents to cyclists rose from 21,000 in 1975 to a peak of 30,939 in 1984. There has subsequently been a decline with 26,194[2] accidents reported in 1987, and 25,834 in 1988. Many more accidents occur. These do not show up in the official statistics because they are not reported.[3] In recent years there has been a tendency towards less cycling in the UK. At the same time, the accident rate for cyclists measured by 100 million vehicle kilometres has worsened. (Figures 1a and 1b.)

2.3 The Departments' main concern is to help make cycling safer. Fundamental to reducing the risk of road accidents in general, and to make cycling safer in particular, is the stimulation of a change in attitude amongst all road users. Care, concern and responsibility towards others is often lacking, and observation of the Highway Code sometimes poor. This does not apply only to drivers of motor vehicles. Cyclists can contribute to their own safety by thinking and looking ahead for potential hazards. Visibility is also important – not only wearing bright or reflective clothing, but also being in the right place and doing the right things. Enhancing the safety of cycling may encourage more people to take up cycling, and existing cyclists to use their cycles more.

2.4 At the "Ways to Safer Cycling" Conference[4] in 1985, the Transport and Road Research Laboratory (TRRL) identified engineering measures (such as features which enhance routes for cyclists, and localised accident blackspot treatments) as offering considerable pontential for reducing cycle-related accidents.[5] The Inter-Departmental Review of Road Safety Policy ("The Next Steps"),[6] published in 1987, recognised the value of highway engineering to accident prevention. It advocated the concentration of attention on schemes which promise a higher than average casualty reduction.

2.5 Cycle routes will often require special facilities at busy junctions, the use of on-carriageway techniques, or the sharing of facilities between cyclists and pedestrians. Such schemes can offer significant returns in helping to prevent or reduce accidents to cyclists.

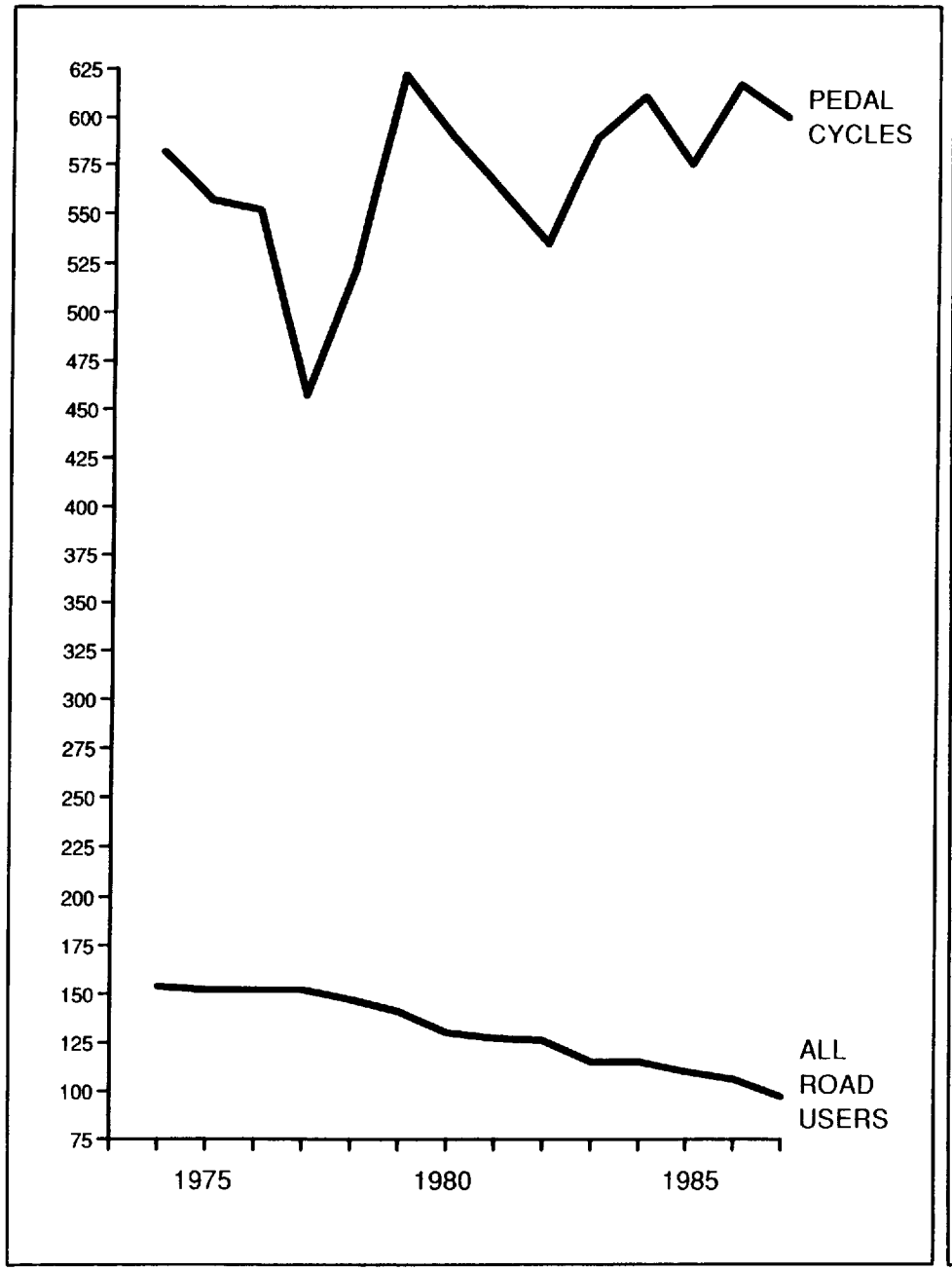


Figure 1a:
Killed and seriously injured – casualty rates per 100 million vehicle kilometres

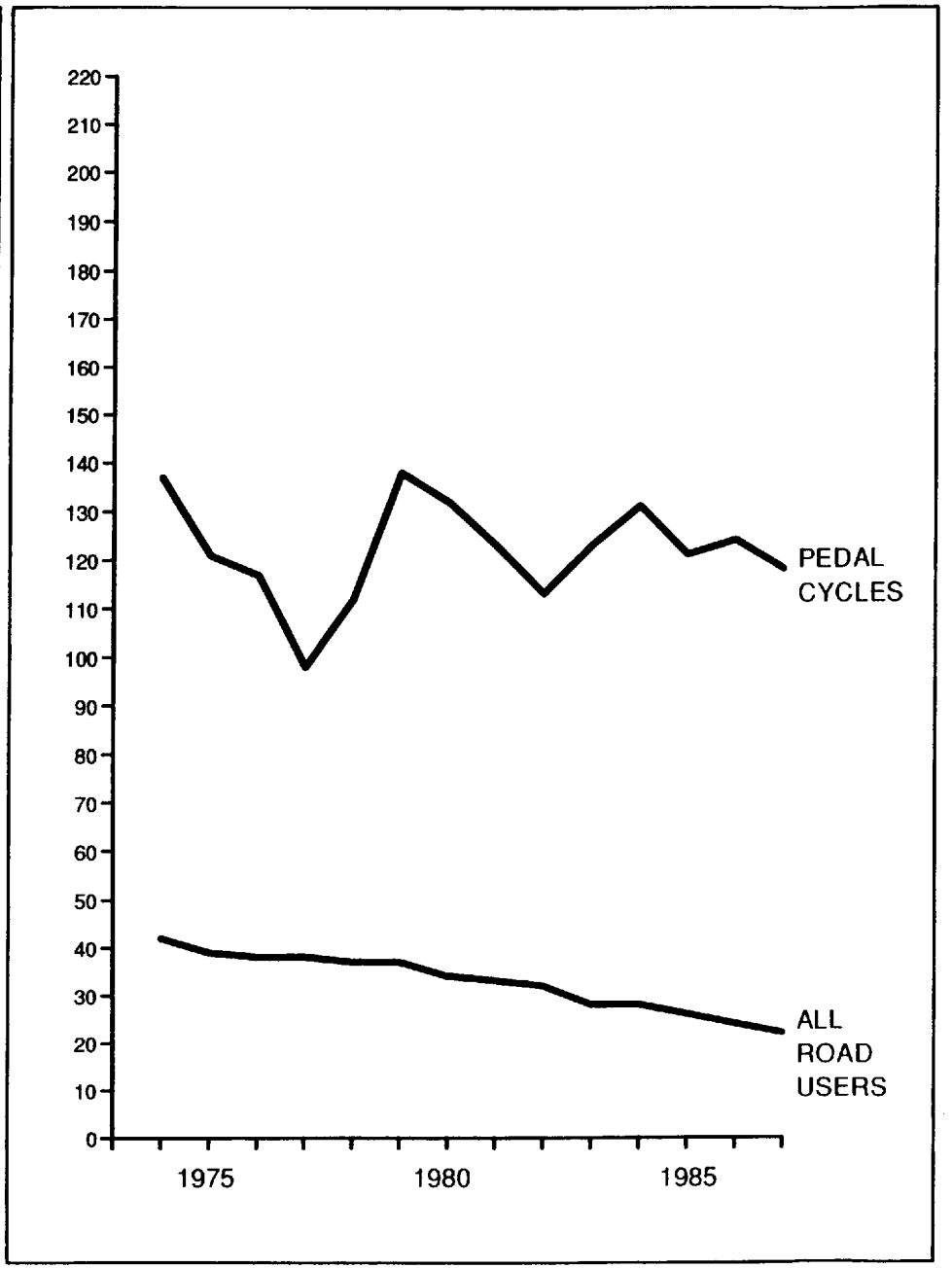


Figure 1b:
All severities – casualty rates per 100 million vehicle kilometres

2.6 Most cycling takes place on local authorities' roads. They have to decide their priorities in the light of local circumstances. Most local authorities have implemented, or have plans to implement, some facilities in their area. These include cycle lanes on the carriageway, segregated cycle tracks, cycle tracks shared with pedestrians, and treatments at junctions and crossings.

2.7 The Department of Transport and the Welsh Office are responsible for trunk roads. These are primarily designed to carry long distance inter-urban traffic. They characteristically carry heavy, fast flows of traffic, and are generally less attractive to cyclists. Where viable alternative routes exist on quieter roads, the Departments would normally avoid doing anything to a trunk road that might actively encourage cyclists to make greater use of it. The Departments take the needs of cyclists into account from the outset when planning new trunk road construction or major reconstruction. Where demand exists, consideration is also given to measures that would enable cyclists to cross the road more safely.

2.8 Bans on cyclists from sections of trunk road would be considered only as a last resort. Where the risk to cyclists was exceptionally high, the Departments would take all reasonable steps to accommodate cyclists safely on trunk roads by the use of site specific engineering treatments,[16] with appropriate signing.

2.9 The Departments' main role in traffic engineering provision for cyclists has been to provide technical advice and guidance to local authorities on the design and construction of cycle facilities, based on research and application studies carried out by the Department of Transport's Traffic Advisory Unit and the Transport and Road Research Laboratory. This work has concentrated on a range of innovatory schemes, together with 6 demonstration projects comprising the Cycle Routes Programme. The results of this work have been published in the form of Traffic Advisory Unit Leaflets, and more detailed Local Transport Notes (see Annex F).

