

Before an Independent Hearing Commissioner appointed by Dunedin City Council

In the matter of a notice of requirement by Dunedin City Council to designate the
Mosgiel Community and Recreation Area

Evidence of Andrew David Carr

30 January 2019

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**anderson
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Qualifications and experience

- 1 My full name is Andrew (Andy) David Carr.
- 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.
- 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 (previously known as the Institution of Professional Engineers New Zealand), and an Associate Member of the New Zealand Planning Institute.
- 4 I have more than 29 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.
- 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.
- 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.
- 7 I have been involved with a number of proposals which have assessed the transportation-related effects of sporting and recreation facilities, with projects including:
 - (a) Providing transportation advice for Alpine Aqualand, Queenstown;
 - (b) Providing transportation advice for community centres (including sporting facilities and sports fields) in Tai Tapu, West Melton and Nelson;
 - (c) Evaluating the most suitable site for an aquatic centre in Wanaka;

- (d) Evaluating the suitability of land within Queenstown Lakes for rezoning as Open Space (Recreation), as part of the District Plan review;
 - (e) Reviewing the operation of the Addington Rugby Stadium in Christchurch; and
 - (f) Assessing the traffic effects of a proposed tennis centre in Queenstown.
- 8 I have provided transportation-related advice to a range of other projects in the district over the past 14 years. As a result of my experience, I consider that I am fully familiar with the transportation characteristics of the nature addressed in the Notice of Requirement.
- 9 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.

Scope of evidence

- 10 I have been asked by counsel for the Applicant for the Notice of Requirement (**NoR**) to comment on the submissions received and the Council Officers' 42a reports prepared by Mr Robert Buxton (planning consultant) and Mr Grant Fisher (Planner/Engineer Transport).
- 11 My evidence is structured as follows:
- (a) Executive summary;
 - (b) Overview of the Transportation Assessment included as part of the NoR;
 - (c) Response to submissions; and
 - (d) Response to the Council planner's and engineers report.
- 12 I have been involved with this proposal since March 2018, when I initially provided advice regarding potential access locations to the site and the numbers of car parking spaces. During June 2018 I carried out traffic surveys on the roads in the area, and in September 2018 issued a Transportation Assessment setting out the anticipated transportation-related outcomes if the NoR is confirmed.
- 13 I adopt the Transportation Assessment as the primary part of my evidence. I have not replicated the detail of the reports within this evidence, but have provided a summary of the key elements below for those matters that are particularly relevant.

Executive summary

- 14 I have reviewed the transportation implications of the development facilitated by the requested designation, including the provision of an aquatic centre within the site. Based on my analysis, I conclude that even with the aquatic centre in place, the safety and efficiency of the transportation networks will not be adversely affected, and levels of service remain high.
- 15 Subject to Conditions, I am therefore able to support the proposed designation from a transportation perspective.

Overview of Transportation Assessment

- 16 The critical element of the Transportation Assessment relates to the traffic generation, distribution and effects on road safety and efficiency of the development facilitated by the proposed designation. Of note though is that the designation site already contains a number of activities which will be encompassed within the activities authorised by the designation. In this regard I noted (paragraph 5.2.2) that "*The activities at the designation site are expected to largely stay as they are at present, with the exception of the aquatic centre. It is also possible that the existing facilities will be more intensively used, although this could occur under the existing consents*". Consequently my assessment primarily focusses on the aquatic centre.
- 17 The traffic generation of an aquatic centre depends on a variety of different factors, but in this instance I have based it on existing use of the current facility, the number of visits per head of population (through reference to Moana Pool), and assessment of the pools at Taupo (from published data). I then assigned the calculated traffic generation to each of the weekday peak periods.
- 18 The purpose of the designation also permits "*sporting, recreational and community activities*" although the size, frequency and timing of these have not been specified. For large infrequent events, the prevailing conditions on the roading network will be changed which then means that they are required to operate under a Traffic Management Plan, which has to be approved by the road controlling authorities (which in this case would be the Council, and potentially also the New Zealand Transport Agency (**NZTA**)). As part of this, an assessment is required of the amount of traffic generation and ways in which it can be accommodated on the road network. This requirement is separate to the Resource Management Act (and the requested designation). I therefore did not consider this scenario further.
- 19 Smaller events may occur more frequently, and in my view many would not be deemed to change the normal operating conditions on the road network (and hence would not require a Traffic Management Plan). Further, it is common that

such events take place during the weekend and outside the peak periods on the roading network, and as such, I consider that the effects are appropriately mitigated.

