

## 4 Standards and Specifications of Physical On-site Infrastructure

Travel plans strategies intend to affect how people think about their travel choices; this includes affecting the built (or physical) environment where people live, work and travel. When implanted into new developments, physical design and facilities (and the management of them) form an important behavioural influence.

### TVS 9

Technical drawings and documents for full planning applications that are approved with the main body of the planning application must include physical measures from the travel plan. Outline applications must include detailed design principles relating to how these measures will be brought forward at the design stage.

Thinking in advance about the implementation of physical travel plan measures ensures that all architects, planning and transport consultants and agents and planning officers are aware of the design implications of the travel plan. Should physical travel plan measures not be included in approved plans and drawings, further planning permissions may be required (unless they are classed as *de minimis*) which may delay or prevent the construction of the development and be costly to developers.

Some physical measures are specific to developments with travel plans (examples are given below); giving further attention to certain elements, such as walking and cycling links, may be important for developments that require travel plans. Other standard measures may be included in non-travel planned developments to a greater or lesser degree.

Before agreeing to provide physical measures in a travel plan, it should also be made clear how these facilities will be maintained and managed in the long-term. Some principles are set out in the following Section.

### 4.1 Examples of likely physical Travel Plan measures for new developments

- **Electric vehicle charging points**
- **Travel information kiosks**
- **Travel information noticeboards**
- **Car club parking bays**

In addition, extra focus may be placed on the following:

- Pedestrian and cycle links to and through the development and signage
- Parking facilities for cycles and motorcycles
- Benches and seating/waiting areas
- Bus shelters and information
- Dedicated built facilities (showers, waiting rooms, drying facilities and storage)

In general, developments with travel plans in place will require a greater focus on the role of internal infrastructure and the design of the development. This includes buildings, plots, and facilities, and providing permeability and enabling safe movements through the site layout by alternative modes of transport.

#### 4.2 Responsibilities for maintaining external features

Travel plan measures are grouped together below, categorised according to the LHA's role in their adoption and maintenance.

##### 1) Measures adopted by the LHA

Measures to be adopted by the LHA must be included within technical drawings and approved as part of s106/278 and s38 agreements. This allows the full package of measures to go through the necessary technical and safety audit and formal consultation processes. The LHA will then be responsible for the maintenance and the upkeep of these facilities. If any of these form obstructions, they will also require a licence from the LHA.

Physical measures adopted by the LHA include:

- **Dedicated pedestrian links through the development and across development site boundaries where these adjoin existing highway**
- **Footpaths and cycle ways**
- **On-road traffic calming design, controls and road safety features**
- **Car movement restrictions/zoning/home zoning**
- **Public cycle or motorcycle parking facilities on pavements or other parts of the highway**
- **Bus shelters (sometimes LHA, usually LPA)**
- **Short stay parking lay-bys (e.g. allocated parking for home deliveries, unloading)**
- **Car club parking bays (where not off the highway); these will also require designation through TROs. A designated car club space cannot be allocated to any particular car club user**
- **Pedestrian crossings**
- **Cycle barriers on the highway<sup>(20)</sup>**
- **Automatic traffic counting equipment for sites above travel plan thresholds**
- **Estates Roads (including road space within car parks, excluding the parking spaces and markings themselves). Further information and guidance is available from the LHA's Estates Roads Team**

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20 Motorcycle barriers should only be introduced after a definite need has been established, because measures that reliably exclude motorcycles invariably exclude some cyclists, including users of tricycles, cycle trailers and handcranked cycles. Wheelchairs and mobility scooters will also be excluded.

Use of commuted sums:

Commuted sums will only be used where items on the highway are seen as an addition to basic requirements. Examples include high specification paving or non-standard street furniture. Commuted sums cover maintenance for a limited period of time.

Use of Advanced Payments Code:

The LHA may need to secure a bond to bring roads up to adoptable standards, even where roads are not adopted initially through s38, using the Advanced Payments Code. This will be done outside of the travel planning process.

Enforcement of parking:

It is an offence for cars to obstruct adopted footways. Parking restrictions (e.g. yellow lines) can be placed on adopted or unadopted highways; in either case, parking infringements are enforceable by the police and through Civil Parking Enforcement where in operation. Parking restrictions on the highway require a Traffic Regulation Order (TRO).

