BEFORE THE HEARINGS PANEL
FOR THE PROPOSED QUEENSTOWN LAKES DISTRICT PLAN

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of Hearing Stream 15: Open Space and Recreation, Earthworks, Signs, Transport, Visitor Accommodation

STATEMENT OF EVIDENCE OF ANDY CARR ON BEHALF OF NGAI TAHU PROPERTY LIMITED AND NGAI TAHU JUSTICE HOLDINGS LIMITED (#2335, #2336 AND # 2739)

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1. Introduction

1.1 My full name is Andrew (Andy) David Carr.

1.2 I am a Chartered Professional Engineer and an International Professional Engineer (New Zealand section of the register). I hold a Masters degree in Transport Engineering and Operations and also a Masters degree in Business Administration.

1.3 I served on the national committee of the Resource Management Law Association between 2013-14 and 2015-17, and I am a past Chair of the Canterbury branch of the organisation. I am also a Chartered Member of Engineering New Zealand (formerly the Institution of Professional Engineers New Zealand), and an Associate Member of the New Zealand Planning Institute.

1.4 I have more than 28 years' experience in traffic engineering, over which time I have been responsible for investigating and evaluating the traffic and transportation impacts of a wide range of land use developments, both in New Zealand and the United Kingdom.

1.5 I am presently a director of Carriageway Consulting Ltd, a specialist traffic engineering and transport planning consultancy which I founded in early 2014. My role primarily involves undertaking and reviewing traffic analyses for both resource consent applications and proposed plan changes for a variety of different development types, for both local authorities and private organisations. I am also a Hearings Commissioner and have acted in that role for Greater Wellington Regional Council, Ashburton District Council, Waimakariri District Council and Christchurch City Council.

1.6 Prior to forming Carriageway Consulting Ltd I was employed by traffic engineering consultancies where I had senior roles in developing the business, undertaking technical work and supervising project teams primarily within the South Island.

1.7 I have carried out a number of commissions which have involved writing and/or assessing District Plan provisions. On behalf of ***local authorities***, this has included:

a. A review (in 2012) of the transportation chapter of the Queenstown Lakes District Plan to identify areas which had become outdated or superseded subsequent to its adoption;

b. Writing the transportation chapter of the Ashburton District Plan, reviewing submissions, and providing evidence on behalf of the Council at the subsequent hearing;

c. Devising amendments to the transportation Objectives, Policies and Rules of the Christchurch District Plan to facilitate the 'vision' of the Central City Recovery Plan, subsequently included within the District Plan at the direction of the Minister for Earthquake Recovery;

d. Reviewing and updating the specific transportation provisions for the residential zones within the Christchurch District Plan, subsequently included within the District Plan at the direction of the Minister for Earthquake Recovery; and

e. Reviewing various parts of the transportation chapter for Mackenzie District Council prior to their District Plan review commencing.

1.8 On behalf of ***submitters***, this has included:

a. Assisting with the submission and presenting evidence to the hearing for the 'integrated transport management' section of the Selwyn District Plan, on behalf of Lincoln University;

b. Assisting with the submission for the transportation chapter of the Waimakariri District Plan on behalf of Foodstuffs (South Island) Limited;

c. Assisting with the submission for the transportation chapter of the replacement Christchurch District Plan, participating in expert witness conferencing and presenting evidence to the hearing, on behalf of the Crown; and

d. Assisting with the submission for the transportation chapter of the Auckland Unitary Plan, participating in expert witness conferencing and presenting evidence to the hearing, on behalf of the Ministry of Education.

1.9 In addition, I have provided advice to over 50 plan change requests (both for Councils and private organisations), each of which have included a review of the operative Objectives, Policies and Rules of the respective District Plan to ensure that they remained appropriate, and in many cases, the development of zone-specific provisions. Locally, these have included Plan Changes 4 (North Three Parks), 18 (Mount Cardrona), 25 (Kingston), 32 (Ballantyne

Road Mixed Use Zone – Wanaka), 39 (Arrowtown South), 41 (Shotover Country), 43 (Frankton Mixed Use Zone), 45 (Northlake), 47 (Alpha View Visitor Accommodation Sub Zone), and 53 (Northlake).

