

Camden Planning Guidance

Transport

London Borough of Camden

CPG 7



CPG7 Transport

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5 Car free and car capped development

KEY MESSAGES

- We expect car free development in the borough's most accessible locations and where a development could lead to on-street parking problems
- Legal agreements will be used to maintain car-free and car-capped development over the lifetime of a scheme

- 5.1 This section explains further the terms car-free and car-capped development, as referred to in the Camden Core Strategy and Camden Development Policies, the mechanisms that are needed to secure them, and the circumstances in which it will be appropriate for the Council to refuse additional dwellings that are not car free or car capped.
- 5.2 It relates to Core Strategy Policy CS7 – *Promoting sustainable and efficient travel* and policies DP18 – *Parking standards and limiting the availability of parking* and DP19 – *Managing the impact of parking* of the Camden Development Policies.

Car-free development

A development which has no parking within the site and occupiers are not issued with on-street parking permits

Car-capped development

A development which has a limited amount of on-site car parking, but no access to on-street parking permits.

- 5.3 Car-free and car capped development is successful in Camden because most of the borough has very good access to public transport services. Levels of car ownership are low compared with London generally, and choosing not to own a car can be an attractive lifestyle option. The guidance in this section covers:
- What car free development is, and where it is sought;
 - What car capped development is, and where it is sought;
 - Implementation of off-street parking restrictions for car-free and car-capped development, including partial provision of car free and car capped development, and maintaining the on-street parking rights of existing occupiers;
 - Meeting the parking needs of disabled people.

When we expect car free and car capped housing

- 5.4 Car free and car capped requirements apply to developments in particular locations and circumstances:
- we expect car free development in the Central London area, our town centres and other areas with high public transport accessibility (see Development Policy DP18);

- we will also expect car free development where the creation of a new access could lead to on-street parking problems where the loss of kerb space creates unacceptable parking pressure. Refer to Development Policy DP21, and the Access section of this guidance for more information);
 - Car capped development applies to schemes that would have an unacceptable impact on on-street parking conditions or highway management and safety through the introduction of new units with access to on-street parking permits (see Development Policy DP19).
- 5.5 Car-free or car-capped housing may be sought wherever development involves the creation of one or more additional dwellings – whether newly built, or created by a conversion or change-of-use.
- 5.6 Non-residential development can potentially involve car-free or car-capped designation if it creates a new non-residential address or involves a change-of-use that would otherwise increase the demand for car parking. This reflects the operation of the parking permit scheme, where permits relate to individual addresses.

Car free development

- 5.7 Car-free development is development that does not have any car parking. No parking is provided or allowed on the site (except parking designated for disabled people), and all of the dwellings or units created are not entitled to on-street car parking permits. Where we seek car free development our parking standards do not apply as no parking is allowed.
- 5.8 Camden Development Policy DP18 states that we will expect development to be car free in the Central London Area, the town centres of Camden Town, Finchley Road/ Swiss Cottage, Kentish Town, Kilburn High Road and West Hampstead, and other highly accessible areas.
- 5.9 'Highly accessible areas' are considered to be areas with a public transport accessibility level (PTAL) of 4 and above. The PTAL of a specific site can be established using Transport for London's Planning Information Database website pages, which can be found at: <http://webpid.elgin.gov.uk/>.
- 5.10 Car free development will also be required where the creation of an access to allow off-street parking would reduce the availability of on-street parking (see also section 6 of this guidance on vehicle access), or would otherwise cause problems relating to highway management or safety. Policy DP19 of the Camden Development Policies states that we will resist developments that would harm on-street parking conditions or harm highway safety.

Car capped development

- 5.11 Car-capped development is development in which all of the dwellings or units created are not entitled to on-street car parking permits, although some or all of the dwellings or units created may have a parking space

on the site, in accordance Camden's parking standards (see policy DP18 and Appendix 2 of the Camden Development Policies). It therefore differs from car free development because some on-site car parking is allowed, in line with Camden's parking standards.

- 5.12 Car capped development is sought in developments that are not in the locations listed in paragraph 4.7 above, where additional off-street spaces can be accommodated within the development without harming highway or on-street parking conditions, but where additional on-street car parking is not considered acceptable.