## **2) Measures requiring a licence on the highway but not adopted by the highways authority**

The following require a licence as an obstruction if placed on the highway:

- **Benches**
- **Bus shelters (possibly)**
- **Bespoke (non-standard) signage of pedestrian/cycle routes or facilities**
- **Exterior travel information noticeboards (when on the highway)**
- **Travel information kiosks**
- **Electric vehicle charging points (when on the highway)**
- **Footway parking measures such as bollards**
- **Public art installations (when on the highway); tends to be only on larger or prestigious developments**
- **Trees**

Developers may be required to find a body to take the licence for items on the highway but not maintained by the highways authority, in order to transfer the responsibility for ongoing provision and maintenance. This body might be: the developer; a housing association; the district council; the town council; parish council; or a private individual or management company. This is carried out under s142 of the Highways Act. In some circumstances, this might require a commuted sum to this body.

## **3) Measures on non-highways land and not adopted by the highways authority**

The following measures are the maintenance responsibility of parties other than the LHA. This might include: the developer; a housing association; the district council; the town council; parish council; or a private individual or management company.

- **Private parking areas/courts, particularly where allocated to specific users**
- **Parking facilities/buildings for cycles and motorcycles in commercial and residential developments or public car parks owned by District councils**
- **Bus shelters**
- **Bespoke signage at facilities, such as supermarket cycle parking bays or business park index boards**
- **Car club parking bays (where not on the highway)**
- **Exterior travel information noticeboards (where not on the highway)**
- **Electric vehicle charging points (where not on the highway)**
- **Internal car park design measures, e.g. signing and lining**
- **Public art installations (where off the highway); tends to be only on larger or prestigious developments**
- **Trees and planting/shrubbery**

In certain circumstances, developers may retain areas (such as the above) within the development under their ownership.

#### **4) Measures requiring no adoption**

- **Bus routes (where no additional highway infrastructure is required)**
- **Street name plates. The District council is the street naming authority, and decides where street name plates are to be located and maintains them. Street name plates do not appear on site plans. However, the highways authority does not issue Part 2 Certificates for the completion of on-site works until street name plates are in place.**
- **Standard cycle route signage. This require no licensing or planning permission.**

### **4.3 Parking for all modes of travel**

Levels of parking in new development are set by Somerset County Council and Local Plans/Local Development Frameworks. The specific role of this guidance in terms of parking is to give specific instructions regarding the quality and specifications of parking facilities; this includes cycle and motorcycle parking and associated facilities, and car parking management including car sharing and low carbon vehicle spaces.

#### **TVS10**

Developers must provide a proportion of car parking spaces in employment sites for dedicated uses such as car sharing and low carbon vehicles with electric vehicle charging points to encourage employees to match trips and promote more sustainable travel, in line with targets set in the travel plan.

Levels of parking for all modes of transport will be expected to be commensurate with targets set out in the travel plan. Any development which seeks to provide more parking than the target level of car use will be judged by the LHA as less likely to meet its targets, therefore the level of safeguard used to secure the outcomes from the travel plan will necessarily need to be greater to act as an incentive for doing so.

### TVS 11

For employment developments, the supply of parking must be at levels relating to Countywide Parking Standards and managed both to meet targets for car, cycle and motorcycle use in the travel plan and to manage the demand for car travel.

Cycle and motorcycle parking should be part of any design from the outset and not added in at the end in 'SLOAP' (Space Left Over After Planning).

The following users should be considered:

Duration of stay	Length of time	Use examples
Short term	Up to two hours	Visitors to retail, leisure and health facilities
Medium term	Two to five hours	Visitors to leisure facilities, large shopping centres and education establishments
Long term	Over five hours	Staff at employment and education facilities, residents and commuters

Table 4.1 Stay lengths to consider when designing cycle and motorcycle parking.

Providing for bicycles and motorcycles is covered in Sections 4.3.1 and 4.3.2.

### TVS 12

All new development, including residential development, must feature dedicated cycle and motorcycle parking approved the LHA in accordance with this guidance in advance of planning approval.

Car Sharing Parking:

- Reserved car parking spaces for car sharers must be provided in commercial developments which have car parking. These spaces must be in a prioritised

position in relation to the main building entrance and in principle must be in a privileged area. The spaces will be signed and lined and have appropriate management measures.

- Car share spaces should be accompanied by a 'guaranteed replacement lift home' facility.

### 4.3.1 Motorcycle parking specifications and examples

Motorcycle parking must be included within all new developments, according to the specifications set out in the Site Audit and Design Guidelines and Enforce sections of Manual for Travel Plans.

