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June 1984

DEVELOPMENT OF A CYCLING POLICY FOR YORK
SUMMARY REPORT

A D May and D A Waring

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DEVELOPMENT OF A CYCLING POLICY FOR YORK - SUMMARY REPORT

1. INTRODUCTION

The purpose of the York Cycling Study is to determine current and future levels of cycling in the city, to identify the problems for cyclists and arising from cycling, and to assess solutions to these problems. The terms of reference for the study are listed in Appendix 1.

This summary report presents the main findings of the study, and sets out our recommendations for action which the City Council may wish to pursue. A brief description of the study methodology and the survey results is followed by sections setting out recommendations in turn on

- treatment of problem locations
- the development of a cycle route network
- improvements to parking facilities

The report is based on study findings which are set out in a technical report which has been made available to officers.

2. STUDY METHODOLOGY

On commencement of the study in June 1983, existing data sources and scheme proposals were reviewed and meetings held with officers and representatives of interest groups. Close contact with the media was maintained to encourage the public to provide comments and suggestions. This process identified a number of additional data requirements, which were met in an extensive survey programme mounted in September and October 1983. Details of the information sources used are given in Appendix 2. The period since then has been employed in analysing the data, collecting additional information where necessary, and studying possible solutions to the problems identified. The time available has not permitted a review of all the problem locations. Instead work has concentrated on the more serious ones and on locations which can be treated quickly and at low cost. All data have been made available to officers, who will be able to pursue other identified problems as time and resources permit.

Where proposals are made, they have been taken to the stage at which decisions can be taken to pursue detailed design and negotiations. Sketch designs have been provided to officers, but no negotiations have taken place with third parties.

3. SUMMARY OF RESULTS

The main results of the surveys are given in the technical report. Specific results in terms of problem locations, appropriate cycle routes and parking needs are given in sections 4-6 respectively. This section summarises the attitudes of and towards cyclists revealed in the questionnaire surveys.

i) Reasons for cycling

The main reasons given were

	<u>By cyclists for the specific journey</u>	<u>By cyclists for their cycling generally</u>	<u>By the public if people cycling</u>
Speed	31%	22%	15%
Cost	26%	24%	26%
Convenience	23%	23%	36%
Health/enjoyment	11%	20%	4%
Other reasons	9%	11%	19%

(Note: Percentages indicate the proportion of mentions of this reason. People often gave more than one reason).

While health and enjoyment are ideals quoted by cyclists generally, they are of less importance for the individual journey, and perceived less by the public at large. There is a clear emphasis among cyclists on speed, cost and convenience which should be borne in mind in tackling cycling problems and in promoting cycling.

ii) Problems perceived

The main problems for and of cyclists were perceived as:

	<u>By cyclists</u>	<u>By the public as</u>		
		<u>Cyclists</u>	<u>Motorists</u>	<u>Pedestrians</u>
Lorries	22%	19%	-	-
Other Vehicles	26%	34%	-	-
Pedestrians	9%	3%	-	-
Narrow Roads	7%	8%	-	-
Traffic Management	21%	21%	-	-
Road surface	10%	7%	-	-
Cyclists' skill and consideration	-	-	44%	23%
Factory, school exits	-	-	26%	-
Cycling in pedestrian areas	-	-	-	33%
Better cycle parking	-	-	-	30%
Other reasons	5%	8%	30%	14%
(No answer)		78%	21%	38%

(Note: Percentages indicate the proportion of mentions this problem received in relation to the total number of comments made).

Cyclists' main concern is clearly other vehicles suggesting that separation of cyclists from other traffic should be considered where possible. It is notable that the majority of respondents among the general public were not concerned about the problems of cyclists.

iii) Possible solutions

Respondents suggested the following solutions:

	<u>Cyclists' suggestions</u>	<u>Public suggestions</u>
Cycle paths/tracks/lanes	53%	45%
Other traffic management	16%	4%
Restraint of other traffic	12%	7%
Better education	11%	10%
Improved road surfaces	6%	5%
Other	2%	29%

N.B. Percentages indicate the proportion of mentions this solution received in relation to the total number of comments made).

Again there is a predominant emphasis, among cyclists specifically and the public generally, for measures which separate cyclists from other traffic.

4. PROPOSALS (1) PROBLEM LOCATIONS

The main sources of information on problem junctions and lengths of road are the cyclist opinion survey and the accident data. Figure 1 indicates all locations identified as problems by 10 or more respondents, and also those which appear to have unexpectedly high numbers of accidents. In most cases the two sources of information suggest the same problem locations, which are concentrated on the city walls and their immediate approaches.