Circumstances where additional on-street car parking is not acceptable

- 5.13 There are parts of the Borough where increasing competition for on-street parking through introducing additional premises with on-street parking rights is not acceptable. This is generally the case in the Central London Area, but also in many other areas where the parking spaces available cannot meet existing demand. This has implications for queuing and congestion, illegal parking, and highway safety. In these circumstances, if a developer will not enter into an agreement to designate the additional development as car-free or car-capped, planning permission will not be given.
- 5.14 In considering the ability of available on-street parking to accommodate the impact of additional development, we will have regard to the cumulative effect of proposals in the area, including unimplemented and partly implemented schemes already granted planning approval.
- 5.15 Our Parking and Enforcement Plan provides regularly updated permit data, which is used to establish levels of on-street parking pressure on each of the borough's roads. This information will be used when considering the acceptability of applications that would involve the potential allocation of additional on-street parking permits to the future occupiers of new development.

Implementation of on-street parking restrictions for car-free and car-capped development

- 5.16 The whole of Camden has controlled parking and, in principle, is appropriate for car-free or car-capped development. On most days, most parking spaces on residential streets are only available to people holding a parking permit issued by the Council. In Controlled Parking Zones we can restrict access to on-street car parking because we can control the issuing of parking permits.

Controlled Parking Zones

Designated areas in regulations control how parking may be used on different sections of the street and at different times.

- 5.17 In order to be able to maintain car-free and car-capped development over the lifetime of a scheme, the developer will be required to enter into

a legal agreement under Section 106 of the Town and Country Planning Act 1990 (as amended), which would permanently remove the entitlement to an on street parking permit for each home created:

- 5.18 The legal agreement requires the owner of the development to inform incoming occupiers that they are not eligible to obtain a parking permit for on-street parking, or to purchase a space in a Council-controlled car park. This part of the legal agreement stays on the local search in perpetuity so that any future purchaser of the property is informed that occupiers are not eligible for parking permits.

Maintaining on-street parking rights of existing occupiers

- 5.19 Existing parking rights can normally be retained on development sites, where it can be demonstrated that existing occupiers are to return to the address when it is completed. This is common where an existing dwelling or block is being extended or subdivided. It can also occur where a change-of-use brings a site or property into residential occupation.
- 5.20 If a development is to have new occupiers, existing parking rights will not apply, and the Council will apply its car-free / car-capped policies as set out in Development Policies DP18 and DP19.

Meeting the needs of disabled people

- 5.21 Car-free development and car-capped development should be designed taking into account the needs of disabled car users. Blue Badge holders are able to use parking spaces in Controlled Parking Zones without a parking permit. Minimum parking standards apply to parking for people with disabilities, and 1 parking space for people with disabilities is required per 10 general-purpose dwellings (see Appendix 2 of the Camden Development Policies document). In addition, where car-free and car-capped developments contain wheelchair housing, the Council will expect a parking space to be provided for each wheelchair dwelling. Where a resident in need of a reserved disabled parking space moves into a development with no off-street spaces, the Council will consider a request for a designated disabled space on-street in the same way whether the development is formally car-free or not.

Further information

- 5.22 In addition the guidance above regard should also be had to Camden's Parking and Enforcement Plan (2004), which provides further information on our approach to managing parking in the borough.

6 On-site car parking

KEY MESSAGES

This section includes detailed guidance on:

- Implementation of numerical car parking standards
- Dimensions and layout of spaces, including dedicated spaces for disabled people
- Underground and stacked parking
- Car clubs and pool cars
- Electric charging points

6.1 This section assists applicants for developments that will involve the provision of off-street parking spaces.

6.2 It relates to Core Strategy Policy CS11 - *Promoting sustainable and efficient travel* and policy DP18 - *Parking standards and limiting the availability of car parking*; and Appendix 2 Parking standards of the Camden Development Policies. It should be read in conjunction with section 6 of this guidance on vehicle access.

When does this apply?

6.3 This guidance applies to planning applications that involve creation of off-street parking spaces, in line with the standards set out in the Camden Development Policies. The parking requirements for emergency services, such as ambulance, fire and policing facilities, will be assessed on an individual basis, having regard to the specific operational needs of a particular use.

6.4 Applicants should first seek to minimise car use from their development, in accordance with Core Strategy Policy CS11 and policies DP16-DP20 of the Camden Development Policies. Alternative measures include:

- provision for walking, cycling and public transport;
- car-free development so that there is no need for parking; and
- car clubs and pool cars.

How should on-site car parking be provided?

6.5 Standards for the number of spaces required for car parking and servicing are given in Camden Development Policies Appendix 2.

