



**Ashfield
Council**

Interim Development Assessment Policy 2013

Part C11

Parking

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PART C11 - PARKING

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SECTION 1 PRELIMINARY**Introduction**

The Ashfield Local Environmental Plan (LEP 2013) is Council's main planning control for development in the Ashfield Council Local Government Area. (LGA).

Part C11 of Ashfield Interim Development assessment Policy 2013 supports the LEP by providing additional objectives and development standards to enhance the function and appearance of off-street parking. The development requirements include layout dimensions, access and landscaping.

Objectives

The objectives of Part C11 of Ashfield IDAP 2013 are:

- a. ensure the provision of off-street parking satisfies the needs of occupants, residents and visitors, including people with disabilities, and provides an appropriate balance between public and private transport having regard to the capacity of the local road network;
- b. minimise loss of on-street parking
- c. manage traffic safely and efficiently – in particular, avoid conflicts between pedestrians and vehicles;
- d. achieve good environmental quality for parking facilities by providing landscaping and designing and locating entrances to achieve acceptable streetscape impacts consistent with the desired character of the area;
- e. ensure provision is made for loading and unloading facilities separated from resident and visitor parking in order to eliminate any conflicts;
- f. provide guidelines for the design of parking facilities to ensure that they are safe and efficient and consistent with desirable characteristics and environmental standards;
- g. encourage sustainable transport such as bicycles, motor cycles and walking;
- h. consider the capacity of local roads and intersections;
- i. be flexible in approach provided the objectives of this Part are met.

Your approval

Is an application required?

- (a) In most cases you will need to lodge a development application for your proposal – read details on our web site for details of development that requires approval **www.ashfield.nsw.gov.au** or call us on 9716 1800 for more information;
- (b) When you submit a development application, details of the vehicle access, parking and servicing will need to be provided. For larger, more complex developments, a traffic impact study may also need to be prepared. The Roads & Traffic Authority's "*Guide to Traffic Generating Developments*" provides some guidance in this regard. Details that should be submitted with your development application are set out below. Contact Council staff on 9716 1800 if you are unsure what to include.

Submission Checklist:

Depending on the type of development you may need to submit the following information -

- (a) full details of existing site (4 copies) at a scale of 1:200, including AHD levels or reduced levels & existing trees and vegetation prepared by a surveyor showing canopy spread of trees and ground levels at the base of the trunk.
- (b) scaled plan (1:100) (4copies) showing driveway location, width and design, the layout of any internal roads on the site and details of any loading facilities. Parking spaces are to be clearly indicated, with individual spaces numerically marked.
- (c) parking space and aisle dimensions clearly indicated, together with the dimensions of maneuvering areas. Ramp and driveway gradients are to be indicated. Where critical, ceiling height clearances within parking and service vehicle areas are to be indicated.
- (d) details of parking sign-posting, lighting and line-marking. Where parking spaces are to be reserved for people with disabilities, cyclists, motorcyclists and visitors, staff or other users, this is to be clearly shown.
- (e) in maneuvering areas, particularly in service vehicle areas, the swept paths of appropriate design vehicles and dimensions of clear manoeuvring areas are to be overlaid on the plans, to indicate how the design would provide a satisfactory layout.
- (f) for ramped and sloping driveways, details showing grades and suitable transition at changes of grade.
- (g) drainage pits and pipes.
- (h) pavement design prepared by a suitably qualified engineer.
- (i) details of proposed landscaping treatments for surface car parks within the access and parking areas in plan form.
- (j) for complex applications, details of parking calculations including staff numbers if relevant.
- (k) stormwater management details where parking areas are large enough (over 25 cars). This would include detention/velocity control information.
- (l) how pedestrian safety is catered for and controlled.
- (m) traffic / parking impact assessment report as appropriate including justification for any variations.

How to use this Part of Ashfield Interim Development Assessment Policy 2013

Ashfield Interim Development Assessment Policy 2013 is a multi-layered document. The objectives and development standards of this Part of Ashfield Interim Development Assessment Policy 2013 cannot be read in isolation. A development application must consider all relevant Parts of Ashfield Interim Development Assessment Policy 2013.

Part A contains an index of the parts and sections in the Ashfield Interim Development Assessment Policy 2013 and guidelines on how to use the Policy; including the steps you need to follow before you prepare your development application.

Relationship of Part C11 to other planning documents

Council will assess a development application according to:

- (a) Section 79C of the Environmental Planning and Assessment Act, 1979;
- (b) State Environmental Planning Policies;
- (c) Ashfield Local Environmental Plan 2013;
- (d) Ashfield Interim Development Assessment Policy 2013;
- (e) Section 94 Contribution Plans;
- (f) Ashfield Stormwater Management Code;
- (g) Policies legislation or studies adopted or recognise by Council that are relevant to the development application

Lodging a Development Application

Our development application forms can be downloaded (www.ashfield.nsw.gov.au) or contact Council on 9716 1800. The form contains a self-assessment checklist to help you complete your application.

Note 1 : Ashfield Council has a free Development Application pre-lodgment Process in place which aims to reduce processing times by assisting applicants with submission of their application. Please visit: [DA Assessment](#) for more information.

Note 2 : If your development proposal is likely to have significant heritage impacts we recommend you take advantage of our **Heritage Advisory Service**. Call Council on 9716 1961 to make an appointment.

Note 3: Certain residential and commercial development as specified in **State Environmental Planning Plan (Exempt and Complying Development Codes) 2008** and in the **Schedules to Ashfield LEP 2013** may be carried out without the need for development consent subject to meeting specific requirements .

Useful links:

- [Ashfield LEP](#)
- [NSW Housing Code](#)
- [NSW Commercial & Industrial Code](#)

SECTION 2 - STEPS YOU NEED TO FOLLOW

- Step 1** Identify what type of use are you proposing. **Appendix 1** has details of the definitions of uses Council will look at when assessing your development application. If the definitions don't describe your proposal the commonly understood meaning of the word applies.
- Step 2** Read **Sections 3 and 4** of this Part to understand the process and determine the recommended level of parking. Read any other Part of Ashfield Interim Development Assessment Policy 2013 relevant to your proposal and consider and respond also to any specific requirements of that Part.
- Step 3** Read **Section 5** to understand the issues to be considered in the design of parking and vehicle areas and prepare an initial design.
- Step 4** If the recommended level of parking cannot be provided, consider the implications of any under-provision with specific regard to Council policies set out in Section 3. Talk to Council officers as necessary.
- Step 5** Design the parking area taking into account the design objectives and standards of this Part and include all necessary documentation

SECTION 3 - GENERAL PRINCIPLES

This section provides answers to some important issues that you need to consider before working out your parking requirements - please read it carefully:

What are the general issues you need to consider when assessing your parking requirements?**3.1** Depending on the type of development -

- (a) the objectives and standards set out in this Part including design standards;
- (b) provisions of any other Parts of Ashfield Interim Development Assessment Policy 2013 that apply to your proposal;
- (c) likely demand for on-site parking and space for loading/servicing generated by the development;
- (d) availability of public transport in the near vicinity to service any parking demands generated by the development;
- (e) traffic volumes on the surrounding road network;
- (f) type of transport most people will use to travel to the building including bikes and motorcycles;
- (g) peak use times of the development including shift changeovers;
- (h) if there are multiple uses involved in a particular proposal, their hours of operation;
- (i) how parking and servicing facilities will visually impact on the streetscape;
- (j) how needs of people with a disability and cyclists/motorcyclists will be catered for;
- (k) whether there is a problem with on street car parking in the vicinity - is on street parking at a premium at certain times and does this cause "overspill" parking into residential areas adjoining commercial zones that may impact on resident amenity?
- (l) safety and design issues – for example, driveways should be located where they will cause least disruption to traffic, pedestrians, retail frontages or footpath awnings.

How are the requirements calculated for mixed developments that contain different types of uses?

- 3.2** For mixed developments incorporating different categories of uses, a separate calculation will be made for each component. If the use of the building is likely to change in the future, this will usually mean more parking is needed. Proposals should allow for the maximum amount of car parking possible or Council might not be able to approve a future application because of a lack of parking.

What are the parking requirements where the use of existing premises is to be changed or an existing building is being altered/extended?

- 3.3** Council will apply *parking credits* in relation to changes of use and/or alterations and extensions to existing buildings that are legitimate uses based on the parking requirements detailed in Section 4 of this Part. This is to ensure that applicants are not unfairly penalised in situations where an existing property is operating legally but has insufficient parking relative to the requirements of this Part. In this situation the additional parking to be provided for the development (if any) is the difference between what is required for the proposed use and that required for the current use.

Example

Current Use: Shop 120m² gross floor area.

Parking requirement for existing shop – 1 space per 40m² gross floor area = 3 spaces

Credit (3 spaces required - no spaces available) = 3 spaces.

Proposed use: Convert shop to restaurant use and add 80m² gross floor area

Parking requirement for restaurant 200m² – 1 space per 40m² gross floor area = 5 spaces

Final Requirement with Credit

Parking requirement (5 spaces) less allocated credit (3 spaces)

Final requirement = 2 spaces*

*The amount of additional parking needed is reduced by the figure specified under this Part for the current shop use.

Notes:

- a. Except in unusual circumstances, credits will not apply where a site is being fully or significantly redeveloped. As a guide, if more than 50% of the building fabric is being demolished, parking credits will not apply. In these circumstances, the proposal will need to provide parking in accordance with the relevant requirements of Section 4 of this Part.
- b. Parking required by earlier approvals must be maintained and may need to be redesigned to comply with the layout criteria specified in this Part.
- c. All proposals should allow for the maximum amount of car parking possible or Council might not be able to approve a future proposal because of a lack of parking.
- d. Loading and unloading facilities will need to be provided

To encourage full utilisation of existing buildings and to maintain a healthy business environment, no additional parking is required within Ashfield Town Centre or within Croydon Urban Village for development that involves existing gross floor area or comprises a change of use of existing gross floor area. This applies irrespective of the type of use proposed. Refer to Part C3 - Map 1, and Part C22 - Map 1 in this Interim Policy that illustrate the specific areas where this concession applies.

Is more parking needed when renovating buildings?

- 3.4 No additional parking is required where an existing building is simply being renovated for an existing approved use.

Do I need loading and unloading facilities?

- 3.5 Loading and unloading facilities on the property needs to be provided for all business, commercial, industrial, office, retail and storage uses and any other use where regular deliveries of goods are made to or from the site.

Are variations to Council's parking requirements acceptable?

- 3.6 If the standards specified in this and other relevant Parts of Ashfield Interim Development Assessment Policy 2013 are met, then the proposal will meet Council's requirements.

Where Council considers an application satisfies the objectives set out in **Section 1** of this Part in another way, Council may grant consent to the application even if one or more of the performance criteria/standards are not complied with. Except for minor variations, information to justify *any departures should take the form of a Traffic and Parking Assessment Report*. This is also required routinely for certain applications – see **Table 3**. This needs to include information on:

- a. the proposed development, gross floor area and how it will operate including proposed hours of operation and number/expected mode of travel for employees/clients.
- b. Demographics/targeted market for the development and likely modes of travel.
- c. existing traffic and parking conditions in the locality and opportunities for improvement.
- d. public transport availability/accessibility -peak and off-peak.
- e. proposed traffic, parking and access arrangements including pedestrian links, bicycle access/storage and parking including parking for people with disabilities.
- f. the likely impact of the development on the surrounding street system including traffic generation/distribution and on-street car parking availability.
- g. A statement explaining precisely *why* a variation to the requirements of this Part is justified.

When considering whether to vary a requirement of this Part Council will consider the following:

- a. whether the use is close to public transport facilities.
- b. site characteristics - is it practical to provide off street parking?

- c. the size and type of the development, economic viability of the proposal, staff numbers and peak hours of operation.
- d. whether there is other available parking including public parking in the vicinity.
- e. location of other land uses such as schools, local services, employment centres retail and recreation facilities that have parking and whether their proximity would reduce the need for vehicle trips.
- f. existing and likely future traffic volumes on the surrounding road network.
- g. the type of services provided by the development, their origin and destination and whether they contribute to the vitality and viability of the business centre.
- h. environmental impacts at different times of the day.
- i. whether the development involves the use of a historic building or is in a heritage conservation area and parking might adversely impact on the curtilage of the site or the appearance of the conservation area or where the planning benefits of a particular proposal might justify parking concessions.
- j. consequences of *not* providing the required parking.
- k. whether the development is otherwise consistent with the aims and objectives of this Part.

Alternatives to on-site parking - are financial contributions acceptable?

3.7 The objective is to provide parking on the site. However there are situations where this cannot be achieved or where providing all car parking on the site might have an adverse impact. Decisions to accept contributions are influenced by-

- a. existence of a contributions plan
- b. ability of Council to provide the spaces in the locality in existing or proposed public parking areas
- c. physical site constraints
- d. amount of deficiency

Some important things you need to know about contributions:

- a. Parking for occupiers of residences must be provided on the property.
- b. Contributions will not entitle specific parking spaces within public parking areas to be available to particular developments.
- c. **Ashfield Town Centre** – Car parking spaces for non-residential development and for residential visitor spaces in the designated “core” area of the Town Centre may be provided by way of cash contribution to Council for public car parks - refer to Map

of “Core” area at **Appendix 4** of this Part and to Part C3 - Ashfield Town Centre for details.

- d. Contributions must be paid in full prior to the release of the construction certificate or as required by the Contributions Plan, unless, upon special request, Council approves time payment plus interest. Contributions will be credited to parking trust accounts, and will be used for defraying the cost of public parking facilities already provided, establishment of new public parking areas, or the maintenance and embellishment of existing areas.

CAR PARKING CONTRIBUTION AMOUNTS (SECTION 94 CONTRIBUTIONS)

Council’s Section 94 Contribution Plans provides for the following charges per car parking space in the nominated shopping centres where the car space is not provided on site; Council reassesses the amount payable for car parking periodically.

| Table1- Parking Contribution Rates (July 2007-July 2008) | |
|---|------------------------------------|
| Ashfield Town Centre | Refer to Council’s Section 94 Plan |
| Other Centres | N/A |

Do I need to provide car parking for people with disabilities?

- 3.8** Parking spaces, headroom and access to designated parking spaces must be provided for people with a disability in accordance with the provisions of Section 4 of this Part, design requirements at Section 5 and Part C1 - Access and Mobility.

