

## SEGREGATION OR INTEGRATION: HOW MUCH SHOULD CYCLISTS BE CATERED FOR SEPARATELY FROM EVERY OTHER FORM OF TRAVELLER?

by Rosemary Sharples, Manchester UK

The City of Xchester has only recently woken up to its responsibilities towards cyclists, but having done so, its elected representatives are keen to get on with the job and do it properly. They have asked their City Engineer to look into providing for cyclists and draw up some policy recommendations. One of the policy reports, on the question of integrated versus segregated facilities, is reproduced here.

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# Xchester

## Cycle Campaign

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c/o 29 Albion Street  
Xchester,  
X16 91Z  
23rd February 1994

Chair of Highways,  
Xchester City Council,  
Town Hall,  
Xchester,  
X1 1AA

Dear Sir or madam,

Our members were pleased when they heard that Xchester City Council had decided to establish the post of Cycling Officer and pay more attention to the needs of the many cyclists in the city. However, we are concerned to hear that the council is considering providing for cyclists only segregated from other traffic.

Our concerns centre on the fact that

- 1) We fear that little will be done because the high costs associated with segregated facilities mean that little can be afforded. Furthermore it is our experience elsewhere that when off-road provision is made for cyclists, pedestrians use it anyway, yet pedestrian groups and the disabled lobby will campaign against facilities to be shared between cyclists and pedestrians. This may mean that nothing will get done.
- 2) Cycles are vehicles under the Highways Act; they have a right to use the road. We fear that providing for cyclists only off-road gives the message that Xchester City Council wants cyclists off the roads. Yet most cycling is done on the road. We expect this situation to continue and are concerned that a policy of providing off-road facilities will lead to resources being diverted. We feel, that spending money filling potholes in Xchester would be of more practical benefit to cyclists than building cyclepaths.
- 3) We would hope that with Xchester City Council's concern for cycling, cyclists would be considered in all traffic schemes and new developments: for example, that traffic calming schemes will be friendly to cyclists, and that new business estates will be accessible to cycle.

Our members feel that every road in the city should be a cycling road. Nationally cycle use is falling: we feel that when cycle provision is made, it should concentrate on supporting existing cyclists and improving what they are actually using.

Yours sincerely,

MEGAN RENNIE, Secretary

XCHESTER CITY COUNCILREPORT FOR RESOLUTION

COMMITTEE: POLICY AND RESOURCES COMMITTEE      WARD: ALL  
(CITY CENTRE SUB-COMMITTEE)  
HIGHWAYS & CLEANSING COMMITTEE

DATE:            8TH FEBRUARY 1994 (CITY CENTRE)  
                      11TH FEBRUARY 1994 (HIGHWAYS & CLEANSING)

SUBJECT:        CYCLING POLICY

REPORT OF:     THE CITY ENGINEER AND SURVEYOR

PURPOSE OF REPORT

1. To make suggestions as to future development of the Council's cycling policy with respect to segregated and integrated provision.

RECOMMENDATIONS

The City Engineer and Surveyor recommends that: -

1. The Committee endorse the provisions set out in this report.
2. The Council should not commit itself to either segregated or integrated provision for cyclists, but should take each situation and each scheme on its merits.

EQUAL OPPORTUNITIES, ANTI-POVERTY AND ENVIRONMENTAL IMPLICATIONS

Due to the direct and extensive impact on these subjects they are dealt with in detail in the body of the report.