6.6 Thresholds and standards are given as a gross floor area (GFA) relating to the development as a whole, and are not intended to be applied separately to individual units that form part of a larger development. Shared use of parking spaces and servicing bays between units will be encouraged where practical.

- 6.7 Where a development crosses a threshold, requirements apply to the entire floorspace, not only the floorspace above the threshold. For example, for hotels, the requirement for visitor parking spaces for people with disabilities is 1 space per 1,250 sq m from a threshold of 2,500 sq m (Development Policies Appendix 2). This means that no requirement applies to a hotel of 2,000 sq m, but for a hotel of 5,000 sq m, a requirement of 4 spaces for disabled visitors applies.
- 6.8 Paragraph 18.7 of Camden Development Policies addresses the provision of parking for employees with a need for “continuous access to a car for work purposes”, as part of the maximum standards for employment generating uses. For the removal of doubt, this refers to travel needs that cannot be met by walking, cycling or public transport, and relates to access during the working day, not commuting to and from work

Dimensions and layout of car parking spaces

- 6.9 Figure 2 below sets out our minimum standards for the dimensions and layout for off-street car parking spaces.

Figure 2. Dimensions and layout of car parking spaces

Off-street car parking space (standard)	2.4m wide by 4.8m deep.
Front Garden/Forecourt	5.0m wide by 6.0m deep.
Off-street car parking space for use by disabled people	3.3m wide by 4.8m deep.
Layout of car parking spaces for general use	<p>90° parking – aisles may be two-way</p> <p>The minimum aisle width between the ends of spaces is 6.0m</p> <p>60° parking – aisles must be one-way</p> <p>The minimum aisle width between the ends of spaces is 4.2m</p> <p>45° parking – aisles must be one-way</p> <p>The minimum aisle width between the ends of spaces is 3.6m</p>

- 6.10 Disabled parking should be in line with the Mayor’s Draft London Housing Design Guide SPG (July 2009), which states in paragraph 3.3.2 that “Each designated wheelchair accessible dwelling should have a car parking space 2.4m wide with a clear access way to one side of 1.2m wide”.
- 6.11 Dedicated car parking spaces for use by disabled people should be designated with appropriate markings and signs. These spaces should be located as close as possible to main pedestrian entrances and passenger lifts. There must be no obstruction – such as a raised kerb or

heavy doors - between the parking spaces and the entrance to the building. In considering the appropriateness of distances to the furthest facility served by a dedicated parking space, the following guidelines will be taken into account:

Uncovered route	Less than 50m
Covered route (unenclosed or part enclosed)	Less than 100m
Completely enclosed route (unaffected by bad weather)	Less than 200m

- 6.12 In addition to dedicated parking spaces, where premises are likely to attract visits by the public, vehicular setting down and picking up points suitable for use by disabled people should be available as close to main building entrances and passenger lifts as possible.

Underground and stacked parking

- 6.13 Because of the high cost of land in Camden, some developers are seeking to use more space-efficient forms of car parking, such as underground and 'stacked' parking.
- 6.14 Whilst the Council considers that such provision can be appropriate in some circumstances, it must not cause harm in terms of visual impact and safety. In particular, proposals for underground and stacked parking would need to satisfactorily address potential issues in relation to vehicles queuing/ waiting, and impact on the highway, congestion and safety as vehicles manoeuvre around the site, along with any archaeological implications.
- 6.15 As with any car parking provision, underground and stacked parking must meet Camden's parking standards.

Car clubs

- 6.16 Paragraphs 11.18 of the Camden Core Strategy and 18.14 and 18.15 of the Camden Development Policies encourage the provision of car club spaces as an alternative to the provision of private car spaces, in order to make private transport more sustainable.
- 6.17 We will seek publicly accessible spaces, where provision is made as part of development. This enables spaces to form part of a wider network, improving accessibility to spaces, benefitting the local community and reducing impact on the public highway (by avoiding the provision of additional on-street spaces).
- 6.18 Developers should provide spaces for a Camden-approved city car club operator. Please contact the Council for our full list of approved operators.
- 6.19 The Council's preference is for the provision of car club spaces for electric or low carbon vehicles.