Workplace Travel Plan

- 3.9** A Workplace Travel Plan (WTP) is a package of initiatives aimed at reducing car-based travel. A WTP encourages employees and visitors to make greater use of public transport, cycling, walking and car sharing. The preparation of a WTP is required for all new major developments (i.e. employing greater than 20 people). Compliance will be required by condition of approval. Strategies that may be employed in a WTP include:
- a. Encourage the use of cycling to work by providing staff with bike parking facilities/change rooms;
 - b. Encourage walking to work by providing showers/change rooms;
 - c. Encourage the use of a carpool system
 - d. Identify the public transport options available for employees;

- e. Identify the public transport options available for visitors to the premises.

SECTION 4 PARKING STANDARDS

A. STANDARDS COMMON TO ALL DEVELOPMENT

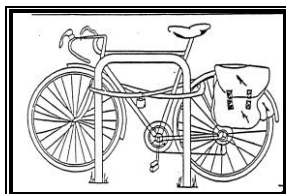


Car parking standards for people with disabilities

- 4.1** The following requirements are for use in determining the *minimum* number of parking spaces required for people with disabilities at different types of facilities. Where information on the likely demand for parking spaces for people with disabilities is available, it should be used. Calculations are to be rounded up or down to the nearest whole number as applicable - Refer to **Table 3**. Access to spaces for people with a disability must also comply with the provisions of *Part C1-Access Adaptability and Mobility*.

Standards

- a. Car parking for people with disabilities shall be provided at a minimum rate of 5 designated spaces per 100 spaces as calculated from the car-parking requirement in **Table 3**.
- b. In the case of club, entertainment, and medical facilities or for community facilities that cater for people who may have mobility problems, parking for people with disabilities is to be provided at the rate of 3 designated spaces per 50 spaces.
- c. Irrespective of “1” and “2” above, provision is to be made for a minimum of 1 designated space for people with disabilities in any car park with a capacity of more than 10 spaces as calculated from the car-parking requirement in **Table 3**.
- d. Spaces for people with disabilities are to be signposted at a height of 1.5m, line marked with the international symbol and located as close as possible to the nearest ramp, lift or entrance.



Bicycle and motor cycle parking

- 4.2** Ashfield Council strongly encourages the use of bicycles and motorcycles as a contribution to more environmentally sustainable transport. Local trips by cycle are often

a realistic form of transport. In all areas new development must make adequate provision for cycles to ensure this sustainable mode of transport can be easily used by occupiers of new residential and commercial property.

Bicycle and motorcycle parking is to be as detailed below. If your use is not specifically mentioned the nearest comparable use will apply.

Calculations are to be rounded up or down to nearest whole number - (see **Table 3**).

| Table 2 - Bicycle Parking (lockable) required for various land uses: | | |
|--|--|---|
| Land use | Employees/Occupants | Visitors/Customers |
| Automotive Related Uses (Car Repair Stations, Motor Showrooms, Panel Beaters and Service Stations) | 1 per 5 employees | n/a |
| Amusement centre | 1 per 20 employees | 2 + 1 per 50m ² gross floor area |
| Backpackers Hostel | 1 per 20 occupants | n/a |
| Boarding House | 1 per 4 bedrooms | 1 per 16 bedrooms |
| Bank | 1 per 20 employees | 1 per 200 m ² gross floor area |
| Bus station | 1 per 20 employees | 1 per bus bay |
| Child Care Centres | 1 per 4 employees | n/a |
| Cinema | 1 per 20 employees | 1 per 50 seats |
| Clubs | 4 per 100m ² lounge bar and beer garden | |
| Educational Institutions | 1 per 20 employees | Schools: 1 per 5 full time students over year 4. Colleges: 1 per 20 full time students |
| Flats | 1 per 10 flats in an accessible communal area if no lockable garage provided | 1 per 10 flats in an accessible communal area |
| Gymnasiums | 1 per 400m ² gross floor area | 1 per 200m ² gross floor area |
| Hospital | 1 per 20 employees | 1 per 30 beds |
| Hotels | 4 per 100m ² lounge bar and beer garden | |
| Industrial | Factory 1 per 150m ² gross floor area. Warehouse 1 per 1000m ² gross floor area | n/a |
| Motels | n/a | 1 per 40 units |

| | | |
|----------------------------------|----------------------------|--|
| Nursing Homes | 1 per 20 employees | 1 per 30 beds |
| Offices | 1 per 20 employees | 1 per 250 m ² gross floor area |
| Land use | Employees/Occupants | Visitors/Customers |
| Places of Assembly/Worship | n/a | 1 per 20 seats |
| Post Office | 1 per 20 employees | 1 per 200 m ² gross floor area |
| Restaurant | 1 per 20 employees | 1 per 50 seats |
| Recreation Facilities | 1 per 20 employees | 2 + 1 per 100m ² gross floor area |
| Retail | 1 per 20 employees | 1 per 250m ² gross floor area |
| Sportsground | 1 per 20 employees | 1 per 250 spectator places |
| Car parks catering for commuters | 5% of total parking supply | |

Source - Austroads, DCP No 43 – Car Parking - Ku-ring-gai Council, Marrickville Council and Ashfield Council Technical staff.

Motor Cycle Parking Spaces:

Motorcycle parking spaces 2.5m x 1.3m are required **in addition** to those for bicycles and are to be provided for sites containing 25 or more car parking spaces at the rate of 1 space per 25 car parking spaces in a communal area accessible to residents/staff/visitors or other users of the parking facility. Calculations are to be rounded up or down to the nearest whole number – see **Table 3**.

Source: Cornwall County Council U.K. - Cornwall Strategy for Powered Two Wheelers 2004.

PARKING RATES FOR SPECIFIC LAND USES

Definition of gross floor area

4.3 Except where otherwise described in **Table 3**, a car-parking rate per square metre of gross floor area is to be calculated. **Gross floor area** is defined as follows:

“ the sum of the floor area of each floor of a building measured from the internal face of external walls, or from the internal face of walls separating the building from any other building measured at a height of 1.4 metres above the floor and includes”

- The area of a mezzanine, and
- Habitable rooms in a basement or an attic, and
- Any shop auditorium, cinema, and the like, in a base or attic but excludes;
- Any area for common vertical circulation, such as lifts and stairs, and
- Any basement
 - (i) storage, and
 - (ii) vehicular access, loading areas, garbage and services and,

- plant rooms, lift towers and other areas used exclusively for mechanical services or ducting and,
- car parking to meet any requirements of the consent authority (including access to that car parking) and,
- any space used for loading or unloading of goods (including access to it), and
- terraces and balconies with outer walls less than 1.4 metres high, and
- voids above a floor at the level of a storey above

Notes:**ASHFIELD TOWN CENTRE & CROYDON URBAN VILLAGE PARKING CONCESSION – USE OF EXISTING GROSS FLOOR AREAS AND CHANGES OF USE**

No additional parking is required in the Ashfield Town Centre or within the Croydon Urban Village for development that involves existing gross floor area or comprises a change of use of existing gross floor area only. This applies irrespective of the type of use proposed. The objective is to encourage business investment by adopting a flexible approach to off-street parking need that recognises the particular built form characteristics of these areas, their proximity to public transport, current time limited on-street parking controls and the availability of off-street car parking within reasonable walking distance.

CALCULATION ADVICE:

After calculating the total required number of car parking spaces (including car parking spaces required for people with disabilities and bicycle and motor cycle parking spaces) - if the result is not a whole number, it will need to be rounded UP to the next whole number for fractions that are 0.5 or greater OR the figure is to be rounded DOWN to the next whole number for fractions that are less than 0.5 Example - 2.5 spaces = 3 spaces required. 4.4 spaces = 4 spaces required.

TABLE 3 – CAR PARKING RATES – (Refer Clause 4.2 for rates applying to bicycles/ motor cycles).

| LAND USE | Note: Individual land Uses under each main heading appear in alphabetical order. In cases where a specific land use is not listed below refer to the nearest comparable land use. | |
|---|--|--|
| 1. Residential | Car Parking Requirement | Advisory Notes |
| Boarding Houses and Group Homes | 1 space per staff member. Parking rate for residents to be assessed on merit of application | Assessment should consider type of dwelling and residents. |
| Dual Occupancy | 1 space for each dwelling | Refer also to Part C15 of Ashfield IDAP 2013 |
| Dwelling House | 1 space per dwelling (preferably 2) | Refer also to Part C15 of Ashfield IDAP 2013 |
| Housing for Aged Persons or for People with a Disability | <p><u>Resident funded developments-</u> 2 spaces per 3 self contained units plus 1 visitor space for every 5 units.</p> <p><u>Subsidised developments</u> 1space per 10 self contained units plus 1 visitor space per 10 units Each car parking space (except for staff) must not be less than 5.4 metres x 3.2 metres or the design of the development must be such as to enable the size of the car parking space to be increased to an area of not less than 5.4 metres x 3.2 metres.</p> | <p>For self contained units additional visitor parking is not required if at least half the spaces for residents are unassigned and accessible to visitors.</p> <p>Minimum floor to ceiling clearance height of 2.5m above all resident car spaces is required.</p> <p>Note: Ashfield Council is exempt from the provisions of “Seniors Living”.</p> |

| | | |
|--|---|--|
| <p>Motels/Tourist Hotels/guest houses/ and bed and Breakfast houses.</p> | <p>1 space per accommodation unit, plus 1 space for every 2 employees on duty at any one time plus 1 space if resident manager</p> <p>Restaurants etc associated with the development and open to the general public require additional parking at the rate of 1-space/3 seats.</p> | <p>Reductions in parking needed for restaurants and function rooms may be considered if evidence is provided that the additional use is not fully additive.</p> <p>Adequate provision is to be made for taxis and coaches in larger hotels and tourist facilities.</p> |
| <p>Multi-unit housing in R3- Medium Density Residential Zones</p> <p>) Residential Flat Buildings in B2 and B4 zones)</p> <p>Multi-Dwelling Housing (eg. Townhouses)</p> | <p>1 car space per unit plus 1 additional space for every five 2 -bedroom units, plus 1 additional space for every two 3 - bedroom units;</p> <p>1 visitor space required per 5 units plus 1 car wash bay.</p> <p>1 accessible car parking space to be provided for each accessible/adaptable residential unit. Refer to Part C1- Access Adaptability and Mobility.</p> | <p>Refer also to Part C5 of Ashfield Interim Development Assessment Policy</p> <p>Minimum floor to ceiling clearance height of 2.5m above car spaces provided for adaptable and accessible units is required.</p> <p>For requirements relating to Mixed Commercial/Retail and Residential Development in Business zones see Section 3 of this Table.</p> <p>Allocation of car spaces to be</p> |
| <p>Residential Flat Buildings in B2- Local Centre Zone and B4 - Mixed Use Zone</p> | <p>Minimum of 1 space for all dwellings</p> <p>Parking for visitors at the rate of 1 space for every 4 dwellings including serviced apartments plus 1 car wash bay.</p> | <p>Minimum floor to ceiling clearance height of 2.5m above car spaces provided for people with a disability is required.</p> |
| <p>Youth Hostel/ Backpacker Hostel</p> | <p>1 space for each 5 occupants/lodgers, plus 1 space for any resident manager, plus 1 space for each 2 employees.</p> | <p>Applies to uses where the accommodation is directed to travellers, a majority of who do not use private motor vehicles.</p> |

| 2. Recreation Facilities | Car Parking Requirement | Advisory Notes |
|---|--|--|
| Bowling Alley/ Squash Courts/Tennis Courts | 3 spaces per court or lane, plus 1 space per 2 staff. | |
| Bowling Greens | 30 spaces for first green and 15 spaces for each additional green. | |
| Gymnasiums | 4 spaces per 100m ² gross floor area | Council will consider location of premises, proximity to transport services and any public parking. Allow for class changeovers. Traffic and Parking Assessment Report required. |
| Swimming Pools | Requirement assessed on merit | A Traffic and Parking Assessment Report is required. |
| 3. Business | Car Parking Requirement | Advisory Notes |
| Amusement Centre | <p>1 space per 40 m² if less than 120 m² gross floor area.</p> <p>1 space per 30 m² if between 120 m²- 1000 m² gross floor area.</p> <p>1 space per 22 m² if greater than 1000 m² gross floor area.</p> | |
| Auction Rooms | See advisory notes | Will be considered individually based on the type of auction and the operating times. A Traffic and Parking Assessment Report is required. |

| | | |
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| Bulky Goods Salesroom or Showroom | 1 space per 28m ² gross floor area | Parking provision might be considered at lower rate if supported by a Traffic and Parking Assessment Report |
| Car Repair Stations Panel Beaters, Spray painters | 6 spaces per work bay | |
| Car Tyre Retail Outlets | 3 spaces per 100m ² gross floor area or 3 spaces per work-bay, whichever is the greater. | |
| Catering and Reception | 1 space per 3 guest seats, plus 1 space per 2 employees. | |
| Clubs - Licensed and Non-Licensed | 1space /6m ² bar, lounge, and dining room floor area plus 1 space per 6 seats in an auditorium plus 1 space per 3 employees. | <p>A Traffic and Parking Assessment Report must be submitted.</p> <p>Refer also to Part C1- Access Adaptability and Mobility. Minimum floor to ceiling clearance height of 2.5m above car spaces provided for people with a disability is required.</p> |
| Commercial Premises including office premises, business premises, retail premises (includes shops and kiosks, but does not include 'bulky goods' premises | <p>1 space per 40 m² gross floor area plus 1 space if resident manager or caretaker.</p> <p>Commercial developments with a gross floor area in excess of 200m² are to provide one suitably located and signposted courier parking space.</p> | <p>Refer also to Part C1- Access Adaptability and Mobility. Minimum floor to ceiling clearance height of 2.5m above car spaces provided for people with a disability is required.</p> |

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| Drive-In Liquor Outlet | 1 space per 2 staff, plus 6 spaces in the services area. | The approach to the service area is to be designed so that there is adequate off-road holding area. Layout should allow for servicing by 11 m rigid truck. |
| Drive-In Take Away Food Outlet | 1 space per 8m ² gross floor area, plus 1 space per 5 seats. | Refer to Section 5 of this Part for driveway design criteria. Refers to a free-standing establishment - not in a shopping centre or mixed development. |
| Entertainment Facility | Car parking will be calculated on the characteristics of the facility and hours of operation. | A submission based on analysis of other similar facilities may be required. As a guide 1 space per 6 seats is recommended. Refer also to Part C1- Access Adaptability and Mobility. . Minimum floor to ceiling clearance height of 2.5m above car spaces for people with a disability is required. |
| Funeral parlours | 1 space per 3 seats | Facilities to be provided for official cars to be driven to and from an entrance within the property. |
| Hotel | 1 space per unit or bedroom, plus 1.5 spaces per 2 full time staff, plus 1 space if resident manager plus 1 visitor space per 5 bedrooms plus 1space /6m ² bar, lounge, and dining room floor area. | A Traffic and Parking Assessment Report is required. |
| Market | 2 spaces per stall | |