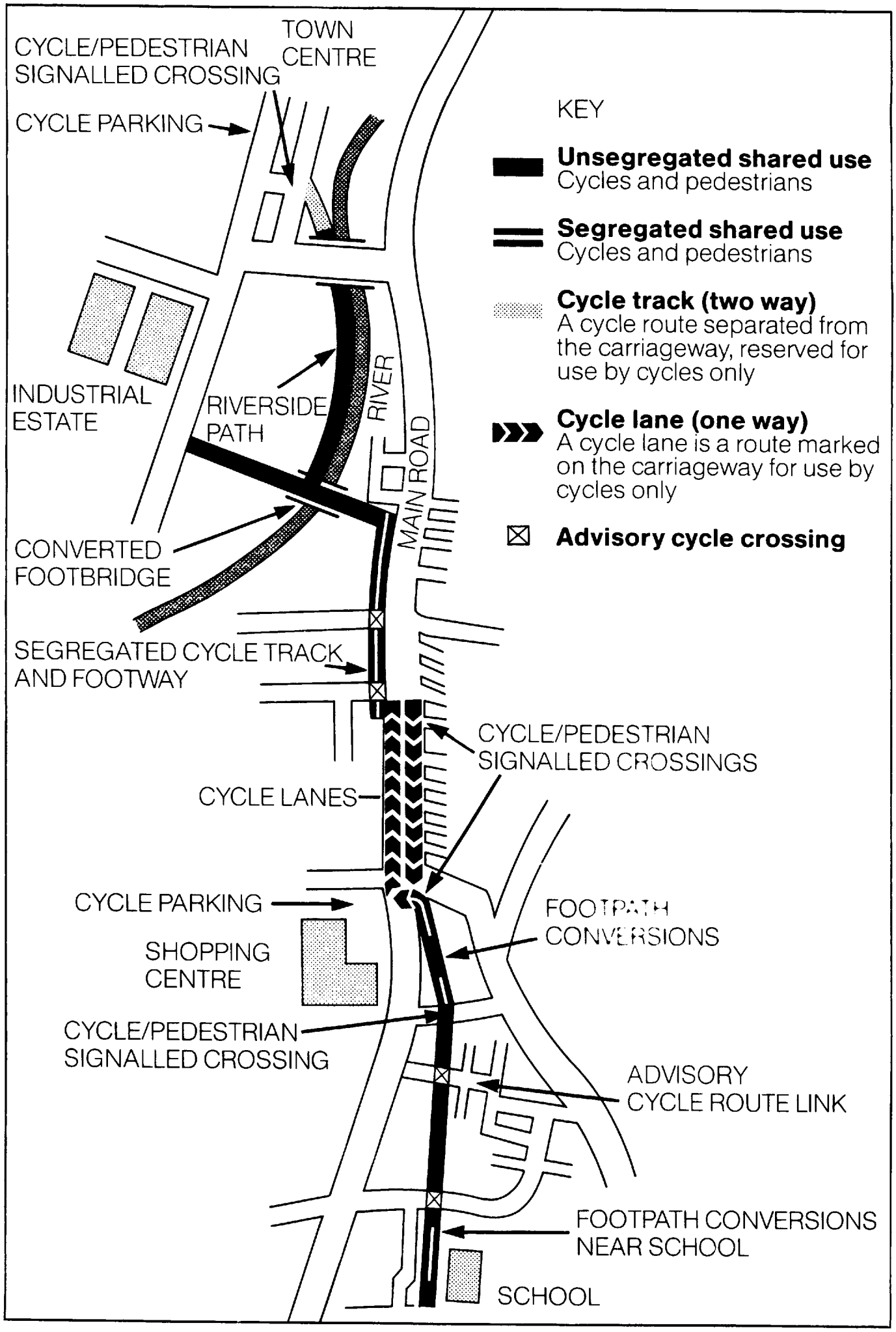


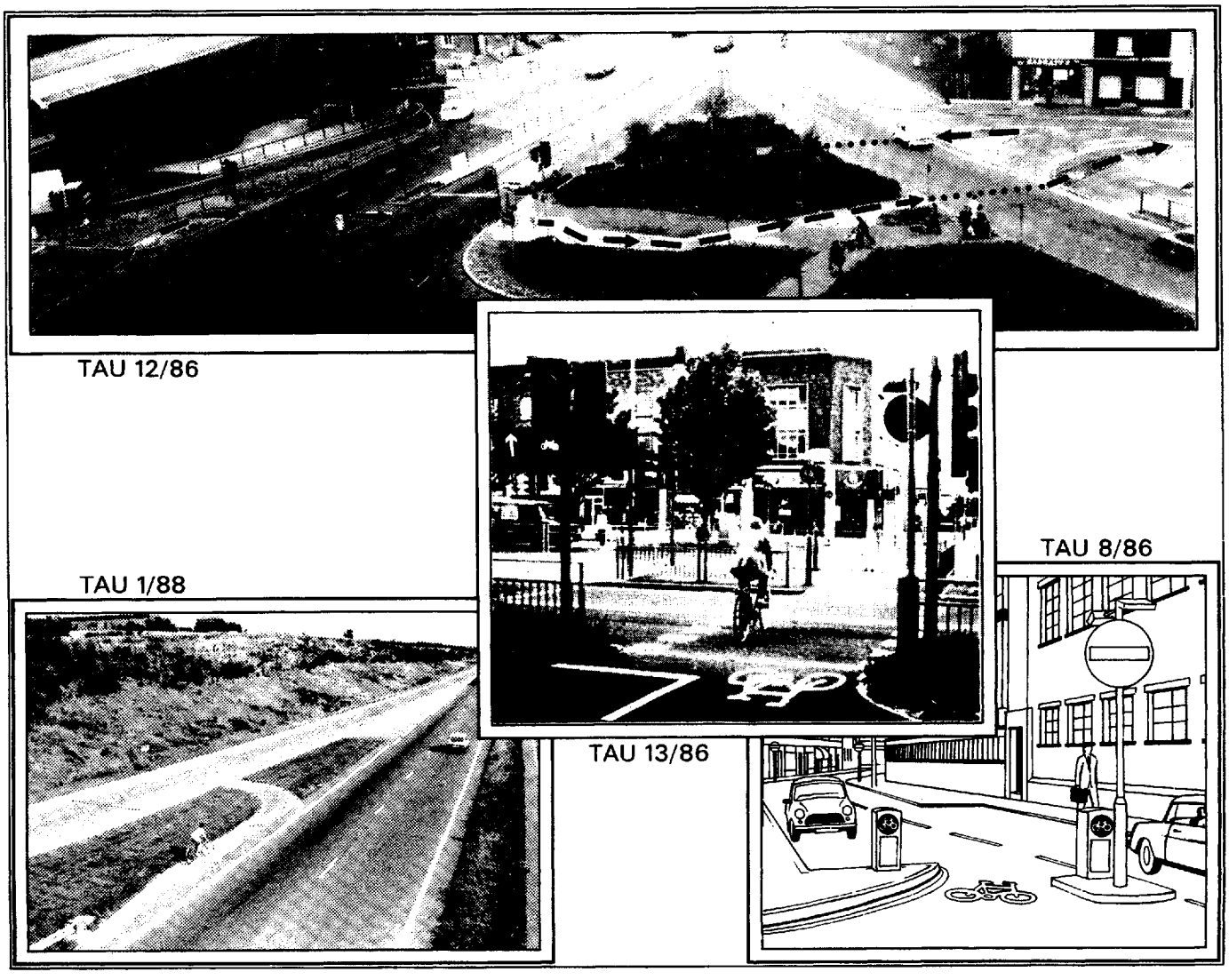
Figure 2:
Schematic diagram demonstrating use of facilities

2.10 The scope for separating cyclists from other traffic is limited by the amount of space available. Opportunites are sometimes afforded by disused railway lines, canal towing paths, or the conversion of footpaths to cycle tracks. Where segregation is possible, care must be taken to minimise conflicts where cycle flows merge with general traffic. Reintroducing cyclists into the general traffic flow may create safety risks if cyclists and drivers do not expect to encounter each other.

2.11 Usually, cyclists share highway space with other road users. A range of techniques is available to help, including treatments at road junctions (for instance, roundabouts and the use of cycle stop lines); cycle crossings; the creation of cycle lanes in busy thoroughfares; the use of low-flow roads; conversions of part or all of the width of footways and footpaths; and the use of bus lanes. Individual techniques can improve safety at difficult locations. They can also be brought together to improve safety along routes regularly used by cyclists, or in making alternative routes more attractive. The projects within the Cycle Routes Programme have demonstrated the cohesive use of many of these techniques. (Figure 2.)

3. Site Specific Techniques

3.1 The cycle is a vehicle, and is entitled to use the highway equally with other traffic. Engineering measures can reduce the vulnerability of cyclists at particular locations. Research projects have demonstrated ways of reducing the risks. Information on these techniques has been published in the series of Traffic Advisory Unit leaflets (Annex F). These are intended to assist local authorities in considering how best to take account of cyclists' needs within the overall traffic network.



3.2 If problems exist over an area or along particular routes, then isolated provision is unlikely to help. If it is situated well away from the cyclists' preferred route it cannot be expected to be effective. Individual cycle facilities can, though, prove successful in overcoming site specific difficulties.

3.3 National accident statistics show that cyclists may face particular difficulties when crossing roads, passing through road junctions and at grade separated junctions. The general approach which can be used at these locations is set out in Local Transport Note 1/86.[7]

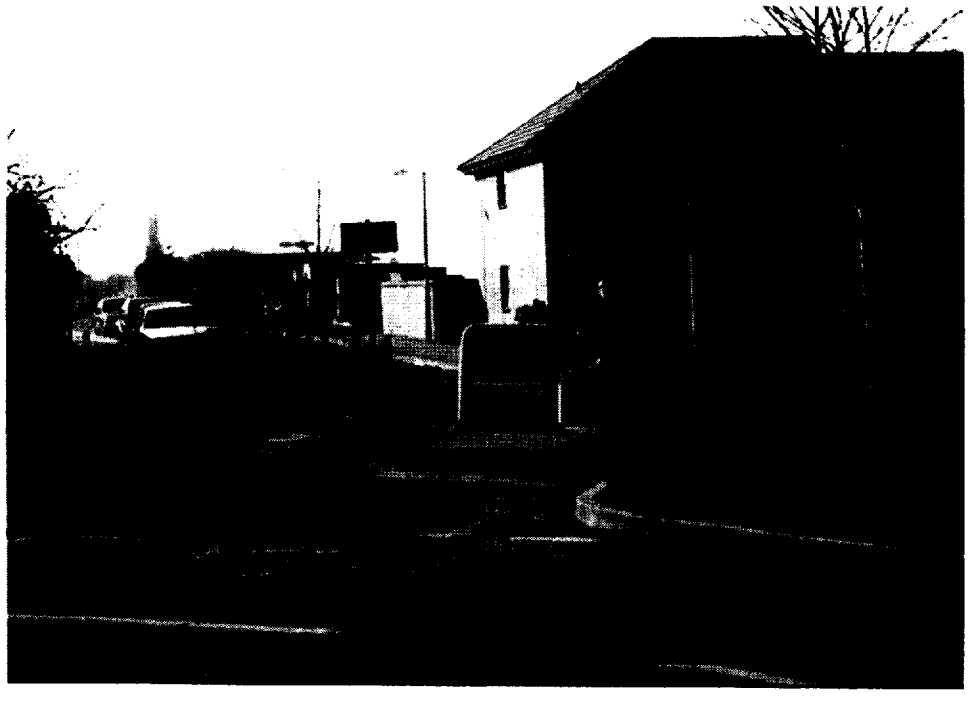
3.4 Particular techniques are described in greater detail in the Traffic Advisory Unit leaflet series. These include: a two stage signalled right turn for cyclists at a complex junction (TAU leaflet 12/86); creating a cycle "slip" access past "no-entry" signing (TAU leaflet 8/86); a parallel pedestrian/cycle signalled crossing of a busy main road (TAU leaflet 13/86); and right-angled cycle crossings at grade separated junctions (TAU leaflet 1/88).

3.5 Whenever a section of road is to be physically closed to vehicles, cyclists should be exempted unless there are sound reasons for not doing so. Adequate means of access for them will need to be provided. Maintaining such accessibility will often save cyclists time and so encourage them to use a safe route. The advantages will need to be weighed carefully against potential dangers both to cyclists and other road users including pedestrians.

3.6 Facilities need to be attractive and convenient in order to encourage maximum usage. They should also be clearly signed.

4. Provision for cyclists within Traffic Management and Road Improvement Schemes

4.1 The effects upon cyclists must be considered from the outset whenever it is proposed to introduce traffic management measures or road improvement schemes, or to redevelop areas. Opportunities may exist to secure provision for cyclists by agreement with developers. In some cases, a general traffic control or highway design solution may be the appropriate way to deal with a problem for cyclists.



4.2 Minor improvements or changes within such larger schemes, with the intention of helping cyclists, may not be prestigious. However, they can offer good value for money and create minimal upheaval, whilst achieving worthwhile gains.

4.3 Preliminary feasibility studies should be designed to reveal the level of demand for cycling in the area. Estimates of both current and possible future cycle flows can be made by reference to the location of educational establishments, shopping, residential, employment and recreational areas, and obtaining information by counts of cycling activity, surveys and interviews. It may be possible to enlist the help of schools or colleges, environmental groups or local cycle organisations in collecting the data. The rate and distribution of accidents within the area should also be studied to identify the pattern of accidents: cycle-related accidents tend to be spread widely and thinly on local roads, with slightly greater numbers distributed along main roads and some clustering at busy junctions.

4.4 The Department of Transport's Urban Safety Project was aimed at reducing the large proportion of accidents that do not cluster at high-risk sites. The schemes undertaken aim to meet the needs of several types of road user; there are very few cases where cycle safety provides the main reason for taking action. Nevertheless, measures directed generally at scattered accidents can be expected to be of particular benefit to vulnerable road users such as cyclists. Early results from the Project suggest this to have been so, with the reduction in accidents involving cyclists being greater than the overall reduction. Further work is taking place to validate these results.

5. Route Establishment/ Enhancement

5.1 Cyclists' safety can be enhanced by improvements to a route which cyclists already use in some numbers. If problems cannot be satisfactorily resolved on the preferred route, then consideration should be given to encouraging the use of an alternative route that runs adjacent to the existing desire line. In either event, a number of specific engineering techniques exist that have been tested and proved to be safe and effective (see list of Traffic Advisory Unit leaflets in Annex F). Detailed guidance on the design, treatment and provision of facilities for cyclists is contained in earlier Local Transport Notes on cycling.[7,8,11] These techniques can be used to create a network of continuous cycle routes (see Figure 2). An introduction to cycle route planning is given in the TRRL film 'New Routes for Cyclists' – see TAU leaflet 2/87.

I. CARRIAGEWAY FEATURES

Planning advisory routes

5.2 Roads shared with other traffic often form an essential part of a cycle route network. The roads concerned may already carry low vehicle flows, or may be suitable for traffic management measures aimed at reducing traffic flows and vehicle speeds. Before a road is designated as part of an advisory cycle route, account needs to be taken not only of the overall traffic level, but also of the proportion of heavy vehicles. After designation, traffic flows on the route should be monitored at intervals, particularly if there are major land use changes in the area, since variations in the amount of traffic can affect the attractiveness of the route. Cyclists can be encouraged to use advisory cycle routes by direction signs as described in Local Transport Note 2/87.[8]

5.3 Although special facilities do not necessarily need to be provided for cyclists along these routes, it is advisable that the route is one that is relatively free from kerb-side parking. Parking restrictions in residential areas can be difficult to justify solely to improve a route that is used by cyclists. In all cases careful examination of parking demand and movements is needed.