J. MACADAM  
CITY ENGINEER AND SURVEYOR

Contact Officer:

Ms R. Sharples            - Tel. N. 226 4830

**1 INTRODUCTION**

- 1.1 Cycling, as a means of transport, has begun to figure more prominently in the consciousness of the public and the engineering professions. With its universities and large student population, Xchester has retained an above average cycling population, who have, however, until now, never been specifically catered for.
- 1.2 Xchester City Council wishes to encourage cycling as a healthy, inexpensive, environmentally friendly means of transport, with the potential to reduce air and noise pollution and congestion (for personal travel and for local carriage of small amounts of freight or luggage) in urban areas. It wishes to encourage those cyclists already on the streets of Xchester and people who might be persuaded or wish to take up cycling, but are at present deterred from doing so, for reasons of (perceived) safety or inconvenience or low status.
- 1.3 The City Engineer was asked to investigate the possibilities for catering for cyclists. In particular, he was asked to report back on the question of whether facilities should be integrated or segregated: whether on-road or off-road, and in the case of off-road provision, whether shared with pedestrians or segregated.

**2 TYPE OF FACILITIES**

- 2.1 The types of facilities under consideration include those:
  - a) integrated with motor traffic in space and time: cycle lanes, advanced stop lines (both visually segregated from motor vehicles), signed cycle routes, bus/cycle lanes, wide nearside lanes and traffic calming measures;
  - b) segregated from motor traffic in space: contra-flow cycle lanes, cycle gates in road closures, cyclepaths (independent of the road), cycle tracks (parallel to the carriageway), cycle bridges, flyovers and underpasses;
  - c) segregated from motor traffic in time: (signalled) cycle crossings, cycle phases in traffic signals;
  - d) segregated from pedestrians in space: cyclepaths, cycle tracks, cycle bridges, flyovers, underpasses and parallel road crossings;
  - e) integrated with pedestrians in time and space: shared use cyclepaths, cycle tracks, bridges and underpasses.

**3 PRACTICABILITY**

- 3.1 **Off-road provision only.** It is not practicable, in Xchester's existing urban areas, in terms of either land availability or current or anticipated financial resources to provide a complete system of cycleways parallel to the existing road network. Only a small percentage of Xchester's footways are wide enough to convert to shared use (minimum 2m) or to parallel cycle and foot ways (minimum 3m).

It should be noted that even in countries of high cycle use, such as the Netherlands and China, such a thing is neither attempted nor envisaged - only a quarter of Dutch cycle tracks are separated from other traffic.

- 3.2 **On-road provision only.** It would be possible to provide for cyclists with only on-road facilities. Once again, however, there is insufficient space on the carriageway of most roads to allow the construction of 1.5m one-way cycle lanes, even if land were to be taken from the footway. Therefore it is not possible to provide a complete network of cycleways.
- 3.3 **Mixture of on and off-road provision.** Allowing both off and on-road cycle provision allows the City Engineer's Department to take advantage of opportunities as and when they arise, and to combine the two types of provision in one scheme, where there is sufficient land for a new facility, or width to take from an existing one: for example road closures, realignment of carriageways and in new private developments, for which cycling facilities may be a condition of planning permission.
- 3.4 **Integration with buses and pedestrians.** In particular, this will allow schemes for cyclists to be incorporated with schemes for bus users and pedestrians, thus obtaining the maximum value for money.

## 4 USER PREFERENCE

- 4.1 **Not all cyclists are the same.** Some are more confident and experienced than others; some have faster reactions and greater strength than others. Not all cycling is the same: the experience of recreational cycling will have a different quality, and cyclists different expectations of and tolerances to, that of utility cycling.  
For example, children can be expected to have fewer traffic skills and less strength than a regular commuter cyclist, in particular one who is training for competitive cycling. This latter type of cyclist is also likely to be more tolerant of traffic than one who only cycles to the corner shop for a newspaper.  
Nor should it be expected that all cyclists will use a facility if provided. This may be because the facility does not take them where they want to go, or have an exit to their destination, or because they feel it slows them down.
- 4.2 **Practising cyclists.** Evidence from surveys, however, suggests that practising cyclists prefer on-carriageway facilities such as cycle lanes rather than cyclepaths or signed cycle routes. This may be because they are perceived as being more direct and therefore faster, with fewer problems in merging with the traffic at junctions or less likely to require mixing with pedestrians which will also slow the cyclist down.
- 4.3 **Non or occasional cyclists.** Surveys of non-cyclists always state that people are deterred from cycling by the traffic on the roads, particularly by the speed of motor vehicles, the pollution from their exhausts and the danger of accidents. People state that they would cycle more if there were more (off-road)

cyclepaths. Studies of cycle facilities elsewhere suggest, however, that existing cyclists transfer from adjacent roads to the new facilities but no-one takes up cycling as a result of their introduction.