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| <p>Residential Flat Buildings, including shop top housing, in B2 and B4 zones</p> | <p>Minimum of 1 space for all dwellings-</p> <p>Parking for visitors at the rate of 1 space for every 4 dwellings including serviced apartments plus 1 car wash bay.</p> <p>(Parking for commercial, retail and other uses on the same site is required at the applicable rate specified elsewhere in this Table).</p> <p>1 accessible car parking space to be provided for each accessible and adaptable residential unit. Refer also to Part C1 - Access Adaptability and Mobility.</p> | <p>Minimum floor to ceiling clearance height of 2.5m above car spaces provided for people with a disability is required.</p> |
| <p>Motor showroom</p> | <p>0.75 spaces per 100m² <u>site area</u> used for this purpose, plus 6 spaces per service /work bay</p> | <p>Where vehicle servicing is provided, additional off-street parking is to be provided. As a guide 6 spaces/work bay is required. Provision is to be made on site for adequate facilities for off street loading/unloading of vehicles.</p> |

| | | |
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| <p>Plant Nursery</p> | <p>1 space per 30m² gross floor area of any building used for the retailing of plants and associated products, plus 1 space per 45m² gross floor area for outdoor areas used for display purposes associated with retail sales, plus 1 space per 200m² gross floor area for areas used exclusively for propagation or storage, whether indoor or outdoor.</p> | <p>Loading and servicing areas required.</p> |
| <p>Food and Drink Premises including;</p> <p>a) restaurant b) cafe c) take away food and drink premises d) kiosks</p> <p>does not include a pub.</p> | <p>1 space per 40 m² gross floor area.</p> | <p>Council will consider a variation in requirements for premises based on:</p> <ul style="list-style-type: none"> • proximity of premises to public transport and • proximity of premises to public car parks with excess capacity. • operating hours • location/availability of public parking or on-street parking. • number of seats. • likely turnover of customers • how residents are affected in terms of the amenity of area (noise etc). • whether a change of use only is proposed that means only limited on-site parking can be provided. • Loading and service areas required. <p>Minimum floor to ceiling clearance height of 2.5m above car spaces provided for people with a disability is required.</p> |

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| <p>Retail shops</p> | <p>1 space per 40 m² gross floor area plus 1 space if resident manager or caretaker.</p> <p>For local 'corner' shops, parking will be assessed on a case-by-case basis.</p> | <p>Refer also to Part C1 - Access Adaptability and Mobility. Minimum floor to ceiling clearance height of 2.5m above car spaces provided for people with a disability is required.</p> |
| <p>Service Stations</p> | <p>Minimum 4 spaces, plus 6 spaces per service/work bay.</p> | <p>Convenience stores and restaurants attached to a service station will require additional parking calculated at the respective rates for shops and restaurants applied to the standards that apply to those uses.</p> <p>Total parking may be reduced where it can be demonstrated that times of peak demand for facilities does not coincide.</p> <p>Spaces beside petrol bowsers do not count as required spaces.</p> |
| <p>Stadia Theatres, Places of Public Assembly/Public Halls</p> | <p>1 space per 10 seats</p> | <p>A Traffic and Parking Assessment Report is required.</p> <p>Refer also Part C1 - Access Adaptability and Mobility.</p> <p>Minimum floor to ceiling clearance height of 2.5m above car spaces provided for people with a disability is required.</p> |
| <p>Serviced apartments (self contained accommodation similar in operation to that of a hotel)</p> | <p>Refer to requirements for Hotels</p> | |

| | | |
|--|---|---|
| Vehicle body repair workshop, Panel beaters, Spray Painters | 6 spaces per work bay | |
| Veterinary Hospital | 1 space per 40m ² if less than 120m ² gross floor area plus 1 space per 30m ² between 120m ² 1000m ² gross floor area plus 1 space per 22m ² if greater than 1000m ² gross floor area. | |
| Video shop | 1 space per 17 m ² gross floor area | Parking provision might be supported at a lower rate if supported by traffic impact study. Evening peak traffic needs to be considered near premises. |
| 4. Health & Community Facilities | Parking Requirement | Advisory Notes |
| Child care Centre / Kindergarten / Pre-School | 1 space per 4 children | A temporary pick-up and drop-off area is to be provided on site so that vehicles can enter or leave the site moving in a forward direction without conflicting with other traffic/parking movements. A Traffic and Parking Assessment Report is to be submitted. |

| | | |
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| <p>Hospital</p> | <p>1 space per 3 beds, plus 1 space per 2 day shift staff or practitioners, plus 1 ambulance space plus 1 space per 1 full time night-shift employee.</p> <p>Designated standing areas for ambulances.</p> | <p>Loading/unloading facilities to be provided including facilities for removal of contaminated waste.</p> <p>Parking for people with a disability is required.</p> <p>Standing area/drop off point to be designed so that ambulances/cars can enter or leave the site moving in a forward direction and without conflicting with other traffic/parking movements.</p> <p>A Traffic and Parking Assessment Report is required.</p> |
| <p>Medical centres</p> | <p>1 space per 25 m² gross floor area.</p> | <p>Parking facilities for patients must be suitably signposted and provided in a convenient location.</p> <p>Parking for people with disabilities is required.</p> <p>Minimum floor to ceiling clearance height of 2.5m required above car spaces provided for people with a disability.</p> |
| <p>Nursing Homes/ Convalescent Homes:</p> | <p>1 parking space per 10 beds for visitors plus 1 space per 2 employees plus 1 space suitable for an ambulance plus 1 space suitable for a minibus if over 60 beds.</p> | <p>Homes accommodating more than 60 beds are to consider providing a mini-bus service.</p> <p>Minimum floor to ceiling clearance height of 2.5m above resident car spaces is required.</p> |
| <p>Place of Worship and Place of Assembly (not mentioned elsewhere)</p> | <p>1 space per 20m² gross floor area, or 1 space per 10 seats, whichever is the greater.</p> | <p>A detailed parking submission may be required. Parking for halls will be assessed on merit.</p> |

| | | |
|---|---|---|
| <p>Primary and Secondary Schools</p> | <p>Primary Schools – 1 space per equivalent full time employee.</p> <p>Pick-up/set down space for students required on site at a rate of 1 space per 40 students. Space for bus parking on-site is required.</p> <p>Secondary Schools- 1 space per equivalent full time employee. Plus 1 space per 8 year 12 students Pick-up/set down space for students required on site at a rate of 1 space per 40 students.</p> <p>Space for bus parking on-site is required</p> | <p>Where an auditorium or similar facilities are proposed additional parking may be required.</p> <p>A Traffic and Parking Assessment Report is required</p> |
| <p>Professional Consulting Rooms</p> | <p>3 spaces per surgery or consulting rooms, plus 1 space for each professional practitioner and other staff present at any one time.</p> | <p>By definition, Professional Consulting Rooms are attached to residential properties, with up to 3 practitioners. For other situations, refer to Medical Centres.</p> |
| <p>Public Buildings</p> | <p>1 space per 60m² gross floor area in business zones</p> <p>1 space per 40m² gross floor area elsewhere</p> | <p>Adequate space for courier deliveries necessary.</p> |
| <p>Tertiary Education</p> | <p>1 space per equivalent full time employee plus 1 space per 3 students</p> | <p>Student parking rate might be reduced if a parking impact study can prove a lower rate. Provision is to be made for bus parking on site.</p> |

| 5. Industry | Parking Requirement | Advisory Notes |
|--|--|---|
| Light Industry | <p>1 space per 100m² gross floor area</p> <p>1 space per 300m² gross floor area for warehouse/bulk stores.</p> <p>1 space per 40m² gross floor area for ancillary office space if this is over 20% of gross floor area.</p> <p>1 space per 30m² gross floor area for ancillary retail space.</p> | The need for possible additional car parking for future change of use from a warehouse bulk store should be considered. |
| Warehouse | 1 space per 300 m ² gross floor area | A Traffic and Parking Assessment Report is required. |
| 6. Other Uses | Parking Requirement | Advisory Notes |
| Uses not specified in this Part | Not specified | <p>The current Roads and Traffic Authority Guidelines for Traffic Generating Developments will be applied to developments of a minor nature including extensions etc.</p> <p>For a major proposal the application is to be supported by a Traffic and Parking Assessment Report with a recommendation as to the appropriate provision of on-site parking.</p> |

SECTION 5 DESIGN REQUIREMENTS

What are the design objectives for parking areas?

- 5.1** The objective is to design parking areas that allow safe and efficient traffic circulation, allow on-site water absorption, permit drivers to enter and leave the site in a forward direction, provide for security, integrate well with building design and achieve an attractive streetscape environment. The design should also consider the needs of pedestrians. To achieve these objectives, recommended design guidelines and standards are set out below.

Design Principles

- 5.2** Design and location requirements are:

- (a) Integrate adequate parking spaces with surrounding facilities and existing circulation patterns.
- (b) Separate visitor and resident or employee parking areas. Visitor spaces must be conveniently located, identified as such and accessible by the public. They should not be located behind security grills or gates.
- (c) Preserve sight lines at entries/exits and significant landscape and architectural features. Splay corners to improve sight lines where possible.
- (d) Locate entrances and exits away from busy intersections and to minimise reductions in on-street parking.
- (e) Minimise extensive filling operations by designing with topography.
- (f) Minimise the number of entrances and exits.
- (g) In residential zones entries to underground car parks are to be setback behind the building line and located at the side or rear of buildings. They are not to be visible from the street front. Provide adequate setback for landscaping between the driveway and relevant boundaries.
- (h) Car wash bays are to be made available and must be designed to drain to the sewer system.
- (i) Off street visitor and resident parking in excess of the minimum requirement should be designed in such a way as to allow alternative uses when not needed for parking eg car washing, storage, Excess parking may be counted as floorspace if in Council's view it will contribute to the bulk of the building or affect landscape quality, or the building as a whole will adversely affect neighbouring properties.
- (j) Designs that require vehicles to reverse on to main roads, other busy roads or near intersections will not generally be accepted for safety reasons.
- (k) Parking bays in multi-unit developments must be provided for persons with disabilities. - (refer Part C1- Access Adaptability and Mobility)
- (l) Provide bicycle and motorcycle parking in accordance with the requirements of this Part.
- (m) Council may accept or require works to be carried out on the public roadway (e.g. blister islands, angle parking bays, tree planting) in order to provide visitor parking

- (n) Where access is to a busy road, a pull-in area between the property boundary and any security grill of sufficient width to allow a vehicle to pass unobstructed on the roadway will generally be required.
- (o) Where a certificate of title to a residential unit includes two parking spaces, stack parking is permitted.

Appearance

5.3 Design guidelines are as follows:

- (a) Design parking areas so that they are an integral part of the overall building design. Locate surface car parks at rear of buildings.
- (b) Provide underground car parking on larger sites over 1000m².
- (c) Create active, interesting street frontages and enhance safety and security at street level by locating uses that will screen car-parking areas within buildings so that they are not directly visible from the street.
- (d) Use colour co-ordinated grills, shutters and doors of a height appropriate to the area to screen parking entrances and to create visual facade continuity. Note: Visitor parking should not be located behind security grills or gates.
- (e) Use topography and trees to mitigate negative visual impacts.
- (f) Minimise excessive grading operations and balance cut and fill.
- (g) Excavations for driveways in front garden areas in residential zones is not characteristic of the Ashfield LGA. The first six metres of any driveway shall be at grade. This will improve both appearance and pedestrian safety.

Designing for pedestrians and people with a disability

5.4 The design of the parking area and the general access to the site should consider the needs of pedestrians, with the following design considerations:

- a. Pedestrian entrances should be clearly visible, conveniently located, and well lit and should have minimal conflict with vehicular traffic. Conflict points should be made safe with the use of contrasting materials, footpath/road markings, designated crossing areas, bollards and similar devices.
- b. Parking areas should be designed to minimise pedestrian/vehicular conflict, with pedestrian routes clearly identified to facilities such as lifts, stairs, exits and street access points.
- c. Pedestrian routes should be logical and coherent to users and motorists. These routes should have easy access features such as pram ramps and provide a continuous accessible path of travel between parking spaces for disabled persons and the pedestrian accesses to the development, and conform to AS1428 and *Part C11- Accessibility, Adaptability and Mobility*.

- d. Pedestrian routes through the site leading to public transport services such as bus stops should be provided.
- e. Public pedestrian access through large sites should be provided by way of pedestrian walkways, arcades and similar paths.
- f. Where car-parking areas are to be used at night, security lighting should be provided.
- g. Provide pedestrian access from all parking spaces to facility entrances.
- h. Minimise the number of vehicle circulation aisles pedestrians must cross to enter adjacent facilities.

Parking space dimensions – land use

5.5 Recommended parking space dimensions vary with the type of use as set out in Table 4 below and the **Figures** that follow.

| TABLE 4 – Land Use - Parking Dimensions | | |
|--|---------------------|--|
| Dimensions | Aisle Widths | Type of Use |
| 5.4 m x 2.4m | 6.2m | tenant, employee and commuter parking (generally all day parking) |
| 5.4 m x 2.5m | 5.8m | long-term town centre parking , sports facilities hotels, motels entertainment centres (generally medium term parking, 4-5 hours) |
| 5.4 m x 2.6m | 5.8m | short-term town centre parking , shopping centres, hospitals and medical centres (generally short-term parking, 3-4 hours) |

| TABLE 4 – Land Use - Parking Dimensions (cont.) | | |
|--|--------------|--|
| Dimensions | Aisle Widths | Type of Use |
| See figures 2A&2B below for parking space dimensions in accordance to Australian Standards 2890.6:2009 for people with a disability. | | <p>Parking for people with disabilities</p> <p>Locate spaces via an accessible path of travel close to wheelchair accessible entrances and lift access points if provided.</p> <p>Access and parking for people with a disability is required for various types of development in accordance with the <i>Part C11 Access Adaptability and Mobility</i> and is to comply with Australian Standards including a minimum floor to ceiling clearance height of 2.5m above these parking spaces.</p> |

Notes: For dimensional requirements on parking spaces for other types of uses (user class) refer to Section 1.4 of Australian Standard 2890.1 2004 - Parking Facilities Part 1 : Off Street Parking.

Figure 1 below shows the required design envelope around a parked car.