1.10 I also have extensive experience of applying operative District Plan provisions in practice, to a range of proposed developments throughout the country.

1.11 I have worked in Queenstown Lakes district for over 14 years, providing transportation advice for more than a hundred separate projects from large plan changes to the redevelopment of individual sites.

1.12 As a result of this, I consider that I have a thorough understanding of the practical operation of the operative District Plan, and of the ways in which the provisions of any District Plan can be expected to function in practice.

1.13 I have read the Code of Conduct for Expert Witnesses in the Environment Court Practice Note 2014. This evidence has been prepared in accordance with it and I agree to comply with it. The matters addressed in this Statement of Evidence are within my area of expertise and I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

2. Scope of Evidence

2.1 In this matter, I have been asked by the submitters, Ngai Tahu Property Limited and Ngai Tahu Justice Holdings Limited to comment on their submissions to Chapter 29 (Transport) of the District Plan. The issues raised within the two submissions are similar and I have therefore considered them both together.

2.2 I understand that there are a number of parts of the submissions which have been accepted by the Council, and that consequential amendments are proposed to the notified version of the proposed District Plan. I have not addressed the issues raised where the Council has made such changes and the submitters are in agreement with what is proposed.

2.3 For each of the remaining topics, I have considered the underlying rationale for the Rule/Standard, the amendments sought by the submitters and assessed the outcomes which would be achieved through those revisions (or the outcomes which would occur without them). I have then formed a view on

whether I am able to support the submissions. In doing this, I have drawn on my experience of applying Rules/Standards in practice.

2.4 The topics addressed, and the order in which I address them, are:

a. High Traffic Generating Activities;

b. Minimum distance from intersections;

c. Minimum aisle dimension for parking; and

d. Heavy vehicle parking layouts.

2.5 In preparing this evidence, I have reviewed the various Officers' Reports, plus the Technical Notes prepared by MR Cagney. For clarity, I was not involved in preparing the submissions.

3. High Traffic Generating Activities

3.1 It is increasingly common for District Plans to specify a threshold above which traffic effects need to be evaluated, even if that land would otherwise deemed to be suitable for development. The overall effect is to mean that above the threshold(s), developments do not have a Permitted status and needs to have a specific transportation assessment prepared. However such a provision has not been included in the Queenstown Lakes District Plan to date, meaning that the Council has not had extensive experience of administering such a Rule.

3.2 The submitters raise a number of matters in this regard. For Policy 29.2.1.3, the inclusion of additional matters:

a. whether the activity is permitted within the zone;

b. whether the activity will result in additional vehicle trips beyond what is already established or consented on the site;

c. whether the site is already accessible by a range of transport modes; and

d. the scale of the proposed activity to ensure that the required works or contribution are commensurate.

For Policy 29.2.4.4, the removal of the provision for "*d. providing public transport stops located and spaced in order to provide safe and efficient access to pedestrians who are likely to use each stop*"

For Rule 29.4.10, the removal of the provision for "*any proposed travel planning, provision of alternatives to private vehicle, or staging of development*" and "*any proposed improvements to the local transport network within or beyond the site, including proposed additions or improvements to the active and public transport network and infrastructure and the roads themselves, in accordance with Council standards and adopted infrastructure network development plans either within or beyond the site. This may be required by direct construction activities, or by collecting funds towards a wider project that would achieve the modal shift aim of the specific development, as promoted in the application*".

For Rule 29.10.1, an increase in the threshold for residential dwellings from 50 to 100 dwellings.

3.3 Given the range of matters considered, I have addressed each separately below.

Policy 29.2.1.3: "whether the activity is permitted within the zone"

3.4 The submitter highlights that if the activity is permitted in the zone then it should be exempt from the Rule because the zoning should already have taken the expected traffic generation into account. In commenting on this, I understand that 'permitted' means that the amount and nature of the land use activity is fully in accordance with the non-transportation requirements for the zone.

3.5 In considering this part of the submissions, my involvement in previous presentations to the Hearing Panel means that I am aware that Officer (or Council consultant) recommendations on land zoning have been informed by transportation modelling, which in turn is based on the traffic generated by the rezoning sought. It would be highly inconsistent in my view for the Council to adopt this approach to evaluate requests for land rezoning, only to then require remodelling of the same type and extent of development in future while retaining the ability to decline any application.