5.4 More cyclists will be attracted to an advisory cycle route if they are not delayed by having to give way at every junction. When a cycle route passes along a minor road consideration should be given to changes of priority, in order to make the cycle route the major road. This will need to take into account the characteristics of all the traffic flows at the junction. Priority should not be removed from a road that carries in the region of 100 vehicles per hour more than the minor road. When changing junction priorities, it may not be sufficient simply to modify the signing and marking: some kerb realignment may be necessary to ensure compliance. Adequate visibility from the minor road, as described in Departmental Advice Note TA20/84,[9] is also a very important consideration.

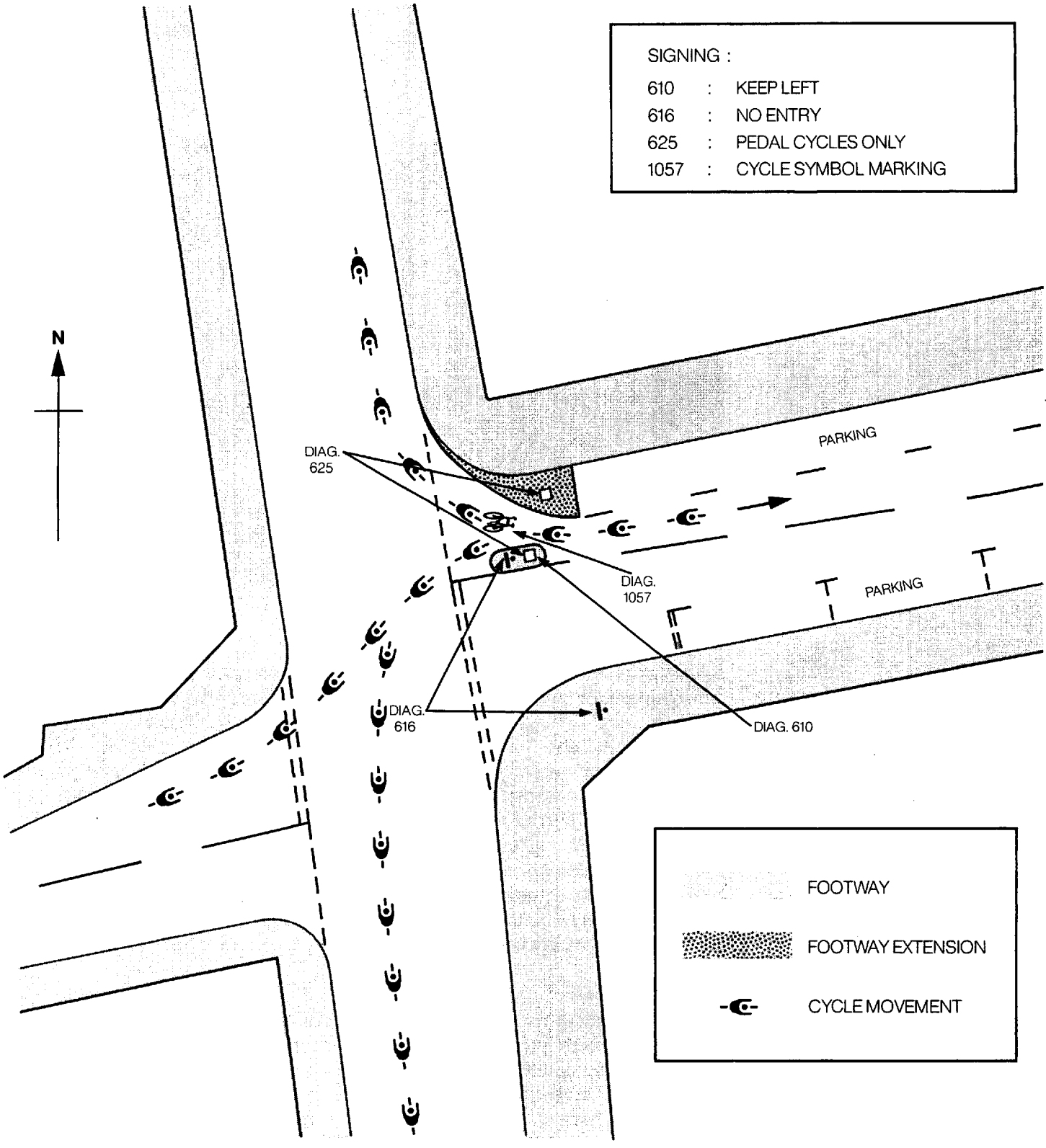


Figure 3:
Cycle 'slip' facility

Maintaining cycling rights of way

5.5 Where the right of way for vehicles has been or is to be removed (with or without physical enforcing measures), either at a particular point or over a length of road, a continuing right of way for cyclists should be provided unless there are overriding safety reasons for not doing so.

5.6 Vehicular rights over other than a trunk or principal road can be extinguished by an Order under section 212 of the Town and Country Planning Act 1971, or an Order under section 1 (section 6 in Greater London) or section 9 of the Road Traffic Regulation Act 1984. In either case cyclists may be permitted to continue to use the route by an exemption to the Order. Bollards, planters or a paved area can be placed across the street to form a barrier to the passage of motor vehicles.[10] An order under sections 1, 6 or 9 can be combined with widened footways at the expense of the carriageway to leave a gap for cyclists. (Figure 3.) The cycle slip should be appropriately signed,[8] and clearly visible to approaching cyclists. Measures may need to be taken to ensure that the gap and approaches to it are not obstructed by parked vehicles.

Pedestrian Zones

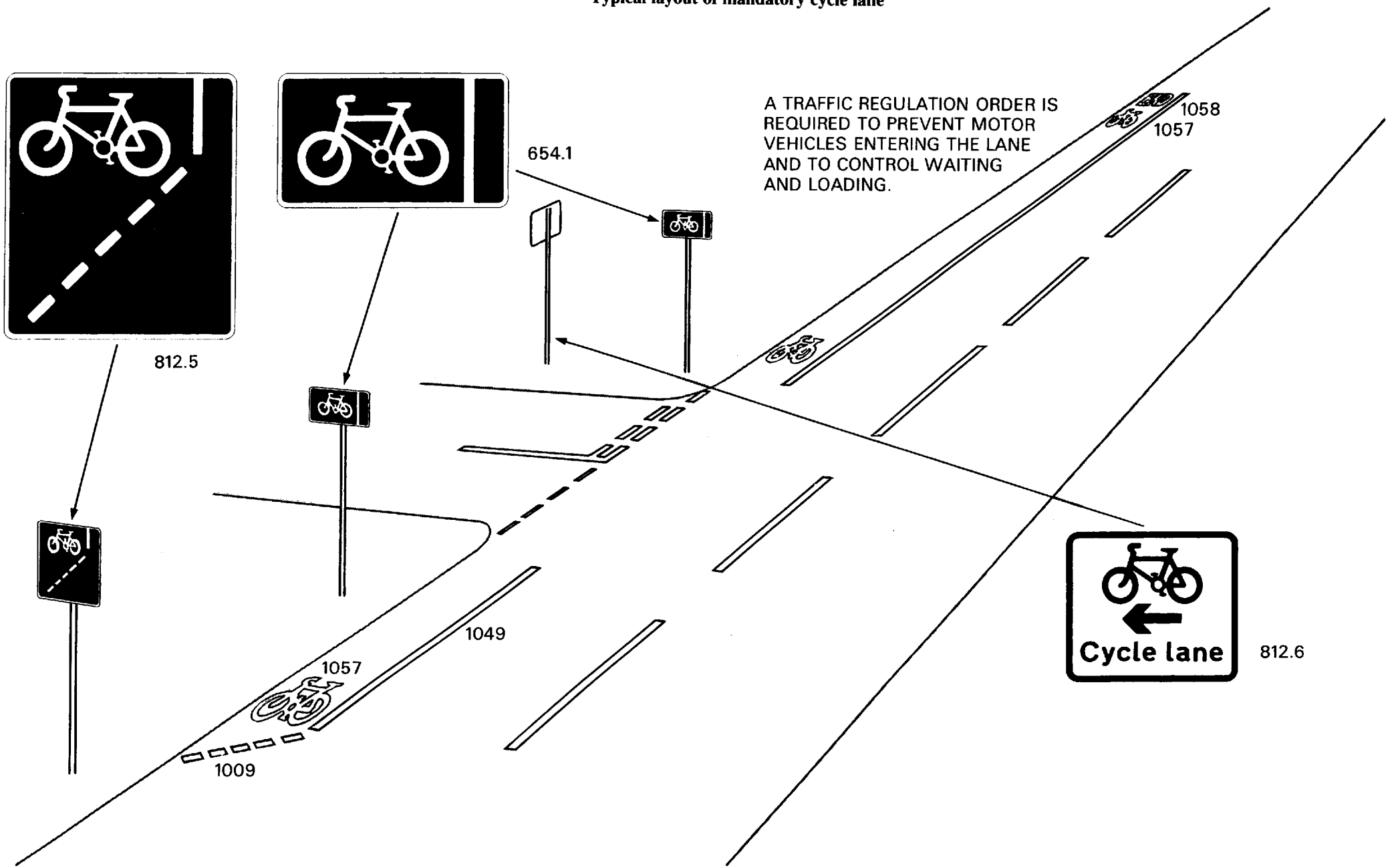
5.7 Where pedestrian zones are established it is important that the measures do not result in less safe conditions for cyclists, by forcing them to use busy and inconvenient distributor roads. Exemptions for cyclists should be considered if satisfactory routes for them around a proposed pedestrian zone do not exist and cannot be created. In practice, considerations of pedestrian safety, particularly in shopping streets, will dictate that maintaining the right to ride a pedal cycle should be examined carefully. Factors to be considered are the volumes of pedestrian and cyclist traffic expected, the consequent potential for conflict, the risks to cyclists on any alternative route, and the scope which exists for maintaining an identifiable route for cyclists through the area by the use of a dropped kerb track or other defined path.

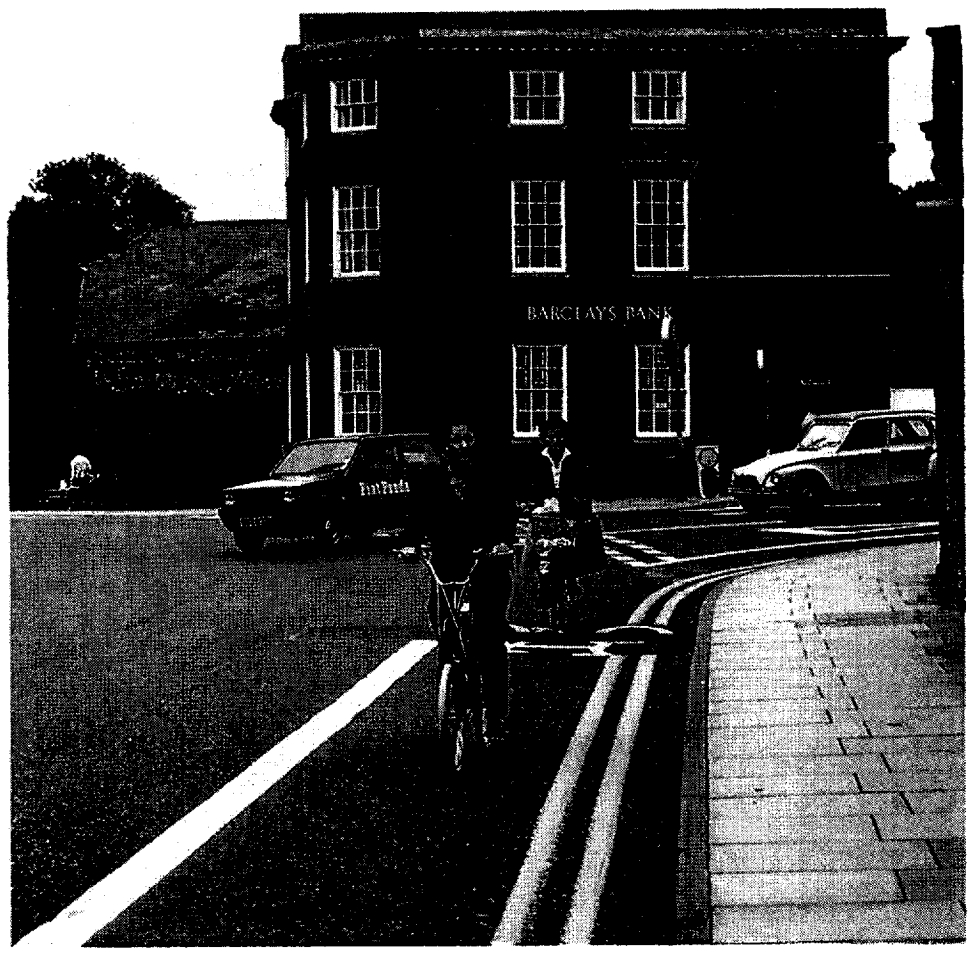
Mandatory cycle lanes

5.8 There may be locations where, in order to create a complete route, the only available link is a heavily trafficked section of road. In these cases, mandatory cycle lanes may be marked on the carriageway to offer cyclists some protection from other traffic. This can be done only when the remaining width of carriageway is sufficiently wide for existing traffic flows, and waiting and loading can be effectively restricted.