Electric charging points

- 6.20 As part of our approach to making private transport more sustainable, the Council promotes the use of low emission vehicles, including through the provision of electric charging points (see Camden Core Strategy Policy CS11).
- 6.21 Electric charging points allow electric vehicles to charge up whilst parked, ready for the next journey, and are normally located in dedicated parking bays. Further information on electric charging points can be found at: <http://www.newride.org.uk/>
- 6.22 We will seek the provision of electric charging points as part of any car parking provision in new developments (policy DP18 of the Camden Development Policies). The emerging London Plan (policy 6.13 Parking) states that 1 in 5 new spaces provided in new developments should provide charging points.
- 6.23 The Council will promote provision of electric vehicle charging spaces as an alternative to any general car parking spaces, but particularly if the charging spaces will be for electric pool cars or electric car-club cars. We will encourage use of renewable energy to provide power for charging points.
- 6.24 Parking for low emission vehicles, pool cars and car clubs should be provided from within the general car parking allowed by Camden's parking standards. If they are provided in addition to general car parking spaces, they are unlikely to be effective in encouraging more sustainable means of transport, and to the Council's overall aim of reducing congestion in the Borough.

Further information

- 6.25 The creation of off-street parking spaces will often require the creation of a new vehicle access to a site. This section should therefore be read alongside section 6 of this guidance on Access to sites for motor vehicles, which sets out how proposals involving new means access are judged in terms of impact on the highway, safety and visibility for emerging vehicles.

6.26 Other useful sources of information include:

- Mayor’s draft Housing SPG, which contains detailed guidance on the levels of car parking;
- Manual for streets; DfT; 2007, which provides guidance on accommodating car parking within the street environment; and
- Camden Parking and enforcement plan, which sets out a comprehensive approach to managing parking and addresses the need for effective enforcement of parking controls, for both on-street and off-street parking.

9 Cycling facilities

KEY MESSAGES

This section includes guidance on:

- The implementation of our minimum cycle parking standards for new development;
- The design and layout of cycle parking; and
- Cycle hire and cycle stations.

9.1 This section provides guidance on meeting cycle parking standards in an effective way, so that cycle parking is convenient and secure, and users of a development are more likely to use bicycles to travel to and from the site.

9.2 It relates to Core Strategy Policy CS11 – *Promoting sustainable and efficient travel* and policies DP17 – *Walking, cycling and public transport* and DP19 – *Parking standards and limiting the availability of parking* of the Camden Development Policies. It should be read in conjunction with Development Policies Appendix 2 – Parking standards.

When does this apply?

9.3 This guidance applies to:

- Applications which involved the creation of one or more additional dwellings;
- Applications which proposed additional floorspace of 500 sq m or more; and
- Applications which are likely to significantly increase the demand for people to cycle to the site.

How do we implement our cycle parking standards?

9.4 Numerical standards for cycle parking spaces are introduced by policy DP18 of the Camden Development Policies, and set out in detail in Development Policies Appendix 2. These standards are applied at a threshold of 500 sq m in most cases. Throughout the standards, the stated number of spaces relates to the number of bicycles to be accommodated, not to the number of stands.

9.5 Where a development crosses the threshold, requirements apply to the entire floorspace, not only the floorspace above the threshold. For example, at a new leisure development, 1 visitor cycle parking space per 250 sq m is required from a threshold of 500 sq m. This means that no requirement applies to a facility of 400 sq m, but 4 visitor spaces are required for a facility of 1,000 sq m.

9.6 Thresholds and standards are given as a gross floor area (GFA) relating to the development as a whole, and are not intended to be applied

separately to individual units where a development is subdivided into smaller units. Thus, space for cycles may be required for small premises (under 500 sq m) which form part of a larger development.

- 9.7
- Table 6.3 of the London Plan sets out additional cycle parking standards and states that additional cycle parking provision will be required for larger (C3) residential units.

Location, design and layout of off-street cycle parking

- 9.8
- Cycle parking should be provided off-street, within the boundary of the site. Cycle parking needs to be accessible (in that everyone that uses a bike can easily store and remove a bike from the cycle parking) and secure (in that both wheels and the frame can easily be locked to the stand). Security is a critical concern in the location, design, enclosure and surveillance of all cycle parking. The table below provides detailed guidance on the location, design and layout of cycle parking for various groups of cyclists.