3.6 Further, I am aware that the transportation models developed for the Council use as their basis, the expected quantum of development for the existing and potential future land use zonings[1]. That is, the analysis of transportation

[1] Section 5 of the Statement of Evidence of David Smith for Hearing Stream 14

matters presented to the Panel to date has, as an undying assumption, that the zoned land could be developed to its maximum practical extent. If this is not the case (such as could occur under this Rule), then in my view it undermines the technical rigour of the Council's case to support or decline submitters' requests for land rezoning.

3.7 One further issue arises in respect in future plan changes. Through the plan change request, a certain amount of development would be assumed to be developed, and traffic assessments would be produced on that basis. Assuming that the plan change was then approved, it would commonly be expected that the modelled development could take place as of right. However under the proposed Rule, there would need to be additional consents sought and granted if the scale of the development exceeded the thresholds proposed by this Rule. This would lead to a situation where having just assessed the traffic effects of (say) a rezoning to facilitate 600 lots and found them to be acceptable through a successful plan change process, a land use consent would then be required for the development of the first 200 lots. This would be unnecessary and inefficient.

3.8 I note that when considering this Rule, the MR Cagney technical report seeks to draw parallels with the Dunedin, Christchurch and Auckland Council provisions. I consider it is relevant to note that both the Christchurch and Auckland Plans specifically set out that where an assessment of transportation matters has already been undertaken and approved for the site, and the proposed development has similar trip generation and transport effects, the need for an assessment as a High Traffic Generating Activity does not apply[2].

3.9 Consequently, I agree with the submitters that if the land has been assessed and zoned for a particular purpose, there should not be any need to undertake a reassessment of the traffic matters if the nature and size of development is in accordance with the zoning.

Policy 29.2.1.3: "whether the activity will result in additional vehicle trips beyond what is already established or consented on the site"

[2] Christchurch District Plan Standard 7.4.3.10 Note d(ii), Auckland Unitary Plan Standard E27.6.1 (1)(b) and (2)(b)

3.10 Every parcel of land has some level of baseline traffic generation, howsoever small. Changing the nature or scale of the activity on that site invariably leads to a change in traffic. However the effects which arise from such a change are related to the baseline traffic volumes. It is quite possible for traffic generation to diminish if the activity changes, as well as traffic generation increasing for changes of activity type or scale. In the event that traffic generation reduces, then the extent of transportation effects also reduces.

3.11 The provisions as currently written do not take account of changes in the traffic generation, but rather they refer only to absolute numbers. This leads to anomalies in the application of this Rule that will result in it being applied unnecessarily, for example:

a. If a site has (say) 48 residences and an application is made for (say) 5 additional residences, the total number of 53 residences exceeds the relevant threshold. It therefore requires assessment as a High Traffic Generating Activity, despite the difference being just 5 residences (with a consequential negligible traffic generation);

b. If a site has a consented activity of (say) 2,000sqm GFA of retail development and is redeveloped to provide (say) 1,500sqm GFA of retail development, it requires assessment as a High Traffic Generating Activity. This is despite the floor area, and the consequential traffic generation, reducing; and

c. More generically, if a site has a consented development which generates 'x' trips but is redeveloped for a different activity that generates less than 'x' trips, it requires assessment as a High Traffic Generating Activity although the vehicle movements are fewer.

3.12 Under the proposed provisions, the decision maker is not required to take the existing traffic generation of a site into account when the land use activity is specified in Table 29.6.

3.13 This is not the situation though when the land use activity is not specified in Table 29.6, because under this scenario, the threshold for activities that are not otherwise identified is "*traffic generation of greater than 400* ***additional*** *vehicle trips per day or 50* ***additional*** *trips during the commuter peak hour*" (my emphases). The wording of the table is therefore in my view internally inconsistent – where a particular land use activity is specified, the Rule applies as an absolute amount of development but where the particular activity is not specified, only the increase in traffic generation is considered relevant.