Anecdotal evidence from purpose built off-road paths (for example on disused railway lines or canal towpaths) suggest that this type of facility may encourage people to take up cycling for recreation.

- 4.4 A recent study for West Sussex County Council recommended a strategy for cycling provision which relied on, among others, improving the road environment for cyclists rather than installing specific cycle routes.  
The subsequent public consultation exercise made clear, however, that the public expected and wanted cyclepaths as part of the provision.

## 5 OBJECTIVES

- 5.1 Given that different types of cyclists have different requirements and tolerances, it is important that the objectives of any scheme for cycling should be clear before design work starts; whether to aid existing cyclists, reduce accidents, encourage existing cyclists to cycle more or encourage non-cyclists to take up cycling.  
From the comments in s. 4, it will be clear that the choice of type of facility will be dependent on the objectives of the scheme.
- 5.2 The people with the best knowledge of what facilities are needed or wanted are the cyclists themselves (see appendix 1). Local cyclists should be consulted as to, for example, the locations and types of problems which they are encountering on the streets of Xchester. This information can then be used to help in determining the types of provision and priorities for work.

## 6 SAFETY CONSIDERATIONS

- 6.1 The general public's perception is that off-road facilities are safer than using the road, because they are not sharing with motor vehicles. Pedestrians sometimes fear sharing with cyclists because of the perceived danger of being knocked over by cyclists riding without due care and attention.  
In both cases, experience suggests the opposite. Off-road facilities have the potential to result in injuries every bit as serious as any on the road: Milton Keynes, with its extensive system of shared use paths has reported serious injuries, paralysis and even deaths to cyclists using the off-road redways. These injuries are in part due to poor design - inadequate sightlines, loose gravel or slippery surfaces, steep gradients and poor maintenance. In addition, traffic discipline is poor on off-road paths: users take less care because they feel safe, spread across the entire width of the path and pay less attention at junctions, even with roads. The consequence of the latter is an increased chance of collisions with motor vehicles. Cyclists who cycle mainly off the road tend to be less skilled at riding on the road.

The more cyclists off the road, the fewer on the road and the less likely motorists are to be to expect their presence and to be able to handle them correctly.

- 6.2 Almost three quarters of accidents happen at or near junctions. Improving these points to prevent further accidents to cyclists is likely to provide the greatest return in cost benefit terms.

Segregation in space requires building facilities such as bridges, flyovers and underpasses which are very costly in financial terms and in the amount of land required.

Segregation in time, through use of a separate phase at traffic signals, is likely to delay other traffic disproportionately to the number of people using each mode of transport.

- 6.3 Cyclists can usually coexist satisfactorily with motor traffic where most motorists are driving at speeds below about 20 m.p.h. (32 k.p.h.). Traffic calming will sometimes satisfy this criteria, without requiring special provision for cyclists.

- 6.4 Nevertheless, there may be situations where off-road provision is appropriate; for example to provide a shortcut or where physical features, such as disused railway lines, provide a natural access. Long stretches of off-road cyclepath are particularly appropriate for leisure use.

## 7 MAINTENANCE

- 7.1 **Off-road provision.** Off-road cyclepaths suffer from problems which include litter (e.g. broken glass) and overgrown and overhanging vegetation. Resources are generally only sufficient to clear such paths twice a year; therefore the litter can build up causing damage to cycles (e.g. punctures). This deters regular cyclists from using them and may force them onto the road. Such paths are very unlikely to be included in any snow clearing or gritting operations.