Apart from accidents, the main problems are seen as

- narrow roads and bridges
- lane changing between junctions
- left turning traffic conflicting with straight ahead cyclists
- right turns (and occasionally straight ahead movements) from lanes away from the kerb
- gradients, potholes and cross winds

The order of priority of these problems clearly depends on the characteristics of the location.

Possible solutions to these problems can include conventional traffic management techniques, special provisions for cyclists, which are described more fully in appendix 3, road surface improvements and rerouting away from problem locations. We have considered a number of options for each location and list below our proposals for immediate and future action. Approximate costs are indicated.

A Junctions

1. Blossom Street/Micklegate/Nunnery Lane (37 mentions)

Immediate action

- | | | |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| i) | advisory with flow cycle lanes alongside Blossom St. on both sides and on the Queen St. and Nunnery Lane approaches to protect left turning cyclists | £2,000 |
| ii) | an advanced stop line in Queen St. to reduce problems caused by starting on a gradient | £ 50 |

Future consideration

- | | | |
|------|-------------------------------------------------------------------------------------------------------------------------------------------|--------|
| iii) | full width stop lines at both ends of Blossom Street and on Queen Street and Nunnery Lane, to protect straight and right turning cyclists | £ 300 |
| iv) | closure of Micklegate Bar to all but cyclists | £9,000 |

2. Fawcett Street/Fishergate/Paragon St (34 mentions)

This is an extremely difficult gyratory, which cyclists should be discouraged from using. Cycle route recommendations in section 5 would remove all but 15% of the major movements. Particular measures include

Immediate action

- | | | |
|----|-----------------------------|-------------|
| i) | Fishergate Bar improvements | (see sec.5) |
|----|-----------------------------|-------------|

Future consideration

- | | | |
|------|-------------------------------------------|----------------|
| ii) | Kent St/Cemetery Rd. traffic signals | (see 13 below) |
| iii) | New Bridge at Butcher Terrace/Maple Grove | (see sec.5) |

3. Bootham/Gillygate (30 mentions)

Immediate action

- | | | |
|-----|--------------------------------------------------------|-------------|
| i) | Rerouting via Museum Gardens for about 50% of cyclists | (see sec.5) |
| ii) | Rerouting via Bridge Lane for about 20% of cyclists | (see sec.5) |

Future consideration

In the light of experience with the modified signal installation:-

- | | |
|-----------------------------------------------------------------------------------|------|
| (iv) Advisory kerbside cycle lanes in Bootham and Gillygate | £500 |
| (v) Advanced stop lines in Bootham and Gillygate | £100 |
| (vi) An advisory cycle lane between lanes and the
St. Leonard's Place approach | £ 50 |

4. Layerthorpe Bridge (21 mentions)

Immediate action

- | | |
|---------------------------------------------------------------------------------------------------------------|--------|
| (i) Advisory cycle lanes for cycle movements through the
junction between Layerthorpe and Peaseholme Green | £ 1000 |
|---------------------------------------------------------------------------------------------------------------|--------|

Future consideration

- (ii) Other improvements are difficult to envisage, but a more detailed review of this junction would be justified.

5. Boroughbridge Rd/Poppleton Rd/Water End/Carr Lane (16 mentions)

Immediate action

- | | |
|--------------------------------------------------------------------------------------------------------------------------------------------|------|
| (i) A single advisory cycle lane for all cyclists turning
right from Water End | £300 |
| (ii) A cycle lane between the lanes of traffic on
Boroughbridge Road approaching Carr Lane to assist
straight ahead cyclists further | £ 50 |

Future consideration..

- | | |
|-------------------------------------------------------------------------------------------------------------------|---------|
| (iv) If (i) is unsuccessful, a full width advanced stop line
or a physically separated cycle lane on Water End | £8000 |
| (v) If (ii) and (iii) are unsuccessful, a separate signal
phase at Carr Lane for straight ahead cyclists | £10,000 |

6. Station Rd/Rougier St. (16 mentions)

Immediate action

- | | |
|-----------------------------------------------------------------------------------------|--------------|
| (i) An advisory kerb side cycle lane on the approach to
Lendal Bridge (see 14 below) | £ 200 |
| (ii) An advanced stop line on the exit from Lendal Bridge | £ 50 |
| (iii) Rerouting via Wellington Row | (see sec. 5) |

7. Clifton Green (Water End/Shipton Rd) (15 mentions)

Immediate action

None

Future consideration

As officers' resources permit; solutions are not immediately obvious.

