

Appendix 3: Car Parking Review
Abley Transportation Consultants (13 September 2013)

WAIMAKARIRI DISTRICT PLAN REVIEW: Car Parking

The logo for Abley transportation consultants, featuring the word 'abley' in a bold, lowercase sans-serif font, followed by a stylized orange graphic of three vertical bars of increasing height, and the words 'transportation consultants' in a smaller, lowercase sans-serif font below.

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WAIMAKARIRI DISTRICT PLAN REVIEW: Car Parking

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1 INTRODUCTION

- 1.1 As part of a rolling review of the District Plan, the Waimakariri District Council (Council) has commissioned Abley Transportation Consultants (Abley) to review and recommend changes and additions to provisions relating to car parking and vehicle access.
- 1.2 Council's review of the District Plan encompasses all relevant provisions relating to car parking and vehicle access, including the rules and the objective and policy framework.
- 1.3 The review will culminate in a publically notified District Plan change (Plan Change 40) that will amend, retain and add car parking provisions as necessary. The scope of the review will cover technical aspects related to car parking provision, the design and layout of car parking areas, such as entry and exit locations, pedestrian linkages, cycle infrastructure and any other matters relevant to car parking/transport provision and land use. The review also incorporates the wider area and off-site consequences in relation to options for on-site parking.
- Report Structure**
- 1.4 The report is broken into sections each of which deals with a particular topic area. For each topic area, the issues and gaps in the existing District Plan provisions are discussed then followed by the recommended courses of action.
- 1.5 References to the existing District Plan objectives, policies and rules (conditions) are highlighted in **Bold**.

2 CAR PARKING REQUIREMENTS

Technical Review and Gap Analysis

- 2.1 The Waimakariri District Plan sets out policies and rules which require developments to provide on-site parking and sets out minimum parking rates based on land use activity type. The requirement to provide on-site parking exists to minimise the spill over of parking associated with an activity onto the adjacent streets; minimising the risk of this parking having an adverse effect on neighbouring properties and the intended street function.
- 2.2 **Rule 30.6.1.26** of the District Plan includes Table 30.8 which sets out the minimum requirements for on-site car parking for a variety of activities. This table is reproduced as **Table 2.1** below.

Table 2.1 Waimakariri District Plan On-Site Parking Requirements

Activity	Parking Spaces to be Provided
Dwellinghouse	2 spaces per dwellinghouse, except in residential 6A and Business 1 zones at Pegasus where 1 space per dwellinghouse shall be provided
Accommodation involving the payment of a tariff	1 space per 5 beds provided
Facilities designed to cater for more than 10 people at any one time (except retail activity, accommodation involving the payment of a tariff or education facilities)	1 space per 10 persons catered for, or one space per 10m ² net floor area, whichever is greater
Education facility	1 space per 20 students over 16 years on-site at any one time
Retail activity	1 per 45 m ² net floor area of retail area, except in the Business 1 Zone at Pegasus where 1 space per 100m ² of net floor area shall be provided
All activities employing staff	1 space per 2 employees in attendance at any one time, with a minimum of 1 parking space
Sporting grounds, playing fields and golf courses	10 spaces per ha used for the activity

- 2.3 There are a number of fundamental issues with Table 30.8 of the District Plan, which are discussed in the following paragraphs.

Differentiation Between Zones

- 2.4 The rules do not differentiate parking requirements for activities located in different zones. For example a retail activity situated in a Business 1 zone has the same parking requirement as if it was located in a Business 2 zone, even though the expected characteristics of these zones are quite different.

2.5 The District Plan expects Business 1 zones to be characterised by limited on-site / private off-street parking. By comparison, all sites in Business 2 zones are expected to provide on-site parking and the bulk of parking supply in this zone is expected to be off-street.

2.6 In the Business 1 zone where public parking is provided both on and off-street it makes sense to centralise parking provision rather than requiring each activity to provide parking separately. Requiring individual businesses to provide individual parking areas makes establishing a business in the town centre more expensive and is an inefficient use of land resources in this zone. Providing centralised parking areas in town centres would allow buildings to be built up to the street frontage which is a requirement in specific locations under **Rule 31.20.1.1**.