Location of off street cycle parking

<p>General</p> <ul style="list-style-type: none">• Cycle parking outside buildings should be positioned near entrances and where frequent surveillance is possible. For short stays, the parking should be sited within 25 metres of building entrances. For stays of over an hour, the parking should be sited within 50 metres of building entrances.• All cycle parking, including all parts of the parked cycles, should be clear of routes needed for pedestrian movement.• The route to cycle parking from street level should be step free. cycle parking inside buildings should be at the entrance level of the building or accessible by a ramp or lift from street level that can accommodate a bike.
<p>Parking for visitors</p> <p>Parking for visitors should be clearly visible or clearly signed from the public highway, and should be near building entrances</p>
<p>Parking for employees (and other long stay parking)</p> <p>Parking for employees (and other long stay parking) should be provided either within the building, or otherwise protected from the weather. Consideration should be given to providing lockers and showers for cyclists. For larger development this would be expected and would be a requirement of a Travel Plan (see section 2 of this guidance concerning Travel Plans).</p>
<p>Parking for residents</p> <p>Parking for residents should be within the building. Parking for a resident may take the form of a space within an individual dwelling provided that the space is close to the door of the dwelling, and access to the dwelling is level, or by a ramp or lift that can accommodate a bike.</p>

Design and layout of cycle parking: Sheffield and “Camden” cycle stands

The Council recommends the use of either “Camden” or Sheffield for the provision of off-street cycle parking, as they meet the Council’s requirements in terms of accessibility and security, provided they are laid out correctly.

- The “Camden” stand is a new form of Sheffield Stand, which is now used for all new cycle parking installed on Camden’s public highway. Developers are encouraged to use it in place of the Sheffield stand, although the Sheffield stand is still acceptable. The Council’s Public Realm and Transport team can advice on purchasing “Camden” stands as they are not as widely available as the Sheffield stand.
- The Sheffield Stand is the most common type of cycle stand used in the public highway. It is recommended for use along with Josta two-tier cycle parking;

Annex 1 provides more detailed guidance on the design and layout of “Camden”, Sheffield and Josta stands.

We are willing to consider other forms of cycle parking, however you must meet our accessibility and security requirements, details of which can be obtained from the Council’s Public Realm and Transport team. Generally, designs that require cycles be lifted into place or provide insufficient opportunity to lock the cycle will not be acceptable.



The London Cycle Hire Scheme

- 9.9 The London Cycle Hire Scheme is a public bicycle sharing scheme for short journeys in and around central London. Users can pick up a bike from a docking station, use it for short journeys, then drop it off at any docking station, ready for the next person.
- 9.10 Whilst the cycle hire scheme is currently focused around central London, the Mayor of London is investigating its expansion. The Camden Core Strategy states that we will seek to ensure that the scheme is extended to key destinations across the borough, including our town centres (see Core Strategy paragraph 11.13).
- 9.11 Where appropriate, developments close the area covered by the London Cycle Hire Scheme will be expected to contribute towards the scheme,

where justified as a result of increased trips generated. Contributions could include:

- a financial contribution towards cycle hire facilities. The amount sought will be based on the number of additional trips that are generated by the scheme;
- provision of space on-site to accommodate new cycle hire docking stations, in larger developments where there is space and the location is suitable. Transport for London (TfL) is producing a set of guidance for developers regarding specifications and design requirements for docking stations due to be released in 2011.

- 9.12 Contributions sought will relate both to the individual impact of a scheme and to any cumulative impact of a number of schemes in the same area.

Cycle stations

- 9.13 Cycle stations provide a secure managed area for cycle parking. The Camden Core Strategy promotes the provision of cycle stations as part of an effort to increase the availability of cycle parking in the borough (see paragraph 11.13 of the Core Strategy), and we intend to create a network of publically accessible cycle stations across the borough.

- 9.14 We will seek the provision of cycle stations in locations where it will be possible to attract a sufficient number of users. Suitable locations include:

- town centres and the central London area;
- transport interchanges;
- large commercial developments;
- residential areas - linked to new and existing residential development of a suitable scale; and
- larger health and education facilities.

- 9.15 Where developments generate an increased level of activity they will be expected to provide contributions towards the provision and maintenance of nearby cycle stations, in order to mitigate the effects of the increased number of journeys.

- 9.16 We will also seek on-site provision of cycle stations as part of larger developments in suitable locations. On-site provision of cycle stations can incorporate a development's cycle parking requirements for visitors (as set out in our parking standards), but should also include extra provision for the wider public. Parking provision for employees and residents of a development, as set out in our parking standards, should be provided separately in order to ensure that they retain the appropriate number of spaces to meet the demand that they generate.