Figure 1 -Design envelope dimensions around parked car

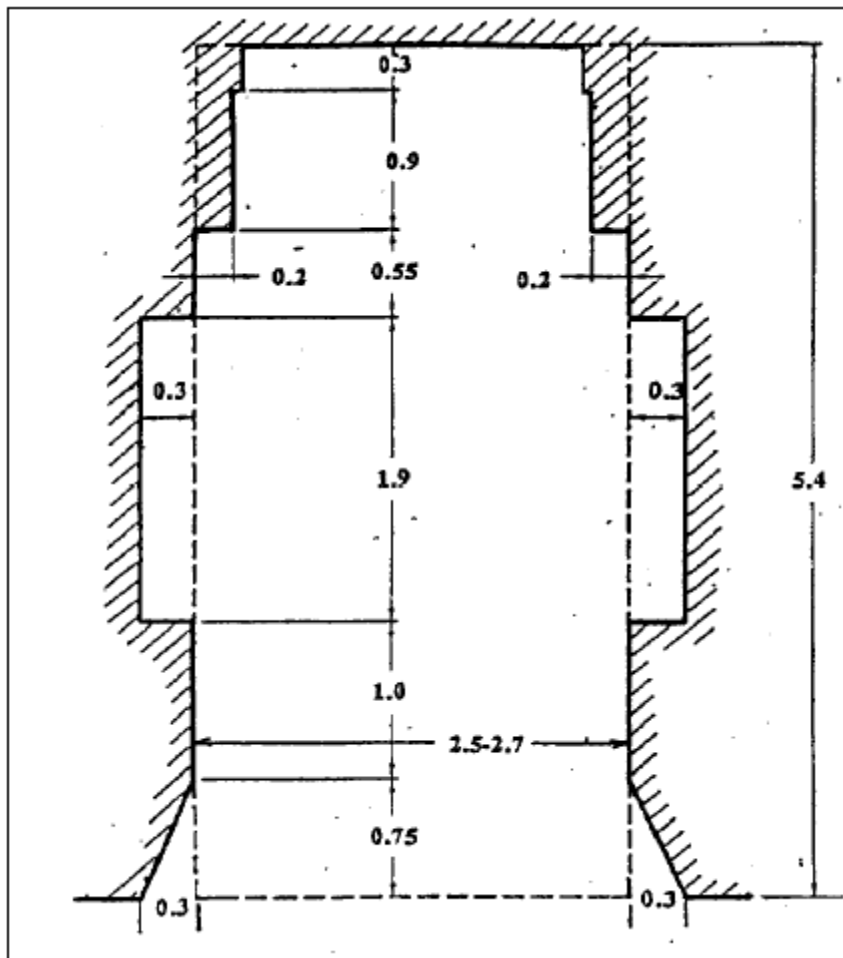


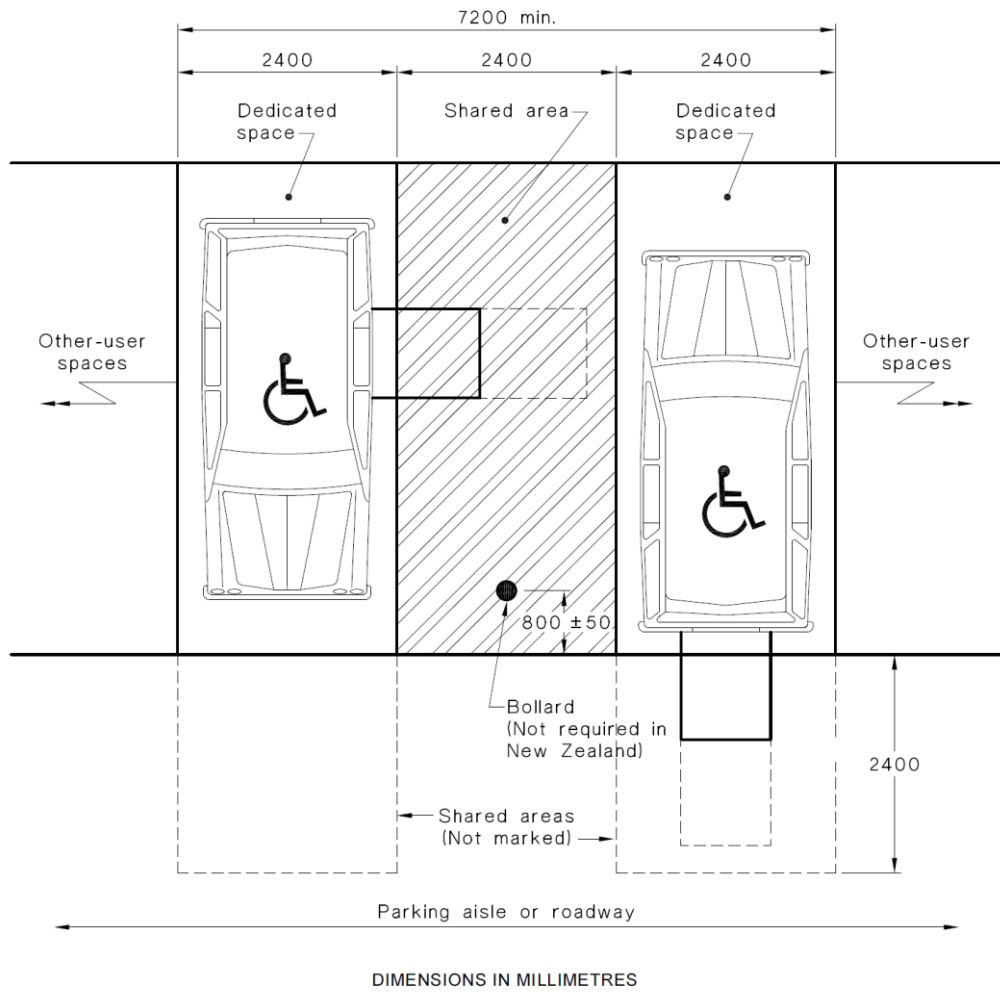
Figure 1 -Design envelope dimensions around parked car

If the side boundary of a space is a wall or fence, or if there are obstructions such as columns located so as to restrict door opening, 0.3m should be added to the width of the space, for each side obstructed. The additional clearances would not be required for open carports provided that door openings are not restricted. Where chain wire fences are used to separate parking spaces, they should be regarded as a solid obstruction, and additional side clearances consequently required. Columns should not be located where they would restrict manoeuvring into parking spaces.

Note: Space width taken from Section 4 Australian Standards AS2890.1: 2004.

Figure 2A&2B below shows the required design for disabled parking spaces.

**Figure 2A- Parking space dimensions for people with a disability.
Example of two parking spaces with a common shared zone.**



**Figure 2B- Parking space dimensions for people with a disability.
Example of an angle parking space with a shared area on one side only.**

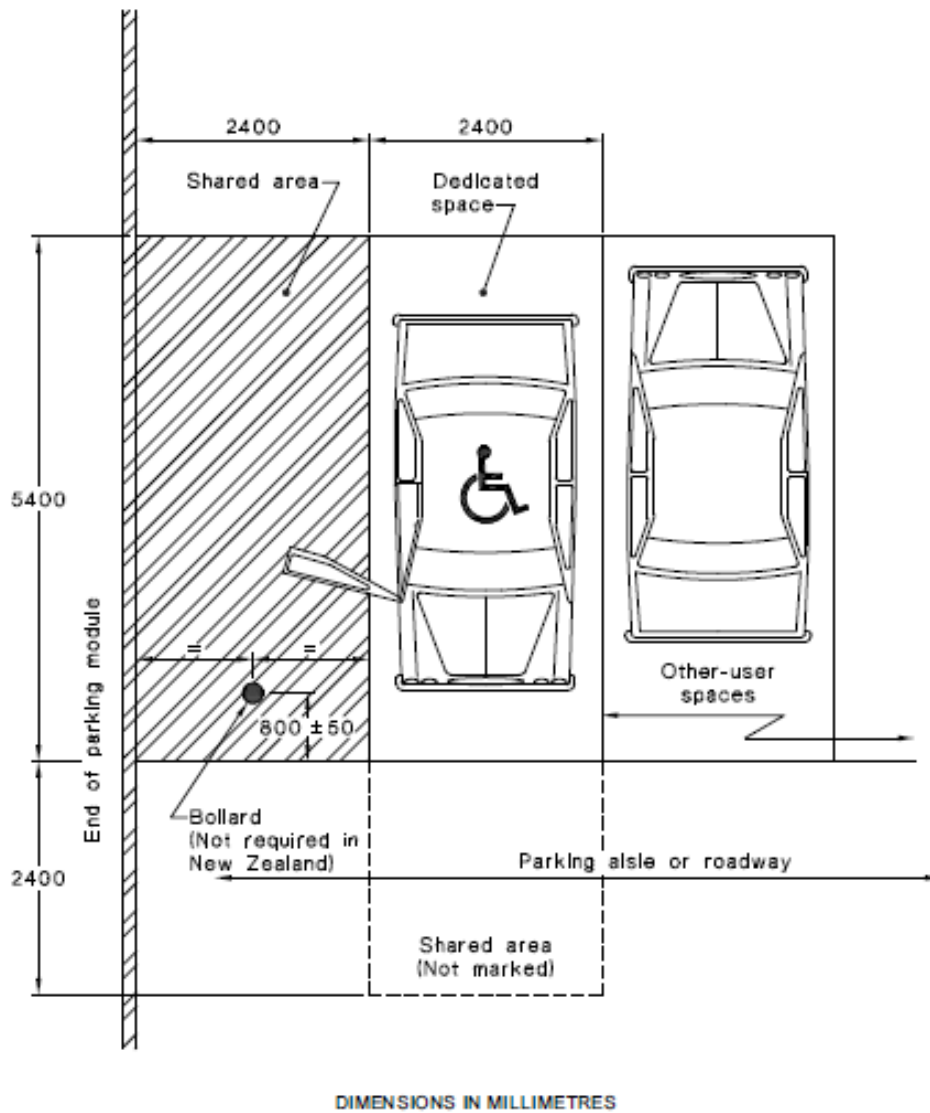
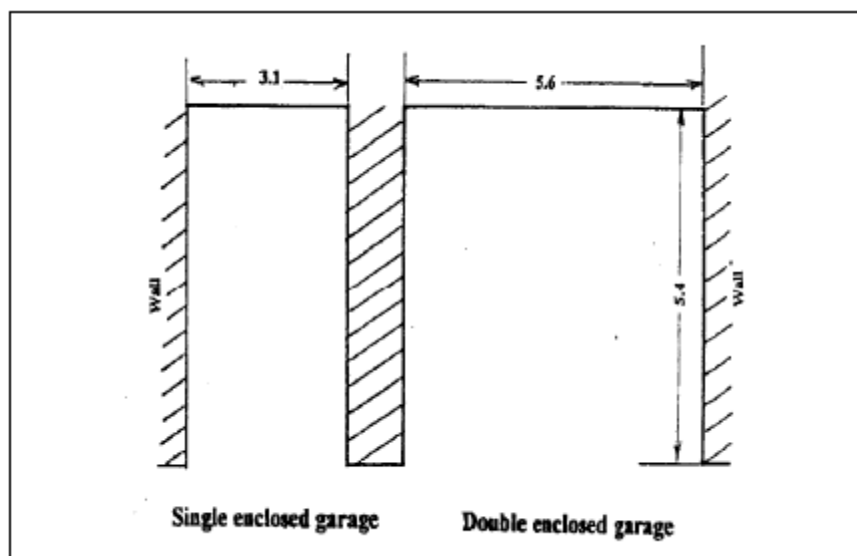


Figure 3 Showing garage parking dimensions follows

Figure 3 - Garage parking dimensions



Obstructions: If the side boundary of a space is a wall or fence, or if there are obstructions such as columns located so as to restrict door opening, 0.3m should be added to the width of the space, for each side obstructed. The diagrams also show the widths recommended for enclosed garages. Additional clearances would not be required for open carports provided that door openings are not restricted. Where chain wire fences are used to separate parking spaces, they should be regarded as a solid obstruction, and additional side clearances consequently required. Columns should not be located where they would restrict manoeuvring into parking spaces.

Reference should be made to the design envelope shown in **Figure 1**.

Parking Aisles, Angle Parking Spaces and Blind Aisles

- 5.6** Parking aisle dimensions relate to the width of the parking spaces. This will vary with the angle of parking and the type of user. Blind aisle dimensional requirements are also variable depending on design.

Please refer to **Section 2.4** of Australian Standard 2890.1:2004 - "Design of Parking Modules" for requirements.

Circulating roadways and ramps

- 5.7** Circulating roadways and ramps provide access between the car park and the entry/exit points and parking modules. In general, parking is not directly accessed off circulating roadways or ramps. The minimum widths of circulating roadways/ramps are shown in **Table 5** below:

| Table 5 - Widths of Circulating Roadways/Ramps | | |
|--|----------|------|
| One-way roadway: | Straight | 3.0m |
| | Curved | 3.6m |
| Two-way roadway: | Straight | 5.5m |
| | Curved | 7.8m |

- All of the above widths require additional clearances of 0.3m on the outsides. This would typically take the form of 0.3m kerbs on each side, each of a maximum height of 150mm.
- Where a two-way roadway has a central median, it should be a minimum width of 0.6m, with a maximum height of 150mm. In this situation each roadway would have the width required for one-way roadways.
- The onus is on the car park designer to ensure that the dimensions of the internal roadways will provide unobstructed movement.
- Refer to Section 2.5.2 AS2890.1: 2004 for other clearance width requirements.

Figure 6 indicates the swept path of the "85 percentile design car". It should be used in the design of access roadways, ramps, circulating roadways and circulation aisles, using the outer lines, these provide for clearances around the basic swept path of the car.

