

Designing for security on the National Cycle Network



INTRODUCTION

There are five broad design criteria required for a good quality cycle route: safety, coherence, directness, attractiveness and comfort.

Safety in planning for cycling normally refers to safety from traffic accidents. However it is just as important to address issues of personal security and the security of nearby premises.

This information sheet addresses the security aspects of the design of cycle routes.

Key issues identified are the adoption of secure design principles, particularly maximising opportunities for natural surveillance, ensuring that routes are well maintained and encouraging high levels of use. A check list is provided at the end of the document.

The advice has been developed in consultation with a wide range of interested organisations, and has been endorsed by the Association of Chief Police Officers.

NATIONAL CYCLE NETWORK

The National Cycle Network will provide 8,000 miles of safe, high quality routes. Over half the Network will be on minor roads and traffic-calmed roads through towns. The remainder will be on routes generally free from motor traffic, for shared use by non-motorised users: these will include significant links into and within urban areas.

Guidance on route planning and design is published by Sustrans and others (1,2,3). A high standard of design and management will help to minimise security concerns.



An inviting environment enables users to feel at ease.

Bristol Et Bath Railway Path

A recent research study commissioned by Sustrans identified generally favourable opinions of cycle paths by adjacent residential and agricultural landowners (4).

SECURITY CONSIDERATIONS ALONG ROUTES

For a cycle route to be successful in attracting regular users and of benefit to the community through which it passes, proper consideration must be given to the security concerns of users and residents, whether real or perceived. This needs to be integral to the whole process from initial concept to final design, implementation and subsequent management.

Security should be considered alongside the broader opportunities that a cycle route offers, particularly the promotion of sustainable travel, improving health and fitness and developing safe routes to schools and other local facilities.

Well-used routes generate their own sense of security, which in turn makes them more popular. Usage can be further increased by recognising a traffic-free route as a valuable local resource, with promotional activities being used to broaden the range of users and encourage community ownership, and space being provided for events such as family days.

Security on cycle routes follows principles of security established in other fields, such as residential and town centre design (5, 6 and 7). The way these are implemented will depend on the needs of the local area.

CONSULTATION

Each Police Force has an Architectural Liaison Officer and local Crime Prevention Officers. Many local authorities have a Community Safety Officer responsible for implementing the requirements of the Crime and Disorder Act. These should be consulted at an early stage for information on the local context and advice on the security aspects of route selection and scheme design.

Groups representing residents, cycling, pedestrian and disability access should also be consulted. Involvement of local people at an early stage will pick up their concerns and may open up opportunities to develop community based approaches to tackle these. Particular attention should be paid to the needs of children, women, the elderly, disabled people and ethnic minority groups.

DESIGN

At the design stage, opportunities should be taken to improve the security of both people and property. Many security considerations can be incorporated into the design at little or no additional cost.

Landscaping and planting should be designed to avoid impeding natural surveillance or creating potential hiding places close to a path, with no sense of enclosure. A mown verge of at least 0.5 metre, preferably one metre, should be provided on each side. Planting near the path should normally be kept below 800mm height, and tall shrubs should be set back. Thorns and the like must be planted well back from the path to prevent cuttings falling on the path and causing punctures. Continuous maintenance is required to control planting.

Communal Areas

As linear parks or through open space, cycle paths are often designed to function as community facilities. Gathering places, for use by local people as well as other path users, may be informal areas perhaps around intersections, or more formal facilities such as seating, sculpture and drinking fountains. Natural play spaces for children are often in short supply, and a carefully designed route can provide space for informal play close to home whilst warning those using the route of their likely presence.

Many young people need places away from their homes to congregate socially, and gathering places or other communal areas along a path can offer convenient and valuable opportunities for this. Many adults find groups of young people threatening, frequently without cause. Such concerns can be mitigated by ensuring a degree of natural surveillance of these locations. If needed, advice can be sought from the local authority or voluntary sector youth service.

Use after Dark

Lighting may need to be provided on paths within urban areas, where there is significant use by commuters, or where they serve destinations which are visited a lot in the evenings. This must be carefully chosen and designed to give users even illumination along the path ahead, without shadows. Lighting should be environmentally



Usage can be increased by taking the route near public attractions.

Belfast

ROUTE SELECTION

In deciding where a cycle route should run, security should be considered alongside the other factors, including traffic safety and environmental quality, and where these conflict a balance will need to be struck.

Every route should be well connected into the local area. Usage levels can be increased by taking it near public attractions, and also by locating these within easy access of the route.

In quiet residential areas, the introduction of a cycle route can improve security by increasing the level of street movement and hence the informal surveillance of properties. Generally it is preferable to have cycle routes in front of houses rather than around the backs.

Signed routes through private or semi-private areas should not be encouraged, but access from these areas onto cycle routes increases personal mobility, especially for children (7).

Natural Surveillance and Visibility

Natural surveillance refers to the general observation by members of the public, both along the path and from nearby public space or properties. Good natural surveillance will discourage crime and social misbehaviour, as offenders risk being seen. Opportunities to provide this should be incorporated into the design of each element of the scheme.

Adequate visibility should be provided along a path, to enable users to see what is ahead, and blind corners avoided. Where use by children is significant, the sightlines should reflect their lower eye height.

The tunnel effect of high fencing along both sides of the path is threatening and should be minimised. Where hedging or fencing is necessary on both sides, the width between these should ideally be 5-7 metres. A 3 metre width should be regarded as the minimum and, even then, should only be over limited lengths, say 50 metres.

sensitive, but bollard lights are not recommended as they provide insufficient illumination and are easily vandalised. Trees should not obscure lamp columns.

