Sustrans Design Manual Chapter 12

Cycle parking (draft)

November 2014

LOTTERY FUNDED

BIG LOTTERY FUND

sustrans
JOIN THE MOVEMENT

About Sustrans

Sustrans makes smarter travel choices possible, desirable and inevitable. We're a leading UK charity enabling people to travel by foot, bike or public transport for more of the journeys we make every day. We work with families, communities, policy-makers and partner organisations so that people are able to choose healthier, cleaner and cheaper journeys, with better places and spaces to move through and live in.

It's time we all began making smarter travel choices. Make your move and support Sustrans today.
www.sustrans.org.uk

Head Office
Sustrans
2 Cathedral Square
College Green
Bristol
BS1 5DD

Registered Charity No. 326550
(England and Wales) SC039263 (Scotland)

Issue level:	01
Owned by:	NCN Director
Contact:	tony.russell@sustrans.org.uk

Photography: Sustrans or CTC
Benchmarking unless noted otherwise

Contents

This chapter of the Sustrans Design Manual should be read in conjunction with Chapter 1 "Principles and processes for cycle friendly design." That chapter includes key guidance on core design principles, whether to integrate with or segregate from motor traffic, the space required by cyclists and other road users as well as geometrical considerations. Readers are also directed towards the "Handbook for cycle-friendly design" which contains a concise illustrated compendium of the technical guidance contained in the Design Manual. This chapter has initially been issued as a draft and it is intended that it be reviewed during 2015; feedback on the content is invited and should be made to designandconstruction@sustrans.org.uk

1. Key principles

- accessible and convenient. As close as possible to the destination entrance, prominently located, with plenty of space to get bikes in and out, without unnecessary detours or flights of steps
- good natural surveillance
- secure against theft and vandalism, appropriate to the type of area and length of stay expected
- parking stands should enable the bicycle frame and at least one wheel to be locked, catering for different sizes and shapes of bikes
- longer stay parking should be covered, well-lit and have CCTV, where practical/feasible
- where two-tier parking is introduced, low-level parking should be provided for the convenience of those who are unable or unwilling to lift their cycles
- free of charge wherever possible
- have sufficient capacity for existing peak demand plus future growth.
- clean and well maintained

Cycle parking within carriageway, Brighton

2. Introduction

2.1

Cycle parking is a key element of a cycle network, and the provision of secure, well located cycle parking is essential if people are to be encouraged to cycle as a means of transport. By indicating to the public that cyclists are welcome, cycle parking facilities indicate to non-cyclists that cycling is a viable option. Cycle parking should be prominent on the ground and the locations shown in any local information material.

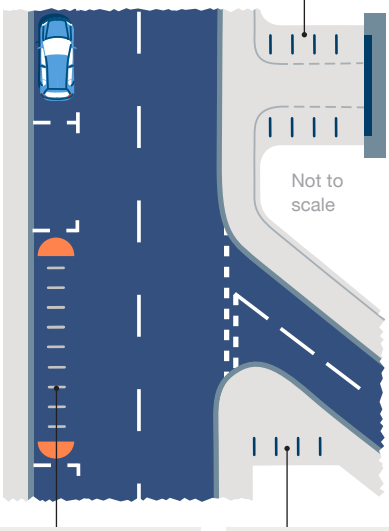
2.2

In order for cycle parking to be useful, a number of important factors must be taken into account, notably:

- location
- design, installation and maintenance
- how much parking is needed, taking account of future growth
- cost/funding

Fig 3.1 **Siting details for cycle parking**

Off-street: cycle parking should be in prominent locations near entrances to major attractions. Appropriate standards for cycle parking should be imposed on new developments



On carriageway: road space can be given over to cycle parking, for example by removing of car parking bays. The cycle stands should be protected from encroachment by motor vehicles. Care should be taken when siting on-carriageway cycle parking opposite (nose to kerb) echelon parking bays

Footway: cycle parking on the footway should be located where it is unlikely to cause obstruction to pedestrians

Cycle parking on slope, Bristol

3. Location

3.1

The siting of cycle parking is critical to its success. It must be located as close as possible to the main entrance of a destination and easy to access, or it will not be used. It must offer a real advantage over the location of the nearest car parking space. Ideally the location should be one that is constantly under surveillance by the general public (and CCTV if possible) and is well lit. This reduces the opportunity for vandalism/theft and inspires confidence to cycle to the destination. Cycle parking should not be hidden away behind buildings or tucked away in the corner of a car park as this removes any convenience over driving and allows thieves to work out of view.

Cycle parking for visitors outside entrance, Cambridge

4. Design, installation and maintenance

4.1

This is a key consideration for cyclists; even those leaving their bikes for a very short time. The design of the stand therefore has to ensure peace of mind. The device must be easy to access, facilitate the use of 'D' type locks and conventional chains/cables, provide support for the whole bicycle and allow both frame and at least one wheel to be secured.