The maximum gradients of ramps and roadways within parking structures and areas are shown in **Table 6** below:

| Table 6 –Gradients | |
|--|-------------|
| Ramps shorter than 20 m: | 1:5 (20%) |
| Ramps 20 m or more: | 1:6 (16.7%) |
| Driveways across footpath and for first 6 m into site: | 1:20 (5%) |

- For curved ramps, the gradient should be measured on the inside edge.
- Where a ramp gradient greater than 1:8 - 12.5% is used, a transition at least 2.0 m long at half the change in ramp gradient will need to be provided at both ends. Care should be taken in the design of ramps to ensure that the required ground clearances are maintained at transition points.
- For additional information refer Australian Standards AS 2890.1:2004



Directional Signposting in Car Parking Areas

5.8 Requirements for signposting are as follows:

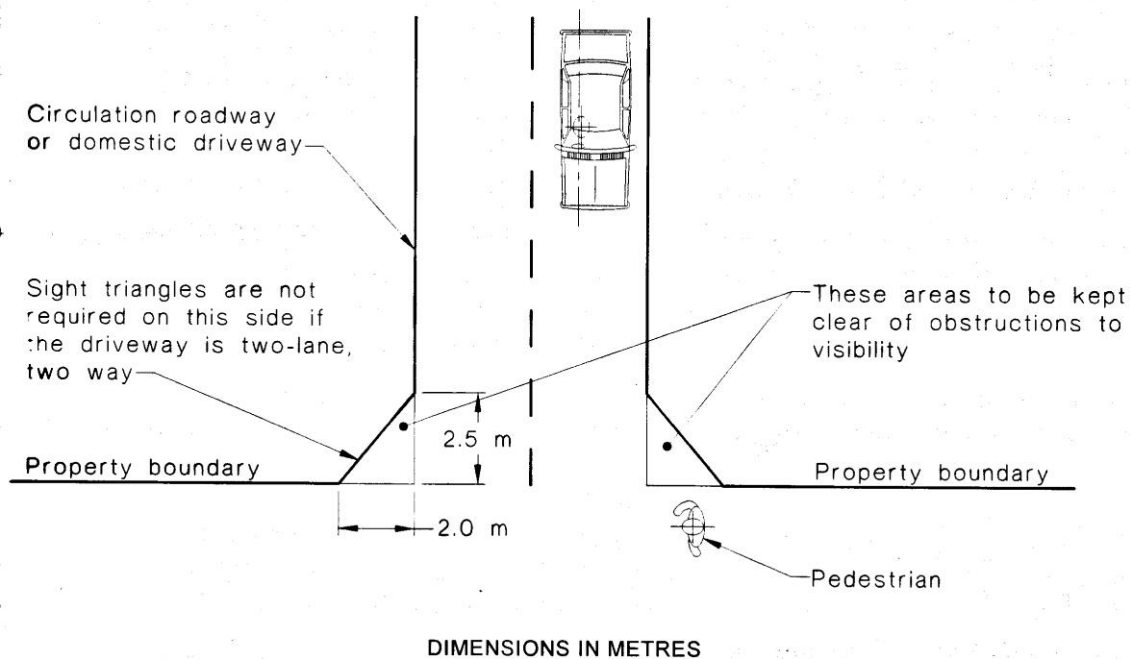
- a. Parking areas are to be well signposted to indicate the availability of off-street parking, with entry and exit points clearly visible from both the street and the site.
- b. Pavement arrows should clearly indicate the direction of circulation, and parking bays should be delineated.
- c. All parking for people with a disability, visitors and/or reserved for employees - for example, stacked parking spaces must be clearly signposted and line marked.
- d. Parking Spaces for people with a disability are to be marked with the appropriate international symbol.
- e. Clear and precise marking of a parking area is of prime importance in the prevention of choking of the aisles and for the general ease of use of the facility. Details of all proposed signposting and marking for parking areas are to be submitted with the development application for Council's approval.
- f. Entry/Exit points must be clearly marked so as to avoid any confusion. Within the car park, signs should be located at regular locations so that drivers wishing to leave the car park can do so by the most efficient route. Signposting should be easily seen and understood.
- g. One-way markings must be clearly set out on the pavement in such a manner as to be easily readable and understandable to the users of the car park.
- h. Speed humps are to be clearly marked by signposting and change in surface texture/colours.
- i. In certain situations, the installation of signs to Council's satisfaction may be required over and above the normal requirements.
- j. All parking bay delineation, arrows and other information for the driver, painted on the pavement are to be marked using white paint and should not be less than 75mm or greater than 100mm wide.
- k. Where car parking is subject to frequent night-time use by the public, signposting and line marking shall utilise reflective background materials or paint to Roads & Traffic Authority standards.

Driveways- general design issues

- 5.9** The primary objective in the location and design of driveways is to provide a safe and efficient interface between the public road system and the site. Safety is a key concern for access off all road types, while the efficiency of traffic movement is a key concern on major roads. To achieve this objective, driveway design should take the following factors into account:
- a. Vehicles are to enter and leave the site in a forward direction, although this requirement may be waived for domestic driveways.
 - b. Driveways should be located where they would cause least interference to vehicular and pedestrian movement on public roads. Avoid positioning driveways in the following locations:
 - c. where they will adversely affect the street pattern and appearance of the streetscape
 - d. on major (State or Regional) roads or other high volume roads
 - e. close to intersections and traffic signals; absolute minimum separation from an adjacent intersection is 6m from the curve tangent point of the intersection, or if opposite, 6m from the alignment of the opposite property boundary (see AS2890.1)
 - f. opposite other developments generating a significant amount of traffic, unless separated by a median
 - g. where there is a heavy and constant pedestrian movement along the footpath
 - h. where right turning traffic entering the site may obstruct through traffic
 - i. where traffic using the driveway interferes with or blocks the operation of bus stops, taxi ranks, loading zones or pedestrian crossings

Figure 4-Sight distances follows

Figure 4 – Sight Distance Requirements at Access Driveways



MINIMUM SIGHT LINES FOR PEDESTRIAN SAFETY

Note: Splay corners may be required in order to achieve the objective of providing for pedestrian safety

Driveways- width and location

5.10 Refer to **Section 3** of Australian Standard AS 2890.1:2004 for driveway width and location requirements relating to different types of users.

The width and number of driveways required depends on the type of road on which the driveway would be located and the number of parking spaces served. In general, separate entry and exit driveways will be required for access to a busily trafficked road when over approx. 50 parking spaces are served, or where the development generates a high turnover of traffic such as with drive-through facilities.

Notes:

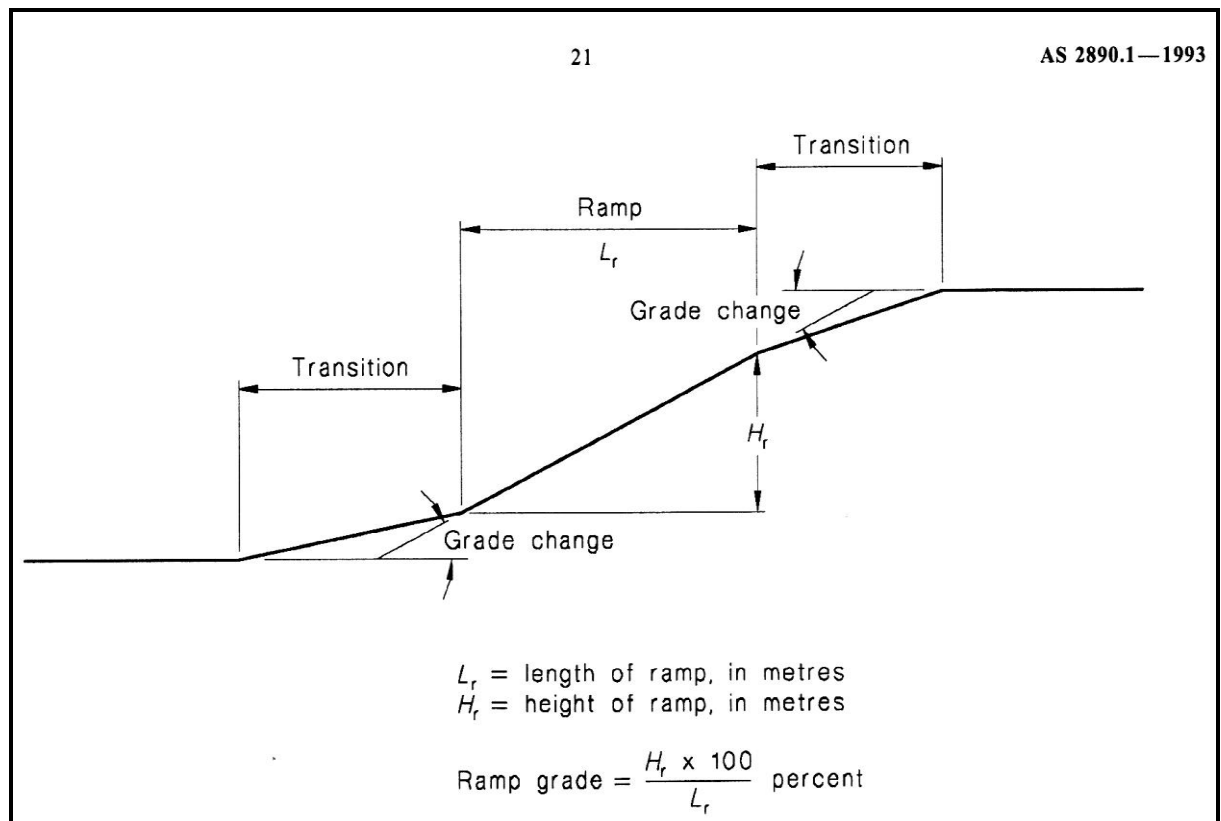
- Driveways over the nature strip/footpath reserve are required to have a clearance of 2m either side i.e. clear of power poles etc. to allow the construction of a splay or "wing" for the crossing.
- Driveways, which have a slope greater than 12%, must have a surface treatment, which minimises wheel-skid in wet conditions.

- Domestic driveways serving up to three dwellings can have a minimum width of 3.7 m if the total length is less than 30m. For driveways in excess of 30m lengths, passing bays should be provided at least every 30m with the driveway widened to at least 5.0m over a length of at least 10m.

Driveways - gradients and levels

- 5.11 The maximum gradient on a driveway or ramp is to be 1:20 (5%) across the property line and for at least the first 6m into the site. For general driveways/ramps other than domestic driveways, up to 20m in length, the maximum gradient is to be 1:5 (20%), while for lengths in excess of 20m the maximum gradient is to be 1:6 (16.7%). Changes in grade in excess of 1:8 (12.5%) will require transition sections at least 2.0m long, with these transition sections having half the change in gradient of the adjacent sections of the driveway - see **Figure -5** below.

Figure 5- Changes of Grade on Ramps



For *domestic driveways*, serving up to three dwellings, the maximum gradient is 1:4 (25%), but the recommended maximum is 1:5 (20%). If a proposed domestic driveway would have a gradient in excess of 1:5, the following factors should be taken into account in the design:

- a. length of driveway (gradients in excess of 1:5 would be more acceptable if the length of the driveway is less than 20m)
- b. safety considerations such as the type of driveway surface and the areas available at the driveway ends
- c. alternative access arrangements possible
- d. impact of the proposed driveway on the environment, and its visual impact.
- e. Engineering specifications for driveways are set out in Council's specifications for road and drainage works. Pavement, subsurface and surface drainage shall be designed in accordance with these specifications. The designer, whose qualifications and experience must be acceptable to Council, will be required to certify the design and subsequently the adequacy of the pavement construction, in writing.

Vehicular crossing levels

- 5.12** These can be obtained from Council. The levels are to be shown in the plans submitted for approval. The existing road and footpath levels shall be used unless advised otherwise by Council.

Service areas/ waste removal

- 5.13** The design of service areas is to ensure that the development can be adequately serviced on-site, without the need for service vehicles to park on the street, and without conflicting with other site traffic. This can be achieved if the following design objectives are followed: service areas are to be easily accessed and freely available for use at all times so that on-street servicing is discouraged
- a. service areas are to be separate from associated car parking
 - b. service areas must be able to be accessed off the street by vehicles entering and leaving the site in a forward direction
 - c. the size and number of service areas and loading docks are to be suitable for the scale and intensity of the use which they serve
 - d. internal circulation roadways need to be adequate for the largest vehicles anticipated to use the site

- e. service vehicles turning into or out of a road or driveway must be able to complete their turning manoeuvres without crossing the centre line of the public road
- f. The *number* of service areas and loading docks is to relate to the scale and intensity of use proposed. This should be quantified through appropriate use-specific surveys, with the onus on the applicant to justify the facilities proposed. The size of vehicles likely to service the site should be determined.
- g. In general, long haul transport of bulk goods and multiple destination chain store deliveries such as to supermarkets and major fast-food outlets tends to encourage maximum size vehicles such as articulated vehicles. Local deliveries and small business consignments tend to be delivered in vans, station wagons and small/medium trucks.
- h. Australian Standard 2890.2-2002: Part 2 Off-street Commercial Vehicle Facilities specifies different design vehicles and their dimensions, covering Small Rigid Vehicles (SRVs), typically about 6.4 m long and with turning circles of about 15.3 m, Heavy Rigid Vehicle (HRV) 12.5 m long and with turning circles typically of about 27.8 m, and Articulated Vehicles (AV), with a total length of about 19 m with turning circles typically of about 26.6 m. **Figures 7 and 8** set out the swept paths of Small Rigid Vehicles and Heavy Rigid Vehicles respectively.
 - (i) For the removal of **trade waste**, the truck type typically used has a length of 8.8m, width of 2.4m, and turning circle of 21.0m. **Figure 9** shows the swept path of this type of vehicle.
 - (ii) For **residential flat buildings**, the position of waste storage bins and access to them by garbage collection vehicles including adequate headroom for mechanical lifting mechanisms is **critical** and must take into account the type of collection truck and method of collection currently used by Council.
 - (iii) Dimensions of service bays/loading docks are to be in accordance with **Section 4** of Australian Standard 2890.2-2002: Part 2 Off-street Commercial Vehicle Facilities. The designer must ensure that the proposed design meets the needs of the proposed development. The design of the apron area in front of the service bays/loading docks is to take into account the type of vehicle to be used.

You need to check 'upfront' with Council officers before designing garbage and trade waste facilities.

Call us on 9716 1800 for more information.