5.9 Mandatory cycle lanes, which motor vehicles are prohibited from entering, are more attractive to cyclists. For mandatory cycle lanes the minimum width of the remaining carriageway must permit all vehicles to pass each other with safety. Mandatory lanes are bounded by a solid white line and signs as shown in Figure 4, which must be accompanied by a Traffic Regulation Order (section 1, 6 or 9 of Road Traffic Regulation Act 1984). The Order will prohibit the use of the lane by motor vehicles (except for emergency and statutory purposes), and prohibit waiting, but may permit loading and unloading outside the working day. If there are premises adjacent to the cycle lane which are accessible only from that lane, the Order (by prohibiting waiting and loading during the working day) will necessarily prevent access to those premises for more than 8 hours in 24 and (outside London) will therefore require the consent of the relevant Secretary of State. There is no reason in principle, however, why cycle lanes should not operate for more limited time periods, e.g. 7am–10am or 4pm–7pm, if this

Figure 4:
Typical layout of mandatory cycle lane





would help to ease access or parking problems: the mandatory cycle lane signs would need to be plated with the appropriate time plates, which are subject to Departmental authorisation.

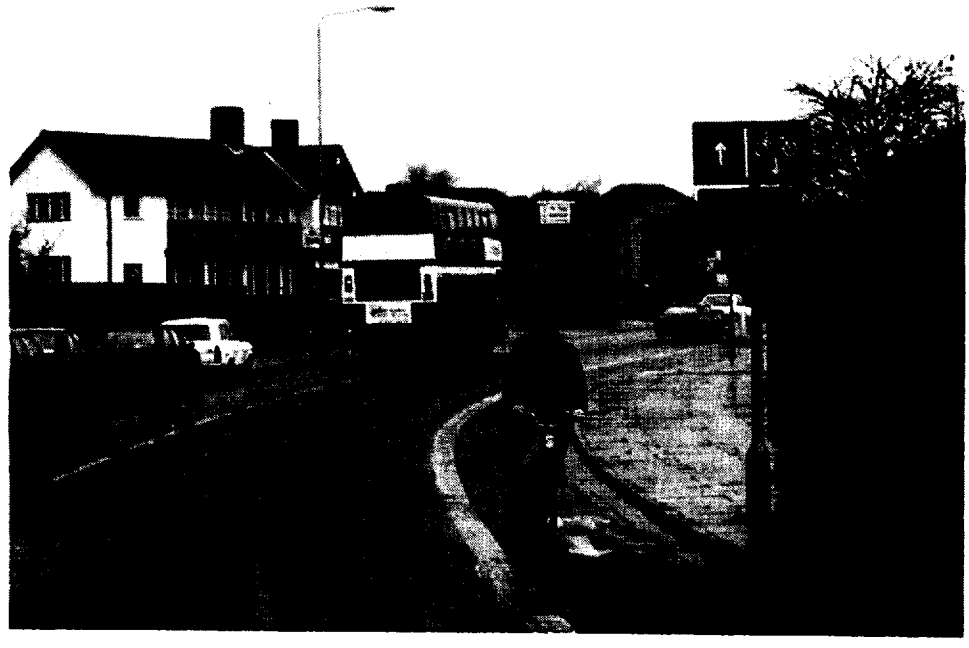
5.10 Motorists wishing to turn left across a with-flow cycle lane into a minor road or access should be encouraged to make their manoeuvre at the junction, and not to encroach into the cycle lane. This can be achieved by discontinuing the cycle lane across the mouth of the intersection. With-flow cycle lanes, whether mandatory or advisory, should ideally be a minimum of 1.5 metres wide and adjacent to the nearside kerb. They should be marked with a white line and signed as described in Local Transport Note 2/87.[8] Signs to diagram 812.6 can be used to advise side road traffic of the existence of such a cycle lane in the main road ahead.

Advisory cycle lanes

5.11 Where the carriageway would be slightly too narrow to provide mandatory lanes for cyclists, advisory cycle lanes can be considered. Whilst they are not as effective as mandatory ones, they may be useful in some circumstances. They should be marked with white broken hazard lines and upright signs to diagram 815, and use the same waiting and loading restrictions as mandatory lanes including any provision for limited time periods. Advisory cycle lanes allow encroachment of motor vehicles onto the cycle lane, for instance when passing other vehicles waiting to turn right. Although no traffic regulation order is required for the lane itself, an Order will be needed to establish waiting and loading restrictions.

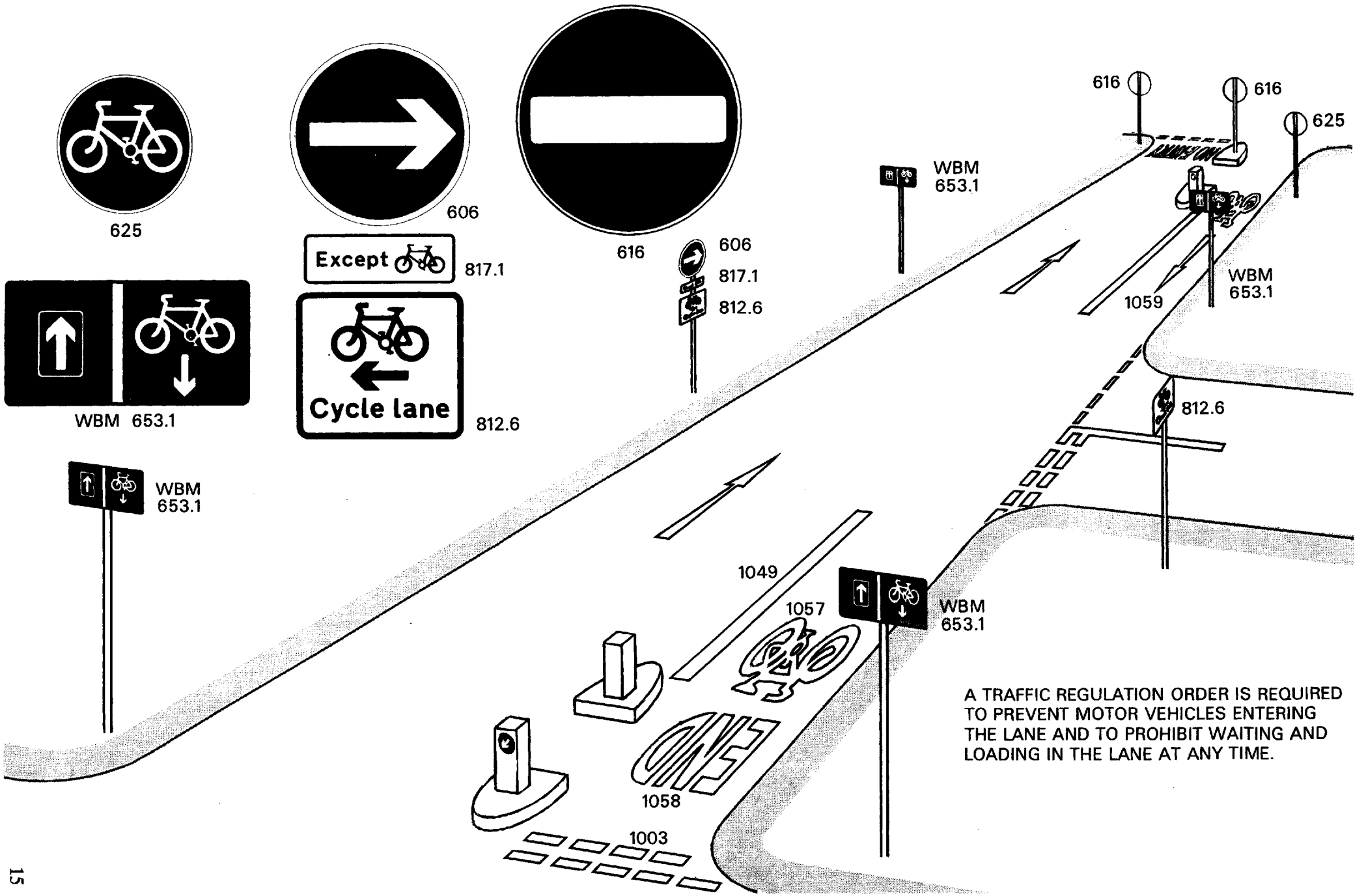
Contra-flow cycle lanes

5.12 One-way traffic systems often make cycle journeys longer and more hazardous, with more junctions to negotiate. One effective means of reducing the problem for cyclists may be the introduction of a contra-flow cycle lane enabling them to avoid diversion. (Figure 5.) Waiting and loading alongside the kerb which forms one boundary of a contra-flow cycle lane must be prohibited at all times by traffic regulation order. The ability to enforce these restrictions will be a most important factor to consider in arriving at a decision on whether such a facility is practicable. If waiting and loading are to be permitted alongside the opposite kerb, the carriageway should be sufficiently wide to enable moving vehicles to pass stationary ones without encroaching into the contra-flow cycle lane. Where there is sufficient carriageway space, it may be possible to separate the cycle lane from the remainder of the carriageway by raised kerbs, so physically excluding motor vehicles. This kerb provision might need to be made wide enough to provide a standing area for pedestrians. Consideration should be given to the drainage and cleaning implications of such a kerb treatment.



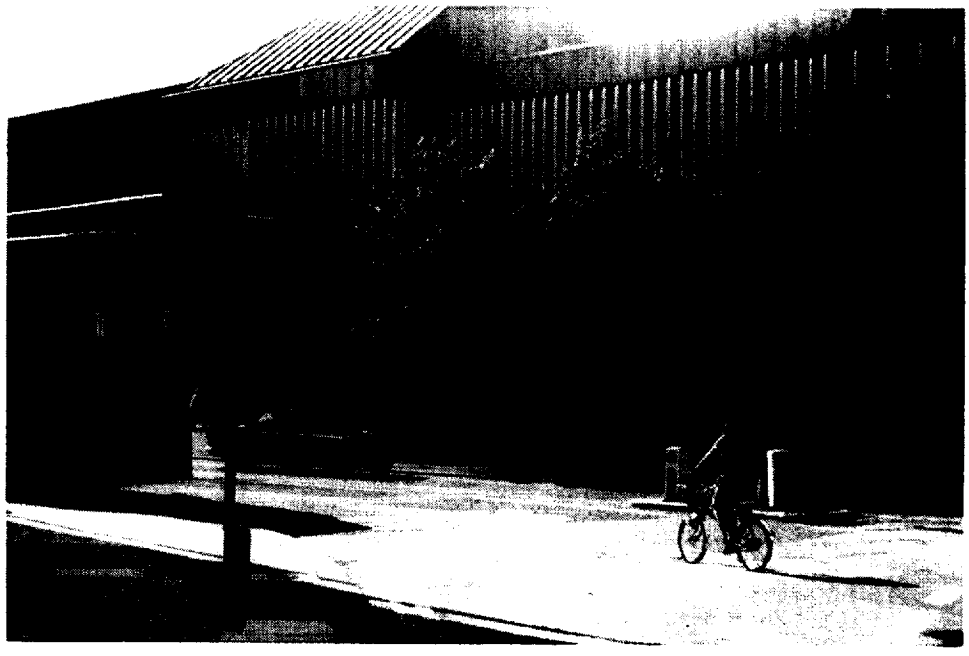
5.13 A contra-flow cycle lane should ideally be at least 2.0 metres wide, but where road widths are restricted it can be a minimum of 1.5 metres. The traffic streams must be physically segregated by refuges and bollards at the beginning and end of the lane, which should be marked throughout with a solid white line. Further refuges and bollards may be necessary at intermediate locations along the lane if encroachment by other vehicles is likely: it may occur, for instance, at side road junctions or on the inside of a bend in the road. At the start of the lane, a 'cycles only' sign should be used. The 'No Entry' sign should be re-located within the refuge island. Under no circumstances should plates exempting cyclists be placed under 'No Entry' signs. The 'No Entry' sign is normally associated with one-way systems and as such is vitally important. If it is used with qualifications its status as one of the best understood and observed of all traffic signs will rapidly be eroded. The Department's experience is that any sign wrongly used quickly loses its meaning: and with 'No Entry' signs the results of a misunderstanding could be serious. Signing is more fully described in Local Transport Note 2.87.[8]

Figure 5:
Typical layout of mandatory contra-flow cycle lane



Bus lanes and bus-only streets

5.14 It is recommended that cyclists should be allowed to use with-flow bus lanes and bus-only streets. There do not appear to be any significant difficulties with these measures. Allowing cyclists to use kerbside with-flow bus lanes avoids the inherent danger of sandwiching them between buses on the one side and a stream of traffic on the other. When overtaking, buses and cyclists may need to straddle or cross the bus lane road marking to gain adequate clearance.



5.15 Cyclists may be allowed to use contra-flow bus lanes. As with the provision of contra-flow cycle lanes, this can provide attractive and shorter cycle routes where one-way traffic systems are in operation. Entry to the lane should be signed to diagrams WBM 267 and WBM 267.1, used in conjunction with both diagram WBM 1061 and diagram 1049. The lane itself should be signed to diagram WBM 653.2, again used in conjunction with diagram 1049. Apart from diagram 1049, all these signs require Departmental authorisation. More information on signing aspects is contained in Local Transport Note 2/87.[8]

5.16 There are two specific points which need to be considered before permitting cyclists to use contra-flow bus lanes and bus-only streets. One of these arises where the contra-flow bus lane is too narrow to allow buses to remain entirely within it when overtaking cyclists: in some cases this overtaking manoeuvre is not possible due to the presence of a demarcation barrier; in others it creates dangers when buses have to encroach on the opposite traffic lane. The other point arises at the entries and exits to contra-flow bus lanes and bus-only streets: when entering or leaving either system cyclists will be making movements different from other traffic, and consideration should be given to assisting them with the use of traffic signals, or protected waiting areas on the carriageway.