Where a path is to be used in the evening, consideration should be given to whether facilities provided for daytime use, perhaps seating or a play area, might be used for more threatening purposes after dark. In such cases additional illumination may be appropriate or the need for the facility in that location reviewed.

Routes through town centre vehicle restricted areas which are safe and inviting by day can be little used and intimidating in the evening. Steps should be taken to bring life back into these areas by encouraging greater social and leisure activities outside shopping hours. In some instances, the use of closed circuit television may need to be considered.

Signing

As well as offering information about the route and directions, signing can create an awareness amongst users of how to behave. Signs should be designed and located to resist vandalism and must be well maintained, instilling confidence in users that they are on a properly designated route that is cared for.

Accesses

Frequent accesses make a cycle / pedestrian path easy to reach and so more people will use it, making it safer

to use. In addition, it is important that users have sight of, or are aware of the general location of access points. Each potential access to an adjoining area must be considered on its merits.

Informal accesses to a cycle path may demonstrate a genuine demand for which formal arrangements should be made. However, where such an access leads to local problems these should be investigated and the access closed off if appropriate.

Underbridges and Tunnels

The provision of underpasses and underbridges can enhance the essential continuity of a route but may also create a threatening situation. This can be improved by good visibility, lighting and flared approaches. The approach and alignment should be open to give as much visibility and natural light as possible. On railway paths, tunnels add to the character of the route but should be well lit at least in urban areas. The original refuges in the walls can be closed off.

Adjacent Properties

Where properties border a cycle path, measures may be required to protect their privacy and to minimise the opportunities for interference from path users, whether as potential intruders or for vandalism.

Landscaping, planting and fencing can provide a visual screen, and the attention of path users may be diverted by views from the route. A high thorn content in the planting

(set well back from the path) can deter people approaching. Trees should not be located where they provide aids for climbing a fence or wall.

Loose stones and wood should be cleared away following construction, minimising the opportunities for throwing missiles or for arson. This is particularly important in the vicinity of overbridges across roads and railways. Timber bridges or fences can also be the target of arson.

Cycle Parking

Cycle parking should provide security for bikes as well as convenience for the cyclist. To this end, cycle parking should be located in prominent sites, where it will benefit from casual as well as formal surveillance.

For short and medium stay cycle parking in locations under easy surveillance the Sheffield stand or wall loops should be sufficient. In situations where more secure long stay parking is required, cycle lockers may be appropriate.

MANAGEMENT

Effective management of a route is essential if its full potential is to be realised. Once a route is open, its operation should be monitored to identify any problems. Where these do arise, the design should be reviewed, and modifications made as appropriate.

A satisfactory standard of maintenance is essential if users and people in adjoining properties are to feel safe and secure. Maintenance should ensure that the path is swept and rubbish cleared away, planting and landscaping is properly controlled and any maintenance requirements of the surface, drainage, fencing, signing or lighting are promptly addressed.

Community policing, the use of Path Rangers and encouraging local users to take a pride in the route can provide opportunities to oversee the proper use of a path. Recent initiatives by police forces to use bicycles for patrolling cycle paths and local parks

Gathering places offer a valuable community facility.

Foss Island, York



Kai Paulden

have been well received. Many routes have dedicated Path Rangers, who are able to ensure maintenance of the path, monitor public behaviour and develop wider community involvement through volunteer groups, events, publicity and educational initiatives. This can be of particular value in a multi-user situation, such as a canal towpath. Elsewhere, volunteers from the local community can take on responsibility for overseeing a section of route.



Park Rangers provide a regular presence on a route. *Airdrie/Bathgate*

CONCLUSIONS

Security on cycle routes follows principles of security established in other fields, such as residential and town centre design. Security problems need to be seen in their wider, community context; not all are the result of introducing a cycle route and not all can be addressed by design and management of the route.

Security issues also need to be balanced with other factors, including traffic safety and environmental quality. Good design and management will help to minimise security problems and ensure users and occupants of nearby premises enjoy the benefits of the route.

References

1. Sustrans and Ove Arup & Partners, 1997. *The National Cycle Network: Guidelines and Practical Details, Issue 2.*
2. Sustrans, 1994. *Making Ways for the Bicycle.*
3. Institution of Highways and Transportation / DETR / CTC / Bicycle Association, 1996. *Cycle-Friendly Infrastructure.*
4. Sustrans 1999. *Cycle routes and their impact on neighbours. Information Sheet FF23.*
5. DOE, 1994. *Planning Out Crime, Circular 5/94.*
6. Association of Chief Police Officers, 1988. *Secured by Design.*
7. DETR 1998. *Places, Streets and Movement.*

We are grateful to all those who have contributed to the development of this document and welcome further comments, which should be addressed to Tony Russell at Sustrans

Check List: Security issues

Consultation

Police (Architectural Liaison Officer, Crime Prevention Design Advisor or Crime Prevention Officer)

Local Authority Community Safety Officer

Residents, cycling, pedestrian and disability access groups

Route Selection

Define function of route / type of user expected, in appropriate sections

Identify type of area / local context

Select route and links to maximise usage

Establish route within public space, giving clear indications of boundaries to private / semi-private areas

Design

Opportunities for natural surveillance

- Landscaping and planting
- From adjoining areas
- At gathering places
- Other

Good sightlines, especially at junctions

Design and provision of communal areas

Positive signing, protected by planting / landscaping

Assess each formal access, including level of access control

Assess possible informal accesses

Visibility and lighting of underpasses, underbridges and tunnels

Consider screening of adjoining properties

Removal of loose stone, wood etc.

Secure cycle parking in convenient locations at all attractors and transport interchanges (urban and rural)

Management

Effective mechanism to maintain route

Opportunity for Path Ranger / use of local volunteers to oversee route

Promotional activities to encourage use / ownership

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ROUTES FOR PEOPLE

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