Gradients in service areas

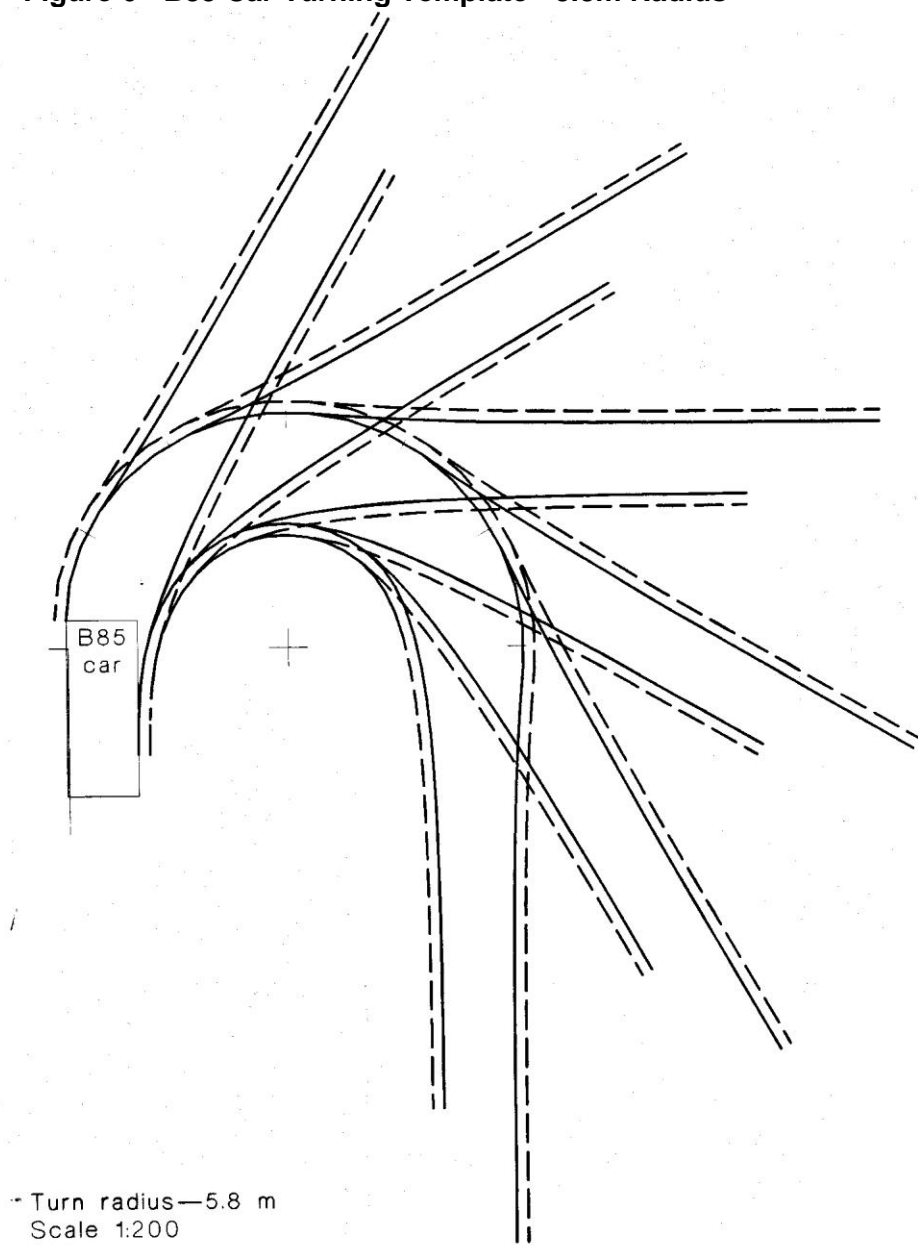
5.14 Gradients in service areas should be kept to a minimum. The maximum gradient in a manoeuvring area should be 1:12.5 (8%) on a driveway or ramp, 1:6 (16.7%) for forward only traffic and 1:12.5 (8%) if reverse manoeuvres are permitted on the ramp.

Turning Templates

5.15 The turning templates below will help you design your loading and unloading facilities. The templates come from the Australian Standards.

Turning Template diagrams follow

Figure 6 - B85 Car Turning Template - 5.8m Radius

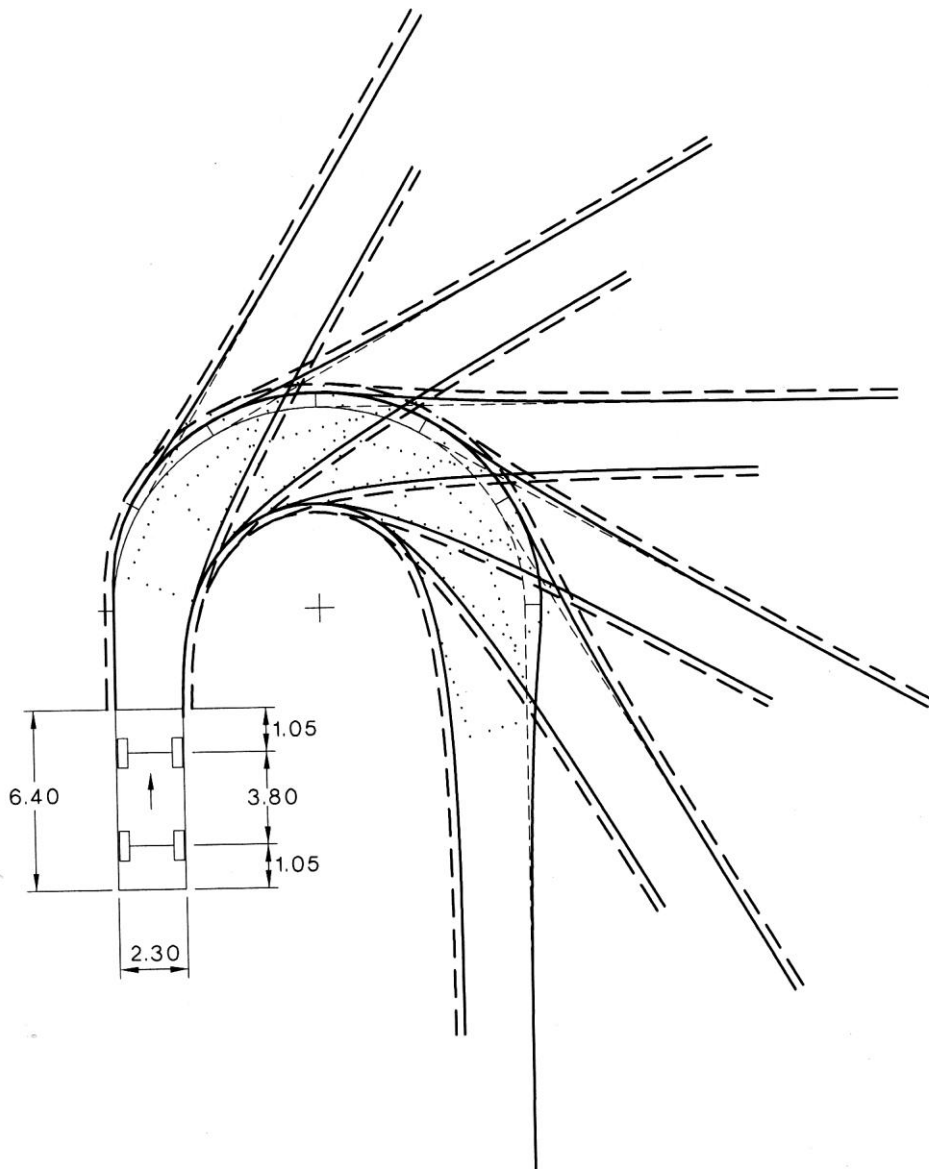


LEGEND:

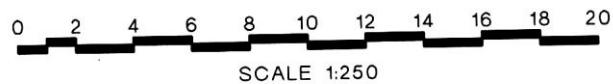
- = Denotes the B85 base dimension swept path
- - - = Denotes the B85 design template which includes 2 x 300 mm manoeuvring clearances only

NOTE: This is the minimum radius turn for a B85 vehicle.

Figure 7- Turning Path Template - Small Rigid Vehicle



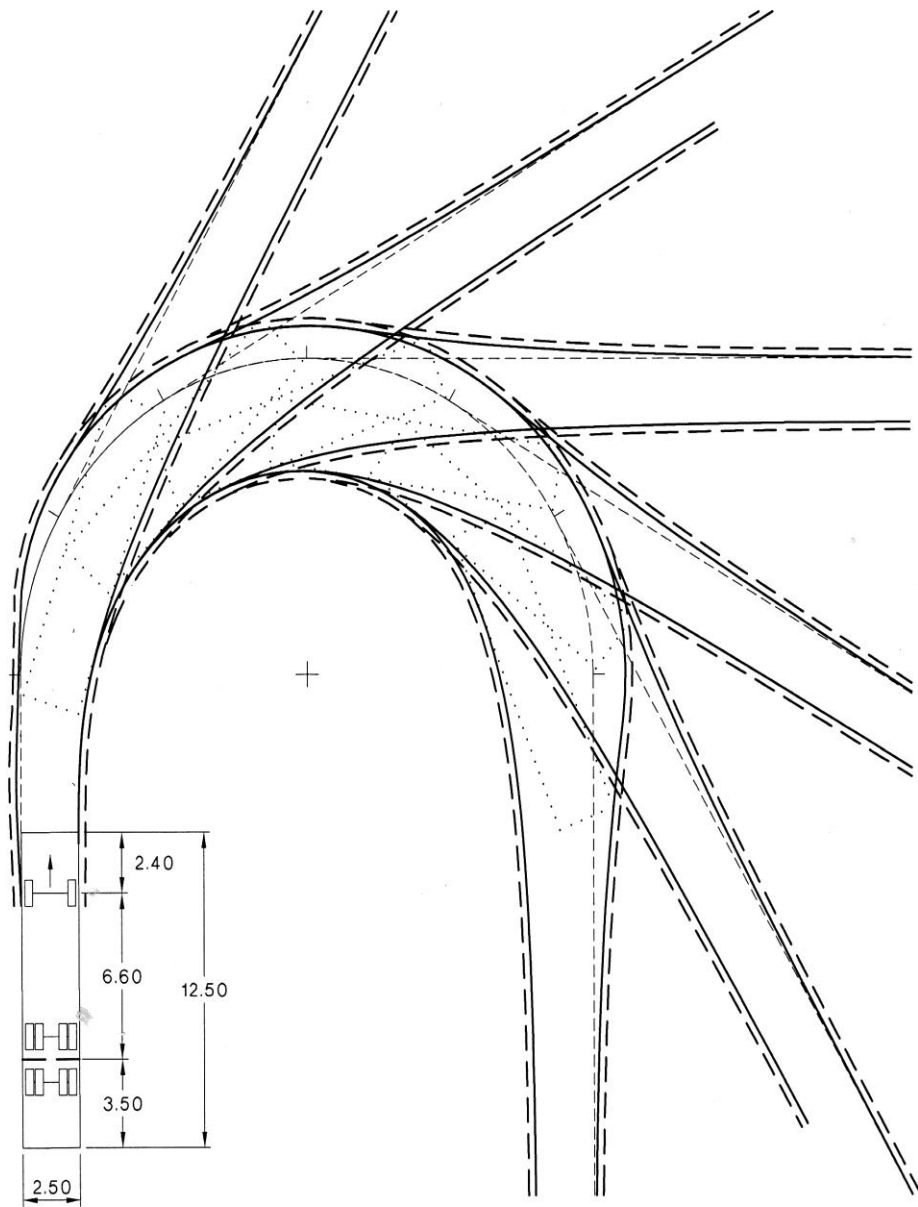
- LEGEND:
- = Swept path of vehicle body
 - = Swept path plus low speed manoeuvring clearance (300 mm both sides)
 - = Path of outer front wheel
 - = Successive positions of vehicle during turn



DIMENSIONS IN METRES

TURNING PATH TEMPLATE—SMALL RIGID VEHICLE
MINIMUM RADIUS TURN (7.1 m)

Figure 8- Turning Path Template - Heavy Rigid Vehicle



LEGEND:

- = Swept path of vehicle body
- - - = Swept path plus low speed manoeuvring clearance (300 mm both sides)
- = Path of outer front wheel
- = Successive positions of vehicle during turn

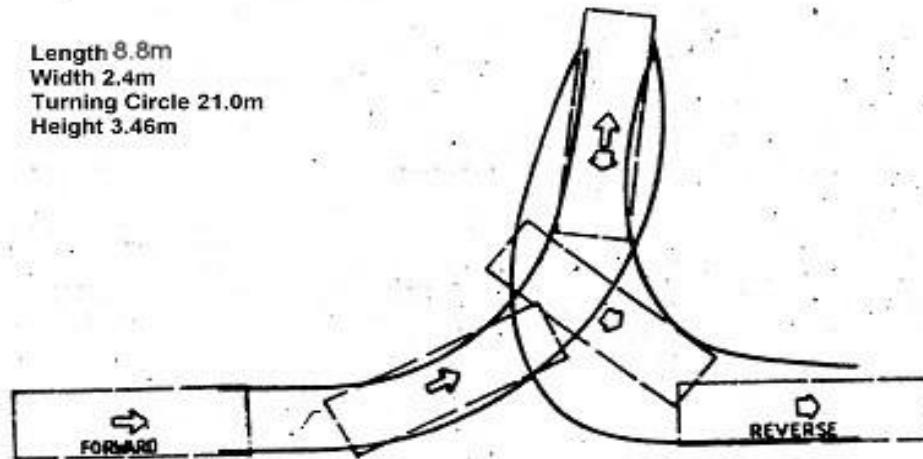


SCALE 1:250

DIMENSIONS IN METRES

**TURNING PATH TEMPLATE—HEAVY RIGID VEHICLE
MINIMUM RADIUS TURN (12.5 m)**

Figure 9 - Reversing Manoeuvre of Trade Waste Vehicle



Reversing Manoeuvre of Trade Waste Vehicle

Headroom

- 5.16** Within parking areas, the minimum height between the floor and an overhead obstruction should be a minimum of 2.2 m. - any increase in this height to be assessed in accordance with the merit of the application. Minimum available clearances should be signposted at all entrances and measured to the lowest projection from the roof, typically being fire sprinklers or light fittings. At changes in grade within parking areas, care should be taken in the design to ensure that the required height clearance is maintained. Appropriate warning devices such as flexible striker bars shall be provided in conjunction with warning signs wherever the clearance is less than 2.3m.- Refer to Section 5.3 – Headroom” AS2890.1:2004. **Note:** Required clear headroom in basement car parks above spaces allocated for people with a disability/adaptable and accessible units is minimum 2.5m.