- 7.2 **On-road provision.** The clearing of on-road cycle lanes presents fewer problems, in that it may be included in the regular road cleansing and gritting schedule. In addition, the illegal (and legal) use of the area for parking by motorists will tend to automatically deal with such problems as broken glass and litter.

- 7.3 **Road works.** Reinstatement after road work may cause a problem unless it is done to a high standard. Irregularities in the surface, such as potholes and uneven surfaces, have the potential to damage the cycle, particularly wheels, and may also cause the rider to lose control and come off, leading to injuries which can be serious (broken bones) or even fatal. Both off and on-road facilities are subject to poor reinstatement, but on-road ones are more likely to suffer from potholes.

## 8 MISUSE OF FACILITIES

- 8.1 All facilities are open to misuse. Inconsiderate parking may block cycle lanes, cycle tracks and gaps in road closures, or cycle bypasses of road narrowing features. Pedestrians may use cyclepaths or tracks in preference to the footway. Signed routes may be subject to attacks from vandals, taking signs away for their scrap metal value or because of a dislike of cyclists.

## 9 EQUAL OPPORTUNITY IMPLICATIONS

- 9.1 Off-road paths are more likely to be isolated from other traffic than on-road routes; this lack of casual surveillance is likely to increase the chance of users being attacked. Although statistics show that it is young men who are mostly likely to be victims of an attack, the general perception is that women are particularly vulnerable. While an off-road path may be well used during the day, it is likely to be avoided, particularly by women, after dark.
- 9.2 Evidence from elsewhere shows a surprisingly low level of cycling by ethnic minorities. It is difficult to see how the provision of cycle facilities would change this.

## 10 ANTI-POVERTY IMPLICATIONS

- 10.1 Evidence from elsewhere suggests that in a university city such as Xchester, about half the cycling population are students, the unemployed and manual workers, all groups which suffer from limited/fixed incomes. In surveys, up to two thirds of cyclists have stated that their primary reason for cycling is financial.
- 10.2 The same survey referred to above indicates high levels of dissatisfaction with public transport and an above average number of people who do not have access to a car. Thus cycling is essential transport for people who have no practical or affordable alternative.
- 10.3 These people live primarily in inner-city areas, where housing densities and commercial property values are higher and where it is, therefore, less likely to be possible to introduce a successful space segregated strategy for provision for cyclists.

## 11 ENVIRONMENTAL IMPLICATIONS

- 11.1 On-road provision is less likely to require additional landtake than off-road.
- 11.2 All cycle facilities will involve some visual intrusion over and above what exists already. The least intrusive, such as signing, are those which are on-road, being merely additions to what is already present, rather than entirely new developments.
- 11.3 Off-road facilities, being separated from motor traffic in space and time, are

unlikely to have any effect on the congestion suffered by motorists. On-road facilities, however, by recognizing cyclists as a separate road user group (for example, cycle phases at traffic signals) may cause delays for other user groups.

## 12 CONCLUSION

- 12.1 Each situation is unique and the solution to each problem is unique. There are no hard and fast, right or wrong answers. Each type of provision has its own advantages and disadvantages.
- 12.2 There are different types of cyclists, doing different types of cycling; what they require from cycle facilities differs. When designing a scheme, the target group (existing cyclists or non-cyclists) should be borne in mind. Existing cyclists prefer on-road solutions. Non-cyclists state that they would prefer off-road facilities.
- 12.3 Most cycling is, and will continue to be done on the road. Cyclists want to go everywhere, irrespective of the provision that the Council is able to make for them. Therefore every road should be a cycle road: all traffic schemes should take the needs of cyclists into consideration.
- 12.4 Total segregation or integration is inflexible. To insist on either would mean missing out on opportunities to provide for cyclists when work is being done for, for example, pedestrians or public transport users.
- 12.5 In general, on-road provision is to be preferred, for reasons of cost, safety, ease of maintenance and to support existing cyclists.
- 12.6 Although it would be possible to cater for cyclists exclusively on the road, the general public expects and wants off-road facilities as well.