Motorcyclists require secure and convenient places to park at destinations.

Table 4.2 sets out the expected design features of motorcycle parking.

Characteristic	Standards
<b>Location/Design</b>	<p>All developments must include formalised parking on convenient sites in <b>close proximity</b> to centres of attraction such as building entrances (within 10m).</p> <p>Provision must be <b>well-lit, level, well-drained, sheltered and free from debris</b> with a <b>non-slip hard surface</b> that is hard enough to support the weight of a motorcycle resting on its stand.</p> <p>Motorcycle spaces must be <b>protected</b> (e.g. by bollards) from use by other vehicles, deliveries, bins etc.</p>
<b>Signage</b>	<p><b>Signing from the main routes</b> and <b>on-site</b> must be included to reduce the likelihood of informally parked bikes causing a hazard.</p> <p><b>Spaces themselves</b> must be clearly marked and signed.</p>
<b>Security</b>	<p>Motorcyclists must be given formal opportunities to park close to their destination in a <b>covered off-street area</b> where they can lock their machine to an <b>immovable object</b> (such as a SoldSecure rail, hoop, retractable ground anchor, or post) and where it can be kept <b>under observation</b> (directly or through CCTV) to minimize the risk of opportunistic or planned theft.</p> <p><b>For residential developments:</b></p> <p>It is desirable for a proportion of all properties to provide <b>dedicated locking points</b> within the curtilage of their grounds such as ground-level locking points, to appeal to</p>

Characteristic	Standards
	motorcycle owners. This is particularly important where residents are less likely to be owner-occupiers, therefore less able to make the physical alterations that a homeowner might consider.
<b>Access</b>	Riders require <b>adequate space to manoeuvre</b> and a safe and legitimate <b>means of access</b> .

Table 4.2 Motorcycle parking requirements

### Location of motorcycle parking

Table 4.3 sets out where motorcycle parking should be placed for different development types. The highest use of motorcycle parking facilities is observed in long-stay locations including large machines at office-based employment developments. A high usage of motorcycle parking facilities can be observed at railway stations.

Land-use	Standards
<b>Short to medium stay</b>	<p>Motorcyclists require spaces <b>close</b> to the destination with points provided for attaching locks.</p> <p><b>Lockers</b> for helmets and/or protective clothing could be usefully provided at supermarkets and at larger/mixed retail developments.</p>
<b>Long stay</b>	Security is important and <b>locker and changing facilities</b> are needed inside premises.
<b>Residential</b>	<p><b>Motorcycle parking within the curtilage of a property:</b></p> <p>Garages and hard standing:</p> <ul style="list-style-type: none"> <li>usually either in a <b>garage or as hard standing</b> in front of a garage, or just <b>hard standing</b> with direct access from the highway</li> </ul> <p>Sheds and rear gardens:</p> <ul style="list-style-type: none"> <li>motorcycle parking could be either a <b>shed of sufficient size</b> in the back garden or <b>space for a shed</b> of sufficient size in the back garden or a back garden of sufficient size with good rear access and turning space; in the case of the latter three, access is crucial</li> </ul>

Land-use	Standards
	<p><b>Motorcycle parking outside the curtilage of a property:</b></p> <p>Parking on road:</p> <p>The majority of motorcycles are owned by people who also own cars, and parking them in the road if access to the back garden is not available can be particularly problematic in terms of damage and security. On-road parking is not recommended.</p> <p>Communal motorcycle parking areas or stores:</p> <p><b>Communal motorcycle parking space</b> must be provided where there is no private car or motorcycle parking provision (e.g. flats), to avoid problems caused by nuisance parking.</p>

Table 4.3 Land-use specific requirements for motorcycle parking

### Motorcycle parking levels:

The Parking Strategy in Somerset's Future Transport Plan provides parking standards for motorcycles in new developments. For travel plan developments, provision should be related to the modal share targets in the travel plan, which generally account for 0.5-1% of all commuting trips.

### 4.3.2 Cycle parking specifications and examples

A fundamental part of encouraging people to cycle is providing cycle parking in new developments and at any location where people can realistically be expected to cycle.

"The absence of secure, convenient cycle parking can be a serious deterrent to cycle use"<sup>(21)</sup>

This section provides guidance on the principles and standards which must be applied when providing any cycle parking through a planning application or travel plan to ensure that it is suitable for purpose and likely to be well used. Cycle parking should be approached with the same attention to detail as all other parts of a development project.