Figure 10 - Critical Headroom Measurement at a Grade Change

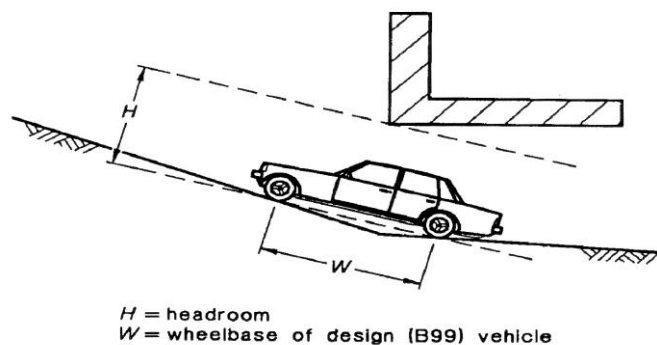
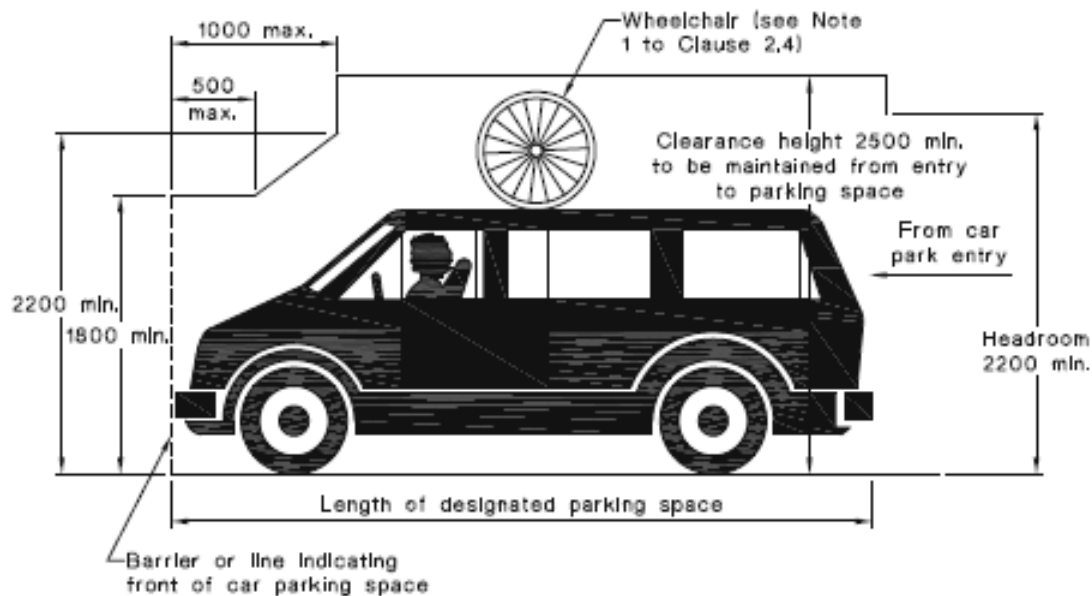


Figure 11 - Vertical Clearance Above Car Spaces For People With Disabilities



DIMENSIONS IN MILLIMETRES

- Note: 1. Where a wheelchair hoist is used, although the wheelchair is stored on the vehicle roof in a flat position, it is raised to full wheelchair height (in addition to the height of the roof rack) during the hoisting process.
 2. Refer to AS 2890.6:2009 clause 2.4 for further details on headroom.

Mechanical parking systems

5.17 Applications to provide for car parking using mechanical devices will be considered on merit, where an applicant can demonstrate to Council that car parking cannot be provided in a conventional manner. Given the non-standard nature of mechanical parking systems, full details will need to be provided. Mechanical parking systems may be considered appropriate in certain circumstances, subject to the following:

- a. The applicant must be able to demonstrate that there is a real need for a mechanical parking system and that the provision of such a system will not adversely affect the use of the site or the immediate locality.
- b. No visitor parking is to be included in the system, unless a valet parking operation is employed.
- c. The applicant must be able to demonstrate that there would be adequate queuing space within the site on the approach to the system, without the queue extending onto the public road network. Details of the design of the system and its

management will need to be submitted to Council. This should cover the cycle time of the system, the traffic volume that will use the system and hence the predicted queue length under peak hour operation.

- d. The device(s) will need to comply with Australian Standards.

Stack parking

5.18 Stack parking is parking where other parked vehicles stop individual access to car spaces. The inclusion of stacked parking within parking areas is not favoured. However, in certain cases, the provision of a limited number of employee parking spaces may be provided in this way subject to the following guidelines:

- a. The applicant must be able to demonstrate that there is a real need for stacked parking and that the provision of stacked parking will not adversely affect the use of the site.
- b. No more than two cars are to be parked in a stacked arrangement, so that no more than one car has to move to allow the exit of another.
- c. No more than 10% of the parking required for a commercial development is to be stacked.
- d. Stacked parking is only to be used to provide parking for people employed on the premises and likely to park all day or a good part of the day.
- e. Proposals, which include stacked parking where multiple occupancies are involved, will be considered on their merits.
- f. Provision to be made on-site for the shifting of cars without movement of vehicles onto public streets.

Shopping Centre Bays

5.19 Provision should be made in shopping centre car parks for shopper trolley bays, and for garbage bins.

Materials

5.20 Materials and colour are important, particularly in heritage conservation areas.

- Reflective materials will be needed for signs and pavement markings.
- Porous pavements are encouraged in driveways and parking areas as it allows greater infiltration of stormwater (porous pavement is included as built-upon area).

Drainage and filtration

- 5.21** All car parking areas/driveways must have adequate drainage for run-off and seepage. Applicants should discuss site drainage requirements with Council engineering staff. Call us on 9716 1800 before lodging a development application). Council requires that minimum gradients be provided in parking areas as shown in **Table 7** below so that car-parking floors will drain adequately.

| Table 7 - Minimum Gradients on Parking Floors | |
|---|--|
| Type of surface | Minimum gradient |
| Exposed areas: Bituminous seal Asphaltic concrete Cement concrete | 1 in 33 (3.0%) 1 in 40 (2.5%) 1 in 50 (2.0%) |
| Covered: All cases. | 1 in 200 (0.5%) |

Note: For safety reasons Council requires the maximum gradients on parking floors to be 1 in 20 (5%) or 1 in 40 for parking spaces for people with a disability.

- c. The following filtration systems are to be implemented in car parks comprising over 25 spaces:
- Continuous deflective separators
 - Non-scouring oil and sediment separators.
 - Sand filters.
 - Small litter traps.
 - Coarse trash racks.

Bicycle Parking

- 5.22** The two principle sources of technical information regarding bicycle parking facilities are:

- *Australian Standards* AS 2890.1:2004 & AS2890.3 that describe facilities that will provide safe, secure, convenient parking for motor cycles and bicycles respectively. See diagrams below.

- *Guide to Traffic Engineering Practice Part 14-Bicycles* produced by AUSTRROADS, the national association of road transport and traffic authorities in Australia.

Requirements

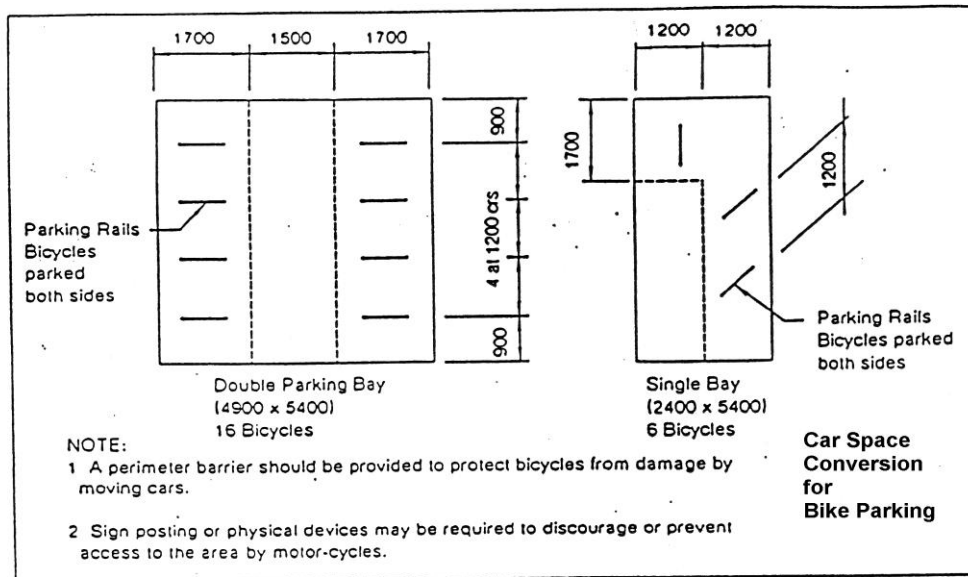
- a. For residential flat development, resident bicycle facilities are to be provided by way of secure, lockable racks at ground or car park level in a communal area. Where lockable garages or enclosed car spaces are provided for each flat, these are acceptable for resident bicycle/motor cycle parking.
- b. Signposted visitor bicycle parking is to be provided by way of bicycle racks, located either within the car parking area /ground floor foyer or within areas adjacent to the building.
- c. For commercial, retail and industrial development, and community, educational, health and recreational facilities, bicycle parking is to be provided by way of either a secure, lockable area, lockers or bicycle racks, located within the ground floor foyer or adjacent within any forecourt, or within the car parking area.
- d. Parking rails are ideal for short and medium term parking and are suitable for installation in a wide variety of locations. In order to meet the Australian Standard, bicycle parking rails should:
 - i. support the bicycle without risk of damage
 - ii. enable both wheels and the frame to be locked
 - iii. be as close as possible to the cyclist's destination
 - iv. be placed in public view
 - v. pose no hazard to pedestrians
 - vi. be protected from encroachment by motor vehicles
 - vii. be easily accessible
 - viii. be well lit if used at night
 - ix. be protected from weather where possible
 - x. be clearly signposted where necessary

Location of bicycle parking facilities

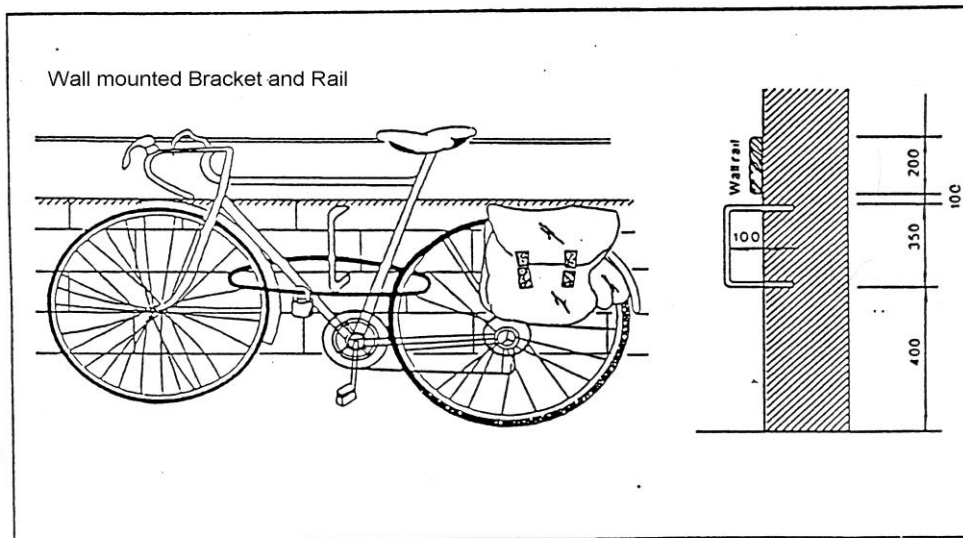
- 5.23** The location of bicycle parking facilities is critical. If they are not conveniently placed, cyclists will ignore them and use other objects to secure their bicycles.
- a. Cyclists should be able to park close to their destinations, generally within a few metres and at most, within 30 metres. Wherever car parking is provided there will also be a need for bicycle parking. Informal bicycle parking can give an indication of places where bicycle-parking facilities are required.
 - b. Bicycle parking areas can be created by conversion of car parking spaces. Three rails, accommodating six bicycles, can be installed in the space required for one car. Suitable layouts are illustrated below (refer AS2890.3).

Figure 12 - Car Space Conversion for Bicycle Parking follows

Figure 12 - Car Space Conversion for Bicycle Parking and Wall Mounted Bracket Rail



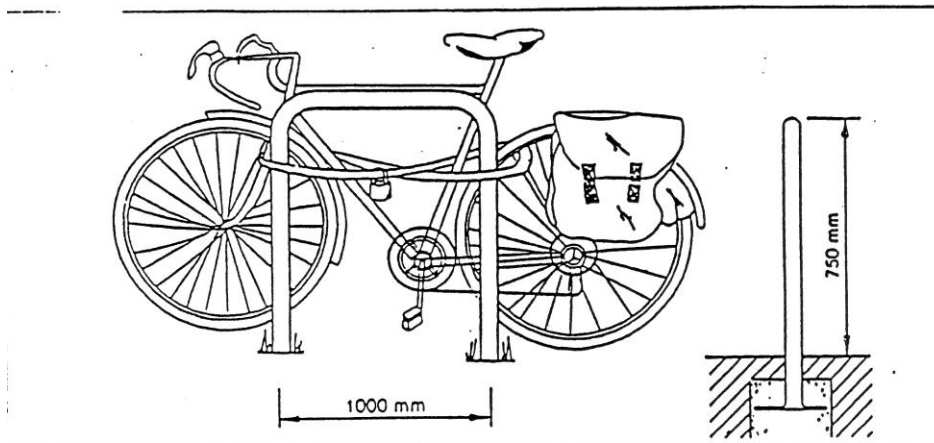
Car Space Conversion for Bicycle Parking.



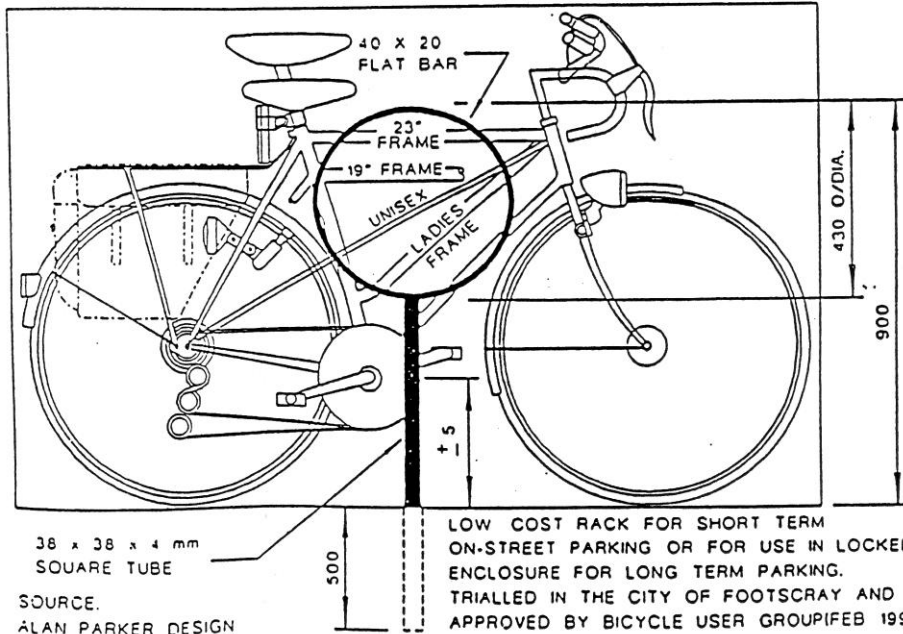
Bicycle Security

5.24 When selecting a bicycle parking rail, care should be taken to ensure that it meets the security criteria set out in AS2890.3 which specify that it should be possible to lock the frame and both wheels of a bicycle to the rail without removing a wheel from the bicycle. AS2890.3 classifies bicycle-parking facilities according to the level of security they offer.