II. OFF THE CARRIAGEWAY, BUT WITHIN AN ALL-PURPOSE HIGHWAY

Conversion of footways

5.17 Cycling on footways is an offence created by section 72 of the Highway Act 1835. However, the line of an existing footway can sometimes provide a safe link in a cycle route network, and may prove to be the only realistic means of minimising traffic hazards faced by cyclists. Where conversion of all or part of a footway to provide segregated or unsegregated shared use by cyclists and pedestrians is considered, its attractions need to be properly balanced against the possibility of increased danger and inconvenience to pedestrians. Highway authorities are strongly recommended to follow the advice contained in Local Transport Note 2/86.[11]

5.18 The conversion of all or part of a footway (a right of way on foot along a highway which also comprises a carriageway) to a cycle track involves a simple procedure. The width of the footway required for the cycle track is 'removed' under the powers in section 66 of the Highways Act 1980, and a cycle track 'constructed' over that width under section 65(1) of the same Act. The amount of 'construction' work involved may be minimal depending on the circumstances of the particular case. However, there needs to be clear evidence that the highway authority has exercised its powers under sections 66 and 65. This is usually provided by a resolution of the appropriate committee.

Purpose built cycle tracks

5.19 Section 65(1) of the Highways Act 1980 enables purpose-built cycle tracks to be provided within the boundaries of a highway. (Figure 6.) Although there will be few opportunities in an existing urban area, the following aspects will need to be considered where such possibilities exist.

5.20 The width of land within the highway boundary will be the major consideration. The width of a cycle track will usually lie within a range between 1.5 metres and 3.6 metres according to circumstances. Physical measures may need to be taken to exclude motor vehicles from wider cycle tracks.

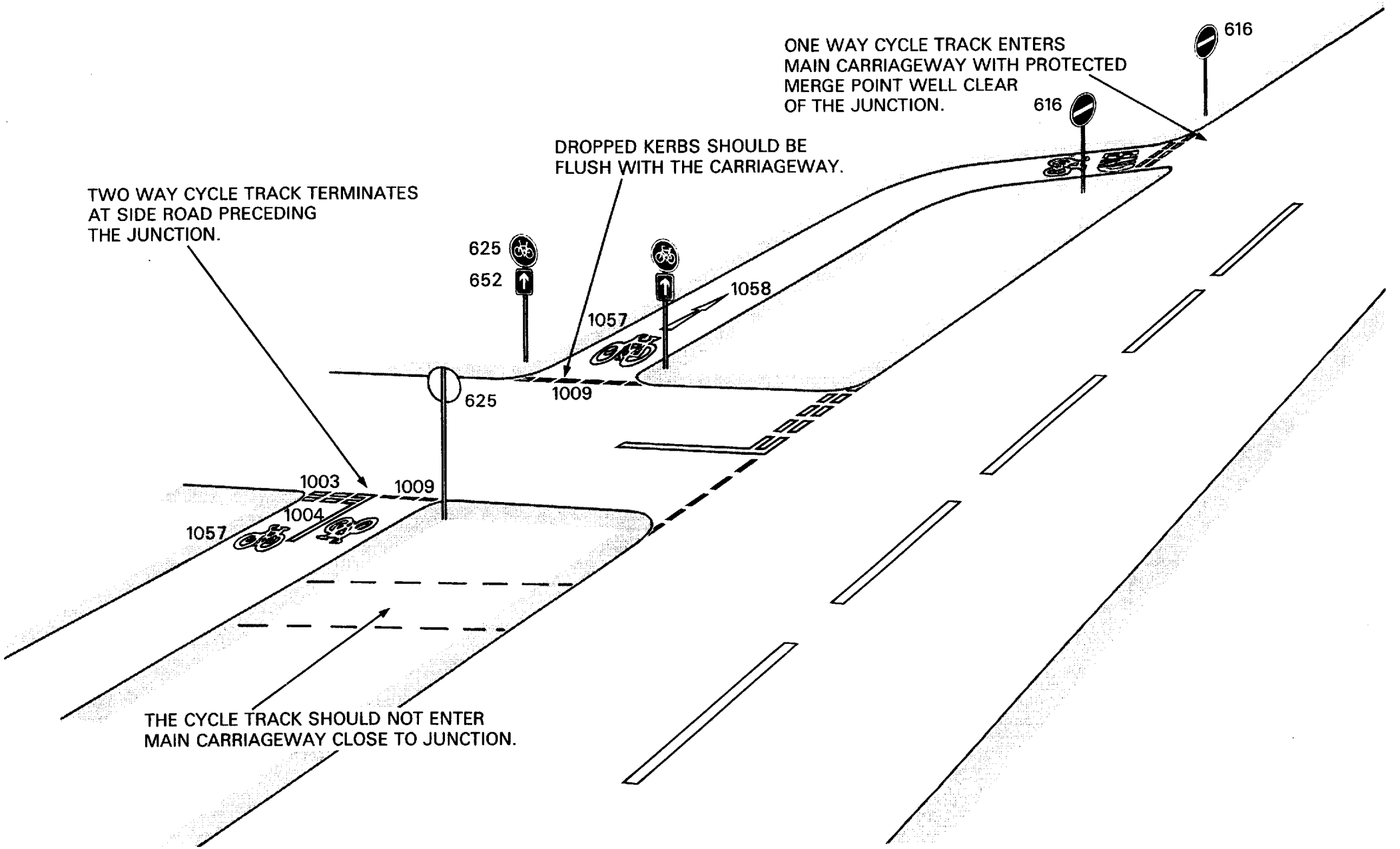
5.21 The cycle track will need to be located in the highway verge. If the cycle track adjoins the footway, the two should be separated in one of the ways described in Local Transport Note 2/86.[11] At the same time, the edge of the cycle track should be at least 0.5 metres from lamp standards, trees and other street furniture.

5.22 The quality of the ride that can be provided is often a significant feature in determining how many cyclists are attracted to use facilities. Cycle tracks should be located in verges of highways only when the track can be kept free of parked vehicles and the problems arising from crossing side roads can be satisfactorily resolved. It is important that a smooth and even riding surface for cyclists should be provided, including those sections of the cycle track that cross access to properties. Wherever possible, cycle tracks should meet side roads without a sudden change in level. Where dropped kerbs are used, they should be laid flush with the carriageway and designed to avoid problems over drainage. At difficult sites, half-battered kerbs may provide a solution.

5.23 When a segregated cycle track within the boundary of a major road is intercepted by a minor road, an advisory crossing as described in Local Transport Note 1/86 (section 4A)[7] should be considered. A cycle track should not feed cyclists back into the main carriageway close to junctions, as this introduces a point of conflict where the cyclists are most vulnerable and where a driver's attention will be concentrated on dealing with the hazards of negotiating the road junction. If feeding cyclists back into the main carriageway is unavoidable, consideration should be given either to terminating the cycle track at a preceding side road or providing a protected merge point well clear of the junction. A sign to Diagram 544.3 should be positioned to warn motorists that cyclists will be rejoining the main traffic flow.

5.24 Section 2 of the Cycle Tracks Act 1984 makes it an offence to drive or park a motor vehicle, including a moped, on a cycle track, except where specifically exempted. Exemptions are limited to emergency vehicles, highway cleansing and maintenance vehicles, and vehicles belonging to statutory undertakers.

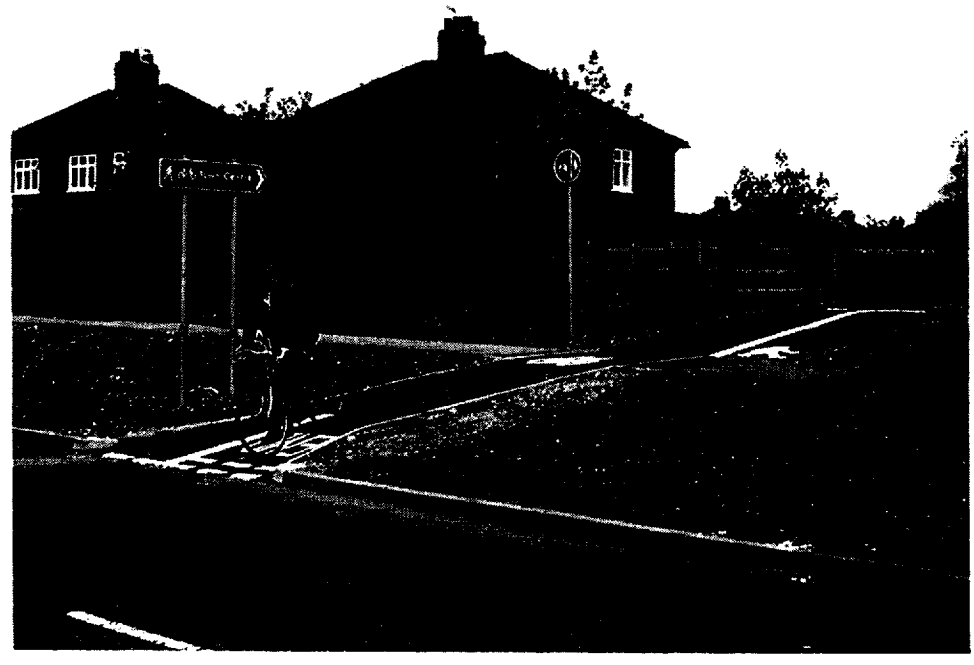
Figure 6:
Layout of cycle track within an all-purpose highway.



III. AWAY FROM ROADS

Conversion of footpaths

5.25 Footpaths (a right of way on foot where there is no carriageway) may also be considered for conversion to shared use. The Cycle Tracks Act 1984 considerably simplified the conversion procedure. Under the powers of section 3 a highway authority can make an order to convert a footpath (but not a footway – see paragraph 5.18), or parts thereof, to a cycle track. There should be widespread consultation, (regulation 3 of the Cycle Tracks Regulations 1984 (SI 1984 No. 1431)), on any proposal to introduce cyclists onto facilities formerly reserved solely for pedestrian use. A highway authority can make and confirm an order under section 3 of the Act if there are no unwithdrawn objections. If an order is opposed it has to be submitted to the Secretary of State for confirmation. Detailed advice on undertaking such conversions is contained in Local Transport Note 2/86.[11] On conversion, the cycle track becomes a highway maintainable at public expense, even if the footpath had not previously had that status.



New cycle tracks

5.26 Section 24(2) of the Highways Act 1980 enables a highway authority to provide a new cycle track outside the boundaries of an existing highway. Planning permission will usually be needed.

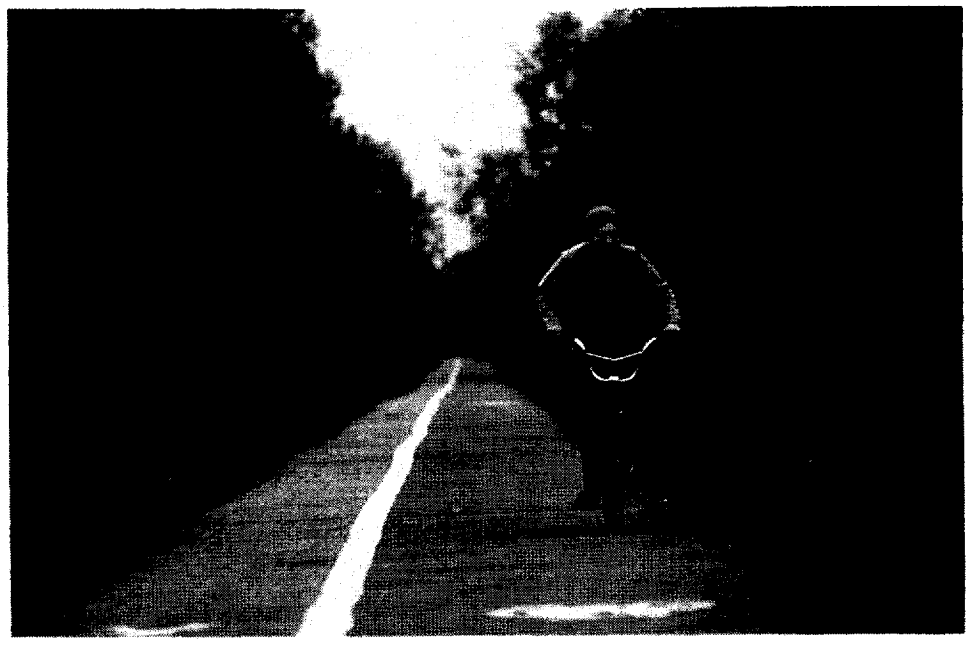
5.27 Section 4 of the Cycle Tracks Act 1984 empowers highway authorities to erect barriers on any cycle track. Previously highway authorities only had power to provide barriers on cycle tracks which were included within a highway containing a carriageway. Section 4 also empowers highway authorities to undertake whatever work they consider necessary in the interests of safety to segregate persons using the cycle track from those using an adjacent footpath or footway, and to alter or remove any barriers.

It may be helpful to apply high visibility colours or markers to barriers or chicanes, so that they are readily apparent to people using the cycle track.

5.28 Cycle tracks must be safe if they are to be well used. Care must be taken to ensure adequate standards of visibility and lighting (see Annex A).