8. Walmgate/Hull Rd/Ring Rd (15 mentions)
- Immediate action
- (1) Rerouting via Fishergate Bar (see sec. 5) for about 50% of cyclists.
- Future consideration
- As officers' resources permit.
9. Monkgate roundabout (14 mentions)
- Immediate action
- None.
- Future consideration
- In the light of experience with the proposed junction improvement.
10. Museum St/St.Leonard's Place/Duncombe Place/ Blake St. (13 mentions)
- (i) Rerouting via Museum Gardens for about 50% of cyclists (see sec. 5)
- Future consideration
- (ii) full width advanced stop lines on Museum St. and St. Leonard's Place approaches £200
11. Coppergate/Parliament St./Piccadilly (11 mentions)
- Immediate action
- None
- Future consideration
- in the light of proposals to improve Parliament Street.
- (i) Full width advanced stop line in Piccadilly £100
12. Albemarle Rd/Dalton Terr/The Mount (10 mentions)
- Immediate action
- None
- Future consideration
- Junction to be considered as part of Tadcaster Rd. (see 21 below). Use of Albemarle Terrace could be increased as an alternative to Nunnery Lane particularly if a new bridge is built at Butcher Terrace.

13. Kent St/Cemetery Rd/Barbican Rd/Heslington Rd. (1 mention)
(but 7 injury accidents in 3 years).

Immediate action

None

Future consideration

- (i) Installation of traffic lights £10,000

B ROADS

14. Lendal Bridge (30 mentions)

Immediate action

- (i) advisory with flow cycle lanes in both directions (linked to improvements under 6 above) £300
(ii) reinstatement of carriageway channel on the south approach to the bridge (both sides) to increase safe available road width for cyclists. £5000

15. Blossom St. (26 mentions)

See 1 above.

16. Holgate Rd. (20 mentions)

Immediate action

None

Future consideration

Investigate the desirability of

- (i) Peak period traffic control at BREL exit
(ii) Advisory with flow cycle lanes across the railway bridge to provide more room for cyclists.

17. Tower St: (17 mentions)

The main problem here appears to be at the approach to Castle Mills Bridge. Most cyclists could be diverted from this location. See item 2 above.

18. Water End (15 mentions)

See 5 above; other problems of gradient and cross wind cannot readily be solved.

19. Bootham (14 mentions)

See 3 above.

20. Goodramgate (13 mentions)

Immediate action

None

Future consideration

- (i) When Outer Ring Road open, close Monk Bar to all vehicles except cyclists.

21. Tadcaster Rd. (13 mentions)

Immediate action

None.

Future consideration

Treatment of several individual problems as officers' resources permit.

22. Gillygate (11 mentions)

See 3 above.

23. Skeldergate Bridge (10 mentions)

80% of cyclists could be diverted either to Ouse Bridge or a new bridge at Butcher Terrace/Maple Grove (see section 5).

24. Fulford Rd. (3 mentions)
(but 14 injury accidents in 3 years).

Immediate action

None

Future consideration

Treatment of several individual problems as officers' resources permit.

It is important to note that many of the proposals above are for measures with which there is little experience. Since in the crowded streets of York it is virtually impossible to provide for cyclists without some minor inconvenience to others, it will be important to ensure that any adverse side effects are outweighed by the benefits to cyclists. There will inevitably be pressures not to implement schemes whose effects are unknown; unfortunately this approach will not help us to develop successful new measures to assist cyclists. We recommend instead a series of carefully mounted experiments in which each measure is tried at one or two locations before being installed elsewhere. In this way any necessary design improvements can be incorporated elsewhere, and York can serve as a model for assistance to cyclists in other cities. It is possible, too, that the Department of Transport would be willing to support such experiments. In particular we recommend experiments with

- (i) advisory cycle lanes to ensure that these reduce encroachment of other vehicles on cyclists without adding to problems of tracking, conflict between other streams of traffic or left turns across cyclists' paths. This last consideration suggests an initial installation where there are no side entries adjacent to the lane; Blossom St and Lendal Bridge seem suitable experimental sites.
- (ii) advanced stop lines, to ensure that these satisfactorily reduce the conflict between straight ahead cyclist movements and left turns. The southern end of Lendal Bridge seems a suitable test site.

- (iii) with flow cycle lanes between lanes for other traffic to ensure that cyclists have free movement, are able to gain safe access to the lane and are not encroached by other vehicles or endangered by weaving movements. The Water End approach to Boroughbridge Rd. would provide a suitable test site.
- (iv) full width advanced stop lines; these would require Department of Transport authorisation, and the DTP would need to be convinced that cyclists could use them safely without disrupting other traffic or unduly reducing the capacity of the signals. An initial site would be required at which capacity was not critical; the Piccadilly approach to Coppergate might be suitable once Parliament St. has been redesigned.

5. PROPOSALS (2)

THE DEVELOPMENT OF A CYCLE ROUTE NETWORK

As indicated in section 3, the questionnaires demonstrated a strong desire to separate cyclists from other vehicles; section 4 highlighted several problem locations where this is particularly desirable. York already has several sections of route signed for, and in some cases limited to use by, cyclists. It seems appropriate as a long term aim to develop a cycle route network which, as far as possible, directs cyclists onto quiet routes away from other traffic and without inconveniencing pedestrians. We have considered the form which such a network might take in the light of the major cycling movements and the main problem areas. It has not been possible in the time available to develop a complete network, but figure 1 indicates our immediate proposals and suggestions for further investigation.