- 20 I distributed the generated traffic according to three possible scenarios, of the aquatic centre being located on the site of the existing pool, of it being located adjacent to the Reid Avenue / Murray Street intersection, and of it being located adjacent to the existing site southern access onto Gordon Street. I then added the expected traffic generation onto the existing traffic flows.
- 21 Even when considering the greatest increase in traffic flow which might occur, my analysis showed that the maximum increase in traffic volume on any road would be 80 vehicles per hour, equating to an average of one vehicle movement every 45 seconds. Given the low prevailing flows and the expected increase in vehicle numbers, good levels of service would be retained on each of the roads assessed.
- 22 I set out that the crash history in the vicinity of the site does not indicate that there are any particular features or factors that could be exacerbated by the proposed designation. On-site measurements show that the sight distances at the site accesses are appropriate and so there is no reason to anticipate that an intensification of traffic at any existing site access will result in adverse safety effects arising (subject to the form of the access being appropriate, as below).
- 23 In respect of the form of the site access, I noted that depending on the location of the aquatic centre within the designation site, there may be a need for improvements to the existing accesses. This has been carried forward into a Condition which requires that Outline Plans shall include "*Demonstration of consultation undertaken with the New Zealand Transport Agency to identify the most effective, efficient and safe access to SH87 for the development of the aquatic centre*". I support this Condition. For clarity, this wording is slightly different to that in the notified version of the NoR and in the s 42a report because it takes into account the comments made within the s 42a report and in submissions.
- 24 Based on the information available at present, I set out that I expected any development within the designated site will be able to comply in full with the District Plan transportation-related rules, and therefore I did not anticipate that any additional rules or exemptions would be required other than in respect of car parking (and as discussed below). In this regard I evaluated the likely parking demand at the site from reference to other aquatic centres and District Plans and concluded that an appropriate rate was 1 car parking space for every 3 users the building is expected to accommodate.

- 25 Overall, I concluded that the proposed designation could be supported from a traffic and transportation perspective and that there were no traffic and transportation reasons why the designation could not be confirmed.

Response to Submissions

- 26 I have read the submissions to identify those that address transportation-related matters, and comment on those submissions below. For clarity, they are not set out in any particular order, and I have consolidated submissions where the same matter has been raised. At the outset I note that NZTA has not made a submission. In my experience this indicates that the Transport Agency does not have concerns regarding the efficiency or safety of the state highway network.

Submitter Concern: There will be parking congestion as a result of the proposal / the parking areas are too large

- 27 I considered the parking aspects of the NoR within section 8 of my Transportation Assessment. In essence, leisure-type facilities have parking demands that vary considerably over the course of a day and a week. Striking a balance between providing large parking areas that meet busy periods but are unused for much of the time, and small parking areas that are well-used but give rise to overflow parking, is very difficult. The situation is further complicated within the present national environment due to an increasing emphasis on public transport, and ride-share companies commencing operations in towns and cities, both of which will reduce the need for car parking in future.

- 28 Within the Transportation Assessment, I suggested a rate of 1 parking space for every 3 people that the building is designed for. As set out below, Mr Buxton has recommended that there is flexibility in this ratio to take account of scenarios where there are synergies with other activities (or where there is greater use of non-car modes of transport). I agree with this approach, and if adopted, in my view will address these submissions because it will give greater certainty that parking supply and parking demand are matched.

Submitter Concern: There will be increased traffic flows in the area, such as on Reid Avenue

- 29 The increase in traffic flows is summarised within Table 2 of the Transportation Assessment. Although there will potentially be an increase in volume on the roads around the designation site, the resultant levels of service remains good and are appropriate for an urban area.

Submitter Concern: A traffic control plan may be required for the Eden Street / Gordon Road / Silverstream Bridge area due to increased traffic flows

- 30 In some respects, this is related to the submission above, but for completeness I have addressed it separately. In essence, the increased traffic flows on the roading network do not result in levels of service that fall below acceptable levels for an urban area. On this basis, I do not consider that a specific management or traffic control plan will be required, other than large events where such a plan would be required irrespective of the designation.
- 31 NZTA is the road controlling authority for Gordon Road, and have not submitted on the proposal, which in my experience means that they do not consider adverse efficiency effects will arise.

Response to Council Officers' Reports

- 32 I have read the s 42a report of Mr Buxton, Council's consultant planner, which includes comment from Mr Fisher, and Council's Planner/Engineer Transport, Mr Grant Fisher. I agree with their technical analyses of the proposal, and their overall conclusion that the development enabled by the proposed designation is unlikely to give rise to significant adverse effects on the safety and functionality of the transport network, subject to Conditions.
- 33 Mr Buxton discusses a number of amendments to the proposed Conditions in his paragraph 8.3. Having reviewed these, I comment as follows.
- 34 With regard to Condition 10a and a ratio of 1 parking space for every 3 people new buildings are designed for, Mr Buxton recommends allowing for departures from this where (to paraphrase) travel demand management measures are implemented or an assessment is carried out which shows fewer spaces are justified.
- 35 I support this recommendation. As I noted in my Transportation Assessment and above, the parking demands for recreational activities are very 'peaky' and it is difficult to strike a balance between accommodating busy periods and anticipating that overflow parking will arise. The proposed amendment enables a more tailored approach to be used in assessing parking provision and therefore in my view will lead to better outcomes.
- 36 As a second recommendation to Condition 10a, Mr Buxton includes provision for a proportion of parking to be provided by way of a permeable surface such as 'gobi blocks'. These are concrete tiles designed to withstand the weight of a vehicle while enabling grass to grow through them.