4.2

Design will also be influenced by the type of users expected and their journey purpose:

Table 4.1 **Parking requirements for cyclists**

Typical user	Particular needs
Residents	Secure (at least a proportion of cycle parking in a locked compound), close to entrance, covered, overlooked. Visitor parking may be open stands.
Commuters	Secure (ideally a locked compound), covered, overlooked. Convenient (<50m from entrance). Well spaced - must not risk getting oil on clothing. Visitor parking may be open stands.
Shoppers	Secure (open stands). Good support for bike. Convenient (<25m from entrance, ideally next to it). Room for loading, trailer bikes etc. Safe from traffic. Easy to use.
Children	Well overlooked. Child sized stands. Easy to use. Safe from traffic.
Families	Plenty of room for non-standard bikes and luggage. Safe from traffic.

‘Sheffield’ design

4.3

The most common, simple and reliable design is the ‘Sheffield’ type stand constructed from a single tube with two right angle bends. This design is the most popular when located properly, because it fulfils all the above requirements. It can be improved by the addition of a lower crossbar, which makes it more suitable for ‘step through’ frame cycles and children’s cycles, and reduces the tendency for the front wheel to turn. There are successful examples of 600mm-wide versions, which include a crossbar. For locations/attractions with a significant proportion of children, stands with a lower or slanting crossbar should also be considered. If it is deemed inappropriate or impractical to provide a number of individual cycle stands then a joined toast rack arrangement can be used, provided it offers sufficient spacing between the stands.

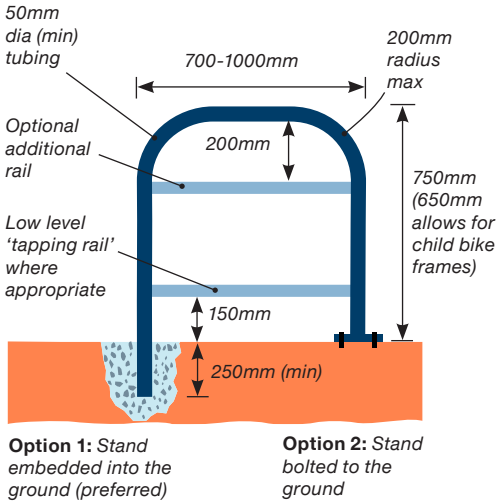
Other factors to consider

4.4

Further important factors to consider when locating cycle parking include:

- ensuring that the area planned for parking is horizontal. If not, stands should be orientated at right angles to the slope to prevent bikes from rolling away.
- taking care to ensure that the cycle parking (when in use) does not cause an obstruction to pedestrians.
- where space on the footway is limited, consider the use of the carriageway and the removal of car parking spaces.
- where cycle parking is located on the footway, the use of a tapping rail and textured surfaces such as granite setts should be provided to warn the visually impaired.

Fig 4.1 **‘Sheffield’ type stand**



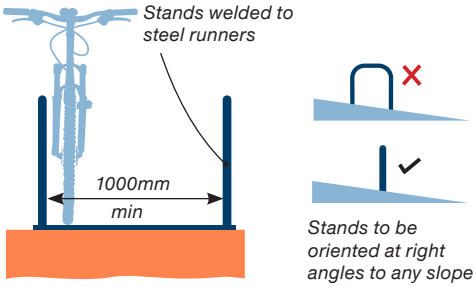
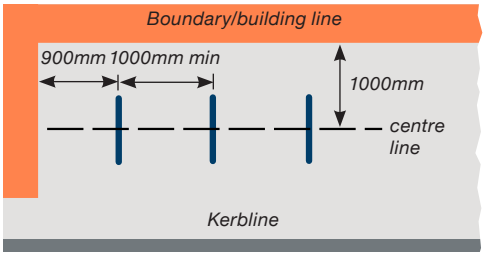


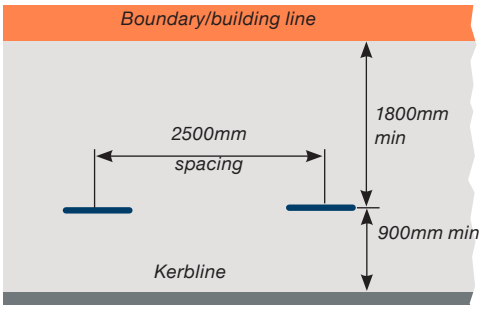
Fig 4.2 **‘Toast rack’ of Sheffield stands**

Textured surface around cycle parking, Bristol

Fig 4.3 **Layouts**



Perpendicular



Along kerb

Rural cycle parking, Mawddach Estuary, Wales

Decorative cycle parking, London

Bespoke design, Northumberland

Other designs

4.5

In some situations a more aesthetic design may be appropriate but must be based on the same standards and requirements. Parking stands can be painted, supplied with a scratch resistant coating, or be stainless steel. This will maintain a quality finish within the urban landscape and prevent unnecessary damage to cycles. In visually sensitive locations, options more sensitive to the locality may be required.