### Quality of cycle parking

Table 4.4 sets out the expected design features of cycle parking.

21 Department for Transport (2008), LTN 2/08 Cycle Infrastructure Design

Characteristic	Standards
<b>Location/Design</b>	<p>Parking should be sited <b>close</b> to the building entrance in an area that feels <b>safe to use</b> both day and night for all potential users.</p> <p>The need for <b>covers or canopies</b> and further specifications are set out in Table 4.6 below. Cycle parking should be suitable for its surroundings and intended use.</p> <p>Design of stands:</p> <p>The type of stand provided must be suitable for effectively securing the bike by the <b>frame as well as the wheels</b>. The simplest, most effective and preferred type of cycle parking is the basic <b>Sheffield Stand</b> design<sup>(22)</sup>, comprising a metal hoop sunk into concrete or bolted to the ground, ideally with the addition of a lower horizontal bar to secure smaller bicycles. These form the basic standard of cycle parking required. All stands must be made of <b>robust materials</b> and <b>fixed securely to the ground</b>. Stands which can only be used to secure the front wheel are never acceptable. These and other types of stand that are specifically not accepted are included in Transport for London's guidance<sup>(23)</sup>.</p> <p>Cycle spacing requirements:</p> <p>These are given in Figure 4.5 Increasingly <b>non-standard cycles</b> with tag-along child bicycles, child buggies, cargo-style bicycles and styles such as recumbents and tricycles are used; these should all be taken account of. See Table 4.6 below.</p>
<b>Security</b>	<p><b>Natural surveillance and CCTV</b> increase perceived security and reduce the likelihood of theft or vandalism. <b>Signs</b> indicating that the area is under CCTV surveillance will also help to deter thieves, though natural surveillance (e.g. by siting the stands in busy, open areas) is preferable.</p>

22 Transport for London's guidance ('Workplace cycle parking guide') provides a review of many cycle parking styles, and lists those 'not recommended' as (pp12-13): two-level wheel or handlebar racks; two-level upright racks; 'butterfly' racks; railings or street furniture; wheel slots in concrete

23 These include drainpipes, railings, front gardens, and specific types of cycle rack/stand

Characteristic	Standards
	<p>If the parking area is likely to be used after dark, the parking area and the route between the cycle parking and building entrance must be <b>adequately lit</b> to ensure people feel safe accessing their bike after dark.</p> <p>Communal cycle stores:</p> <p>Compounds can be made very secure with <b>access controlled by swipe cards or keys</b>. This may be necessary for long-term parking in unsecured areas e.g. office compounds/residential stores, or where there are vandalism/theft problems.</p>
<b>Access</b>	<p>It should be <b>easy to get to</b> without detours and must be accompanied by lowered kerbs to allow easy use without the need to drag or lift the cycle.</p> <p>The stands themselves must be <b>spaced to allow users all access all the stands</b> without scratching or tangling their bicycle with neighbouring bikes. Cycle parking should never form an obstruction to pedestrians. It must comply with the Disability Act 1995 and meet local health and safety requirements. It is desirable not to place cycle parking adjacent to smoking shelters.</p> <p><b>All users</b> must be able to access the cycle parking easily, regardless of age or physical capabilities. This is especially important where the facilities are likely to be used by more vulnerable users e.g. children, elderly people, parents transporting small children or disabled users of specialist cycles.</p> <p>A conventional bicycle is 1800mm long by 650mm wide. When designing cycle parking it should be borne in mind the need for a cyclist to <b>easily and conveniently manoeuvre</b> their bike into and out of a bicycle stand, i.e. their swept path and the turning spaces needed (see Figure 8). Research has shown<sup>(24)</sup> that a minimum aisle width of 2 metres is required to turn a bicycle through 90 degrees.</p>

24 Cambridge City Council (2010) Cycle Parking Guide for New Residential Developments  
[http://www.cambridge.gov.uk/public/docs/CycleParkingGuide\\_std.pdf](http://www.cambridge.gov.uk/public/docs/CycleParkingGuide_std.pdf)