Figure 1: Example of Gobi Block Treatment

- 37 While I cannot comment on any aesthetic value, from a transportation perspective there are two difficulties with this. The first is that the blocks have to be properly installed onto a hard base, and this results in a hard surface which could not be used as a standard grassed surface for playing sports or other recreation purposes. Secondly, because the blocks are permeable, they allow water ingress which over time can lead to the undermining of the base and the blocks then tilt, crack or subside. In turn this results in increased costs for the maintenance of the blocks.
- 38 For these reasons, from a purely transportation perspective, in my view there is no benefit to the provision of car parking in the manner Mr Buxton sets out (although for clarity I acknowledge that there may be non-transportation reasons for this provision).
- 39 In terms of Condition 10b and Mr Buxton's recommended removal of the proposed threshold for assessment, I can confirm that the rationale for the threshold was to ensure that assessments of traffic effects are only carried out when a building is developed which results in a material increase in traffic volumes. The scenario is illustrated by Mr Buxton's recommended deletion, because if adopted, would lead to a situation where even an increase of 1 vehicle movement would trigger the requirement to review vehicle access despite such a small change being imperceptible in practice. I therefore do not agree with the removal of this part of the wording because it will lead to unnecessary analysis being required for vehicular access.

- 40 The same situation arises for the proposed amendment to Condition 10c, where again, a very small increase in traffic volumes leads to a need for consultation with NZTA. I therefore do not support the amendment proposed.
- 41 Mr Buxton recommends two other Conditions, one relating to the dimensions of the parking being in accordance with requirements of the Second Generation District Plan, and one that relates to the formation of the parking areas.
- 42 I am advised by the Applicant's planner that Conditions which are set out within an NoR are binding and there is no ability to breach a Condition. This means that, unlike a resource consent, if the Conditions were not fully met then there is no scope to undertake an assessment of effects and the designation could not be utilised. With this in mind, I do not support the two proposed Conditions.
- 43 With regard to the parking being formed in accordance with the Second Generation District Plan, I would expect that this will be carried out as a matter of course by any parking designer and there are no physical constraints that would prevent compliance from being achieved. In practice, there is little scope for major variation in car parking spaces because they must be capable of accommodating the dimensions of standard cars and their turning circles, and these are generally constant. It is possible however that parking could be configured in a practical and workable manner which did not meet the District Plan but some other acceptable guide (such Standard AS/NZS2890.1:2004 'Parking Facilities Part 1: Off-Street Car Parking'). It would also be possible that parking spaces could be orientated at angles other than those set out in the District Plan.
- 44 The matter of the parking spaces being formed, hard surfaced, adequately drained and permanently marked is problematic if considered with the potential use of gobi blocks or some other permeable material because the spaces could then not be hard surfaced or permanently marked. If the option for permeable surfacing is retained as per amended Condition 10a, then in my view this proposed Condition should be removed. Equally, retaining the proposed Condition means that the addition to Condition 10a cannot be fulfilled and therefore in my view should be removed.
- 45 Those matters aside, I note that the Applicant has combined these two recommended Conditions into one Condition (10d), which requires an assessment of any (new) on-site parking against Rule 6.6 (Parking, Loading and Access) of the District Plan. This particular Rule includes the dimensions of parking spaces (Rule 6.6.1.1) and surfacing and marking (Rule 6.6.1.5). It also includes other matters which pertain to the safety and efficiency of the roading network. Accordingly, I consider that the intent of Mr Buxton's recommendations are met by proposed Condition 10d, but that the proposed Condition provides the

ability to assess and consider the likely outcomes in cases where the car park does not fully meet the District Plan. I therefore support proposed Condition 10d.

Conclusion

- 46 I have reviewed the transportation implications of the development facilitated by the requested designation, including the provision of an aquatic centre within the site. Based on my analysis, I conclude that even with the aquatic centre in place, the safety and efficiency of the transportation networks will not be adversely affected, and levels of service remain high.
- 47 Subject to Conditions, I am therefore able to support the proposed designation from a transportation perspective.



Andy Carr

30 January 2019