3.14 Again, with reference to the MR Cagney report, the Christchurch District Plan specifically sets out that its version of the Rule does not apply to the absolute number of vehicle movements but only to the *changes* over and above the existing traffic generation of the site[3]. The Auckland Unitary Plan specifically refers to thresholds for "New Development"[4], showing that existing development is not included.

3.15 I therefore support the submitters' request that the Rule should take into account the existing traffic generation of the site and be applied to the changes in traffic generation rather than to the absolute numbers. This could be done very easily through adopting the same wording as the Christchurch or Auckland District Plans.

Policy 29.2.1.3: "whether the site is already accessible by a range of transport modes"

3.16 Under the proposed wording, the thresholds for the high traffic generating activities are expressed in terms of the extent of development (lots, floor areas, etc). In my experience this is to simplify the application of the provisions for lay people, rather than expressing the thresholds in terms of vehicle numbers which then requires technical expertise to translate this into an amount of development.

3.17 It will be evident though that not all developments are identical in terms of the amount of car travel that is generated. For instance, a particular type and size of development that is located close to a town centre, or on a bus route, or close to a cycle trail, will generate fewer cars than one which does not have any of those elements. Hence the proposed threshold of, say, 50 residences is only a coarse approximation because in locations that are well-connected by non-car transportation networks, the traffic generation will be much lower than 50 residences located elsewhere.

3.18 In view of this, I consider that it is important to explicitly recognise that the existing connections to a site are an important mitigation measure to include within the provisions. In essence, such connections serve to diminish the potential effects of development. I therefore support the proposed amendment.

[3] Christchurch District Plan Standard 7.4.3.10 Note(d)(v)(A) and (D)

[4] Auckland Unitary Plan Table E27.6.1.1 (Titling)

Policy 29.2.1.3: "the scale of the proposed activity to ensure that the required works or contribution are commensurate"

3.19 This particular matter relates to the suggestion that high traffic generating activities should contribute to the provision of the transportation networks, by seeking to ensure that there is some degree of clarity regarding the extent to which a contribution is anticipated. The submitter highlights that there needs to have more specificity as to the location of any works, and that the scale of the work should be appropriate for the scale of the development. The rationale for this is to ensure that the works do not compromise the ability to develop (or redevelop) a site.

3.20 From a traffic engineering perspective, the effects of a development in terms of scale and area are directly proportional to the size of the development. Coarsely, as a development becomes larger, firstly the area over which effects occur becomes greater, and secondly, at any given distance from the site, the effects are larger. It is therefore a reasonable outcome in my view that the works or contribution needed to mitigate any adverse effects are similarly scaled according to the size of the development. That is, larger developments would be more likely to require larger works and/or works over a greater area than smaller developments.

3.21 The current provisions of the District Plan do not acknowledge this however. Rather, there is no certainty as to how, or even if, the works or contribution will be scaled. Accordingly, I am able to support the proposed additional wording requested by the submitters.

Rule 29.4.10: "any proposed travel planning, provision of alternatives to private vehicle, or staging of development"

3.22 The submitters seek the removal of this provision because it replicates another provision (the last bullet point within this Rule). I agree, and therefore support the deletion.

Rule 29.4.10: "any proposed improvements to the transport network within or in the vicinity of the site, including proposed additions or improvements to the active and public transport network and infrastructure and the roads themselves, in accordance with road controlling authority's standards and adopted infrastructure network development plans either within or beyond the site. This may be required by direct

construction activities, or by collecting funds towards a wider project that would achieve the modal shift aim of the specific development, as promoted in the application"

3.23 The submitters seek the removal of this provision for a number of reasons. I have already discussed the need to ensure that for sound traffic engineering reasons the scale of the works/contribution are commensurate with the scale of the development, and that the location of any works is similarly appropriate for the size of the development.

3.24 The submitters further contend that there is a lack of clarity with regard to the development of an 'infrastructure network development plan', and the manner in which this will then be applied to the development. I am similarly concerned that the wording appears vague.

3.25 It is a well-established principle that the developer pays to mitigate the effects that they cause but this clause appears to suggest that Council could collect contributions to a transportation scheme which is some distance from (but still "*in the vicinity of*") the site (and therefore of limited benefit in mitigating effects) or which might not be implemented for some time (meaning the effects arise until that time). While this might result in a net *overall* benefit for residents and visitors, in my view it does not represent an appropriate approach to developers mitigating the effects that they create.