Disused railway lines

5.29 Development of disused railway lines into cycle tracks can also be worth considering.[18] Railway trackbeds generally have gentle curves and easy gradients. If they are provided with a good riding surface they can make ideal cycle links in a network of routes. Experience suggests that planning permission will be required to change the use of and make alterations to a disused railway line.



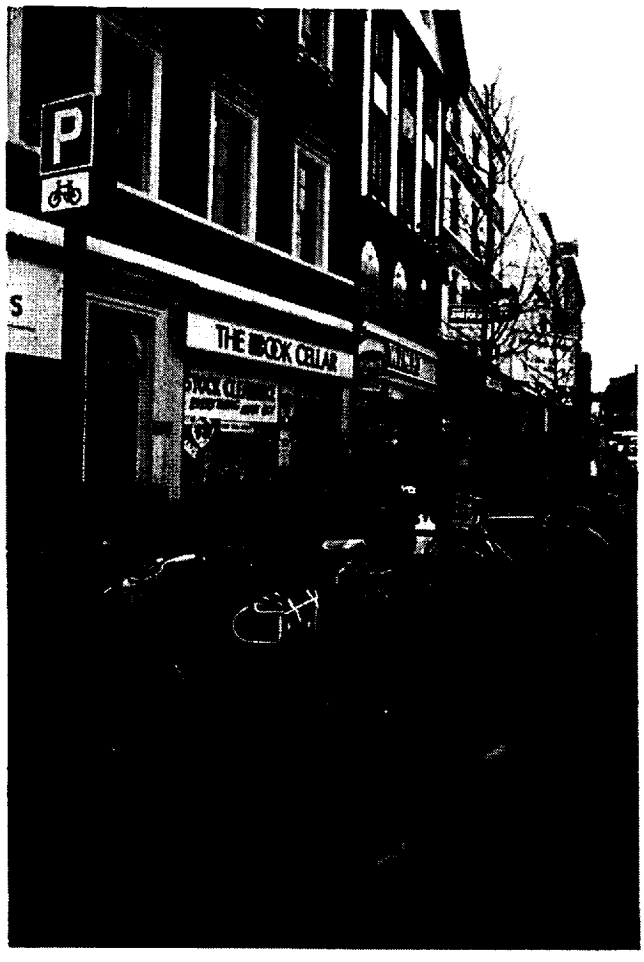
Canal and riverside paths

5.30 Canal and riverside paths also generally have negligible gradients, and conversion and possibly resurfacing could create attractive cycle facilities where sufficient width is available to avoid conflicts with walkers and anglers. It may be necessary to seek the agreement of the owners and frontagers of the land alongside the canal or river for dedication as a highway.

6. Cycle Parking

6.1 As part of a general strategy for providing for cyclists, local authorities are encouraged to provide suitable cycle parking facilities to complement new cycle routes. There are good reasons for doing so. Upwards of 250,000 cycles are stolen in England and Wales each year.[12,13] Fear of cycle theft is one factor which discourages cycling. Well designed parking places can reduce theft. They also reduce the haphazard chaining of cycles to railings, drainpipes and lamp columns, thus removing clutter and inconvenience to pedestrians (particularly blind people) and frontagers.

6.2 In determining the location of cycle parking facilities, authorities should consider likely demand. This is often indicated by the level of indiscriminate cycle parking in the area. Facilities which do not offer adequate security for the cycle will often be ignored. Thus parking places should be located adjacent to well used pedestrian or cycle routes, or be overlooked by nearby properties. A number of designs for cycle stands and racks are commercially available which are both functional and environmentally pleasing. The CTC's detailed publication on cycle parking[19] describes the main types of parking equipment. (Figure 7.)



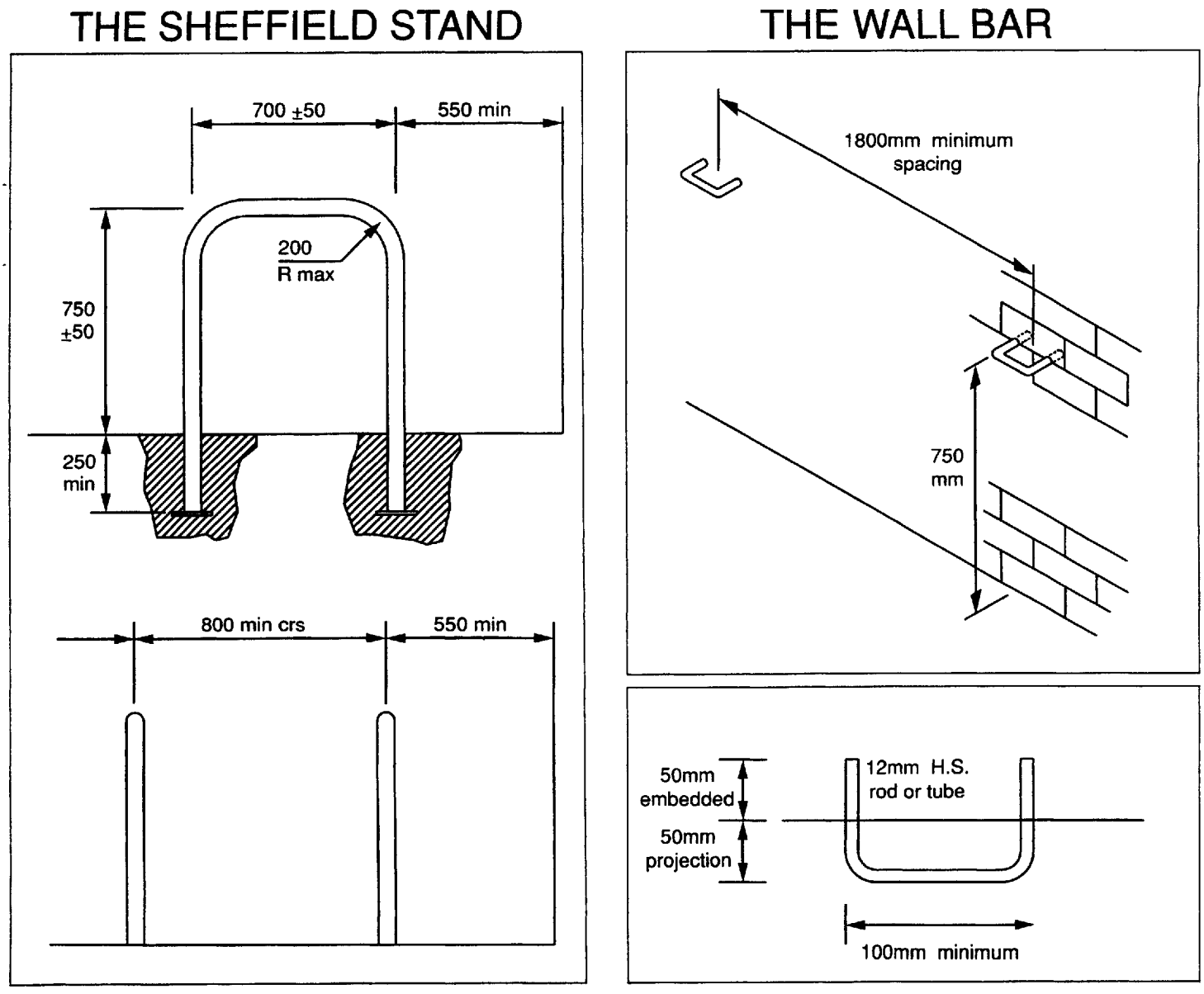


Figure 7:
Types of cycle parking stands in common use (Drawings: CTC)

6.3 Cycling organisations invariably express a preference for two simple types of cycle parking provision. These are the Sheffield Stand and the Wall Bar, illustrated in Figure 7. The Sheffield Stand is fabricated from steel tubing protected from corrosion and fixed to the ground. Alternatively, several Stands can be attached to horizontal runners to form racks (often known as "toast racks") which may then be bolted to the ground using proprietary fixings. Some local authorities have constructed Stands with cast iron type bollards and horizontal rail for use in environmentally sensitive locations. The Wall Bar is suitable for fixing to walls or the sides of buildings.

6.4 Part IV of the Road Traffic Regulation Act 1984 enables local authorities to provide off-street parking places for vehicles and by order to authorise the use of any part of a road as a parking place. These powers are extended by section 63 of the Act to enable local authorities to provide, in roads or elsewhere, stands and racks for bicycles.

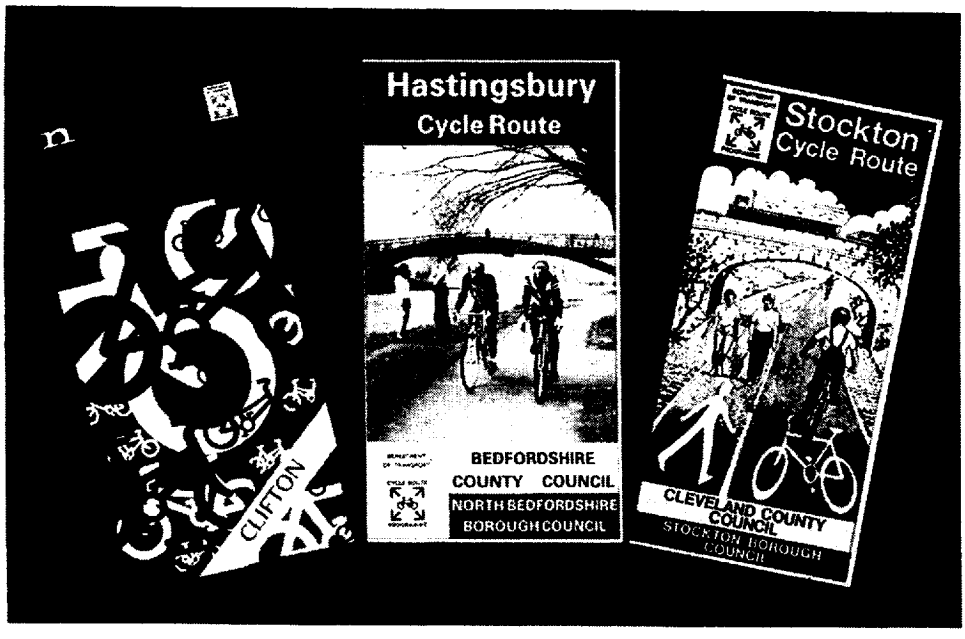
6.5 On-street parking of bicycles can be specifically accommodated either through an exemption to existing waiting and loading restriction orders or by orders designating parts of the road for bicycle parking only. Local authorities will need to consider the effect on traffic generally of providing on-street parking. Cycle parking places will need to be appropriately signed, as set out in paragraph 6.7. Where Wall Bars are proposed it may also be necessary to arrange easements with the owners of adjoining property.

6.6 A further power applies to highways which have been pedestrianised by an Order under section 212 of the Town and Country Planning Act 1971. This is section 115B of the Highways Act 1980, which was inserted by Schedule 5 of the Local Government (Miscellaneous Provisions) Act 1982. It provides for a local authority in particular to place objects or structures on a highway for the purpose of providing a benefit to the public. This has been interpreted as allowing local authorities to provide cycle racks or stands.

6.7 If cycle parking places are to be signed, the blue and white "P" sign to diagram 801 should be used, plated with the black and white diagram 804.4 sign. This plate can be mounted either alongside or below a sign 801 to form a composite sign. Where a signed cycle route leads to a parking place for pedal cycles, direction signs 735.1 and 735.2 may be used. Where the cycle parking is reached from an all-purpose road, the variation to signs 734.8 and 734.9 shown in LTN 2/87 should be used. The word "Free" may be included as well if required.

7. Publicity

7.1 Cycle routes are often introduced in stages. As each feature or stretch of route becomes available, it will need to be publicised so that as many people as possible know of it. This is particularly important when the scheme being introduced is the first of its kind in the locality. Local cycle groups will frequently be willing to help with publicity, and can communicate messages to cyclists.



7.2 The cycle facilities which the scheme employs will need to be described clearly. Unusual or novel signs should be illustrated and their meaning explained. This information needs to be brought to the attention of all road users likely to be affected by the scheme, including pedestrians. It can be disseminated through the local press (including the talking newspaper for blind and partially sighted people), and by the distribution of publicity pamphlets available at local council offices, libraries, etc. Local Road Safety Officers can play a useful role, particularly by ensuring that school children are fully aware of how they may be affected by the scheme and how they can use it in safety. School governors have an increasing role in the management of schools and may be able to help publicise and encourage sensible use of new schemes. If the special needs of blind and partially sighted people have been a particular issue in formulating the design, then care will need to be taken to introduce local blind people to the various features of the scheme.

7.3 The reactions of cyclists using new routes should be sought when the facilities are first brought into use. To encourage feedback, authorities might consider, for instance, using posters or temporary signs near the facility, giving details of a contact address and telephone number.

7.4 Progress reports in the local press will help to remind people of the scheme's existence after it has come into operation.

8. Maintenance of Cycling Facilities

8.1 Safe cycling requires particularly good and thorough maintenance.[14,15] Where facilities can be categorised as bridges, subways, lighting or traffic signals they are usually included in highway authority inventories and funded accordingly. Advisory cycle routes and cycle lanes will normally be maintained at the same time as the carriageway.

8.2 Cyclists are affected by the pavement surface condition more than are motorists. Relatively minor defects can be a real safety hazard for cyclists, whereas for motorists they may be merely an inconvenience. Regular detailed inspection should be conducted and defects noted, such as:

(i) ridges, projections, sharp edges (trips), cracks, and gaps greater than 20 mm.