Since the majority of problem locations occur around the city centre, which is itself a major attraction, our suggested network focuses on the city centre, with eight radial routes. These, with suggestions for immediate and future action, are:-

1. Butcher Terrace - Terry Avenue - Bridge Street

A quiet alternative to the major route along Bishopthorpe Road which is already signed for use by cyclists

Immediate action

- (i) Reduce conflict with parked cars near Skeldergate Bridge
- (ii) Install traffic signals at Bridge St/Skeldergate to aid cycle movement

£10,000

Further consideration

- (iii) If (ii) attracts additional traffic to Skeldergate, consider restrictions in its use.

2. Dringhouses - Ouse Bridge

Another important approach for which little can be done until Micklegate Bar is closed to other traffic

Immediate action

- (i) Improvements in Blossom St (see section 4)

Further consideration

- (ii) Close Micklegate Bar to other traffic (see section 4)
- (iii) Consider selected improvements to Tadcaster Rd.
(see section 4).

3. Water End - Cinder Lane - North St.

A route which is already substantially used, illegally, by cyclists, and could divert others from Holgate Rd.

Immediate action

- (i) New cycle track Water End - Garnet Terrace £15,000
- (ii) Widen and resurface Cinder Lane £85,000
- (iii) Legalise cycling on Cinder Lane
- (iv) Signals at North St/Skeldergate (see 1)

4. Clifton Green via footpath to Marygate Lane - Museum Gardens - Parliament St.

This important route would avoid the particular problem locations of Bootham and St. Leonard's Place. However, it raises the possibility of conflicts between pedestrians and cyclists in Museum Gardens.

We recommend no immediate action, but for further consideration:-

- (i) Upgrading of existing footpath for use by cyclists £40,000
- (ii) Provision of a separate cycle path or shared path through Museum Gardens £37,000
- (iii) New signals in Museum St. £11,000
- (iv) A contra flow cycle lane in Lendal £ 500

5. Rowntree's - Monk Bar - Church St.

This route would have to await the opening of the Outer Ring Rd. when consideration should be given to closing Monk Bar to traffic. Further work is needed to determine the most suitable route north from Monk Bar.

6. Heworth - Layerthorpe - Pavement

This is a major cycle movement for which there appears at present little alternative to using main roads. However, further consideration should be given to alternative routes or to improving use of the main roads by cyclists.

7. Hull Rd/University - Heslington Rd - Fishergate Bar

Much of this route already exists but requires improvement.

Immediate action

- (i) Widen cycle track, introduce carriageway markings to improve visibility at Thief Lane/Hull Road
- (ii) Provide signs in Green Dykes Lane and Hull Rd. to warn motorists that Thief Lane is a cycle route £ 200
- (iii) Negotiate with York University to improve visibility, ease of use of route through University grounds
- (iv) Signals at Kent St/Cemetery Rd. (see sec. 4)
- (v) Provide link through coach park from Kent St. to Paragon St. £5,000
- (vi) Modify carriageway markings to permit right turn from Paragon St. into Fishergate Bar £500

8. Fulford Rd - Fishergate Bar

This is another major movement for which there seems little alternative to main roads. Section 4 already recommends that improvements be made to Fulford Road. By diverting northbound cyclists to Cemetery Rd/Kent St and via the new link in 7(v) to Fishergate Bar, and encouraging southbound cyclists to use Fishergate Bar, the most severe problems at the Fishergate gyratory can be avoided.

In addition to these radial routes, a number of others are worth considering. We suggest -

9. Wilton Rise - Scarborough Bridge - Bootham Terrace - Grosvenor Terr.

This existing route requires ramps on Cinder Lane and Scarborough Bridge to enable cyclists to wheel their bicycles across. The southern end would remove about 15% of the cyclists now using Blossom St.

£5,000

10. Avenue Terrace - Bridge Lane

This existing route avoiding Bootham would be greatly improved by introduction of a level crossing at Grosvenor Terrace/Bridge Lane. Costs for this have not yet been determined. Use of Bridge Lane would need to be legalised.

11. Rowntree's Tang Hall

There is a major movement between these two which justifies further study.

12. New Bridge: Maple Grove/Butcher Terrace

About 25% of the movements across Skeldergate Bridge could be diverted to a new bridge. Pedestrians would also benefit. Costs, and access via Fulford Rd., need to be carefully assessed.

