

Traffic Advisory Leaflet 6/98
September 1998



Contraflow cycling

Introduction

This leaflet gives advice on the range of traffic environments and circumstances in which various options for permitting cycling in the contraflow direction in one-way streets may be appropriate.

The advice draws together guidance in existing publications from the Department of the Environment, Transport and the Regions (DETR) and others. It is supplemented by the results of recent research undertaken by Transport Research Laboratory (TRL) on behalf of the DETR. This is reported fully in TRL Report 358.

Summary

European experience and the recent research from TRL indicates that the form of provision necessary for contraflow cycling may vary, depending on the traffic environment and street layout into which the scheme is being introduced. Where speeds and flows are low and the street layout conducive, contraflow cycling may be

introduced safely with less physical infrastructure than in other circumstances.

Background

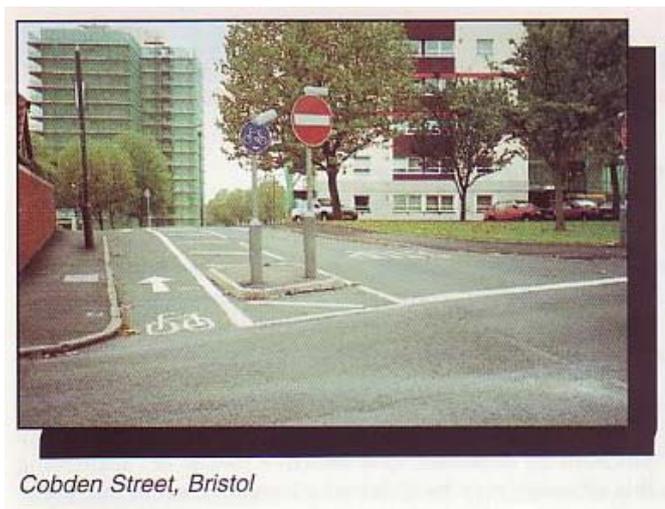
One-way streets can often result in journeys by cycle becoming longer and more hazardous, with more junctions to negotiate. One effective means of addressing this situation may be to introduce arrangements that allow cyclists to travel in both directions in a one-way street.

Experience in some other European countries has resulted in a wider range of options for providing for contraflow cycling than have been implemented in the UK to date. Experience in Germany is especially relevant, where cycling has increased in recent years from relatively low levels, and motorists have learnt to anticipate and accommodate increased numbers of cyclists in new circumstances.



Mandatory contraflow cycle lanes

A mandatory contraflow lane provides protected space for cyclists at all times, and highlights to motorists the need to anticipate cyclists travelling in the contraflow direction. Waiting and loading is prohibited in a mandatory contraflow lane, and the remaining width for all vehicles (in the with-flow direction) must be sufficient to allow vehicles to proceed without entering the contraflow cycle lane.



No cycle lane

It may be possible to dispense with the contraflow cycle lane altogether, if other site conditions allow, where:

Either

- 85th percentile speeds are less than 25mph; **and**
- vehicle flows are less than 1000 vehicles per day

Or

- the street forms part of a 20mph zone

This design provides no protected space for cyclists, and the only indication to drivers to remind them that cyclists may be travelling in the opposite direction will be traffic signs. Cyclists interviewed perceived contraflow cycle lanes as a particularly helpful feature. So even where traffic conditions suggest a lane might not be strictly necessary, it may be preferable to provide one wherever practical.

Advisory contraflow lanes

These highlight to motorists the need to anticipate cyclists travelling in the contraflow direction. They might be considered where:

Either

- 85th percentile speeds are less than 25mph;