Design of cycle stations

- 9.17 As a minimum, cycle stations should incorporate indoor, sheltered standard cycle parking (e.g. Camden or Sheffield type cycle stands) with

controlled access to the indoor area, and lighting. Cycle stations can incorporate a variety of other features including automated cycle locks, changing facilities, lockers, toilets and showers. Access to and from the cycle station by bike must be safe and convenient and accounted for within the space.

- 9.18 The Camden Cycle Stations Programme - Review of Best Practice (March 2009) provides information on best practice in the provision of cycle stations. Features that contribute to a successful cycle station include:

- Being located not more than 100m from the target destination, with shorter stays requiring shorter distances;
- Good surveillance by staff, other users and passers-by.
- Effective maintenance and management
- Clear and unambiguous signing to and within the cycle station.

Further information

- 9.19 In addition to the guidance provided in Annex 1 below (which includes details on the layout of off-street cycle parking), reference may also need to be made to the Camden Streetscape Design Manual. The manual contains dimensions for on-street cycle parking and the widths required for unobstructed pedestrian routes.

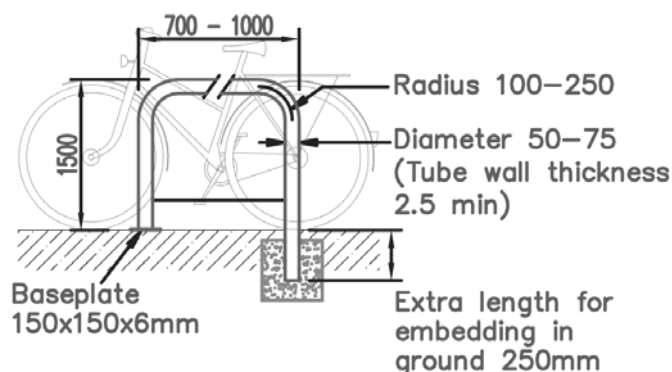
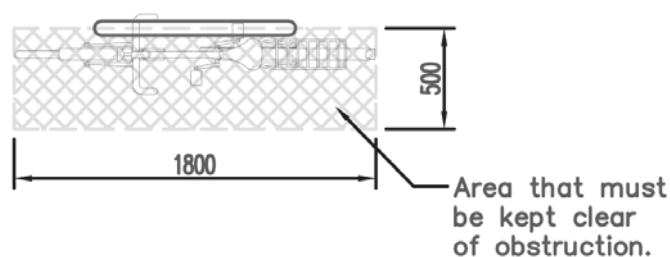
- 9.20 Other supporting documents include:

- Forthcoming TfL Design and specification of cycle hire scheme
- Forthcoming TfL Guidance on Cycle Stations
- Camden Cycle Stations Programme - Review of Best Practice (March 2009)

- 9.21 London Cycle Network Design Manual (London Cycle Network Steering Group, March 1998)

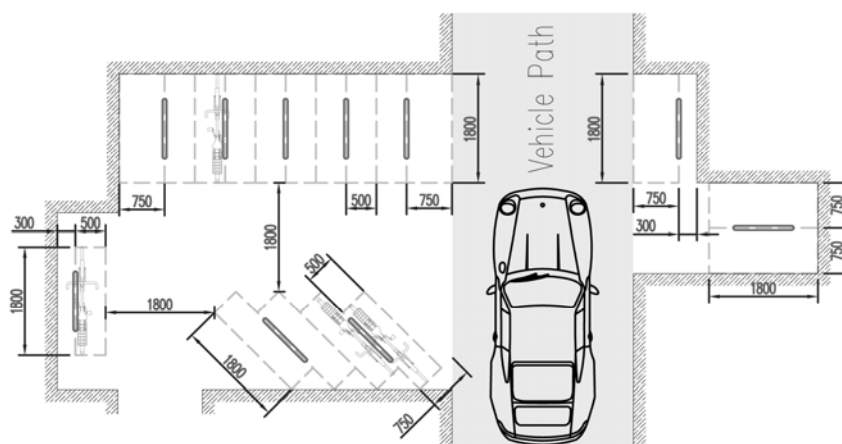
Annex 1 – Sheffield Stand Cycle Parking

- 9.22 This Annex describes in detail how to lay out Sheffield stands. It also can also be applied to the layout of “CaMden” stands.
- 9.23 The "Sheffield Stand" refers to a common design of cycle parking made from a tubular steel loop, approximately 50mm to 75mm in diameter, that is fixed to the ground (either bolted through a baseplate or set in concrete). Each Sheffield Stand can accommodate two bicycles, one either side, provided there is sufficient clearance next to the stand and sufficient circulation space so all cycle parking spaces can be accessed
- 9.24 The CaMden Stand is similar to the Sheffield Stand but is in the shape of a rounded “M” rather than a simple loop. This is designed to encourage users to lock both wheels and the frame to the stand, rather than just the top tube / frame.