Insufficient Activity Categories

2.7 There are only seven activity types specified in Table 30.8. Some of the activity types are for a specific use such as 'Dwellinghouse' and 'Accommodation involving the payment of a tariff', whereas others are very generic and could cover a myriad of activities such as 'Retail activity' and 'All activities employing staff'. As a result, some (potentially many) developments are required to provide parking at a rate that is unlikely to reflect the actual demand generated by the activity. Some activity types that currently do not fit into an appropriate activity category include but are not limited to:

- Specific types of dwellinghouse with a lower parking demand, such as flats, older persons housing, higher density housing complexes, retirement units;
- Commercial activities e.g. offices;
- Medical activities e.g. doctor, dentist, health clinic, veterinarian;
- Cafes, restaurants, fast food outlets;
- Certain retail activities e.g. bulky goods, supermarkets and specialty retail all generate the same statutory parking requirement, but each has a very different parking demand;
- Primary schools and child care facilities; and
- Industrial activities.

Town Centre Parking

2.8 The rates stipulated in the District Plan are minimum rates that allow the parking demands of an activity be contained on-site at all but the busiest trading times. The use of minimum parking standards can lead to an oversupply of parking, particularly where users (e.g. visitors to a town centre) are destined for several activities. The Rangiora Town Centre Parking Management Plan (Abley TC, 2011) identified that it would be beneficial to both developers and town centre visitors if parking requirements for developments in the town centres were subject to unique policies and rules requiring fewer on-site parking spaces on individual sites. Developers would be able to increase the productive area of their site and would not need to transfer the price of designating prime land for parking to their customers.

- 2.9 Council should consider the suitability of stipulating maximum parking standards for town centre zones. Nationally and internationally, there is a trend, particularly in city and business centres, to stipulate maximum parking requirements or to manage car parking in a precinct rather than on a site-by-site basis. Maximum parking requirements rather than minimums can encourage more compact development and the use of alternative modes thereby reducing the reliance on private vehicles. Alternatively the implementation of a parking plan for a defined precinct (say a town centre) would allow unique parking rates and requirements to be specified for the area. The parking plan would provide a vision for parking provision in the precinct and guide the use of financial contributions (such as cash-in-lieu) to support shared parking areas. In Australia, this concept is implemented in statutory form by a Parking Overlay¹. Implementation of a parking plan would require Council commitment over the longer term.

Governing Parameter

- 2.10 Parking rates can be based on a range of parameters depending on the activity type. Existing parameters in Table 30.8 include dwellinghouse, net floor area, employees, and hectares. Some of these parameters are more readily known at the time of consent such as gross floor area and hectares. It has been identified by Council that some parking rates are based on staff occupancy that are sometimes not known at the time of consent application. Using staff numbers as a governing parameter also places additional burden on developers and Council when the business changes even if the general activity remains the same.

- 2.11 Parking rates can be calculated using a variety of parameters, the most common and simplest being gross floor area (GFA). Other common parameters for parking rates include site area, staff, units, beds and people (e.g. students). The use of floor area or site area is generally easier to apply to development proposals where other parameters such as the number of staff may not be known at the time of applying for resource consent. Nevertheless, for some activities the use of floor area is not an indicator of parking demand and therefore a different parameter should be used.

Buildings and Parking in Business 1 Zones

- 2.12 **Rule 31.20.1.1** states "*Buildings in the Business 1 Zones (Rangiora and Kaiapoi), with road frontage shown by Figure 31.2, shall:*

b. occupy the full frontage of the site, except where necessary to provide pedestrian access to the rear of the site"

- 2.13 This rule conflicts with the requirement to provide on-site parking in some Business 1 areas, as theoretically the entire frontage of some 'blocks' should be fully occupied by buildings and pedestrian access only.

Recommendations

- 2.14 The District Plan review should consider the following aspects:
- Expanding the number of activity categories so parking requirements better reflect the actual parking demand generated by individual activities;
 - Reviewing the parking rate parameter for each activity type;
 - Treating the provision of on-site parking in Town Centre zones differently to the remainder of the District either through the application of maximum parking

¹ Department of Planning and Community Development, State Government of Victoria (2013) The Parking Overlay, Practice Note 57

rates or parking plans to ensure the holistic consideration of parking in these areas.

- Addressing the conflict between the requirement for buildings to occupy the full frontage of sites on specific frontage roads in Business 1 zones and the requirement for on-site parking to be provided in Business 1 zones.

2.15 The suggested activity and zone categories to be incorporated into a revised parking rates table is shown in **Table 2.2** along with a suggested parking rate parameter for each activity. In general, parking rates should be based on measurable units that are unlikely to change, for example floor area or number of seats wherever possible rather than units that are subject to more variability or are sometimes unknown at the time of consent application such as number of staff.