Or

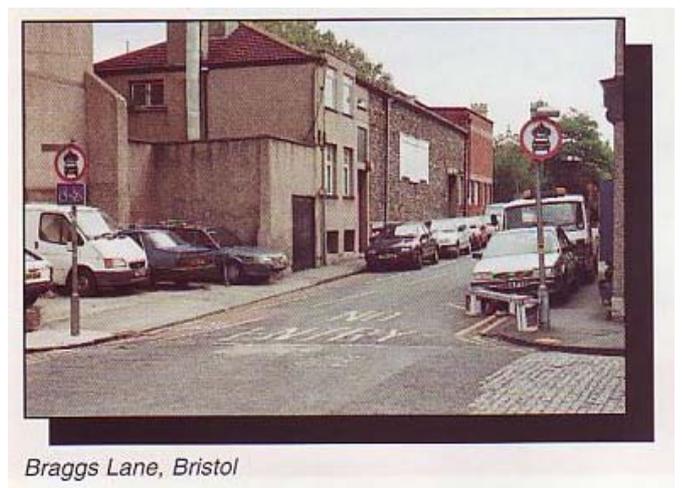
- vehicle flows are less than 1,000 vehicles per day

Given such conditions, an advisory lane might be a suitable option where:

- oncoming vehicles need occasionally to encroach into the cycle lane, for example to pass parked vehicles on the opposite side or to pass cyclists travelling in the with-flow direction
- occasional loading and unloading needs to be allowed for within the lane
- it is not possible to restrict waiting in the lane at all times of day

Each of these situations will limit the benefit of the lane for cyclists. A highway authority will need to be satisfied that this form of provision will not unduly compromise the safety of cyclists along the link.

Where parking is to be retained, consideration should be given to providing an advisory cycle lane on the outside of the parking bay. An assessment of parking turnover will be needed to determine the extent to which motorists and cyclists may come into conflict.



False one-way streets

This arrangement is also sometimes referred to as "plugged no-entry". In these circumstances the street remains in two-way operation. However, point restrictions prohibit motor vehicles from entering at one end of the street, so that the street effectively operates as a one-way street. Cycles are exempted from this restriction and are able to bypass the no-entry signs via a segregated "cycle gap".

This option may be more appropriate than an advisory contraflow cycle lane where there is a need to retain kerbside parking.

Cycle lane width

Where a contraflow lane is provided it should ideally be at least 2m wide, but where road widths are restricted this can be reduced to 1.5m. The width will depend upon traffic volumes and speeds, and the proportion of large vehicles using the route.



St Marks Road, Bristol

Segregation at entry and exit

Where contraflow cycling is permitted, segregation for cyclists at the entry to and exit from a one-way street should always be provided if there is sufficient space to do so. European experience suggests that where cyclists are involved in accidents while cycling in the contraflow direction, this is more likely to occur at the entrances and exits to the street than along the link. This is often because cyclists are performing different turning manoeuvres to other traffic, and motorists may not anticipate their movements. Where space

is not available, a local authority will need to be satisfied that the arrangement is appropriate to the traffic environment and surrounding street layout. Particular consideration should be given to:

- traffic volumes
- traffic composition
- turning movements
- vehicle swept paths
- sightlines and visibility at the junctions

Where no segregation is provided on entry, a mandatory or advisory cycle lane can still be provided along the length of the street. Where no cycle lane is provided along most of the length, it is advisable to provide a short section of cycle lane (4-5m) with a coloured surface at the point of entry. This would highlight to cyclists where they should position themselves, and alert motorists that they should expect to meet cyclists in the contraflow direction.

Traffic calming

In combination with the introduction of a contraflow cycle scheme, it may be possible to introduce traffic calming measures to reduce vehicle speed, perhaps as part of a 20mph zone. Lower speeds may mean that the level of segregation between contraflow cycles and other vehicles can be reduced.

Signing

Figures 1 - 4 show typical layouts for contraflow cycling schemes and false one-way streets. These layouts are indicative only and may need to be varied, or elements of different figures combined, to suit local circumstances.

Under no circumstances should plates exempting cycles be placed under the No Entry sign (diag. no 616). Experience suggests that, if used with qualifications, the status of diagram 616 as one of the best understood and observed of traffic signs would be rapidly eroded, with potentially serious results. Where no segregation on entry is provided, the Motor Vehicles Prohibited (diag. no 619) should be used. At the sites monitored by TRL, compliance with this sign was found to be good.

Figure 1 Mandatory Contraflow Cycle Lane (with segregation at entry and exit).