In addition to these specific routes, we recommend that generally:-

- (i) Traffic Regulation Orders and physical road closure should be reviewed to make sure that no unnecessary restrictions are placed on cyclists.
- (ii) Public footpaths which are habitually used by cyclists without inconveniencing pedestrians should be reclassified as paths for the shared use of pedestrians and cyclists.
- (iii) All existing cycle routes and those proposed above should be well signed using the advice contained in the latest Department of Transport recommendations.
- (iv) In all advisory cycle lanes and other narrow roads which have heavy flows of both cycles and motor vehicles, consideration should be given to replacing the existing gulleys by side entry gulleys (see Appendix 3).
- (v) Where footbridges with steps are habitually used by cyclists, a narrow ramp should be provided at one side of the steps to enable cycles to be wheeled up and down.

6. PROPOSALS (3) CYCLE PARKING

The cycle parking survey indicated that around 600 cycles are parked at any time on the streets of the city centre on weekdays, and that on Saturdays the figure rises to around 900. Of these around 300 and 500 respectively are parked in Parliament St and St. Sampson's Square, with a further 50 in the immediate vicinity. It is clear that any treatment of cycle parking problems should concentrate on this area.

Cycle security is clearly a matter of considerable concern to cyclists. 9% of cyclists generally, and 7% of those parking in the city centre had had their cycles stolen in the last year, and 21% and 24% respectively had had things stolen from their cycles. Around half those parking indicated that they were willing to pay 10p, and/or walk for 5 minutes or more, to obtain a safe, secure, dry parking place.

The type of parking facility is also a matter of concern. 42% expressed a preference for the 'Sheffield' type cycle rack (appendix 3) and 32% for bars which grip the front wheel; pavement slots and metal groove racks were far less popular. The type of parking facility is also important visually and for pedestrians; current cycle parking arrangements in Parliament St are both cluttered and disruptive.

While the results suggest that cyclists might be prepared to park up to 5 minutes walk from Parliament St it is unlikely that they could be forced to do so; failure to provide for them in the redesign of Parliament St would be likely to lead to cycles being parked against any convenient street furniture.

We recommend therefore:

Immediate action:

- | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| (i) providing for the weekday total of 300 cycles using 75 Sheffield racks, each holding 4 bicycles. This would require a total area of 225m ² , plus access, and cost around | £ 3,750 |
| (ii) providing, experimentally, 20 lockable cycle cages (see appendix 3) at a flat charge of 10p per parking act. This would require a total of 30m ² plus access, provide for 40 cycles, and cost around | £ 4,000 |

Further consideration:

- (iii) if the lockable cages prove successful extending their use to other parts of the centre, and perhaps increasing their provision in Parliament St.
- (iv) providing, in the vicinity, Sheffield racks for the additional 200 cycles, now parked in Parliament St/ St.Sampson's Square on Saturdays.

7. CONCLUSION

The surveys of cycling in York have provided a wealth of information on current use and problems. It has inevitably not been possible to develop solutions to all the problems identified but the items set out above for immediate action provide a package of measures which should substantially improve the conditions for cycling in the city, without seriously inconveniencing other users. The suggestions for further consideration should, if pursued, ensure that the momentum of these initial measures is maintained. In developing the programme of cycling measures, we strongly recommend the use of an experimental approach, in which potential problems are designed out in the light of experience, rather than used as a justification for inaction. York's narrow streets and high density of development pose particular problems in catering for the cyclist, but they also provide a strong justification for accepting the challenge which those problems present, and encouraging cycling as a low cost and compatible form of transport.

8. ACKNOWLEDGMENTS

We gratefully acknowledge the assistance given to us by the officers of the City and County Councils and the North Yorkshire Police. The views expressed in this report are, however, our own and do not necessarily accord with those of the officers who have assisted us.

A.D.MAY
D.A.WARING
June 1984.

APPENDIX 1 TERMS OF REFERENCE FOR THE YORK CYCLING STUDY.

The terms of reference for the York Cycling Study require it to:

- (i) Include an origin and destination survey of current movements by trip purpose and an assessment of future demand, indicating the likely mode from which any transfer will occur;
- (ii) Identify problem areas following discussions with various cycling groups and a study of accident statistics;
- (iii) Take into consideration any previous decisions of the City Council for investigation;
- (iv) Assess the appropriateness of the recommended standards for cycle facilities to a compact urban area;
- (v) Propose various solutions to problems where appropriate, assess the effect on other road users, and formulate a basic cycling plan for York.
- (vi) Advise the Council on the most appropriate type and location of cycle parking facilities at places of attraction.

The Institute for Transport Studies at the University of Leeds was appointed to carry out the study, with Professor A. D. May as the Director of the Study and Mr. D. A. Waring as Research Engineer. Work commenced on this project in June 1983 and is due to be completed in May 1984.