Table 2.2 Suggested Categories for Parking Rates Table

Activity type	Activity	Suggested Parameter
Residential	Dwellinghouse	Dwelling
	Multi-unit residential (including retirement units)	Unit
	Residential care homes	Bed or Room
	Visitor accommodation	Room
Recreational	Place of assembly	Public floor area
	Sporting grounds, playing fields, golf courses	Site area
Educational	All excluding pre-school	Staff plus Student over 16 years of age plus Student for setdown
	Pre-school / childcare	Staff plus Child for setdown
Health	Medical centre	GFA or per Health Professional
	Hospital	Beds
Retail	General retail	GFA
	Supermarket	GFA
	Large format and bulky goods*	GFA
	Food and beverage	Public floor area plus drive through requirement
Industrial	Industrial	GFA
	Warehousing and storage	GFA
Office	Office*	GFA

*Require definitions in the District Plan

2.16 The following research may assist with the development of appropriate parking rates for each activity type:

- Milne A, Abley S, Douglass M (2009) Comparisons of NZ and UK Trips and Parking Rates. NZ Transport Agency research report 374
 - Douglass M and Abley S (2011) Trips and parking related to land use. NZ Transport Agency research report 453
 - Trips Database Bureau
- 2.17 Scale of potential effects if a development does not comply with this rule: medium
- 2.18 Further work has been carried out to compare parking rates required by the current District Plan, parking demand for various activities as reported in the NZ Transport Agency research report 453 mentioned above (generally the 50th percentile parking demand rate has been applied unless more detailed information is provided in the research report), and Selwyn District Plan rates (Selwyn is considered a comparable district to Waimakariri and has recently undergone a plan change for parking and transport).
- 2.19 **Table 2.3** provides a comparison of parking rates by activity outlined in Table 2.2. Where an activity type does not have a specific parking rate in the current Waimakariri or Selwyn District Plans then the rate for the closest most relevant activity type has been applied.
- 2.20 Table 2.3 also includes a suggested parking rate for adoption in the District Plan. The suggested parking rates are expected to generally be sufficient to internalise typical parking demands to the site the activity is located on. However in Town Centre zones it is considered appropriate for some or all parking to be accommodated on-street, in public parking areas and other parking areas that are shared between multiple activities.
- 2.21 The main activity types that will be located in Business 1 (Town Centre) zones is expected to be retail and office activities. Accordingly, a parking rate for these activities in the Business 1 (Town Centre) zones has been suggested. The suggested parking rate should be considered a starting point for Council to test potential outcomes of a reduced parking rate in Business 1 (Town Centre) zones.
- 2.22 It is strongly recommended that Council consider developing and implementing a parking plan for the Business 1 (Town Centre) zone to inform the suitability of the proposed reduced parking rates. The parking plan would provide a vision for parking provision in the Town Centres and direct the use of financial contributions (such as cash-in-lieu) to support shared parking areas should developers wish to provide even fewer spaces. Implementation of a parking plan would require Council commitment over the longer term.

Table 2.3 Parking Rates Comparison

Activity Type	Activity	Suggested Parameter	Current District Plan Rate	Trips and Parking Related to Land Use RR453 Parking Demand Rate	Selwyn District Plan Parking Rate	Suggested Parking Rate
Residential	Dwellinghouse	Dwelling	2 spaces per dwelling, except in Residential 6A and Business 1 Zones at Pegasus where 1 space per dwelling shall be provided	1.9 spaces per dwelling (rural) 1.8 spaces per dwelling (outer suburban) 1.6 spaces per dwelling (suburban)	2 spaces per residential dwelling or 1 space per residential dwelling in medium density areas	2 spaces per dwelling, except in Residential 6A and Business 1 Zones at Pegasus where 1 space per dwelling shall be provided
	Multi-unit residential (including retirement units)	Unit	2 spaces per dwelling, except in Residential 6A and Business 1 Zones at Pegasus where 1 space per dwelling shall be provided	1.2 spaces per dwelling (multi-unit) 0.9 space per Retirement Unit	1 space per residential dwelling in medium density areas	1 space per unit
	Residential care homes	Bed or Room plus proportion of Bed or Room for Staff	1 space per 5 beds provided plus 1 space per 2 employees in attendance at any one time	0.3 space per Bed (Retirement Home)	1 space per 3 clients	3 spaces per 10 beds
	Visitor accommodation	Bed or Room	1 space per 5 beds provided plus 1 space per 2 employees in attendance at any one time	0.3 space per bed (Hostel) 0.9 space per occupied unit (Motel) 1.2 space per room (Hotel)	1 space per bed plus 1 space per 2 staff	1 space per 2 rooms