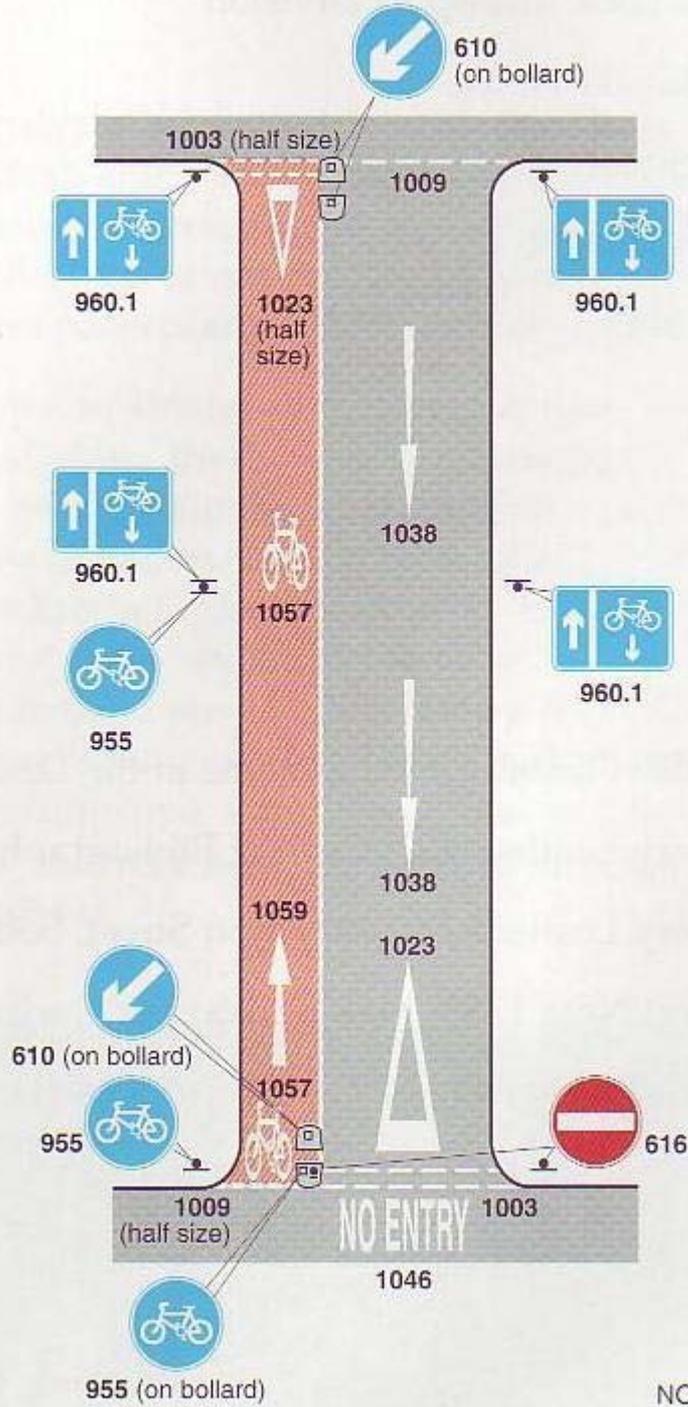
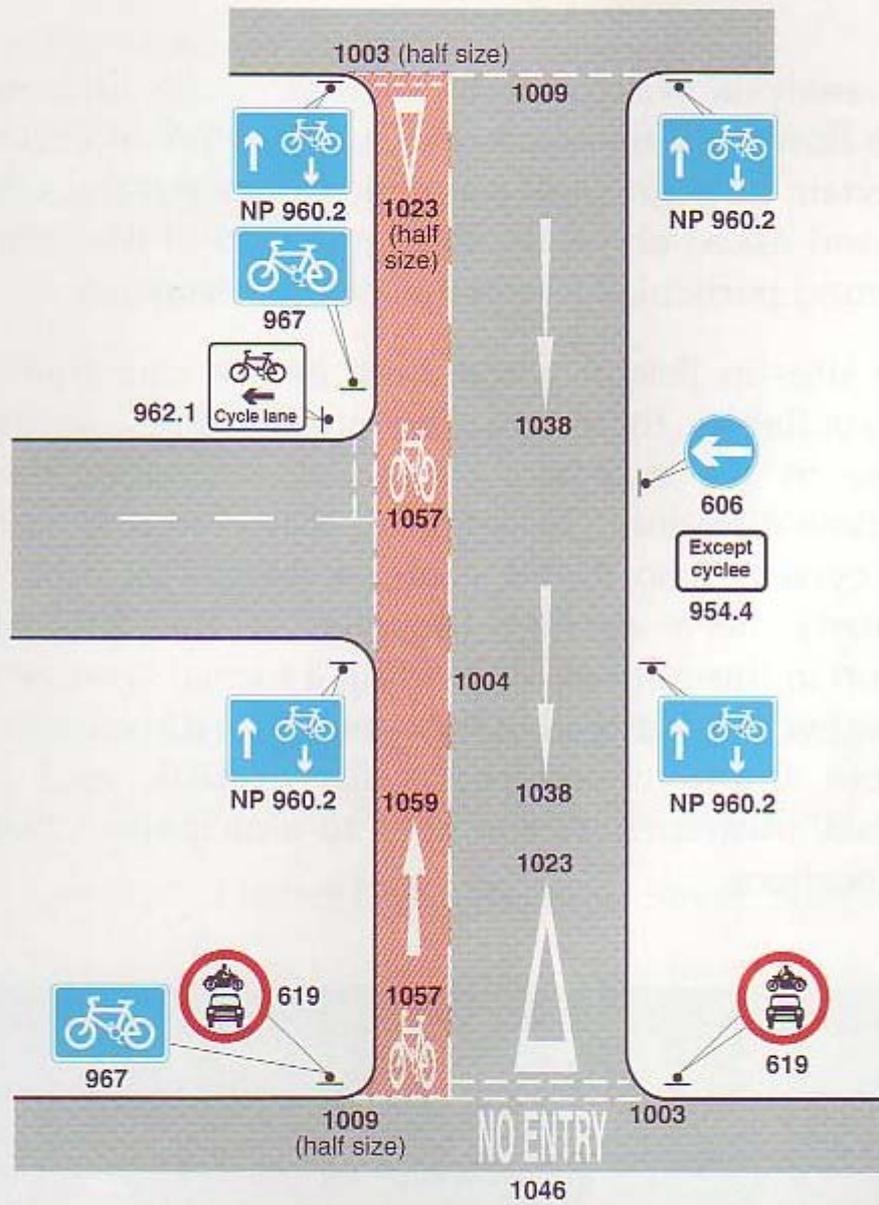
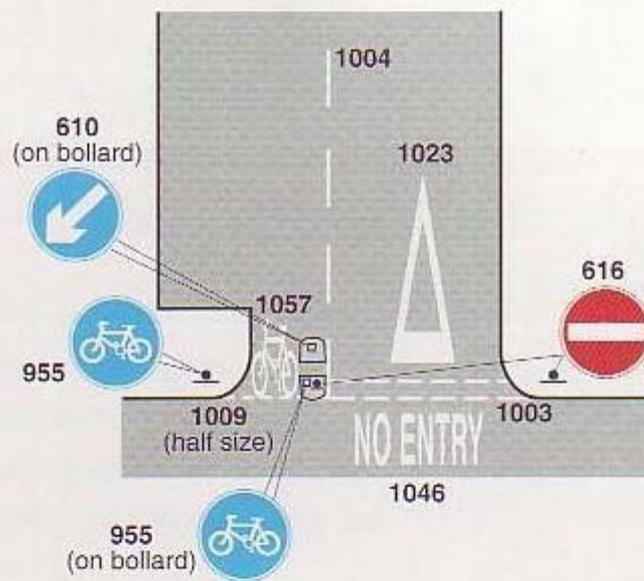