APPENDIX 2 INFORMATION SOURCES2.1) Origin and Destination Survey

This survey commenced on Monday 26th September 1983 and ended on Friday 28th October 1983. Data was collected on Monday to Friday throughout this five week period. Roadside interviews of cyclists were carried out between 2 p.m. and 7 p.m. at a total of 42 sites. The police assisted at the 18 busiest sites. An alternative questionnaire survey was also carried out at Rowntree Mackintosh during October 1983.

A supplementary Origin and Destination was carried out between 9th April 1984 and 13th April 1984 together with a questionnaire survey at British Rail Engineering Limited.

In general, there was an excellent response from the cyclists and a total of about 7000 interviews and completed questionnaires was obtained.

2.2) Cyclists' Opinion Survey

This survey was carried out in conjunction with the Origin and Destination Survey. A random sample of the cyclists interviewed at the census points were given a questionnaire to take away with them and to complete at the end of their journey. Some of the questions were specifically related to the journey being made at the time they received the questionnaire. Other questions were of a more general nature.

Over 1,000 questionnaires were distributed and the response rate was about 60%.

2.3) Public Opinion Survey

This survey was a postal questionnaire survey. About 1,000 questionnaires were sent by post to a random sample of residents, aged 18 years or over, in the study area. The response rate for this survey is about 25%.

2.4) Cycle Parking Survey

This survey was carried out on Thursday 20th October 1983 and repeated on Saturday 22nd October 1983. On both days the survey was undertaken in the morning and repeated in the afternoon. The survey comprised:

- i) a beat survey to count the number of bicycles parked and their location
- ii) the distribution of questionnaires

The area covered by this survey comprised the shopping and commercial centre of the city including the Rougier Street area and the railway station. Over 1000 questionnaires were placed on parked bicycles and the response rate was about 45%.

2.5) Other sources of information

The following other sources of information have been used to supplement the surveys listed above:

- i) Cycle injury accidents recorded over the three years 1980-83 have been provided by North Yorkshire County Council.
- ii) Reports and documents relating to cycling have been provided by both Councils.
- iii) Discussions have taken place with representatives of the York Cycling Campaign and the York branch of the Cyclists Touring Club.
- iv) Letters have been received from other groups and organisations, and from individual members of the public, giving their views on cycling issues.

APPENDIX 3 GLOSSARY OF TRAFFIC ENGINEERING TERMS.Advisory Cycle Lane

An Advisory Cycle Lane is a section of road with markings and signs indicating that this lane is intended for the use of cyclists only. It is not an offence for other traffic to use the lane. Wide vehicles, such as buses and lorries, may have to encroach upon an Advisory Cycle Lane if their own lane is not wide enough for them. A diagram of an Advisory Cycle Lane is shown in Figure 1.

Advanced Stop Line.

An Advanced Stop Line for cyclists could be provided at the approaches to traffic signals. Where a cycle lane is provided the stop line for cyclists using that lane is 3 metres nearer to the junction than that for motor vehicles using the other lanes. This gives cyclists a chance to reach the junction slightly ahead of motor traffic and enables them to signal their intentions more clearly to other traffic.

Full Width Advanced Stop Line.

Another form of advanced stop line that has been used on the continent extends for the whole width of the approach to a signal controlled junction. It is in addition to, and located ahead of, the conventional stop line for motor traffic. The purpose of the additional stop line is to enable cyclists to wait side-by-side at the traffic lights across the full width of the approach to the junction and ahead of motor traffic. This arrangement, which does not require any additional traffic signal heads, makes it easier for cyclists turning right or going straight ahead. A diagram of both types of Advanced Stop Line are shown in figure 1.

A full width stop line requires approval from the Department of Transport.

Side-Entry Gulley

The normal type of gulley has a grating and frame and is sited in the channel at the side of the road. In heavy traffic conditions cyclists have to cycle in the channel and this type of gulley can be uncomfortable for cyclists to ride over especially if it is slightly higher, or lower, than the surrounding road level.