Activity Type	Activity	Suggested Parameter	Current District Plan Rate	Trips and Parking Related to Land Use RR453 Parking Demand Rate	Selwyn District Plan Parking Rate	Suggested Parking Rate
Recreational	Place of assembly	Public floor area	1 space per 10 persons catered for, or 1 space per 10m ² NFA (i.e. 1 space per 10 m ² PFA ²), whichever is the greater	6 – 10 spaces per 100 m ² PFA (cinemas, theatres) 3 spaces per 100m ² PFA (museums, libraries)	10 spaces per 100 m ² PFA or 1 space per 10 seats, whichever is greater	10 spaces per 100 m ² PFA
	Sporting grounds, playing fields, golf courses	Site area	10 spaces per hectare	0.2 spaces per spectator (Stadium) 5 spaces per 100m ² GFA (gymnasiums, sports courts) 0.5 – 0.7 spaces per 100m ² of playing fields (i.e. 50-70 spaces per hectare)	15 spaces per hectare	25 spaces per hectare
	All excluding pre-school	Staff plus Student over 16 years of age plus Student for setdown	1 space per 20 students over 16 years on site at any one time	0.2 spaces per pupil (Primary) 0.1 spaces per pupil (Secondary)	1 space per full time equivalent staff member, plus 1 space per 8 students over 16 years of age, and visitor / set down parking at: <ul style="list-style-type: none"> Primary schools: 1 space per 6 students All other education facilities: 1 space per 20 students under 16 years of age 	1 space per 2 staff members, plus 1 space per 20 students over 16 years of age, plus 1 space per 5 pupils under 16 years of age,

² Assuming Net Floor Area is equivalent to Public Floor Area

Activity Type	Activity	Suggested Parameter	Current District Plan Rate	Trips and Parking Related to Land Use RR453 Parking Demand Rate	Selwyn District Plan Parking Rate	Suggested Parking Rate
	Pre-school / childcare	Staff plus Child for setdown	1 space per 2 employees in attendance at any one time plus 1 space per 10 persons catered for, or 1 space per 10m ² net floor area, whichever is the greater	0.2 space per pupil	0.26 spaces per child (including drop-off and staff parking)	1 space per 5 pupils
Health	Medical centre	GFA or per Health Professional	1 space per 2 employees in attendance at any one time plus 1 space per 45m ² NFA (if assessed as a retail activity)	2.5 – 3.5 spaces per health professional or 2.5 - 6 spaces per 100m ² GFA	3 spaces per professional staff member employed on-site at any one time (equates to approximately 5.5 spaces per 100m ²) ³	3 spaces per health professional, or 5 spaces per 100m ² GFA whichever is greater
	Hospital	Beds	1 space per 10 persons catered for, or 1 space per 10m ² net floor area, whichever is greater.	1-1.5 spaces per bed with average of 1.3 spaces per bed.	No applicable rate	3 spaces per 5 beds

³ Six existing medical centres in Waimakariri and Selwyn Districts have an average of 1 health professional per 55m² GFA. Actual provision of parking at these medical centres ranges from 3.3 to 5.9 spaces per 100m² GFA.

Activity Type	Activity	Suggested Parameter	Current District Plan Rate	Trips and Parking Related to Land Use RR453 Parking Demand Rate	Selwyn District Plan Parking Rate	Suggested Parking Rate
Retail	General retail	GFA	2.2 spaces per 100m ² NFA (i.e. 1.8 spaces per 100m ² GFA) In the Business 1 Zone at Pegasus: 1 space per 100m ² NFA (i.e. 0.8 spaces per 100 m ² GFA)	4.3 parking demand per 100 m ² GFA (Shop) 3.6 parking demand per 100 m ² GFA (Shopping Centre Small) 3.3 parking demand per 100 m ² GFA (Shopping Centre Medium) 2.7 parking demand per 100 m ² GFA (Shopping Centre Large)	4.5 spaces per 100 m ² GFA and / or outdoor display area	3 spaces per 100m ² GFA In the Business 1 Zone: 1.5 spaces per 100 m ² GFA
	Supermarket	GFA	2.2 spaces per 100m ² NFA (i.e. 1.8 spaces per 100m ² GFA) In the Business 1 Zone at Pegasus: 1 space per 100m ² NFA (i.e. 0.8 spaces per 100 m ² GFA)	4.2 spaces per 100 m ² GFA	4.5 spaces per 100 m ² GFA	4 spaces per 100m ² GFA In the Business 1 Zone: 2 spaces per 100 m ² GFA
	Large format and bulky goods	GFA	2.2 spaces per 100m ² NFA (i.e. 1.8 spaces per 100m ² GFA)	1.6 spaces per 100 m ² GFA	2.5 spaces per 100 m ² GFA and / or outdoor display area	1.8 spaces per 100m ² GFA In the Business 1 Zone: 0.9 spaces per 100 m ² GFA