4.6

There are good examples of high capacity cycle parking, which give adequate support and secure locking for the cycle. In particular, two-tier racks are becoming more popular where a high volume of cycles need to be stored; however some cycle users find these difficult to operate, so additional low level parking should be provided.

Two-tier rack, London

4.7

Hitching rings fixed to fences or wall bars, where handlebars are accommodated, can be a good compromise where space restricts other options.

4.8

Stands which only attach to the wheels, such as ‘butterfly’ racks, should not be used as they are less secure, do not support the bike, can damage it, and cause a trip hazard to pedestrians.

4.9

Guidance on specific types of cycle parking is given in the TfL Workplace Cycle Parking Guide.

Shelter and security

4.10
Where cycles may be parked for a significant time in public areas, consideration should be given to providing shelters covering on-street cycle parking.

4.11
Organisations providing on-site cycle parking for employees and visitors should consider the provision of covered areas, either within the building itself or a shelter located very close to the main pedestrian entrance. This will further encourage people to cycle, safe in the knowledge that their bicycle will be kept dry for the journey home.

4.12
Where cycles are left for a number of hours, for example by workers, students, commuters or in residential developments, more secure parking may be needed. Increased security can be provided by means of lockers, or compounds that have lockable doors. In each case, care is needed in developing a management plan that ensures the effective operation of the cycle parking, in particular, avoiding arrangements that lead to a significant number of lockers being left locked whilst empty.

Secure cycle compound, Nottingham

4.13
In new residential developments, suitable secure cycle parking should be designed in at the outset. Useful guidance has been published by Cambrige City Council.

4.14
Secure cycle storage at home is a major issue in many existing residential developments, in which case innovative approaches to providing space within buildings, or the provision of secure parking areas on the highway, may need to be considered. A good example of innovative approaches to retrofitting is the Hackney Residential Cycle Parking Project. Secure on street provision as used in other countries, such as the Bikehanger, which stores up to six bikes in half a car parking space, are now available in the UK.

4.15
The Association of Train Operating Companies (ATOC) has published useful guidance on cycle parking at stations in its Cycle Rail Toolkit.

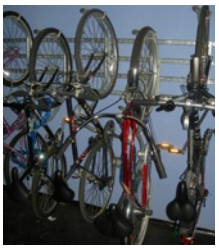
Station cycle parking, Chelmsford

Sheltered public cycle parking, Hull

Bikehanger secure on-street parking, London

Photo: Cyclehoop

Cycle lockers, Derby



Converting existing space in flats, Hackney

5. How much parking is needed

5.1

The ideal way of determining demand for storage is to survey all existing and potential users within an organisation, school etc. In a general use situation, such as a shopping street, it may be more practical to look at the potential for different destinations to attract people by bike. This can be combined with observations of places where cycles are locked to street furniture or where there would be a very high demand (e.g. bus and train stations). At important destinations, consideration should be given to the benefits of providing parking at several locations.

5.2

Most local authorities have 'parking standards' that specify the minimum amount of cycle parking/storage to be provided at new developments. This could also be applied to existing locations as a rough guideline. However, the demand for spaces should hopefully grow after the initial implementation of cycle storage. It is often more useful and convenient to have plenty of small parking areas than one large one and, on shopping streets, consideration should be given to installing individual stands parallel to the kerb.

5.3

The space available will dictate the options for laying out the cycle parking stands to best effect. Even with the most efficient layout, an allowance of 1 sq m / cycle provides a good guide for the maximum number of spaces an area can accommodate, but more typically a figure of 1.5 sq m / cycle should be used.

Removal of car parking spaces, Daimler Chrysler

Cycle parking parallel to kerb, London

Moveable cycle parking within carriageway, Bath

6. Costs/funding

6.1

The cost of cycle storage varies between products, design and site conditions.

- a basic Sheffield type stand to accommodate two cycles will cost around £100 to supply and install.
- a quality cycle locker costs upwards of £600 per cycle, installed
- a shelter starts at around £2000 plus cost of stands
- two-tier racks around £200 - £250 per space, installed
- bikehanger on-street storage, £3,200 - £3,600, installed

6.2

Whilst these facilities may appear expensive, the costs should be compared to that of providing and maintaining a car parking space (approx. £2,500 to install and £250 to maintain per annum, at surface level, in some instances) or the cost to an employer for the purchase of car park permits for the same number of people.

6.3

If custom-made parking stands (based on these guidelines) are considered to augment an urban design theme or reflect the character of a place or organisation, the cost could be funded through sponsorship by local commercial bodies or included in the cost of a larger highways/development scheme.

Sponsored stands, Birmingham

7. Key references

Cycle Parking Guide for New Residential Developments, Cambridge City Council, 2010

Workplace Cycle Parking Guide, TfL, 2006

Cambridge Cycle Parking Guide, Cambridge Cycling Campaign, 2008

Cycling England Design Guidance: C.04 Cycle Parking

HomeBikePark: Hackney Residential Cycle Parking Project, 2007

Cycle Rail Toolkit, ATOC, 2012