3.26 The submitters also highlight that it is not clear who would choose the "*wider project*". From my reading of the proposed wording, I agree. As I noted above, the selection of the project is important to ensure that the developer is mitigating their own effects, rather than simply contributing to a wider transportation benefit. The way in which any dispute could be resolved about which project was chosen is equally not clear.

3.27 The wording also refers to a "*modal shift aim*". In my experience, it is extremely difficult to reliably forecast any modal shift, and even in locations which have an aim (such as Christchurch), the extent of the shift is deliberately set to be an aspirational target. Given this, I am not aware of any approach that could be used to reach agreement in the event that the Council and the developer were of different opinions about what a realistic modal shift would be.

3.28 Further, even if it was possible for a developer to set such a target, there are numerous factors outside of their control which influence the ability to achieve this. By way of example, the regional council choosing to increase bus fares,

may lead to fewer bus passengers and more car use. Conversely, the District Council choosing to raise parking fees would likely lead to less car usage. I therefore do not consider that it is practical or workable for any development to set a "*modal share aim*" which has any meaning.

3.29 Having reviewed the matters raised, I therefore agree with the submitters' request for the removal of the clause.

Rule 29.4.10: an increase in the threshold for residential dwellings from 50 to 100 dwellings

3.30 The rationale for this amendment is that the amount of traffic generated by the various categories within this Rule is inconsistent, and that it would be more advantageous to developers to provide visitor accommodation than residential development. The submitters also highlight that the suggested threshold of 100 residences is consistent with the Auckland Unitary Plan.

3.31 I confirm that the Auckland Unitary Plan does have a threshold of 100 dwellings (Table E27.6.1.1, first line). I also confirm that the threshold is set at the same level as visitor accommodation (ibid, third line).

3.32 In my experience, the usual approach to setting development thresholds for such a Rule is to determine the traffic generation at which potential effects might be considered to require assessment, and then convert this back to particular amounts of development for ease of reference. Thus within the proposed Table 29.6, each threshold for development should generate roughly the same amount of traffic (allowing for rounding errors). Helpfully this threshold is included within Table 29.6, as "*50 additional trips in the commuter peak hour*"[5].

3.33 Thus the threshold assumes that each residential property generates 1 trip in the commuter peak hour.

3.34 In this regard, there is relatively little specific information collected as to the traffic generation per residential units in the district. However data collected elsewhere[6] shows that there is a clear differentiation between lower density sites within suburbs, and medium and higher density sites close to town

[5] Less helpfully however, the 'commuter peak hour' is not defined

[6] For example, NZTA Research Report 453 'Trips and Parking Related to Land Use', and NSW Roads & Maritime Services Technical Direction TDT2013/04a

centres, with the latter generating much less traffic in the peak hours. This is due to people having greater access to non-cars modes of travel, and the density of development meaning that there are smaller units and hence fewer occupants and fewer cars. Published traffic generation rates for these are in the range of 0.3 to 0.5 vehicles per unit in the peak hour.

3.35 The submitters' point regarding the mis-alignment of the residential threshold with the other categories is therefore correct insofar as how it applies to medium and high density residential development. For these types of development, 50 residences would generate just 15 to 25 vehicle trips.

3.36 I therefore support the submitter's request, but in my view the higher threshold of 100 residences should apply only to medium and high density residential development.

4. Minimum Distance between Vehicle Crossings and Intersections

4.1 In my experience, the reason for specifying a minimum distance between a vehicle crossing and an intersection such as that proposed within Rule 29.5.22, is to ensure that a driver does not become confused about the intentions of a driver in front of them, with a consequential adverse road safety outcome. That is, a driver seeing that the vehicle in front is indicating to turn needs to have sufficient time to comprehend the situation and take the appropriate actions. In the event that a vehicle crossing is too close to an intersection, the following driver may not expect the vehicle in front to turn where they do, with a consequential risk of hitting them.