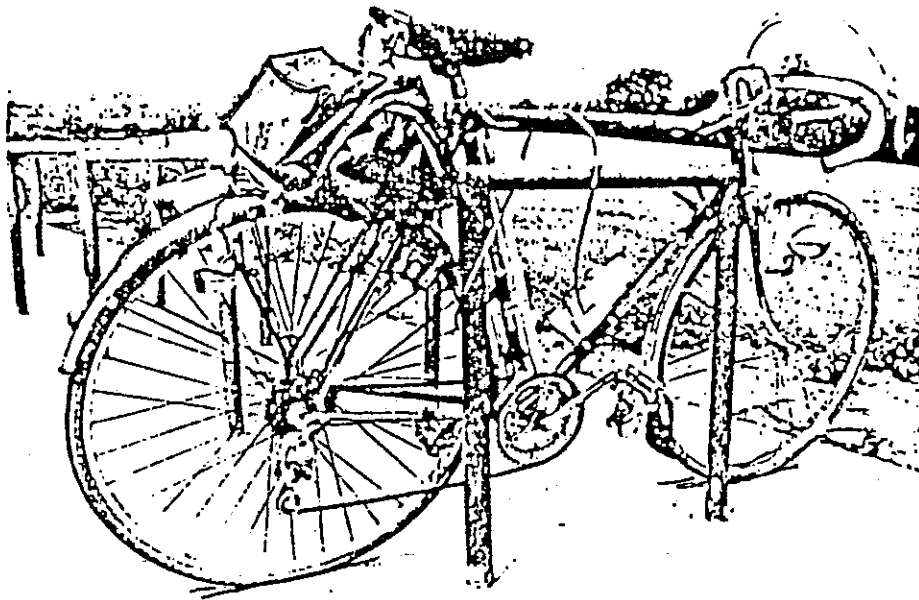
The alternative Side-Entry gulley is located under the footpath. The rain water from the road surface passes through a gap in the kerb to reach the gulley. This type, situated under the footpath rather than the road, causes no discomfort to cyclists and no inconvenience to pedestrians.

"Sheffield"-type Cycle Parking Frame.

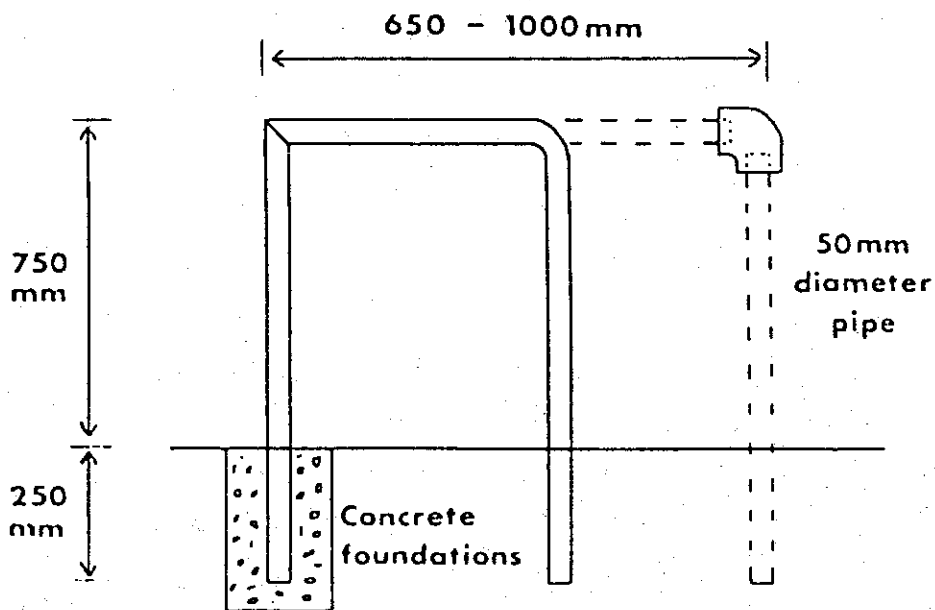
The "Sheffield" type, or Universal, cycle parking frame consists of a steel frame in the form of an inverted square "U" to which a bicycle can be chained and padlocked. It is illustrated in figure 2, by courtesy of the Cyclists Touring Club.

Cycle Parking Cage.

Cycle parking cages are still in the development stage as far as their use in public places is concerned. They have been installed in the basement of County Hall, London, for the use of GLC staff. A diagram of the cage is shown in figure 3, by courtesy of the GLC. The cage is constructed of plastic-coated wire-mesh in a choice of colours. Each cage has a door at each end and is divided into two separate compartments by a diagonal partition. These cages are being manufactured commercially and simple padlock and coin-operated models are being developed.



- Application:** Recommended as the basic style of cycle parking stand for short and medium term applications in public areas, shopping centres, public buildings, tourist attractions, etc. Also suitable for industrial long term use if provided with cover and placed in a guarded location. Each stand can accommodate two cycles
- Advantages:** Accommodates any type of cycle without damage and enables the frame and both wheels to be secured thereto with the owner's chain and lock. Environmental impact and hazard to pedestrians are negligible. Maintenance-free.
- Disadvantages:** The lack of security for accessories and luggage makes this type of stand unsuitable for long term parking in public places.
- Location:** Stands may be mounted on the highway or on any vacant or underused piece of land. For maximum security stands should be placed where they can be observed by passers-by – not hidden at the side or rear of buildings – and away from access by motor vehicles. In shopping areas several groups of a few stands each are preferable to a few groups of many. This will increase their convenience to cyclists and therefore maximize their use. Where possible stands should be provided with some simple form of cover or be placed in the lee of a building.
- Construction:** The stands are non-proprietary, but are easy to build. The simplest methods of construction are to bend a suitable length of galvanized pipe or to assemble the stand with conduit and angle pieces. The stands illustrated were made by welding together three lengths of pipe. The stand ends should be embedded in concrete and it is preferable that the pipe be plastic coated. Groups of stands may be mounted obliquely where space is limited.