Characteristic	Standards
	<p>The <b>design, ergonomics and location</b> of the compound is also important as an unattractive, poorly lit compound will put people off using it and render the facility ineffective. Such proposals will not be accepted as part of a travel plan.</p> <p>Doorways:</p> <p>To access cycle parking cyclists may need to be able to push their bike and open the door at the same time. The average width of a cyclist pushing a bike is approximately 1200mm. Doorways should ideally be a <b>minimum width</b> of 1300mm with 1500mm preferred to enable cyclists to pass through without knocking the bike on the door frame.</p> <p>When opening a door a cyclist needs to stretch to open the door and then hold the door open whilst passing through with their bicycle (if the doorway is not, as is preferable, <b>mechanically or electrically assisted</b>). This can be particularly problematic if doors are spring loaded to close automatically. If there are consecutive doors the building layout must take account of the space need by cyclists with bikes to negotiate these easily; 3.5m <b>distance between doors</b> is a suggested minimum.</p>
<b>Signing</b>	<p>Cycle parking facilities must be <b>easy to find, clearly signed and sign-posted</b>. Signage in 'house style' can demonstrate corporate commitment to sustainable travel.</p> <p>For long-term parking e.g. at office or residential sites, <b>information about management of the premises and security arrangements</b> may be of use.</p>

Table 4.4 Cycle parking requirements

**Location of cycle parking**

Table 4.5 sets out where cycle parking should be placed for different development types.

The first thing to consider is who will be the primary users of the parking that you are providing. This will help to determine the type of parking to provide.

Duration of stay	Standards
<b>Short stay</b>	<b>Close</b> (5-20m) to destination and visible but not obstructing footways or access.
<b>Medium stay</b>	<b>Close</b> (5-30m) to destination.  Sheltered with a <b>canopy, cover or building</b> .
<b>Long stay</b>	<b>Reasonable distance</b> from entrance (10-20m for residents, and 10-50m for employees/commuters) but still visible.  Must be <b>enclosed and secure</b> .  Long term parking for staff or visitors, particularly where bicycles are likely to be left overnight or there is a risk of vandalism or theft, must be in a <b>lockable enclosure</b> or within a building with no public access.  <b>Lockers, showers and facilities to store and dry outdoor clothes</b> must be provided (see section 3.1.2 above).
<b>Residential</b>	The type of dwelling will dictate the type of cycle parking that can be provided. Cycle parking should be integrated into the design and structure of buildings and should in all instances include locking points and/or stands.  <b>Cycle parking within the curtilage of a property:</b>  Sheds and lockers:  Cycle parking may be provided either within the body of the building (e.g. porch) or in a <b>secure shed, garage, outhouse or locker</b> .  The cycle parking must be <b>accessed easily</b> without cycles needing to be carried or dragged for long distances, through the living areas of the house or up/down steps and of <b>sufficient size</b> to enable bicycles to be easily manoeuvred inside (at least 2m depth).  Storage must be built of <b>robust materials</b> , be <b>lockable</b> (or dedicated securing points provided inside) and/or of a custom-made design for storing bicycles (see SecurebyDesign standards).  If the storage is to be provided at the rear of the property, there must be rear <b>access ways</b> of at least 1.5m width.

Duration of stay	Standards
	<p>Garages:</p> <p>If cycle parking is to be provided within a garage also intended for car parking, <b>additional space</b> for the bicycles must be provided. There must be at least <b>1.5m access</b> between the side of the car and the wall of the garage through which to manoeuvre bicycles<sup>(25)</sup>.</p> <p><b>Cycle parking outside the curtilage of a property:</b></p> <p><b>Communal cycle parking</b> space must be provided where there is no private provision (e.g. flats), to reduce the risk of theft. This must be <b>fully enclosed and secure</b> (e.g. a compound) with good access and <b>separate</b> from bin stores and motorcycle parking spaces. A <b>management and maintenance regime</b> should be included if a lockable enclosure is to be provided (e.g. using key-operated, keypad or electronic access) to ensure continued, convenient use into the future.</p>

Table 4.5 Land-use specific requirements for cycle parking



Figure 4.1 Example of medium-term cycle parking solution

25 <http://www.securedbydesign.com/pdfs/newHomes2009.pdf>



Figure 4.2 Example of long-term cycle parking solution

### Cycle parking levels:

The Parking Strategy supporting Somerset's Future Transport Plan provides parking standards for bicycles in new developments. For travel plan developments, provision should be related to the modal share targets in the travel plan, which generally account for 10-20% of all commuting trips.

For residential developments, it will need to be provided at a basis of at least 1:1 per bedroom (rather than dwelling), to enable storage of more than one cycle if more than one person is likely to be living in a dwelling. Residents commonly also own more than one cycle each.