Figure 13 - Bicycle Parking Locking facilities



Parking Rail-Frame and both Wheels Secured by Single Chain in Figure of Eight Pattern.



Appearance and maintenance of bicycle parking facilities

5.25 Bicycle parking facilities should be attractive and well designed. They should be constructed from materials requiring minimal maintenance. Bicycle parking rails are available in a range of styles and finishes from local manufacturers and suppliers.

Showers and change facilities for cyclists

5.26 Showers and change facilities are to be provided for major additions or for new buildings greater than 500m² gross floor area to facilitate employee use of cycling for commuting to work.

Landscaping of parking areas

5.27 Landscaping of sites is strongly encouraged. A **landscape concept plan** should be prepared and submitted with the development application where new plantings are proposed. Depending on the type of development and site circumstances, Council may also apply conditions of consent requiring a detailed landscaping plan to be prepared when a development is approved (refer to Council's development application form for more information about landscape concept plans and detailed landscape plans). Landscaping will need to be implemented prior to occupancy of the development. Key landscape design elements to consider are as follows:

- a. Car parking design should consider retaining existing plantings and mature trees. Use porous paving, retaining walls and drainage lines to ensure existing trees will not be adversely affected. Refer **Appendix 3** for recommended tree species.
- b. Soft landscaping is to be included in all surface car park designs. As a guide, minimum of 5% uncovered parking areas should be landscaped.
- c. Depending on the scale and nature of the development, landscaping should be provided throughout the car park as well as at the perimeter.
- d. Plantings of shade trees between rows of cars need to be protected with kerbs and wheel stops. Areas used for landscaping are not to be used for parking, loading or unloading.
- e. The planting of appropriate sized trees and shrubs between car park bays and at access points is encouraged so as to maintain sight distances and provide shade and importantly, to minimise run off by reducing the amount of hard surface area.
- f. If a proposed parking area adjoins a residential property, Council requires protective fencing and/or mounding be included in the landscaping proposal to protect the privacy of the residential property and reduce noise effects.
- g. All barriers and other landscaping materials should be of adequate strength and durability to protect vegetation. Council will require the use of appropriate materials that will improve the appearance of the development.

- h. Landscaping is to be dispersed and located so that there is sufficient planting to achieve a satisfactory appearance of parking areas, particularly those with large areas of bitumen, and to provide shade.
- i. Choose landscaping that will enhance the character of the area
- j. Provide adequate watering and drainage points

Figure 14- Planting strips between aisles of parking bays:



Figure 15- Landscape “fingers”

Minimum bed width required is 1000mm. Fingers can be reduced to 600mm width if tree guards are used. Fingers are not required to extend full depth of parking bay planting areas. No planting strip is permitted between aisles of parking bays.

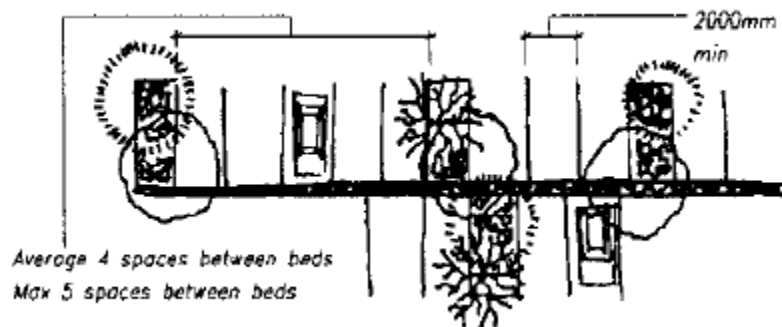
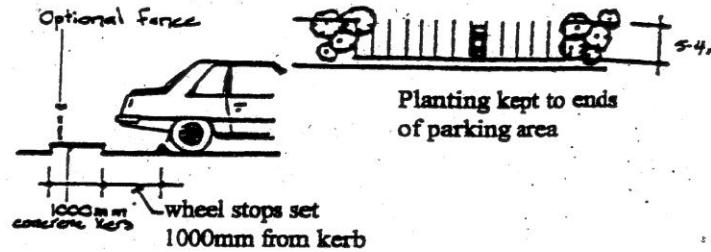


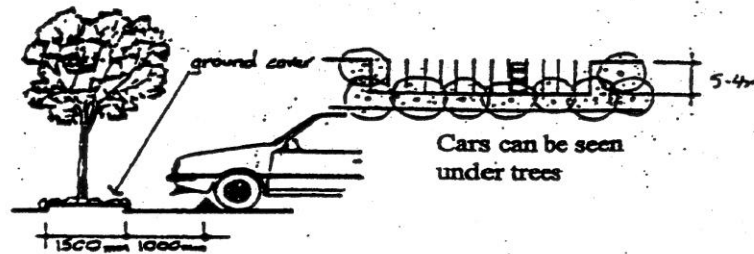
Figure 16 – Perimeter Landscaping follows

Figure 16 - Perimeter landscaping

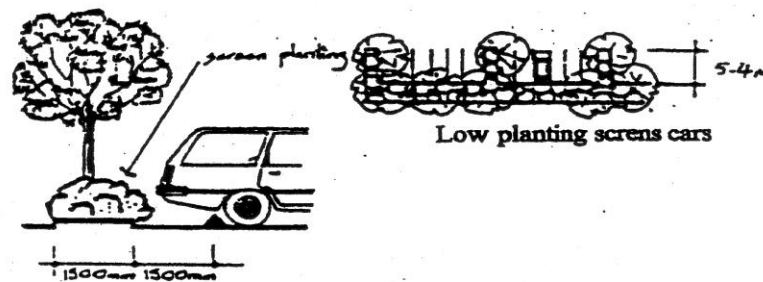
Recommended Perimeter Landscaping



Motor Showroom – cars to be visible from street but car access across footpath to be prevented.



Customer Parking for shops or offices – car to be visible from street. Planting to create an overall softening.



Other Uses including Residential – Cars to be screened from street.

APPENDICES**Appendix 1- Land Use Definitions**

Note: Land use definitions other than those appearing below are contained in the Ashfield LEP 2013

"main road" means a main road within the meaning of the Roads Act 1993;

"major road frontage" in relation to land, means the frontage of that land to:

(a) a main or arterial road, or

(b) a road connecting with a main or arterial road, if the whole or any part of the frontage is within 90 metres (measured along the road alignment of the connecting road) of the alignment of the main or arterial road;

"minor road" means a collector or local road where:

- collector road means the road which connects the sub-arterial roads to the local road system in developed areas
- local road means the subdivisional road within a particular developed area. Local roads are used solely as local access roads, but traffic volumes and types of vehicles will depend on the intensity and nature of the development;

Appendix 2 : Sample conditions of approval

Some of the issues addressed in standard conditions of approval that may be applied to land used for car parking or service vehicles are as follows (the list is not exhaustive):

- Customer, service and employer's vehicles are to be parked wholly within the site.
- No separate fee to be imposed for the use of any car parking space.
- Parking spaces to remain available and accessible for car parking.
- Stipulating no separate fee to be imposed for the use of the loading or unloading areas.
- Requiring access to the loading and unloading areas not to be obstructed at any time during the hours 7.30am to 6.00pm, Monday to Friday, and 7.30am to 4.00pm, Saturday, and/or to 9.00pm where night shopping is applicable.
- Requiring vehicles which service the premises by delivering or taking away goods, stores, waste or like articles, to park in the loading and unloading area whilst picking up or putting down such goods, stores, waste or like articles.
- Where an area is used within the external walls of the building, that area to be positioned so that access to any parking space shall not be obstructed.
- Signposting of parking areas to be provided including bicycle and motor cycle parking
- Prior approval of Council required to create new driveway across public land and closure of redundant driveways.
- Design of parking facilities including spaces for people with disabilities and access to them to meet Australian Standards and *Part C11 Access Adaptability Mobility*.
- Drainage requirements/easements including erosion and sediment control measures to reduce run off.
- Allocation of spaces by strata or to individuals.
- Stack parking requirement limitations.
- Materials of construction – paving colours -particularly important in Heritage Conservation Areas.
- Setbacks to achieve vehicle sight lines.
- Maintenance/landscaping of parking areas.

Appendix 3 - Recommended tree species

TREES FOR SHALE DERIVED SOILS:**Trees 20 m +**

Casuarina cunninghamiana (**river oak**) *Eucalyptus maculata* (**spotted gum**) *Eucalyptus microcorys* (**tallowood**) *Eucalyptus paniculata* (**grey ironbark**) *Eucalyptus pilularis* (**blackbutt**) *Eucalyptus saligna* (**Sydney blue gum**)

Trees 5-10 m

Acacia decurrens (**green wattle**) *Acacia floribunda* (**gossamer wattle**) *Acacia prominens* (**golden rain wattle**) *Allocasuarina littoralis* (**black she oak**) *Angophora bakeri* (**narrow leafed apple**) *Backhousia myn`ifolia* (**grey myrtle**) *Glochidion ferdinandi* (**cheese tree**) *Hymenosporum flavum* (**native frangipani**) *Melaleuca linariifolia* (**snow-in-summer**) *Melia azedarach* (*australasica*) (**white cedar**)
Notelaea sp. (**moick olive**) *Oreocallis wickhamii* (**tree waratah**) *Pittosporum rhombifolium* (**Queensland pittosporum**)
Stenocarpus sinuatus (**firewheel tree**) *Tristaniopsis laurina* (**water gum**)

Trees 15-20 m

Acacia elata (**cedar wattle**) *Angophora costata* (**Sydney red gum**) *Angophora floribunda* (**rough barked apple**)
Eucalyptus citriodora (**lemon scented gum**)
Eucalyptus punctata (**grey gum**) *Eucalyptus resinifera* (**red mahogany**) *Eucalyptus sieberi* (**silvertop ash**) *Flindersia australis* (**crow's ash**) *Livistona australis* (**cabbage tree palm**) *Lophostemon confertus* (**brushbox**) *Toona ciliata* (*australis*) (**red cedar**)

Trees 10-15 m

Acacia binervia (**coastal myall**) *Acmena smithii* (*lilly pilly*) *Allocasuarina torulosa* (**forest oak**) *Alphitonia excelsa* (**red ash**) *Brachychiton acerifolius* (**flame tree**)
Ceratopetalum apetalum (**coachwood**) *Eucalyptus elata* (**river peppermint**)
Eucalyptus sideroxylon (**red ironbark**) *Macadamia tetraphylla* (**macadamia**)
Melaleuca styphelioides (**prickly paperbark**)
Syncarpia glomulifera (**turpentine**) *Syzygium floribundum* (**weeping lillypilly**)

Small Tree/Tall Shrubs up to 5 m

Banksia ericifolia (**heath banksia**) *Banksia marginata* (**silver banksia**) *Callicoma serratifolia* (**black wattle**) *Callistemon citrinus* (**lemon scented bottlebrush**)
Hibiscus heterophyllus (**native rosella**) *Leptospermum petersonii* (**lemon-scented tea-tree**)
Podocarpus elatus (**brown pine**)

Trees for Sandstone Derived Soils:**Trees 20 m +**

Casuarina cunninghamiana (**river oak**) *Eucalyptus pilularis* (**blackbutt**)

Trees 15-20 m

Angophora costata (**Sydney red gum**) *Eucalyptus resinifera* (**red mahogany**)

Eucalyptus sieberi (**silvertop ash**) *Livistona australis* (**cabbage tree palm**)

Lophostemon confertus (**brushbox**)

Trees 10-15 m

Eucalyptus gummifera (**red bloodwood**) *Eucalyptus piperita* (**Sydney peppermint**)

Eucalyptus racemosa (**scribbly gum**) *Macadamia tetraphylla* (**macadamia**) *Syncarpia glomulifera* (**turpentine**)

Trees 5-10 m

Acacia prominens (**golden rain wattle**) *Agonis flexuosa* (**willow myrtle**) *Allocasuarina littoralis* (**black she oak**) *Angophora bakeri* (**narrow leafed apple**) *Backhousia citriodora* (**lemon scented bh**) *Callicoma serratifolia* (**black wattle**)

Callistemon viminalis (**weeping bottlebrush**)

Callitris rhomboidea (**Port Jackson pine**) *Elaeocarpus reticulatus* (**blueberry ash**)

Eucalyptus eximia (**yellow bloodwood**) *Eucalyptus haemastoma* (**scribbly gum**)

Eucalyptus punctata (**grey gum**) *Eucalyptus scoparia* (**willow gum**) *Glochidion ferdinandi* (**cheese tree**) *Leptospermum laevigatum* (**coastal teatree**)

Melaleuca quinquenervia (**broad-leaved paperbark**)

Pittosporum rhombifolium (**Queensland pittosporum**)

Syzygium leuhmannii (**small-leaved lillypilly**)

Tristaniaopsis laurina (**water gum**)

Small Trees/Shrubs up to 5 m *Acacia linifolia* (**flax wattle**)

Acacia longifolia (**Sydney golden wattle**) *Acacia howittii* (**sticky wattle**) *Angophora*

hispida (**dwarf apple**) *Baeckea linifolia* (**weeping baeckea**) *Baeckea virgata* (**tall**

baeckea) *Banksia ericifolia* (**heath banksia**) *Banksia marginata* (**silver banksia**)

Banksia serrata (**old man banksia**) *Callistemon citrinus* (**lemon scented Bottlebrush**)

Callistemon salignus (**willow bottlebrush**) *Ceratopetalum gummiferum* (**NSW Christmas bush**)

Doryanthes excelsa (**Gynea lily**) *Grevillea longifolia* (**spider flower**) *Grevillea*

cultivars

Hakea salicifolia (**willow leafed hakea**) *Kunzea ambigua* (**kunzea**) *Leptospermum*

attenuatum (**tea-tree**) *Leptospermum flavescens* (**yellow teatree**)

Leptospermum petersonii (**lemon scented tea-tree**)

Persoonia levis (**broad-leaf geebung**) *Persoonia pinifolia* (**pine-leaf geebung**)

Podocarpus elatus (**brown pine**) *Telopea speciosissima* (**waratah**) *Xanthorrhoea* sp.

(**grass tree**)

END