(ii) potholes and small area depressions greater than 25 mm.

(iii) rocking slabs.

All these types of defects should be repaired promptly.[14,15]

Surface Alignment

8.3 Reinstatement of the pavement surface immediately after road works have taken place should be to existing levels, and in any event should not rise more than 10 mm or settle more than 5 mm except in the case of trenches more than 600 mm wide, when the limit shall be a 10 mm rise or a 10 mm settlement.[14,15,17]

Sweeping of Channels

8.4 Debris from carriageways is deposited in channels or gutters by passing traffic. It will accumulate in cycle lanes and other areas of the road predominantly used by cyclists. The sweeping and general maintenance of road channels and gullies is important to cyclists' safety.

Standing Water

8.5 Standing water more than 10 mm should be noted and corrected. Gullies and other gratings which have gaps more than 20 mm wide parallel to the line of movement of cyclists should be modified or replaced. Worn covers may constitute a skidding hazard to cyclists in wet conditions and should be replaced, along with broken or cracked gullies or covers in danger of collapse. Ideally, gullies and other gratings should not rock or be proud of the pavement surface.[14,15]

Verges and Overhanging Branches

8.6 Cycle track verges will need periodic maintenance. Overhanging branches, protuding hedges and briars need to be checked regularly, as they can often create hazards for cyclists. They should be cut back and cleared as and when necessary to maintain safety standards and sight lines.

Structural Maintenance

8.7 Cycle tracks are not likely to require major structural maintenance. Failure is unlikely to occur within the natural life of the materials used. The drainage can often rely on run-off to adjacent land, so that there are no gullies and piped systems to maintain.

Sweeping of Paths

8.8 Sweeping is required to reduce the incidence of punctures. These are not only dangerous but could deter cyclists from using a cycle track rather than a main carriageway. The problem is increased by the fact that there is no motor traffic to disperse debris and keep the cycle track clear. It is therefore necessary to ensure that the tracks are swept often enough to keep them reasonably clear, and to be prepared to deal with isolated occurrences of broken glass, hedge trimmings (which are often thorny), etc.

Signs and Markings

8.9 Signs and markings require maintenance, because they convey messages essential to safety. After seven years, and subsequently at not more than two-yearly intervals, all road traffic signs should be inspected to check their colour, retro-reflective properties, general performance, surface protective treatment and structural condition.

Fault Reporting

8.10 Even with frequent inspections, it is not always possible for a highway authority to be aware of all the faults along cycle routes. Some authorities have attempted to overcome this by encouraging the general public to report maintenance needs such as potholes, blocked gullies, raised manhole covers, etc. A telephone hotline or freepost postcards (made available at public libraries etc.) have assisted in making these schemes effective.

Duties and Powers of Highway Authorities

8.11 Highway authorities have a statutory duty under section 22(1) of the Control of Pollution Act 1974 to clean their highways so far as it is necessary to keep them safe for traffic. The highway authority has an additional duty under section 41 of the Highways Act 1980 to maintain its highways in reasonable condition (see also sections 56–61). Under section 149 of the 1980 Act the highway authority has powers to remove or require the removal of material deposited on the highway. This would include uncleared trimmings. There are powers to recover the cost of removal. Alternatively the highway authority can seek a Removal and Disposal Order from a magistrates' court. Wilful obstruction of the highway is an offence under

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2

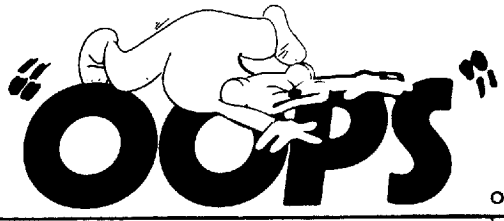
CITY ENGINEERS DEPARTMENT
CIVIC CENTRE,
SOUTHAMPTON
SO9 1BD

A Post Card from you means action from us.

Please fill in using BLOCK CAPITALS.

The repair that's needed.—i.e. Pothole in footpath,
Road name Plate missing. Street lamp out, etc.

Location
Road name
Neighbourhood area
Post Code



For official use

Your Name	21
Address	22
	23
	26
Telephone No.	25
Date	Job No.

Thankyou for helping us.

Figure 8:
Example of postcard for reporting potholes (*Copyright: Southampton City Council and Unicorn Designs.*)

section 137 of the Highways Act 1980. If a cyclist suffers injury or loss as a result of dangerous obstructions, then the person or authority responsible for the obstacle can be sued.

8.12 Legal action can be brought against a highway authority in respect of damage resulting from its failure to maintain a highway (a term which includes a cycle track). Action can be taken either for damages at common law, or for damages for breach of a statutory duty. In the latter case, the highway authority would need to plead the special defence within section 58 of the Highways Act 1980, or admit liability.

9. Postscript

9.1 Since the original Local Transport Note on cycling was published in 1978, considerable progress has been made in identifying and understanding cyclists' needs. The Government has supported a number of local highway authorities who have been willing to try innovative traffic engineering techniques intended to help cyclists. Those measures which worked satisfactorily have been publicised. The Cycle Routes Programme demonstrates how the various techniques can assist. Routes which cyclists use can be made safer and more convenient.

9.2 Measures to improve cycle safety can be and are incorporated within wider highway improvement and traffic management schemes. Approaches and techniques are available which can help. Local politicians, planners and engineers have a duty to provide for cyclists as part of general traffic planning. The extent to which special facilities are required will vary quite widely across the country depending upon demand.

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ANNEX A

Design Guidelines[20]

Visibility

- The visibility requirements at priority junctions are set out in Departmental Advice Note TA20/84, "Junctions and Accesses: the Layout of Major/Minor Junctions". The reduced visibility splay distance of 4.5 metres permitted in TA20/84 for difficult situations may be applied generally on cycle tracks, owing to cyclists' lower approach speeds, though where splay distances are less than 9 metres the additional warning of the upright "Give Way" sign will be needed. Where even 4.5 metres splay distance cannot be provided, "Stop" signs (which require site approval from the Department) should be installed, with an absolute minimum splay distance of 2 metres. If the visibility that can be obtained is below 2 metres, or elsewhere if circumstances dictate, barriers or posts should be installed to slow cyclists down.

  Minimum visibility on bends should be 20m at an assumed design speed of 25km/hr.

Radius of curvature

- 6m preferred minimum.

Gradients

- Length unrestricted – 3% maximum
  up to 100m – 5% maximum
  up to 30m – 7% maximum
  gradients above 7% not recommended, except for short lengths.

Crossfall

- 2.5% desirable generally, but may be more – for instance when superelevation is needed at tight bends.

Lighting

- Group B standard with additional lighting at intersections with other traffic roads.

Surface

- A smooth non-skid wearing surface is essential. On cycle tracks a coloured surface can be used (red has been the most common). On carriageways particular attention should be paid to the condition of the surface adjacent to the kerb – which is where cyclists usually ride.

Advisory Cycle Routes

- Cyclist direction signs may be used to direct cyclists along streets with low vehicle flows (i.e. less than 300vph).

Mandatory Cycle Routes

- With-flow – 1.5m preferred.

  contra-flow – 2.0m preferred, 1.5m minimum.

Advisory Cycle Crossings

- Can work well with two way vehicular flows of up to 400 vph. There is some evidence that they can operate satisfactorily with considerably higher vehicular flows, particularly when traffic is platooned by signals upstream or downstream of the advisory crossing.

Signalled Cycle Crossings

- Vehicular flow is the predominant factor. A peak hour two way flow of at least 500 vehicles on a single carriageway is likely to be necessary to justify the provision of a signalled cycle crossing. It is unlikely that cyclists can safely cross peak two way flows of 800–1000 vph without signal control.

Parallel Signalled Pedestrian/ Cycle Crossings	– Where cyclists make use of an existing pedestrian crossing, a parallel facility might be considered if there is a peak flow of 30–40 cyclists per hour. The desire line of cyclists may need to be realigned towards the line of an existing pedestrian crossing to avoid a nearby hazard such as a junction. Peak flow of 40–50 cyclists per hour at that hazard may be used as a guide. A parallel crossing may be justifiable where there is no existing facility, if the PV^2 criterion is exceeded when the pedestrian flow, P, is replaced by the combined flow of pedestrians and cyclists.
Combined Pedestrian/Cycle Subways	– In new construction the dimensions and layout should conform to the Departmental Standard TD 3/79 'Combined Pedestrian and Cycle Subways'. Where conversion of existing pedestrian subways is considered, experience gained from experimental conversion schemes suggests the following guidelines: Subway below 2.7m – Unsegregated Subway 2.7m to 3.5m – Segregation by white line Subway above 3.5m – Segregation by change of level or barrier
Physically Segregated Pedestrian/Cycle Facilities	– For recommended minimum widths, reference should be made to Local Transport Note 2/86 "Shared Use by Cyclists and Pedestrians".
Combined Pedestrian/Cycle Bridges	– Parapet height 1.4m to 1.5m. Where the conversion of an existing footbridge is considered, the same procedure as that for a footpath or footway should be used. The type of segregation should be similar to that for combined pedestrian and cycle subways.

ANNEX B

Legislative Guidelines

Provision of any type of cycle facility must rely on clear legal authority. Four Acts of Parliament provide the main sources of statutory authority for the provision of cycle facilities.

Road Traffic Regulation Act 1984

General Provisions

Covers traffic regulation orders, parking place orders (including the provision of stands and racks for bicycles), compulsory purchase powers and traffic signs.

Section 122 imposes a duty upon local authorities to secure the expeditious, convenient and safe movement of vehicular and other traffic, and the provision of suitable and adequate parking facilities on and off the highway.

Traffic Regulation Orders

Section 1 allows traffic authorities (Section 6 in Greater London) to make traffic regulation orders which include prohibiting any class or classes of traffic from streets, or parts of streets, either generally or at specific times.

Section 9 allows authorities to make experimental traffic regulations orders. (For Greater London the experimental order provisions are contained in section 6.) Such experimental orders are limited to a maximum period of 18 months.

Parking Places

Part IV of the Act enables local authorities to provide off-street parking places for vehicles, and by order to authorise the use of any part of a road as a parking place. These powers are extended by section 63 of the Act to enable local authorities to provide, in roads or elsewhere, stands and racks for bicycles.

Traffic Signs

Sections 64 and 65 of the Act contain general provisions regarding traffic signs, including traffic signals and tactile markings. Specific provisions regarding Greater London are contained in sections 73 to 76. Traffic signs must comply with the current Traffic Signs Regulations and General Directions, or be specially authorised on behalf of the Secretary of State.

Bollards and other Obstructions

Section 92 (section 94 in Greater London) gives authorities powers to erect bollards and other obstructions, to give effect to a traffic regulation order made under either section 1, 6 or 9 of this Act.

Town and Country Planning Act 1971

General provisions

Provides powers for local planning authorities, including the preparation of structure and local plans, and planning permissions. An amendment to the 1971 Act contained in the Local Government Act 1985 provides for local authorities to prepare Unitary Development Plans – advice on the form and content of these plans is issued by the Department of the Environment.

Stopping up

Section 209 gives the Secretary of State powers to stop-up highways for the purposes of development.

Extinguishment of vehicular rights
Section 212 covers Orders to extinguish vehicular rights (with or without exception), made by the Secretary of State.

Highways Act 1980

General provisions
Provides powers to local highway authorities, and to the Secretary of State as a highway authority. These cover provision of new highways, powers of maintenance and protection of public rights on highways, etc.

Cycle Tracks
Section 24(2) enables a highway authority to provide a cycle track as highway.

Section 65(1) gives a highway authority power to construct a cycle track as part of a highway maintainable at public expense which includes a made-up carriageway, and to light the cycle track.

Section 65(2) empowers a highway authority to alter or remove a cycle track provided under subsection (1).

Section 329(1) defines a cycle track as a way comprised in or constituting a highway with a right of way for pedal cycles with, or without, a right of way of foot.

Footways
Section 66 places a duty on a highway authority to provide a proper and sufficient footway as part of a highway (including a carriageway), maintainable at public expense when they consider such provision to be necessary or desirable for the safety or accommodation of pedestrians. It also empowers an authority to alter or remove a footway.

Section 75 allows an authority to vary the relative widths of a carriageway and of any footway.

Guard Rails, etc.
Section 66(2) provides for the undertaking of specified works on a highway maintainable at public expense which consists of or comprises a carriageway, for the purpose of safeguarding persons using the highway.

Section 66(3) provides for the undertaking of specified works, on a footpath, for the purpose of safeguarding persons using the footpath.

Subways and Footbridges
Section 69(1) provides for the construction of subways for the use of pedestrians to cross a highway including a carriageway. Any subway can be altered, removed or temporarily closed.

Section 70(1) gives power to construct, maintain and light pedestrian bridges across highways. Any footbridge can be altered, removed or temporarily removed. This provision applies where part of the bridge falls outside the limits of the highway. Land acquisition powers are also available.

Lighting
Section 97 empowers a local highway authority to provide lighting on any highway for which it is the highway authority.

Land Acquisition
Part XII contains powers for the acquisition, vesting and transfer of land required for highway purposes.

Stopping-up
Section 116 provides magistrates courts with a power to authorise the stopping up or diversion of a highway.

Cycle Tracks Act 1984

Mopeds
Section 1 removes the right of mopeds to use existing or future cycle tracks.