Figure 2 Advisory Contraflow Cycle Lane
(without segregation at entry and exit)



NOT TO SCALE

Figure 3 False One-way Street
(with segregation at entry).



NOT TO SCALE

Authorisation Procedure

Where a highway authority wishes to introduce a scheme that includes an advisory contraflow cycle lane, or contraflow cycling in the absence of any such cycle lane, it will need to apply for authorisation for sign NP960.2.

Working drawings are available from DETR. Applications should be addressed in the first instance to the Government Office for the Region in England, to the Scottish Office, or to the Welsh Office.

An application should be accompanied by 5 copies of the plan of the site showing all details of the proposed scheme. An application should provide a clear justification for the scheme design. This should include an assessment of as many of the following criteria as are relevant in the particular case, and should establish that the option being put forward is the safest practicable option, taking into account:

- vehicle speeds
- vehicle flows
- type of traffic: local, through traffic
- % large goods vehicles
- parking turnover and duration
- junction turning movements
- vehicle swept paths
- gradient
- net width of carriageway
- visibility at entrances and exits
- visibility when entering and leaving
- private accesses
- approach sight lines
- accident record
- comparative safety on alternative route

TRL Report 358

Six schemes were monitored. These were:

- Braggs Lane, Bristol (2 schemes)
- Conduit Place, Bristol
- St Marks Road, Bristol
- North Street, Chichester
- Turl Street, Oxford

These schemes comprised a variety of measures including:

- advisory kerbside contraflow cycle lane;

- advisory contraflow cycle lane outside parking bays;
- no contraflow cycle lane;
- segregation at entry and exit;
- no segregation at entry or exit;
- specially authorised contraflow cycles sign (NP960.2);
- associated traffic calming measures.

In all cases 85th percentile observed speeds after implementation were below 25mph.

Video analysis was used to monitor cycle and motor vehicle flows and manoeuvres. Cyclists were interviewed to ascertain how safe and convenient they felt the scheme to be, and asked about the design details of the schemes they found particularly valuable or unsatisfactory.

At the sites in Bristol where both before and after data were available, there was no statistically significant increase in the numbers of cyclists travelling in the contraflow direction. This suggests that a large proportion of the cyclists who found value in using this route had previously been cycling illegally in the contraflow direction in these streets. Providing a formal arrangement to allow cyclists to travel in the contraflow direction might therefore improve conditions for cyclists, and raise motorists' awareness of the need to anticipate cyclists in these locations.

Virtually all the cyclists interviewed found it helpful to be able to cycle in the contraflow direction, and said that they found the contraflow schemes safer and more convenient than the route they would otherwise be required to take.

The video film showed no examples of situations where cyclists were judged to have been put in a position of serious conflict. Neither were any cases observed where cyclist behaviour was judged to endanger pedestrians. Seventy-nine percent of cyclists said they felt safe or very safe in these traffic environments. Eighteen percent stated that they felt fairly unsafe. Those who felt fairly unsafe were largely cycling in one particular street. No respondent at any of the sites stated that they felt very unsafe.

Further Information

Professional and technical enquiries should be addressed to

Walking and Cycling
3/27 Great Minster House
76 Marsham Street
London SW1P 4DR

Tel: 020 7944 2983

References

TRL Report 358: Further Developments in the Design of Contraflow Cycling Schemes

Traffic Advisory Leaflet 8/97: Cycling Bibliography

Traffic Advisory Leaflet 8/86: Meymott Street, Southwark - Cycle Slip Facility

Local Transport Note 1/89: Making Way for Cyclists, (HMSO) £9.95.

IHT/BA/CTC/DOT (1996): Cycle-Friendly Infrastructure: Guidelines for Planning and Design, £15.00

Sustrans (1997): National Cycle Network: Guidelines and Practical Details, £25.00+p&p.

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The Department for Transport sponsors a wide range of research into traffic management issues. The results published in TALs are applicable to England, Wales and Scotland. Attention is drawn to variations in statutory provisions or administrative practices between the countries.

Within England, enquiries should be made to: Traffic Management Division, Department for Transport, 2/07 Great Minster House, 76 Marsham Street, London, SW1P 4DR. Telephone 020 7944 2478. E-mail: tal@dft.gsi.gov.uk