4.2 The submitters set out that distances in the District Plan do not take account of medium and high density developments, because the required separation distances are greater than the length of the standard lot frontage and therefore the separation distance cannot be achieved. They also highlight that the distances are greater than for the Christchurch District Plan.

4.3 Mr Smith on behalf of the Council sets out that the distances are consistent with NZTA requirements for other District Plans in New Zealand. I am unsure how he has drawn this conclusion, since the separation distances for Arterial Roads are greater than those in the NZTA Planning Policy Manual (and also different to that in Rule 29.5.23 of the proposed District Plan). More importantly though, he does not discuss the implications for the proposed

separation distances at medium and high density developments, the key point raised by the submitters.

4.4 I have been involved in a large number of applications for residential development within the District, and in my experience, the required separation distances simply cannot be achieved for medium and high density developments. In this regard, I consider that there is an obvious tension between the zoning of the land anticipating smaller lots, and the understandable desire to avoid introducing safety issues onto the road network. Bluntly, if the required separation distances are achieved then the expected development density will not be.

4.5 However the matter is somewhat more complex than Mr Smith acknowledges, because of the 'broad brush' approach taken in the notified District Plan. Under Rule 29.5.22(b), there is a requirement to apply the same separation distance to Local Roads (25m), Collector Roads (30m) and Arterial Roads (40m) when the speed limit is less than 70km/h, irrespective of the operating speed of the road. For example, a 30m separation distance is required for a Collector Road subject to a 60km/h speed limit, and the same separation distance applies where the Collector Road is subject to a 50km/h speed limit.

4.6 The 'operating speed' of a road is the speed at which drivers typically travel, which is commonly accepted to be 10km/h above the speed limit. Thus the same separation distances apply to every scenario for each type of road, where the operating speed is 70km/h or less.

4.7 However the Council's Subdivision Code of Practice contemplates roads having operating speeds of 30km/h, 40km/h and 50km/h. Therefore if the present wording of the District Plan was to be maintained, this would lead to a situation where a road with traffic travelling at (say) 30km/h is subject to the same separation distance requirements as one where traffic is travelling at 70km/h. In my opinion, this would lead to perverse outcomes, because as with numerous other matters of traffic engineering, vehicle speeds are an important element in design.

4.8 To explain further, it is a recognised principle that drivers need a certain minimum time to see a potentially dangerous situation in front of them, to formulate a response (typically braking) and implement it. It then takes an additional period of time for the vehicle to slow and stop. In large part, the time for drivers to react remains constant, but at higher speeds, within this same time period vehicles travel for a greater distance. It clearly also takes a

longer distance for a vehicle to stop when it is travelling at a greater speed. In short then, at slower speeds drivers require less distance to react to, and avoid, a hazard ahead and at higher speeds, drivers require a greater distance.

4.9 In my view then it is not consistent to have identical distances applied to scenarios where drivers are travelling at such different speeds. Rather, at slow speeds, reduced distances can be supported. At higher speeds, greater distances are justified.

4.10 Put another way, applying the 25m separation proposed in the District Plan for Local Roads, a vehicle travelling at 70km/h means a driver would have 1.3 seconds to react to and avoid a hazard[7]. Conversely, a vehicle travelling at 30km/h would mean that the driver had 3.0 seconds to react, more than twice as long. If the same 1.3 seconds is applied to a driver travelling at 30km/h, then they require a distance of just 11m to react to and avoid the hazard[8].

4.11 From a practical perspective, the matter of vehicle speeds is an integral element of the point made in the submission. This is because in my experience, the nature of medium and high density developments means that they have frontage to roads which are designed to promote a slow-speed environment, as is expected under the Subdivision Code of Practice. To then apply additional design criteria suitable for higher-speed roads is not appropriate in my view.