Minimum spacing between stands 900mm

Minimum in-line distance from wall 100mm

FIGURE 2
'SHEFFIELD' CYCLE STAND
 (COURTESY OF CYCLISTS' TOURING CLUB)

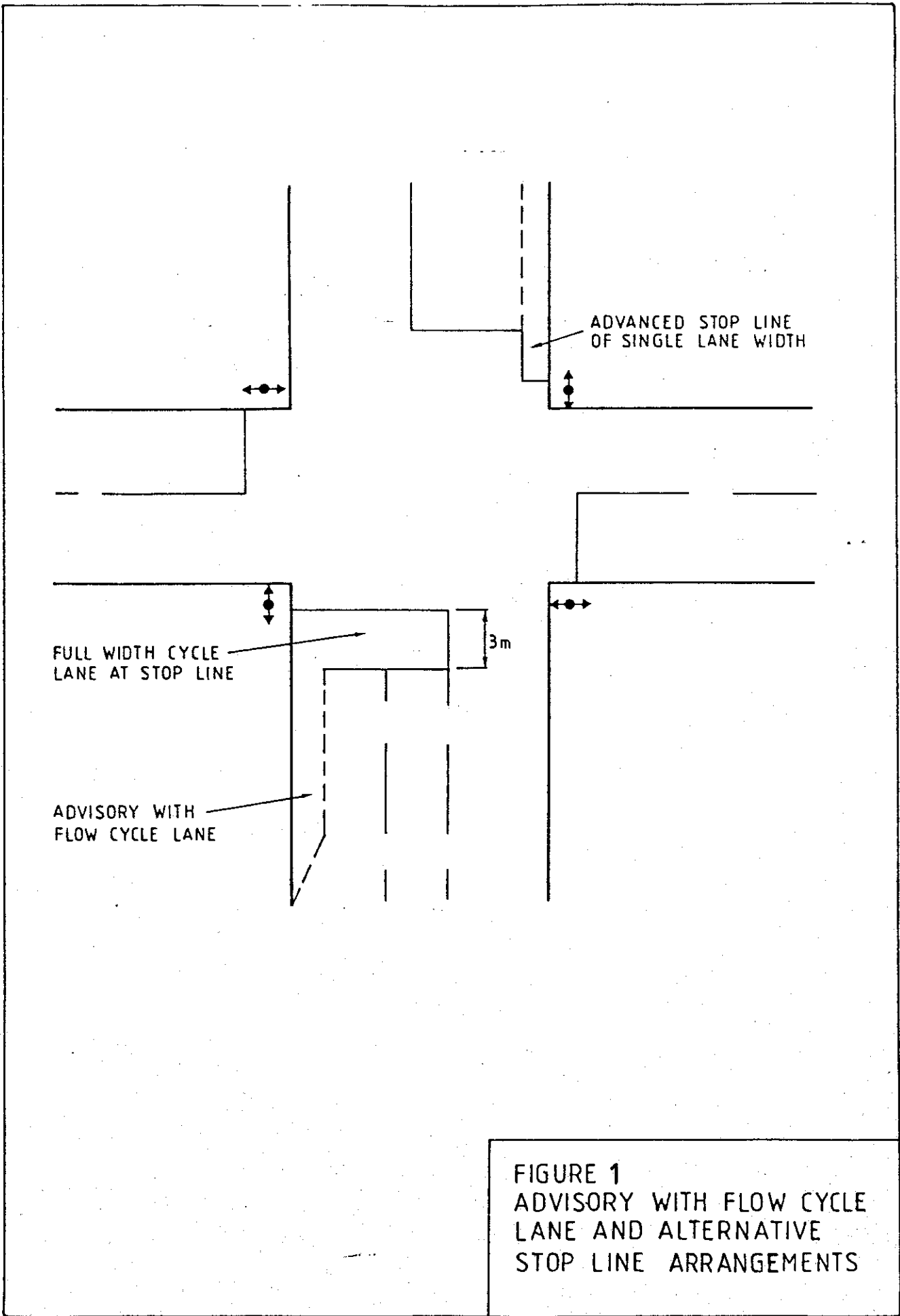


FIGURE 1
 ADVISORY WITH FLOW CYCLE
 LANE AND ALTERNATIVE
 STOP LINE ARRANGEMENTS