Activity Type	Activity	Suggested Parameter	Current District Plan Rate	Trips and Parking Related to Land Use RR453 Parking Demand Rate	Selwyn District Plan Parking Rate	Suggested Parking Rate
	Food and beverage	Public floor area plus drive through requirement	2.2 spaces per 100m ² NFA (i.e. 2.2 spaces per 100m ² PFA) ⁴ In the Business 1 Zone at Pegasus : 1 space per 100 m ² NFA	0.5 parking demand per seat (Restaurant) 10 spaces per 100 m ² PFA (Fast Food) 10 spaces per 100 m ² PFA (Bar) 3 spaces per 100 m ² PFA (Market) 7.8 spaces per 100 m ² PFA ⁵ (Produce)	4.5 spaces per 100 m ² PFA for the first 150m ² then 19 spaces per 100 m ² PFA thereafter. Where there is no public floor area, for example a drive through only, 1 space per employee on the site at any one time.	10 spaces per 100m ² PFA In the Business 1 Zone: 5 spaces per 100 m ² GFA
Industrial	Industrial	GFA	1 space per 2 employees in attendance at any one time	1.1 space per 100 m ² GFA (Manufacture) 2.8 space per 100 m ² GFA (Contractor)	1.5 spaces per 100 m ² GFA	1.5 spaces per 100 m ² GFA
	Warehousing and storage	GFA	1 space per 2 employees in attendance at any one time	0.9 spaces per 100 m ² GFA	No applicable rate (assume industrial rate would be applied)	1 space per 100 m ² GFA
Office	Office	GFA	1 space per 2 employees in attendance at one time (equates to approximately 2.4 spaces per 100 m ² GFA ⁶)	2.7 spaces per 100 m ² GFA	2.5 spaces per 100 m ² GFA	2.5 spaces per 100 m ² GFA In the Business 1 Zone: 1.3 spaces per 100 m ² GFA

⁴ Assuming Public Floor Area is equivalent to Net Floor Area

⁵ Assuming Public Floor Area is 80% of Gross Floor Area

⁶ Based on employee density values of 21 m² per employee for office and commercial from Section 3.5 of the RTA Guide to Traffic Generating Developments

3 CAR PARKING DESIGN AND LAYOUT

Technical Review and Gap Analysis

- 3.1 Not only is the number of parking spaces to be provided an important consideration for a new or redeveloped activity, it is vital that the car parking areas can be used safely and efficiently by the intended users. Furthermore, parking areas can form a large portion of some land use activities, such as retail developments, and in these cases the parking areas become an important part of the public realm. Therefore, as well as providing an appropriate quantity of parking spaces, the quality of the entire parking area, and indeed the entire site layout is important.
- 3.2 **Rule 30.6.1.26** (Parking) requires on-site parking spaces to be configured in accordance with Table 30.9 of the District Plan which is reproduced as **Table 3.1** below.

Table 3.1 Waimakariri District Plan Parking Space Dimension Requirements

Parking Angle (degrees)	Manoeuvring Space (m)	Stall Width (m)	Stall Depth (m)	Overhang (m)
0 (parallel)	3.5 one way aisle	2.5	6.1	Not Applicable
	5.5 two way aisle			
30	3.5	2.5	4.4	0.6
45	3.8	2.5	5.0	0.7
	3.5	2.7		
60	4.5	2.5	5.4	0.8
	4.0	2.7		
	3.5	2.9		
90	8.0	2.5	5.0	0.8
	7.0	2.6		
	6.6	2.7		
90 disabled	8.0	3.6	5.0	0.8

- 3.3 As with Table 30.8, there are fundamental issues with Table 30.9 of the District Plan, as outlined below.