Motor Vehicles
Section 2 makes it an offence, with specified defences, to drive or park a motor vehicle (including a moped) on a cycle track.

Conversion of Footpaths into Cycle Tracks
Section 3 provides a procedure under which all or part of a footpath can be converted to a cycle track under an order made by the highway authority and confirmed by them if unopposed. If the order is opposed, confirmation by the Secretary of State is required.

Barriers etc
Section 4(1) empowers authorities to provide and maintain barriers on any cycle track.

Section 4(2) empowers authorities, where a cycle track is adjacent to a footpath or footway, to provide and maintain such works as they consider necessary to separate, in the interests of safety, cycle track users from those using the footpath or footway.

Section 4(3) empowers authorities to alter or remove any works provided under subsection (1) or (2).

ANNEX C

Other Legal Considerations and General Advice

Providing Cycle Facilities in Parks

The status of footpaths in certain parks, and the ability to convert them to cycle use, may be determined by local or private Acts of Parliament. Local park byelaws may also be applicable. A number of London's parks are Royal Parks and specific statutory procedures, involving the Secretary of State for the Environment, apply. Each situation should therefore be examined individually to establish its appropriate legal status.

Order Making

The three most common orders made in respect of cycling facilities are:

- traffic regulation orders;
- orders extinguishing vehicular rights over a highway, often used in establishing pedestrian zones;
- footpath conversion orders.

Parking place orders are relatively rare and compulsory purchase orders relatively commonplace. Stopping-up orders are an essential part in one of the procedures which allows an authority to convert a footpath to a cycle track. This procedure is still available to local authorities (see below).

Traffic Regulation Orders (TROs)
TROs are used in connection with cycle lanes to control waiting and loading and to restrict use by motor vehicles. For with-flow and contra-flow bus/cycle lanes, TROs are required to restrict entry to streets (including restrictions on the use of streets by pedal cyclists), and to eliminate conflicting movements at cycle crossings and pedestrian/cycle crossings. Because of the prohibitions contained in section 2 of the Cycle Tracks Act 1984 it is no longer necessary to make TROs so as to prohibit or restrict the parking or driving of motor vehicles on cycle tracks.

Parking place orders, made by the local authority using the procedures contained in the Traffic Orders (Procedure) Regulations 1986 (local authorities outside London SI 1986/179, London local authorities SI 1986/259, and the Secretary of State SI 1986/180) may be needed to remove parking places when a change is made to provide a cycle lane. Parking place orders may also be used to provide bicycle parking facilities. Experimental orders are covered by these regulations.

Orders Extinguishing Vehicular Rights
Orders made under section 212 of the Town and Country Planning Act 1971 to restrict or exclude vehicles from a highway can exempt cyclists. If cyclists' access is being restricted, then in common with any other vehicle restrictions, the order may have to be backed by a traffic regulation order unless physical, self-enforcing features make this unnecessary.

Footpath Conversion
Footpath conversion orders are made under section 3 of the Cycle Tracks Act 1984 and the Cycle Tracks Regulations 1984 (SI 1984/1431). An order is made by the local authority but if there are unwithdrawn objections, the order has to be confirmed by the Secretary of State after a public local inquiry. If there are no objections, or all objections are withdrawn, the order can be confirmed by the local authority.

As well as the procedure under the Cycle Tracks Act 1984 local authorities can convert all or part of a footpath to a cycle track by;

- obtaining planning permission (Town and Country Planning Act 1971) for a new cycle track,
- making a stopping up order under section 209 of the Town and Country Planning Act 1971 on all, or part of the footpath,
- constructing the new cycle track under section 24(1) of the Highways Act 1980.

A compulsory purchase order may be required if the authority does not own the footpath sub-soil.

Conversion of Footways

The procedure to convert all, or part, of a footway to a cycle track involves:

- "removing" the footway under section 66 of the Highways Act 1980;
- "constructing" a new cycle track under section 65(1) of the 1980 Act.

The extent of physical conversion work which is needed may be minimal (although the cycle track will have to be signed) but there must be clear evidence of the formal steps the authority has taken. Committee resolutions will usually suffice.

Conversion of Pedestrian Subways/Footbridges

The procedure for converting pedestrian subways or footbridges to shared use is the same as that used for a footpath or footway.

Other Orders

Compulsory land acquisition may be necessary to provide cycle facilities. Compulsory purchase orders can be made under the Town and Country Planning and Highways Acts. When contested, orders made by an authority have to be confirmed by the Secretary of State and a public local inquiry will be held.

ANNEX D

Sample Traffic Regulation Order for (with flow and contra-flow) Cycle Lanes
The [Authority's name] makes this Order in exercise of its powers under section [1, 6, or 9] of the Road Traffic Regulation Act 1984 and all other enabling powers.

1. This Order shall come into force on the [date] and may be cited as the [Name] Cycle Lane Order.

2. In this Order –

"the cycle lane" means the area of the carriage of the [ ] road at [ ] which is bounded on its [left/right] by the kerb line and on the [right/left] by a traffic sign of a type [to diagram 1049] and placed on that carriageway.

"pedal cycle" means a pedal bicycle or pedal tricycle not being in either case capable of being mechanically propelled.

3. Save as provided in Articles 4 and 5 of this Order no person shall cause or permit any vehicle other than a pedal cycle [at any time/between the hours of [ ] and [ ]] to enter, wait or proceed in the cycle lane.

4. The order shall not render it unlawful for a person to cause or permit any vehicle to enter, wait or proceed in the cycle lane for so long as may be necessary to enable the vehicle to:

(i) be used for the removal of any obstruction to traffic;

(ii) be used for police, fire brigade or ambulance purposes;

(iii) be used in the service of any local authority or water authority or with the permission of any such authority in pursuance of statutory powers or duties; provided that whilst being so used it is necessary for the vehicle to wait in the cycle lane;

(iv) avoid an accident; or

(v) gain entrance to off-street loading facilities or garaging.

5. Nothing in Article 3 of this Order shall apply to the driving of any mechanical road cleansing vehicle or gully emptying machine or to anything done with the permission or at the direction of a police officer in uniform or a traffic warden.

6. The provisions of this Order shall be in addition to and not in derogation of the provisions of any regulations made or having effect as if made under the Road Traffic Regulation Act 1984 or under any other enactment.

ANNEX E

Sample of Notice of Intent to Convert a Footway to a Cycle Track

The [Highway Authority] is proposing to convert a length of footway approximately [ ] metres long, from the junction of [ ] and [ ] to a point [ ] metres [beyond the junction with [ ] and including a spur from the top of the ramp at the [ ] end of the subway to [ ]], to a cycle track, using powers under section 66(4) and section 65(1) of the Highways Act 1980.

[A width of [ ] metres will be removed from the existing footway and a cycle track constructed over that width. Pedestrians and cyclists will be segregated by means of [a kerb/a white line] and barriers erected where necessary.]

See Plan attached.

Any person who wishes to comment on this proposal should write by [date] to any of the following:

Signed by Authority

ANNEX F

Traffic Advisory Unit
Cycling Bibliography

THE PUBLICATIONS LISTED IN THIS NOTE ARE AVAILABLE FROM THE FOLLOWING SOURCES:

A.	Traffic Advisory Unit TP Division Department of Transport Room C10/12 2 Marsham Street London SW1P 3EB	01-276 6287
B.	Publications Sales Unit Department of Transport Room 4 Building One Victoria Road South Ruislip Middlesex HA4 0NZ	01-841 3425
C.	The Cashier Transport and Road Research Laboratory Crowthorne Berkshire RG11 6AU	0344 773131
D.	HMSO Publications Centre (Tel Orders Only)	01-873 9090
	Enquiries	01-873 0011

Department of Transport
Where no price is listed, the document is available free of charge. All prices quoted should be checked before ordering.

		Available from	*Price*
I Local Transport Notes	Local Transport Note 1/86: Cyclists at Road Crossings and Junctions. HMSO, 1986.	D	£3.00
	Local Transport Note 2/86: Shared use by Cyclists and Pedestrians. HMSO, 1986.	D	£2.50
	Local Transport Note 2/87: Signs for Cycle Facilities HMSO, 1987.	D	£3.50

		Available from	*Price*
II Traffic Advisory Unit Reports	Sutton Road/Holwell Road Roundabout, Hull: A Peripheral Cycle Track. Design and Implementation, 1986.	B	£1.20
	Hills Road, Cambridge: Segregated Cycle Lane at Traffic signals. Design, Implementation and Monitoring, 1986.	B	£2.70
	Rheims Way, Canterbury: Cycle and Pedestrian Subway. Design, Implementation and Monitoring, 1987.	B	£1.20
	Clifton to City Centre Cycle Route, Nottingham. Design, Implementation and Monitoring.	B	£3.00
	Fen Causeway, Cambridge: Signalled Cycle Crossing. Design, Implementation and Monitoring.	A	
	Albert Gate and Albion Gate, London: Signalled Cycle Crossing. Design and Implementation.	A	
III Transport and Road Research Laboratory Reports	Cycle Theft. J M Morgan and R Roth. TRRL LR1134, 1985.	C	£1.00
	Attitudes to Cycling Finch, Helen and J M Morgan. TRRL RR14, 1985.	C	£3.00
	Bicycle Ownership and Use: Some Comparisons between the 1978–1979 National Travel Survey and the 1981 Greater London Transportation Survey. J Bird and D J Holden (TSG/VCL). TRRL CR14, 1986.	C	£3.00
IV Traffic Advisory Unit Leaflets	1/86 Cycle Route Project, Stockton.	A	
	2/86 Innovatory Cycle Scheme. London-Strand/Waterloo Bridge: Signalled Cycle Facility.	A	
	3/86 Cycle Route Project, Bedford: The Hastingsbury Route.	A	
	4/86 Preliminary Assessment. Hull, Sutton Road Roundabout: Peripheral Cycle Track.	A	
	5/86 Innovatory Cycle Scheme. Fen Causeway, Cambridge: Signalled Cycle/Pedestrian Crossing.	A	

		Available from	*Price*
6/86	Innovatory Cycle Scheme. Cambridge – Hills Road: Segregated Cycle Lane at Traffic Signals.	A	
8/86	Innovatory Cycle Scheme. London – Meymott Street, Southwark: Cycle "Slip" Facility.	A	
9/86	Innovatory Cycle Scheme. Canterbury – Rheims Way: Cycle and Pedestrian Subway.	A	
10/86	Innovatory Cycle Scheme. Oxford – Parks Road/Broad Street: Advanced Cycle Stopline.	A	
11/86	Innovatory Cycle Scheme. Chelmsford – Central Park Subway: Conversion to Shared Use.	A	
12/86	Innovatory Cycle Scheme. Preston – Ringway: Signalled Cycle Facility.	A	
13/86	Innovatory Cycle Scheme. Hillingdon – Uxbridge Road: Signalled Cycle/Pedestrian Crossing.	A	
14/86	Innovatory Cycle Scheme. Nottingham: Clifton to City Centre Cycle Route.	A	
15/86	Innovatory Cycle Scheme. Liverpool – Croxteth Gate: Special Facilities for Cyclists at Junctions.	A	
1/87	Measures to Control Traffic for the Benefit of Residents, Pedestrians and Cyclists.	A	
2/87	Planning Cycle Routes "New Routes for Cyclists" – A Film Guide.	A	
5/87	Innovatory Cycle Scheme Totton to City Centre Cycle Route, Southampton.	A	
6/87	Innovatory Cycle Schemes London – Albert Gate and Albion Gate Signalled Cycle Crossings.	A	
7/87	Innovatory Cycle Scheme Chelmsford – Longstomps Avenue Shared Use Subway.	A	
1/88	Provision for Cyclists at Grade Separated Junctions.	A	
1/89	Cycling Bibliography	A	

V Conference Papers, Journal Articles and other publications

	Available from	*Price*
Study of Disused Railways in England and Wales: Potential Cycle Routes. J Grimshaw and Associates, HMSO, January 1982.	D	£11.50
Study of Disused Railways in England and Wales. Annex 1–33 (excluding 9, 11, 16, 19 and 27).	B	£2.70 each except Annex 2 – £5.30 Annex 20 – £5.70
Ways to Safer Cycling Conference, April 1985. Conference Proceedings.	A	
Footways shared by Cyclists and Pedestrians D G Harland, R G Jacoby and D Pickering in "Traffic Engineering and Control" May 1986.	Libraries	
Pedal Cyclists at Roundabouts. R E Layfield and A Maycock in "Traffic Engineering and Control" June 1986.	Libraries	
UK Research Into Cycling Since 1984. D G Harland, Velo City III Congress, Groningen, 1987.	A	
UK Cycle Routes Programme: Implementation and Initial Findings. P J. Rix, Velo City III, Groningen, 1987.	A	
Cyclists at Road Crossings and Junctions - Current Practice in the UK G S Carter, Velo City III, Groningen, 1987.	A	
Pedal Cycle Accidents – A Hospital Based Study. P J Mills, 2nd International Conference on Road Safety, Groningen 1987.	C	£1.00
Tactile Markings for the Guidance of Blind Pedestrians on Facilities Shared with Cyclists. M C Williams in "Traffic Engineering and Control" November 1987.	Libraries	
Pedal Cyclists at Dual Carriageway Slip Roads. M C Williams and R E Layfield in "Traffic Engineering and Control" November 1987.	Libraries	
The Albert Gate and Albion Gate Cycle Schemes in London. A H Wheeler and J M Morgan in "Traffic Engineering and Control" December 1987.	Libraries	

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