Figure 3. Sheffield Stand Elevation**Figure 4. Sheffield Stand Plan**

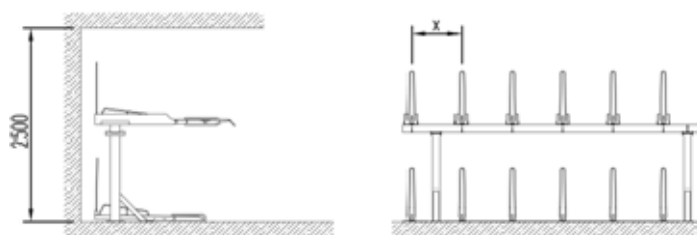
- 9.25 For adjacent stands, an area of at least 1800mm by 500mm next to the stand (measured from the centre line of the tube), must be kept clear for each cycle parking space to allow room for the cycle and working space for locking the bike to the stand. However, if a stand is next to a physical obstruction, such as a wall or a vehicular path, there must be at least 750mm between the stand and the physical obstruction to enable both sides of the stand to be used. If a stand is to be placed close to a wall or other physical obstruction so that only one side of it can be used (i.e. only one cycle can be locked to it), there must be at least 300mm between the stand and the physical obstruction.
- 9.26 Aisles around the cycle store must be at least 1800mm in width. An example cycle store showing various layout options is shown below. Note that the area to be kept clear does not actually have to be marked on the ground, but is shown in outline for clarity.

Figure 5. Cycle stand siting

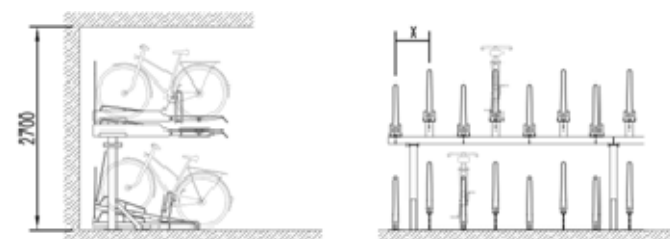


Josta Two-tier Cycle Parking

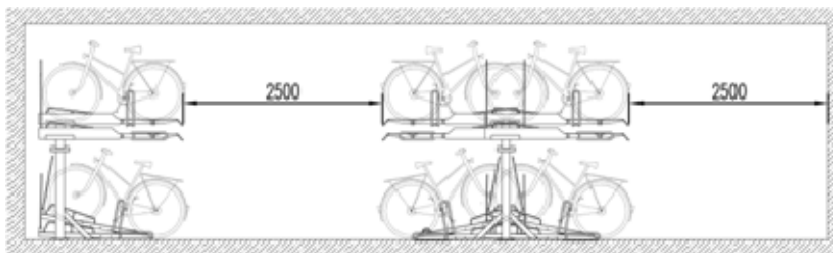
- 9.27 The Josta two-tier cycle parking system (or similar) is generally able to accommodate approximately twice as many cycles per square meter of floor space as Sheffield stands. It also still meets the Council's requirements for accessibility and security, but requires a ceiling height of at least 2500mm.
- 9.28 With a ceiling of at least 2500mm the stands can be placed 650mm apart, i.e. $X = 650\text{mm}$ in the diagram below.



- 9.29 With a ceiling of at least 2700mm the stands can be placed 400mm apart, i.e. $X = 400\text{mm}$ in the diagram below.



- 9.30 In order to enable the top tier to be used, at least 2500mm of clearance in front of the stand, measured on a line at the same angle at which the top tier stands are extended (see diagrams below), is required between rows of stands, walls or other obstructions.



- 9.31 The Josta stands can be arranged at different orientations (angles) provided there is 2500mm of clearance in front of the rack to remove cycles from the top tier (as described above) and aisles around the cycle store at least 1800mm in width. Examples, with minimum distances are shown below. “X” indicates the spacing between stands, which depends on the ceiling height as described on the previous page.

Figure 6. Josta Stand minimum siting dimensions