Type of cycle	Length (mm)	Width (mm)
<b>Conventional Bicycle</b>	1800	650
<b>Bicycle and 850mm wide trailer</b>	2700	850
<b>Bicycle and 'tag a long'</b>	2750	650
<b>Tandem</b>	2400	650
<b>Conventional Bicycle + cyclist pushing it</b>	1800	1200

Table 4.6 Bicycle dimensions. For the footprint for a bicycle when parked please see Figure 4.3.

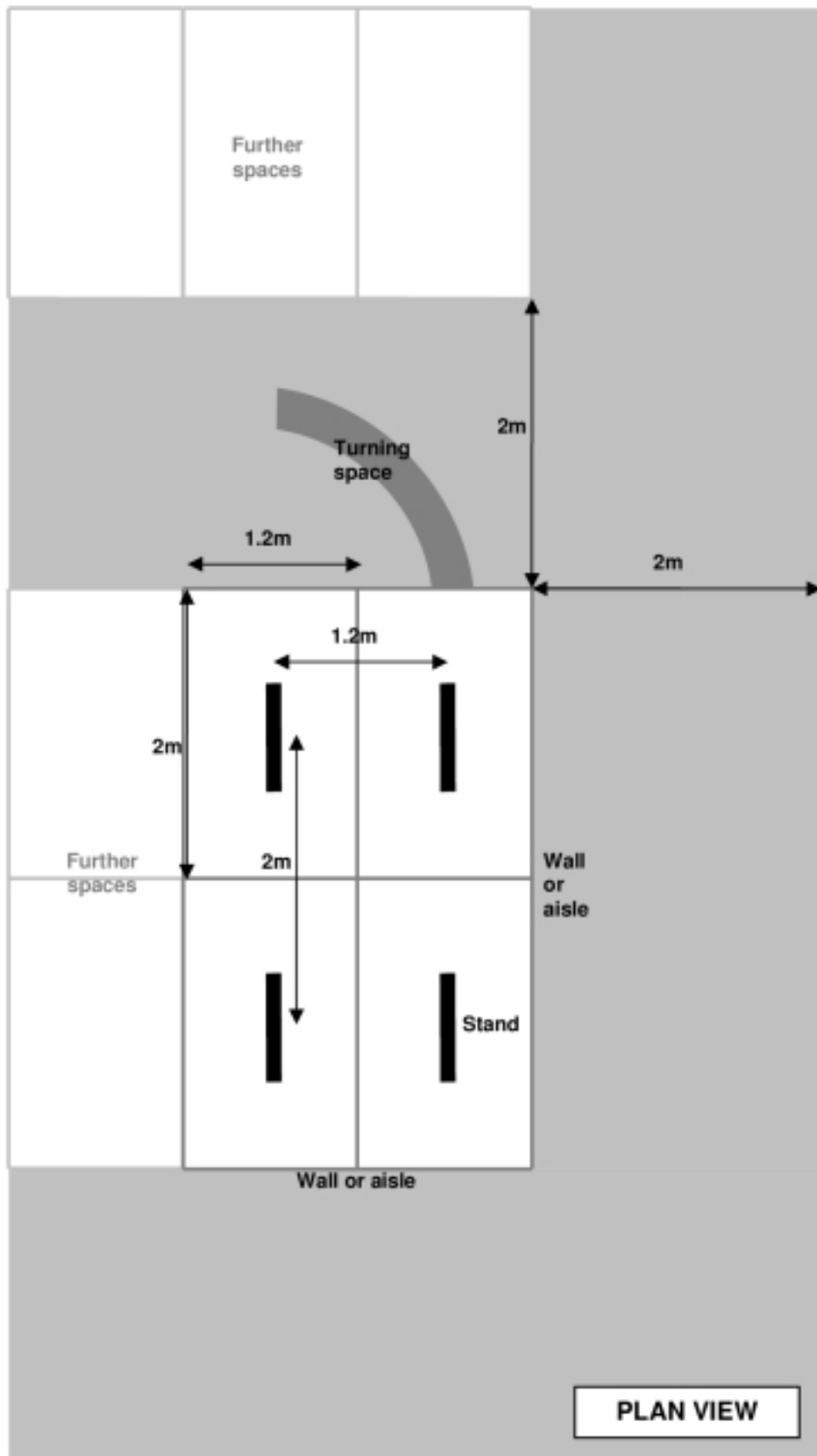


Figure 4.3 Cycle parking spacing requirements