4.12 There is a second important matter to highlight in this regard. If the separation distance is not achieved, then the matter of discretion is the "*effects on the efficiency of landuse and the safety and efficiency of the transport network, including the pedestrian and cycling environment*", "*urban design outcomes*" and "*the efficiency of the landuse or subdivision layout*" (District Plan paragraph 29.5.22). However unlike many other traffic engineering matters, there is no recognised methodology for assessing the "*safety and efficiency*" effects of siting a vehicle crossing closer than the specified distances. Thus if the separation distances are not achieved, there is no common basis from which the Council and the applicant can reliably determine the effects. In this regard, Ms Jones notes (her paragraph 13.15) that it is appropriate to "*enable a case by case assessment of whether the effects are acceptable and*

[7] Applying the formula of: Distance (metres) = Speed (metres per second) x Time (seconds)

[8] Ibid

warranted" but this cannot be pragmatically achieved without a common approach by which to carry out such an assessment.

4.13 Over the past five years, I have been involved in a number of applications where reduced separation distances between vehicle crossings and intersections have been sought. In assessing the effects of such reductions, the approach which I have taken is to relate the separation distance to the operating speed of the frontage road, and this approach has been accepted by the Council (thus far!). To my mind it would therefore be reasonable to include this type of approach within the District Plan provisions.

4.14 Recognising that the scope for amending this Rule is limited, I consider that this outcome could be achieved through amending the matter of discretion, to "*Effects on the efficiency of landuse and the safety and efficiency of the transport network, including the pedestrian and cycling environment,* ***taking into account the operating speed of the road***". This does not resolve the matter of the absence of an agreed methodology, but at least highlights that speed is a relevant matter.

4.15 In the alternative, I support the submitters' request to include a Table which sets out reduced separation distances based on the roading hierarchy. This is on the basis that roads that are lower in the roading hierarchy:

a. Are usually designed to have lower operating speeds, giving drivers additional ability to react (as described above);

b. Have less traffic volumes, meaning that there is statistically a reduced potential for vehicles to meet; and

c. Have a much higher proportion of regular users, who will therefore be familiar with the potential to encounter vehicles that are turning to or from a driveway.

4.16 Thus in my view, while not being an ideal solution, the submitters' request provides a better outcome than the current proposed wording.

5. Minimum Aisle Dimensions for Car Parking

5.1 In practice, it is typically necessary to specify minimum widths for car parking aisles so that a non-technical reader of the District Plan is able to easily understand what dimensions are expected to ensure that the parking spaces are appropriately accessible.

5.2 The submitters highlight that the widths proposed for the District Plan in Table 29.8 are inconsistent with those included within Standard AS/NZS2890.1:2004 'Parking Facilities Part 1: Off-Street Car Parking'. I concur.

5.3 By way of background, the Standard has been in place since 2004 and since that time I am aware that it has been applied in numerous locations throughout New Zealand without issues arising. In my view, this shows that it is a technically robust document, which is accepted by the transport planning profession. It is also explicitly referred to as a reference source in a number of District Plans.

5.4 I have evaluated the District Plan dimensions and find that the District Plan requires 5% more area for car parking than the Standard. I therefore consider that one outcome of the current proposals is that more land will be required to be allocated for car parking than is necessary, which I do not consider to be an efficient use of the land resource (this matter was also highlighted by the submitters).

5.5 Having reviewed the officers' reports, I am unable to identify any discussion as to why the Council prefers wider aisles. Given that the Council has adopted the same dimensions for vehicles and identical turning circles to those in the Standard, it seems odd that a greater aisle width is sought. However, from working on a range of commissions in the district over the past 14 years, anecdotally, I am aware that at least one reason is due to the proportion of tourists and use of rental vehicles within the district. The rationale seems to be that unfamiliar drivers driving rental vehicles require additional tolerances for a car park to function safely. However one other district which also has a high proportion of tourists is Rotorua. Nevertheless, the Rotorua District Plan specifies that car parking areas are to be designed in accordance with Standard AS/NZS2890.1:2004.

5.6 Without a rationale for the wider aisle widths it is not possible to address or consider any specific (stated) concerns of the Council.

5.7 The Matter of Discretion for not meeting the District Plan requirements is "*the size and layout of parking spaces and associated maneouvring areas*" (Rule 29.5.3). In my experience, invariably the way in which such an assessment is carried out is with reference to the Standard (and in fact this is the approach which has been used by the Council on numerous projects with which I have been involved). Where compliance with the Standard is achieved, I am not

aware of any instance where consent has been declined on the issue of parking space accessibility.

5.8 Overall then, in my view, the current wording introduces an unnecessary requirement to apply for a resource consent if a car park has a lesser aisle width which meets Standard AS/NZS2890.1:2004. This is because in practice, an assessment of the non-compliance would be carried out against the Standard, and then meaning consent would invariably be granted.

5.9 To my mind, the more efficient resource management approach would be to specify the minimum acceptable dimensions (in Standard AS/NZS2890.1:2004), and if greater dimensions are desired, then it is open to a developer to provide these. I therefore support the submitters' request for the dimensions of the parking spaces to be aligned with Standard AS/NZS2890.1:2004.

6. Heavy Vehicle Parking Layouts

6.1 As with the car parking space dimensions, it is typically necessary to specify dimensions for heavy vehicle spaces to assist non-technical readers of the District Plan to ensure that the parking spaces are appropriately accessible.

6.2 The submitters highlight a number of matters in this regard, but from a practical perspective I consider that the most significant concern is that "*the layout dimensions…are not intuitive for most situations, do not prescribe a stall width and do not provide for kerbside (parallel) parking which is common for coaches*." The relief sought is that the table of dimensions (Table 29.9) "*should be amended to only specify the minimum bay dimensions and note that unimpeded manoeuvring is required into the spaces provided. This would allow for site specific design which is almost always required in any case for developments which have to incorporate large trucks or coach parking*".

6.3 Heavy vehicles are by their nature larger than light vehicles and they are usually less manoeuvrable. Consequently in respect of parking facilities, they require a much greater area to be provided, and in turn this means that it is usually more difficult to accommodate them within any given site. It is therefore important, in my view, that additional flexibility is included within the District Plan for the design of these parking spaces.

6.4 In practice, there is a relationship between the width of an aisle and the width of a parking space. When the width of the space is small, an emerging

(reversing) vehicle has little opportunity to commence turning their front wheels until the front of the vehicle is clear of the adjacent parking spaces. Thus more width is needed within the aisle to accommodate the reversing movement. Conversely, with a wider aisle, the front wheels of the reversing vehicle can be turned earlier, and so less width is needed within the aisle.

6.5 In respect of heavy vehicle movements, this matter is usually more significant because a relatively small increase in the width of the space means that the aisle width can be reduced more significantly without any loss of accessibility. However, the specification of a minimum aisle width within Table 29.9 (as opposed to just the size of the parking space itself) means that a consent would be required for this. Equally, providing parking spaces at a different angle to those set out in Table 29.9 would require a consent, even though the spaces may be easily accessed.

6.6 In my experience, the size of heavy vehicles and the generally constrained nature of sites within the District mean that it is more common that not that a bespoke layout has to be provided in each case. In my view the proposed provisions do not achieve the flexibility required to provide different types of workable and practical layouts for heavy vehicle parking.

6.7 I accept that in some cases, site layouts might attempt to 'squeeze-in' heavy vehicle parking such that the parking space is simply impractical for use, such as if multiple reverse movements were needed to enter or exit the space. This has been anticipated in the submissions, which note that there should be a requirement for "*unimpeded manoeuvring*" into the parking spaces. In practice, I consider that this could easily be achieved by specifying that no more than one reverse movement is required when entering a space, and no more than one reverse movement is required upon exit. Such a provision would ensure that if a parking space is highly constrained, then the effects are able to be assessed by the Council because a consent application would have to be made.

6.8 I note that the width of the parking space has now been specified, as 3.5m plus a 1.5m wide pedestrian access path. The space width is aligned with best practice (being the width of the vehicle plus 0.5m on each side). With regard to the provision of a footpath for tour coaches, I have previously provided advice that such a facility is not only needed to ensure that pedestrians are able to enter and exit the coach safely, but also to allow for luggage to be loaded/unloaded. I therefore support these amendments.

6.9 I therefore support the submitter's request. The matter of the width of the space has been addressed. However because heavy vehicle parking areas invariably need to be designed as 'one-off' layouts, it provides a better outcome in my view to specify only the minimum size of the parking spaces and the ease with which they are to be entered/exited. Any additional requirements will simply mean that unnecessary resource consents have to be applied for, when the parking spaces are both viable and practical.

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